APPENDIX
J

SMITH

APPENDIX J

TEST RESULTS, SWALES A, B AND C

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

TEST SUMMARY FOR SWALE B

DATE OF REPORT 12/06/95

HK

DATE	TYPE OF TEST	GRID	NORTHING	EASTING	ELEV.	MATERIAL TYPE	DENSITY, PCF	MOISTURE, %	RELATIVE COMPACTION	USCS SOIL CLASS	WITHIN SPECS. ?
05/16/95	Proctor	Sta. 29+00			6978.9	Native	115.0	14.6		SP	Yes
05/16/95	Sandcone	Sta. 29+00	Swale Bottom		6978.9	Native	118.4	10.4	100	SP	Yes
05/18/95	Proctor	Sta. 25+00			6982.3	Native	112.0	14.8		CL	Yes
05/18/95	Sandcone	Sta. 26+00	East Berm		6984.2	Native	107.0	13.2	96	CL	Yes
05/18/95	Sandcone	Sta. 24+00	Swale Bottom		6983.1	Native	101.4	14.7	91	CL	Yes
05/18/95	Sandcone	Sta. 22+00	West Berm		6987.5	Native	103.0	13.7	92	CL	Yes
05/18/95	Sandcone	Sta. 19+00	Bottom		6987.2	Native	113.5	15.1	98	CL	Yes
05/23/95	Proctor	Sta. 24+00			6987.8	RAC	115.9	12.0		CL	Yes
05/23/95	Sieve Analysis	Sta. 24+00			6987.8	RAC				CL	Yes
05/23/95	Proctor	Sta. 29+00			6983.7	RAC	117.0	11.0		CL	Yes
05/23/95	Sieve Analysis	Sta. 29+00			6983.7	RAC				CL	Yes

RAC = Radon Attenuation Cover

cb/UNC.031/6

Dist: Client (3) Field File (1) Billing (1)

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

TEST SUMMARY FOR SWALE B

DATE OF REPORT 12/06/95

DATE	TYPE OF TEST	GRID	NORTHING	EASTING	ELEV.	MATERIAL TYPE	DENSITY, PCF	MOISTURE, %	RELATIVE COMPACTION	USCS SOIL CLASS	WITHIN SPECS. ?
07/07/95	Sandcone	Sta. 23+00	East Slope		6987.8	RAC	112.0	13.9	97	CL	Yes
07/07/95	Sandcone	Sta. 27+00	West Slope		6984.1	RAC	110.9	12.3	95	CL	Yes
07/07/95	Sandcone	Sta. 25+00	Bottom		6983.8	RAC	113.7	12.6	97	CL	Yes
07/07/95	Sandcone	Sta. 21+00	Bottom		6987.1	RAC	113.1	13.6	98	CL	Yes
07/10/95 to 08/17/95	Bedding and Aggregate Placement					RAC					

RAC = Radon Attenuation Cover

cb/UNC.031/7

Dist: Client (3) Field File (1) Billing (1)

SOIL / AGGREGATE — MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450122

Type of Material Tailing Sand (insitu)

Sampled By H. Kuebler/WT Date 05/16/

Source of Material Swale B Sta 29+00

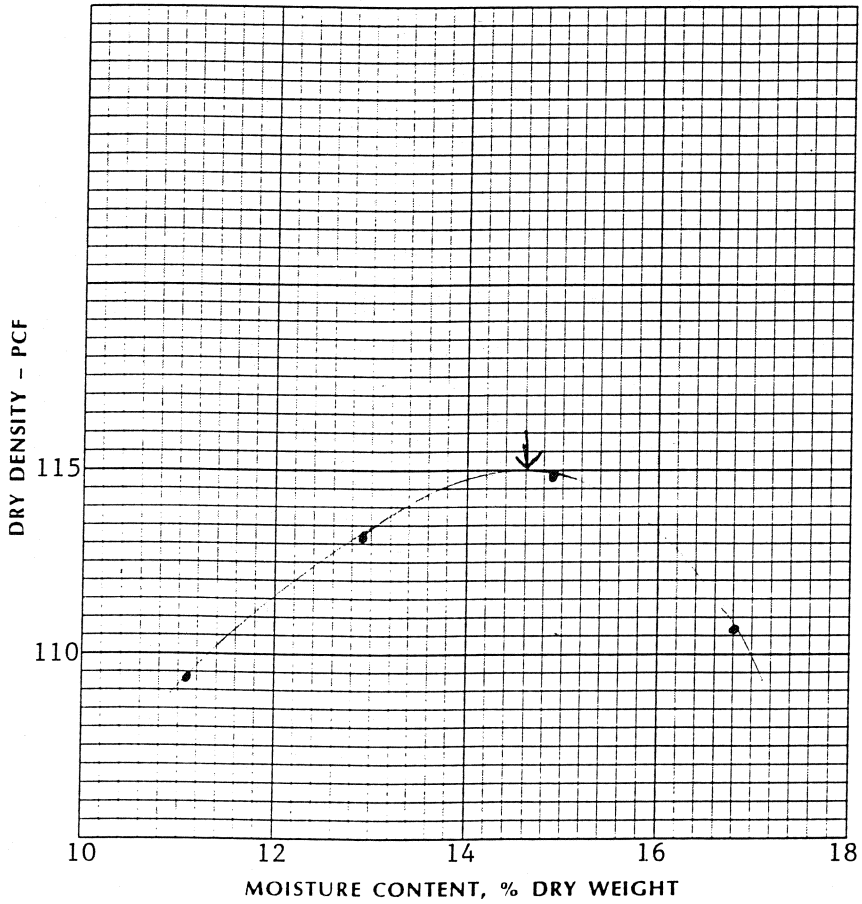
Submitted By H. Kuebler/WT Date 05/16/

Tested / Calc. By H. Kuebler/WT Date 05/16/

Test Procedure ASTM D698A

Reviewed By Date

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	150	100	50	0			
Sample + Mold Weight, gms	6218	6259	6184	6101			
Mold Weight, gms	4263	4263	4263	4263			
Wet Sample Weight, gms	1955	1996	1921	1838			
Wet Sample Weight, lbs	4.31	4.40	4.24	4.05			
Wet Density, pcf	129.3	132.0	127.2	121.5			
Moisture Sample Wet, gms	200.0	200.0	200.0	200.0			
Moisture Sample Dry, gms	171.2	174.1	177.1	180.0			
Weight of Water, gms	28.8	25.9	22.9	20.0			
Moisture, %	16.8	14.9	12.9	11.1			
Dry Density, pcf	110.7	114.9	112.7	109.4			



Maximum Dry Density, pcf 115.0

Optimum Moisture Content, % 14.6

Diameter of Mold, in. 4"

Height of Mold, in. 4.584

No. of Layers 3

Blows Per Layer 25

Weight of Hammer, lbs 5.5

Height of Drop 12"

Material Used -#4

306 (9/92)

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Date of Report **11-16-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450122-7**
Authorized By **E. MORALES** Date **05-16-95**
Tested By **H. KUEBLER/WT** Date **05-16-95**

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **H. KUEBLER/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0387** cu. ft. Bulk Unit Weight of Sand **82.7** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
2	0.0263	10.4	118.6	0.0	8	115.0	14.6	100+		90	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL		MATERIAL TESTED
		Approximate Fill Depth, ft.	Elevation *	
2	STATION 29+00, SWALE B BOTTOM		6978.9	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
8	31450122	TAILING SAND (INSITU)	SWALE B, STA. 29+00	14.6	115.0	D698-A

Comments: **CB**
*** DATUM Elevation of Test = Top of Native Subgrade**

Distribution : **CLIENT - (3)**
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATIO AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORME PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AN CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIAT STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABL EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANT OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY **A. Neely**
(SIGNED COPY ON FILE)

402 ©93 WTI

SOIL / AGGREGATE – MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450122

Type of Material: Silty Clay (insitu)

Source of Material: Swale B Sta 25+00

Test Procedure: ASTM D698A

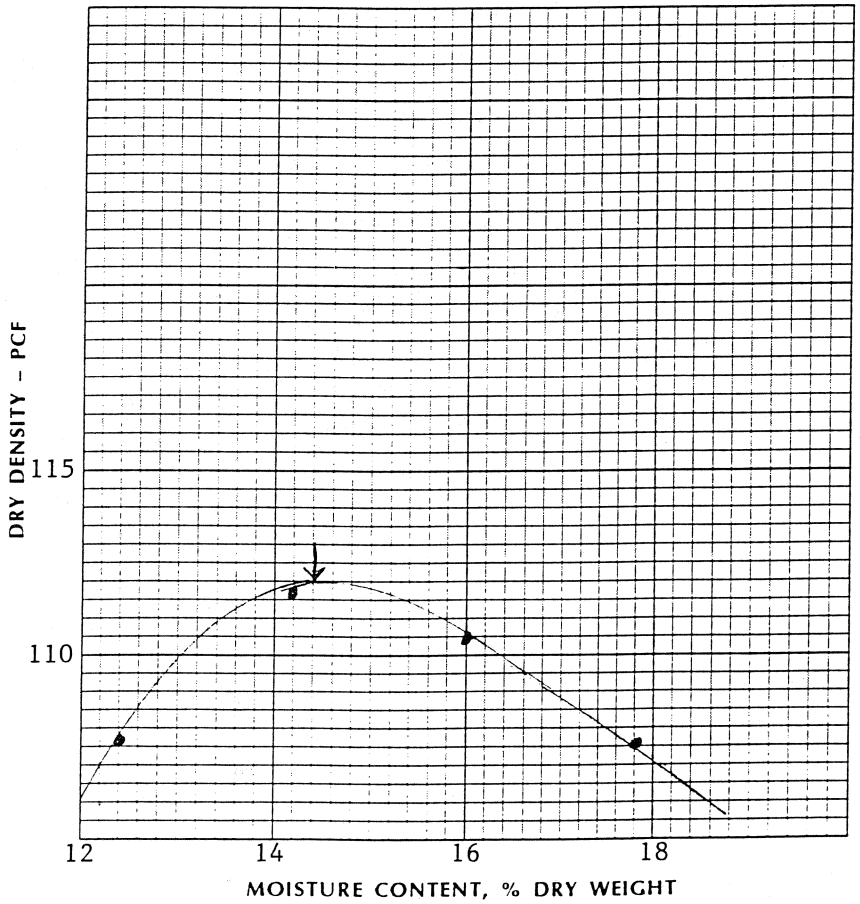
Sampled By: H. Kuebler/WT Date: 05/18/9

Submitted By: H. Kuebler/WT Date: 05/18/9

Tested / Calc. By: H. Kuebler/WT Date: 05/18/9

Reviewed By: Date:

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	100	50	150	200			
Sample + Mold Weight, gms	6190	6092	6198	6180			
Mold Weight, gms	4263.0	4263.0	4263.0	4263.0			
Wet Sample Weight, gms	1927	1829	1935	1917			
Wet Sample Weight, lbs	4.248	4.030	4.266	4.226			
Wet Density, pcf	127.4	120.9	128.0	126.7			
Moisture Sample Wet, gms	123.4	123.4	123.4	123.4			
Moisture Sample Dry, gms	108.1	109.8	106.4	104.7			
Weight of Water, gms	15.3	13.6	17.0	18.7			
Moisture, %	14.2	12.4	16.0	17.9			
Dry Density, pcf	111.6	107.6	110.4	107.5			



Maximum Dry Density, pcf: 112.0

Optimum Moisture Content, %: 14.8

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: -#4

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Date of Report **11-17-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450122-6**
Authorized By **E. MORALES** Date **05-18-95**
Tested By **H. KUEBLER/WT** Date **05-18-95**

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **H. KUEBLER/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0387** cu. ft. Bulk Unit Weight of Sand **94.6** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
2	0.0356	14.8	105.4	0.0	7	112.0	14.8	94		90	YES
3	0.0367	14.8	106.6	0.0	7	112.0	14.8	95		90	YES
4	0.0345	14.8	102.1	0.0	7	112.0	14.8	91		90	YES
5	0.0368	14.6	114.0	0.0	8	115.0	14.6	99		90	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL		MATERIAL TESTED
		Approximate Fill Depth, ft.	Elevation *	
2	SWALE B, STA. 26+00, EAST BERM		6984.3	SUBGRADE
3	SWALE B, STA. 24+00, BOTTOM		6983.1	SUBGRADE
4	SWALE B, STA. 22+00, WEST BERM		6987.5	SUBGRADE
5	SWALE B, STA. 19+00, BOTTOM		6987.2	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
7	31450122	SILTY CLAY (INSITU)	SWALE B, STA. 25+00	14.8	112.0	D698-A
8	31450122	TAILING SAND (INSITU)	SWALE B, STA. 29+00	14.6	115.0	D698-A

Comments: **CB**
*** DATUM Elevation of Test = Top of Native Subgrade**

Distribution : **CLIENT - (3)**
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCA AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFOR PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPR STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONA EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARA OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY **A. Neely**
(SIGNED COPY ON FILE)

402 ©93 WTI

SOIL / AGGREGATE – MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450185

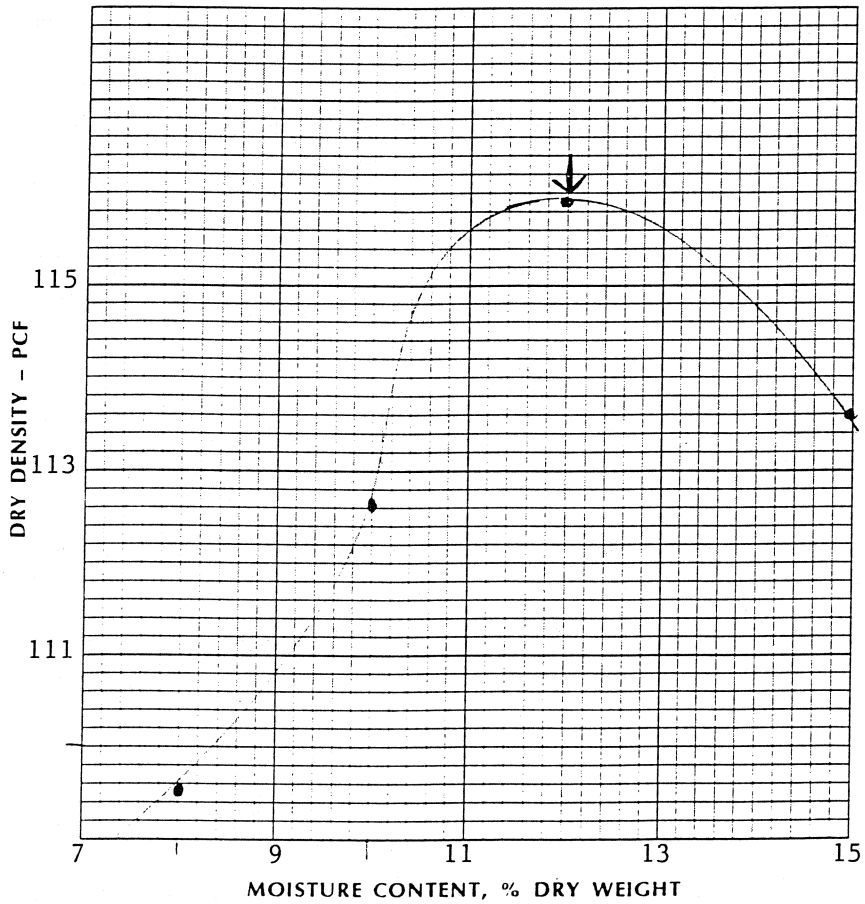
Type of Material: Sandy Lean Clay — Sampled By: H. Kuebler/WT — Date: 05/23

Source of Material: Swale B Sta. 24+00 — Submitted By: H. Kuebler/WT — Date: 05/23

Tested / Calc. By: B. Sutton/WT — Date: 05/23

Test Procedure: ASTM D698A — Reviewed By: — Date:

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	60	110	160	210			
Sample + Mold Weight, gms	6424.8	6508.4	6597.5	6609.7			
Mold Weight, gms	4639.6	4639.6	4639.6	4639.6			
Wet Sample Weight, gms	1785.2	1868.8	1957.9	1970.1			
Wet Sample Weight, lbs	3.94	4.13	4.32	4.35			
Wet Density, pcf	118.3	123.9	129.8	130.6			
Moisture Sample Wet, gms	209.6	260.9	330.5	203.9			
Moisture Sample Dry, gms	194.5	237.0	295.3	178.0			
Weight of Water, gms	15.1	23.9	35.2	25.9			
Moisture, %	8.0	10.0	12.0	15.0			
Dry Density, pcf	109.5	112.6	115.9	113.6			



Maximum Dry Density, pcf: 115.9

Optimum Moisture Content, %: 12.0

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: –#4

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450122
		Report Date:	06/20/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		
Material:	Sandy Lean Clay	Sampled By: H. Kuebler	Date 05/23/95
Source:	Swale B, Station 24 + 00	Submitted By: H. Kuebler	Date 05/23/95
		Authorized By: Client	Date 05/23/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
2"		
1-1/2"		
1-1/8"		
1"		
3/4"		
1/2"	---	
3/8"	---	
1/4"	---	
No. 4	100	
8	97	
10	97	
16	96	
30	95	
40	94	
50	94	
100	81	
200	61.1	

Moisture Density Relations, pcf (ASTM D4318)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	28
Plasticity Index	8

(Specs 4 - 12)

Copies: Client (3), Billing (1), Field File (1)
523.11/dn:UNC031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY Thomas Hrabe

SOIL / AGGREGATE MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450122

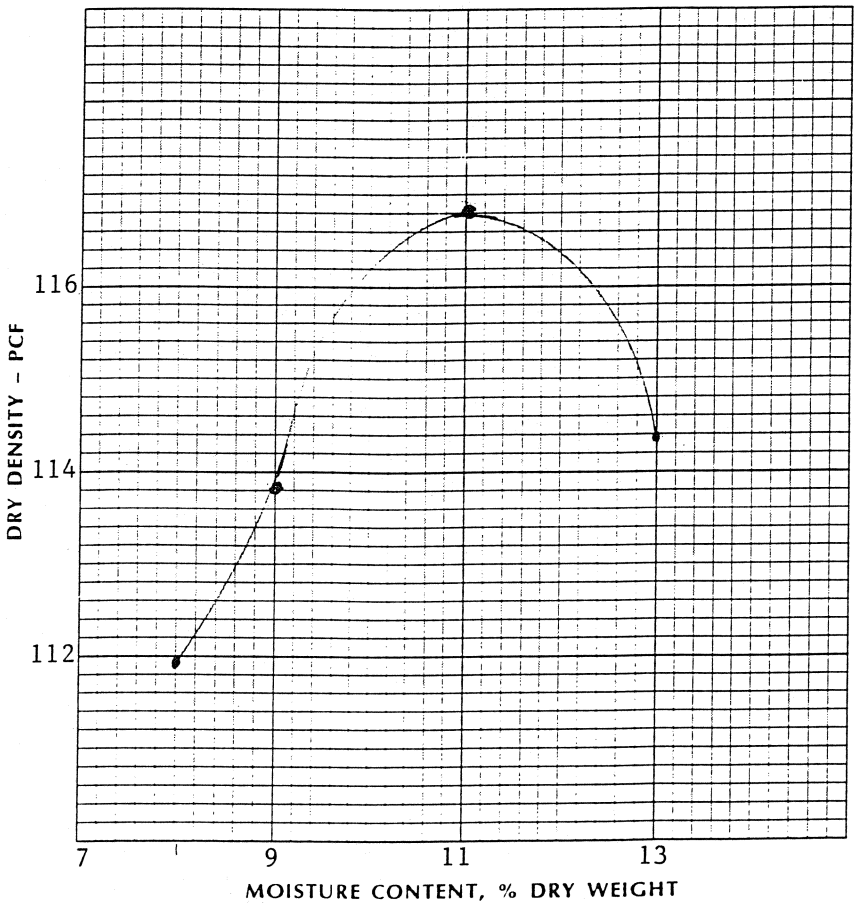
Type of Material: Sandy Lean Clay — Sampled By: H. Kuebler/WT — Date: 05/23/

Source of Material: Swale B Sta. 29+00 — Submitted By: H. Kuebler/WT — Date: 05/23/

Tested / Calc. By: B. Sutton/WT — Date: 05/23/

Test Procedure: ASTM D698A — Reviewed By: [signature] — Date:

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	50	100	150	200			
Sample + Mold Weight, gms	6461.2	6510.4	6603.6	6589.5			
Mold Weight, gms	4639.6	4639.6	4639.6	4639.6			
Wet Sample Weight, gms	1822.0	1871.2	1964	1950.3			
Wet Sample Weight, lbs	4.02	4.13	4.33	4.31			
Wet Density, pcf	120.8	124.0	129.9	129.3			
Moisture Sample Wet, gms	1055.9	1083.7	595.3	572.1			
Moisture Sample Dry, gms	1040.3	1062.6	567.8	543.8			
Weight of Water, gms	15.6	21.1	27.5	28.3			
Moisture, %	8.0	9.0	11.0	13.0			
Dry Density, pcf	111.9	113.8	117.0	114.4			



Maximum Dry Density, pcf: 117.0

Optimum Moisture Content, %: 11.0

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: -#4

306 (9/92)

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450122
Report Date: 06/20/95

Project: 1995 Reclamation
Location: Church Rock, New Mexico
Material: Sandy Lean Clay
Source: Swale B, Station 29 + 00

Sampled By: H. Kuebler Date 05/23/95
Submitted By: H. Kuebler Date 05/23/95
Authorized By: Client Date 05/23/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
2"		
1-1/2"		
1-1/8"		
1"		
3/4"	100	95-100
1/2"	---	
3/8"	---	
1/4"	---	
No. 4	100	90-100
8	98	
10	98	85-100
16	97	
30	97	
40	96	65-100
50	96	
100	85	50-100
200	66	40-85

Moisture Density Relations, pcf (ASTM D4318)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	27
Plasticity Index	9

(Specs 4 - 12)

Copies: Client (3), Billing (1), Field File (1)
523.10/dn:UNC031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended

REVIEWED BY Thomas Knabe

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Date of Report 11-15-95
Job No. 3145JB031
Page 1 of 1
Event/Invoice No. 31450185-3
Authorized By E. MORALES Date 07-07-95
Tested By H. KUEBLER/WT Date 07-07-95

Client UNC MINING AND MILLING
POST OFFICE BOX 3077
GALLUP, NM 87305

Client UNC MINING AND MILLING
Project 1995 RECLAMATION
Location CHURCH ROCK, NM
Test Locations Designated By H. KUEBLER/WT
Test Procedures In-Place Unit Weight : ASTM D1556 Moisture Content : ASTM D4944
Calibrated Volume of Sand Cone Apparatus 0.0387 cu. ft. Bulk Unit Weight of Sand 94.6 lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
1	0.0385	13.9	112.0	0.0	6	115.9	12.0	97	12.0 TO 14.0	95	YES
2	0.0337	12.3	110.9	0.0	5	117.0	11.0	95	11.0 TO 13.0	95	YES
3	0.0377	12.6	113.7	0.0	5	117.0	11.0	97	11.0 TO 13.0	95	YES
4	0.0424	13.6	113.1	0.0	6	115.9	12.0	98	12.0 TO 14.0	95	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL Approximate Fill Depth, ft.	Elevation *	MATERIAL TESTED
1	SWALE B, STA. 23+00, E. SLOPE, RAC		6987.8	SUBGRADE
2	SWALE B, STA. 27+00, W. SLOPE, RAC		6984.1	SUBGRADE
3	SWALE B, STA. 25+00 BOTTOM, RAC		6983.8	SUBGRADE
4	SWALE B, STA. 21+00 BOTTOM, RAC		6987.1	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
6	31450122	SANDY LEAN CLAY	RAC SWALE B, STA. 24+00	12.0	115.9	D698-A
5	31450122	SANDY LEAN CLAY	RAC SWALE B, STA. 29+00	11.0	117.0	D698-A

Comments: CB
* DATUM Test Elevation = Top of RAC

Distribution : CLIENT - (3)
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCA AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFOR PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROP STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASON EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARA OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY A. Neely
(SIGNED COPY ON FILE)

402 ©93 WTI

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

TEST SUMMARY FOR SWALE C

DATE OF REPORT 12/06/95

DATE	TYPE OF TEST	GRID	NORTHING	EASTING	ELEV.	MATERIAL TYPE	DENSITY, PCF	MOISTURE, %	RELATIVE COMPACTION	USCS SOIL CLASS	WITHIN SPECS. ?
05/16/95	Proctor	Sta. 29+00			6977.1	Native	115.0	15.0		CL	Yes
05/16/95	Sandcone	Sta. 29+25			6977.1	Native	111.6	5.7	97	CL	Yes
05/17/95	Proctor	Sta. 24+50			6982.0	Native	112.9	14.0		CL	Yes
05/17/95	Sandcone	Sta. 26+50	W. Berm		6981.5	Native	103.1	17.6	91	CL	Yes
05/17/95	Sandcone	Sta. 24+50	E. Berm		6982.0	Native	103.5	15.9	92	CL	Yes
05/17/95	Sandcone	Sta. 22+50	Bottom		6980.0	Native	103.5	12.6	92	CL	Yes
05/17/95	Sandcone	Sta. 28+00	W. Berm		6980.3	Native	104.9	13.6	93	CL	Yes
05/18/95	Sandcone	Sta. 20+00	W. Berm		6984.3	Native	102.7	14.6	91	CL	Yes
05/23/95	Proctor	Sta. 24+00			6980.6	RAC	111.5	13.8		ML	Yes
05/23/95	Proctor	Sta. 27+00			6979.6	RAC	115.1	13.0		CL	Yes
05/24/95	Sieve	Sta. 24+00			6980.6	RAC				ML	Yes
05/24/95	Sieve	Sta. 27+00			6979.6	RAC				CL	Yes

RAC = Radon Attenuation Cover

cb/UNC.031/31

Dist: Client (3) Field File (1) Billing (1)

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

TEST SUMMARY FOR SWALE C

DATE OF REPORT 12/06/95*

DATE	TYPE OF TEST	GRID	NORTHING	EASTING	ELEV.	MATERIAL TYPE	DENSITY, PCF	MOISTURE, %	RELATIVE COMPACTION	USCS SOIL CLASS	WITHIN SPECS. ?
07/13/95	Sandcone	Sta. 21+00	Bottom		6983.8	RAC	109.0	14.2	98	CL	Yes
07/13/95	Sandcone	Sta. 23+00	W. Slope		6982.7	RAC	108.4	15.1	97	CL	Yes
07/13/95	Sandcone	Sta. 25+00	E. Slope		6981.7	RAC	115.6	15.6	100	CL	Yes
07/13/95	Sandcone	Sta. 27+00	Bottom		6978.1	RAC	111.1	14.9	97	CL	Yes
07/13/95	Sandcone	Sta. 29+00	Bottom		6979.8	RAC	109.4	13.1	95	CL	Yes
07/20/95	Proctor	Sta. 19+00	E. Slope		6986.9	RAC	106.3	16.2		CL	
07/20/95	Sandcone	Sta. 20+00	Bottom		6984.3	RAC	108.9	14.0	95	CL	Yes
07/20/95	Sandcone	Sta. 19+00	W. Slope		6983.4	**	97.0	16.4	90	CL	Yes
07/20/95 to 08/17/95	Aggregate Placement										

*Revised 03/12/96
RAC = Radon Attenuation Cover
** = Top of Subgrade

cb/UNC.031/32

Dist: Client (3) Field File (1) Billing (1)

SOIL / AGGREGATE – MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450122

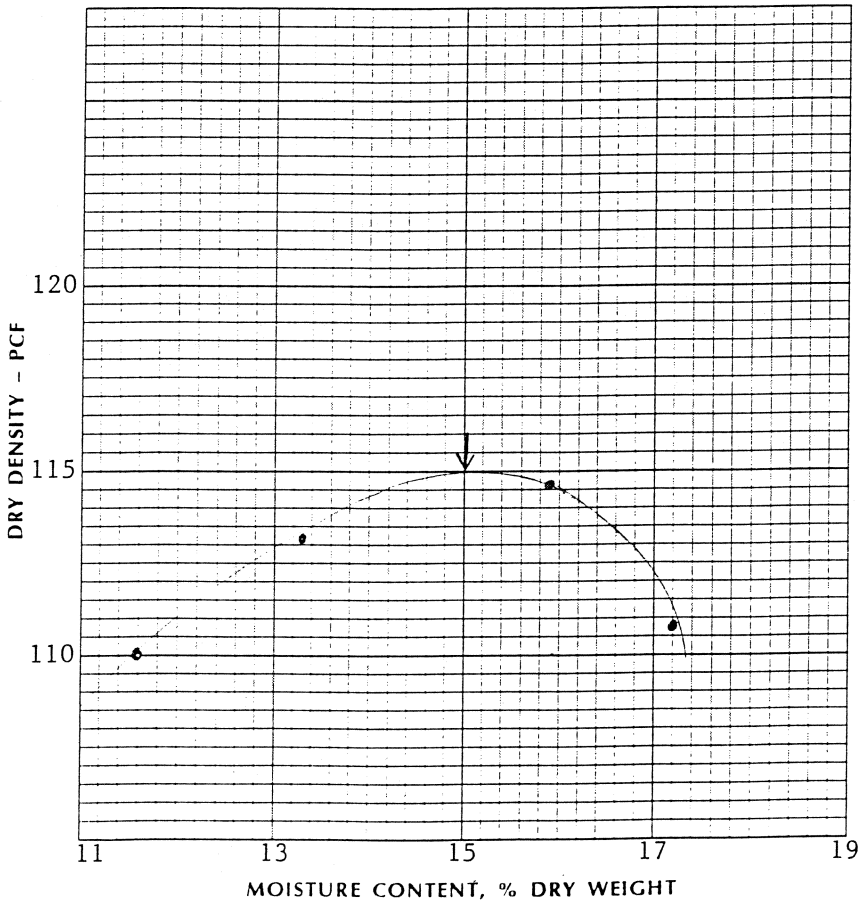
Type of Material: Tailing Sand (insitu) — Sampled By: H. Kuebler/WT — Date: 05/16/9

Source of Material: Swale C STa 29+00 — Submitted By: H. Kuebler/WT — Date: 05/16/9

Tested / Calc. By: H. Kuebler/wt — Date: 05/16/9

Test Procedure: ASTM D698A — Reviewed By: — Date:

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	250	200	150	100			
Sample + Mold Weight, gms	6224	6271	6200	6119			
Mold Weight, gms	4263	4263	4263	4263			
Wet Sample Weight, gms	2962	2008	1937	1856			
Wet Sample Weight, lbs	4.323	4.430	4.270	4.092			
Wet Density, pcf	129.7	132.9	128.1	122.8			
Moisture Sample Wet, gms	200.0	200.0	200.0	200.0			
Moisture Sample Dry, gms	170.6	172.5	176.5	179.2			
Weight of Water, gms	29.4	27.5	23.5	20.8			
Moisture, %	17.2	15.9	13.3	11.6			
Dry Density, pcf	110.7	114.7	113.1	110.0			



Maximum Dry Density, pcf: 115.0

Optimum Moisture Content, %: 15.0

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: –#4

306 (9/92)

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Date of Report **11-16-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450122-3**
Authorized By **E. MORALES** Date **05-16-95**
Tested By **H. KUEBLER/WT** Date **05-16-95**

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **H. KUEBLER/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0387** cu. ft. Bulk Unit Weight of Sand **82.7** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
1	0.0339	5.7	111.4	0.0	9	115.0	15.0	97		90	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL		MATERIAL TESTED
		Approximate Fill Depth, ft.	Elevation *	
1	STATION 29+25, SWALE C BOTTOM		6977.1	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
9	31450122	TAILING SAND (INSITU)	SWALE C, STA. 29+00	15.0	115.0	D698-A

Comments: *** DATUM Elevation of Test = Top of Native Subgrade**

Distribution : **CLIENT - (3)**
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATIO AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORME PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AN CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIAT STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABL EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANT OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY **A. Neely**
(SIGNED COPY ON FILE)

402 ©93 WTI

SOIL / AGGREGATE – MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450122

Type of Material: Silty Clay (insitu)

Sampled By: H. Kuebler/WT Date: 05/17/

Source of Material: Swale C 24+50

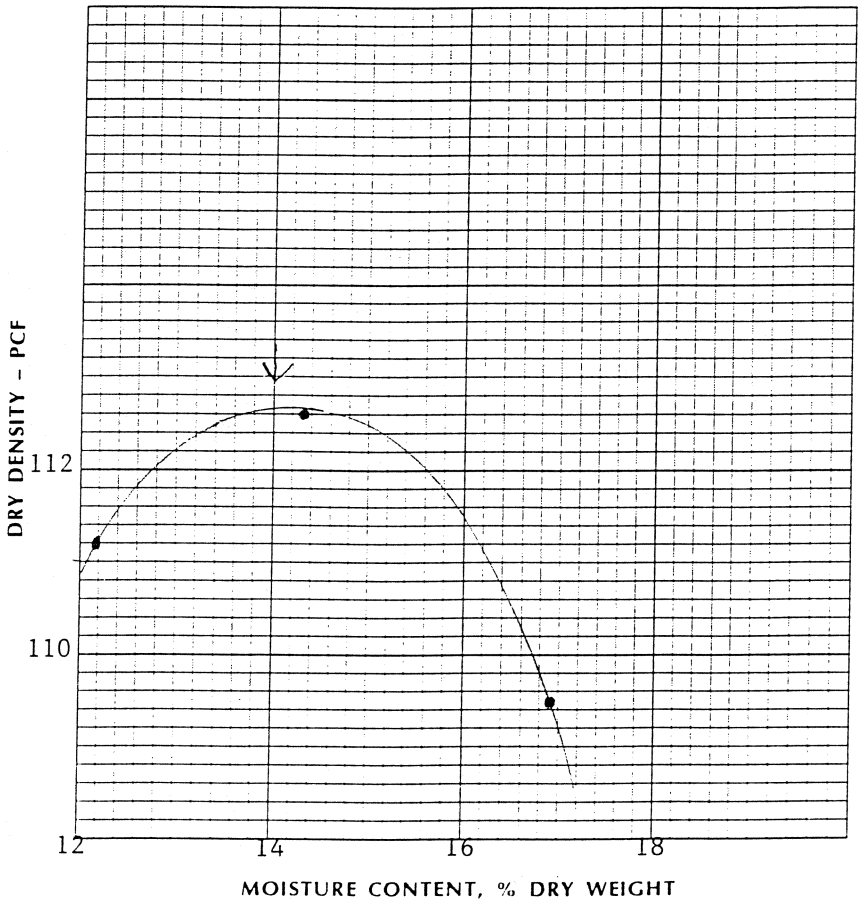
Submitted By: H. Kuebler/WT Date: 05/17/

Tested / Calc. By: H. Kuebler/WT Date: 05/17/

Test Procedure: ASTM D698A

Reviewed By: Date:

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	200	150	100	250			
Sample + Mold Weight, gms	6182	6209	6150	6087			
Mold Weight, gms	4263	4263	4263	4263			
Wet Sample Weight, gms	1919	1946	1887	1824			
Wet Sample Weight, lbs	4.23	4.29	4.16	4.02			
Wet Density, pcf	126.9	128.7	124.8	120.7			
Moisture Sample Wet, gms	173.0	177.5	175.0	200.0			
Moisture Sample Dry, gms	148.0	155.3	156.0	169.1			
Weight of Water, gms	25	22.2	19.0	30.9			
Moisture, %	16.9	14.3	12.2	18.3			
Dry Density, pcf	108.6	112.6	111.2	102.0			



Maximum Dry Density, pcf: 112.9

Optimum Moisture Content, %: 14.0

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: –#4

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Date of Report **06-22-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450122-4**
Authorized By **E. MORALES** Date **05-17-95**
Tested By **H. KUEBLER/WT** Date **05-17-95**

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **H. KUEBLER/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0387** cu. ft. Bulk Unit Weight of Sand **82.7** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
1	0.0378	17.6	102.9	0.0	12	112.9	14.0	91		90	YES
2	0.0350	15.9	103.4	0.0	12	112.9	14.0	92		90	YES
3	0.0363	12.6	103.2	0.0	12	112.9	14.0	91		90	YES
4	0.0319	13.6	106.2	0.0	12	112.9	14.0	94		90	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL	MATERIAL TESTED
1	SWALE C, STATION 26+50, WEST BERM	6981.5	SUBGRADE
2	SWALE C, STATION 24+50, EAST BERM	6982.0	SUBGRADE
3	SWALE C, STATION 22+50, BOTTOM	6980.0	SUBGRADE
4	SWALE C, STATION 28+00, WEST BERM	6980.3	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
12	31450122	SILTY CLAY (INSITU)	SWALE C, STA. 24+50	14.0	112.9	D698-A

Comments: **DATUM Elevation of Test = Top of Native Subgrade**

Distribution : **CLIENT - (3)**
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY T. Krake
(SIGNED COPY ON FILE)

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Date of Report **11-16-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450122-5**
Authorized By **E. MORALES** Date **05-18-95**
Tested By **H. KUEBLER/WT** Date **05-18-95**

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **H. KUEBLER/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0387** cu. ft. Bulk Unit Weight of Sand **94.6** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
1	0.0371	14.6	102.7	0.0	12	112.9	14.0	91		90	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL		MATERIAL TESTED
		Approximate Fill Depth, ft.	Elevation *	
1	SWALE C, STA. 20+00, WEST BERM		6984.3	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
12	31450122	SILTY CLAY (INSITU)	SWALE C, STA. 24+50	14.0	112.9	D698-A

Comments: *** DATUM Elevation of Test = Top of Native Subgrade**

Distribution : **CLIENT - (3)**
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY **A. Neely**
(SIGNED COPY ON FILE)

Job No. 3145JB031

Lab / Invoice No. 31450122

Type of Material Silt

Source of Material RAC Swale C Station 24+00

Test Procedure ASTM 698 A

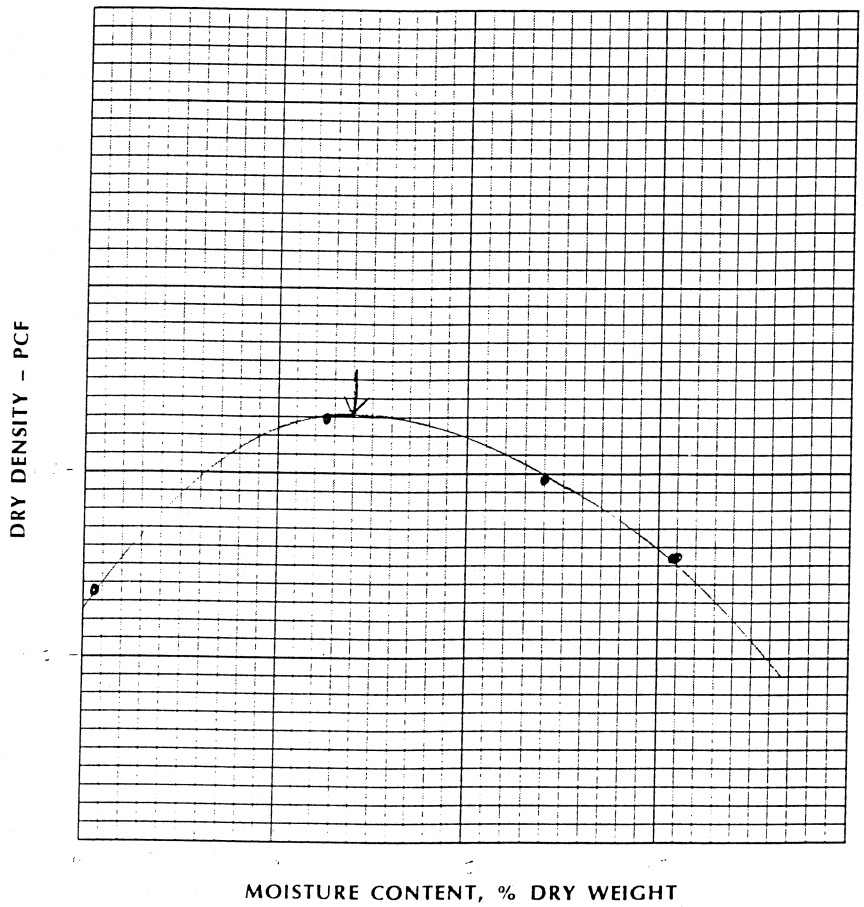
Sampled By H. Kuebler/WT Date 5-23-9

Submitted By H. Kuebler/WT Date 5-23-95

Tested / Calc. By H. Dickson/WT Date 5-23-9

Reviewed By Date

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	100	150	200	250			
Sample + Mold Weight, gms	6429.9	6552.8	6562.3	6546.4			
Mold Weight, gms	4638.9	4638.9	4638.9	4638.9			
Wet Sample Weight, gms	1791.0	1913.9	1923.4	1907.5			
Wet Sample Weight, lbs	3.95	4.22	4.24	4.21			
Wet Density, pcf	118.5	126.6	127.2	126.2			
Moisture Sample Wet, gms	408.1	408.2	402.6	414.1			
Moisture Sample Dry, gms	367.4	359.5	347.6	353.3			
Weight of Water, gms	40.7	48.7	55.0	60.8			
Moisture, %	11.1	13.5	15.8	17.2			
Dry Density, pcf	106.7	111.5	109.8	107.7			



Maximum Dry Density, pcf 111.5

Optimum Moisture Content, % 13.8

Diameter of Mold, in. 4 inch

Height of Mold, in. 4.584

No. of Layers 3

Blows Per Layer 25

Weight of Hammer, lbs 5.5

Height of Drop 12 inch

Material Used -4 material

306 (9/92)

Western Technologies Inc.

SOIL / AGGREGATE – MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450122

Type of Material: Silty Sand w/Trace Clay

Sampled By: H. Kuebler/WT Date 05/23/

Source of Material: RAC-Swale C Sta 27+00

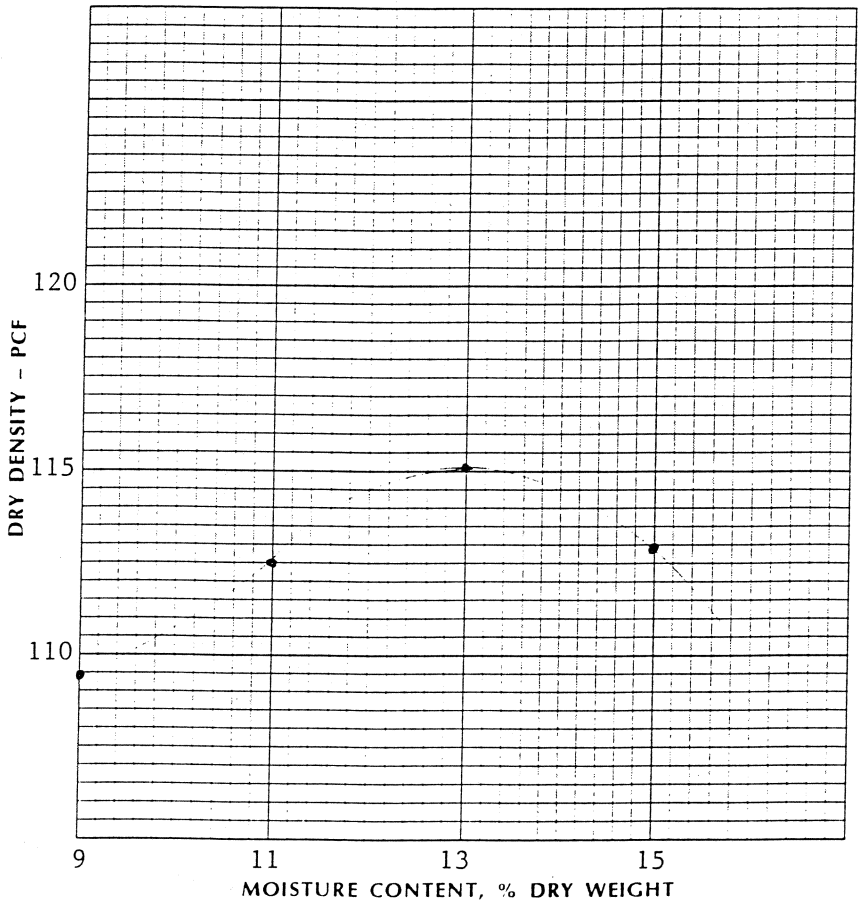
Submitted By: H. Kuebler/WT Date 05/23/

Tested / Calc. By: H. Kuebler/WT Date 05/23/

Test Procedure: ASTM D698A

Reviewed By: Date

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	150	200	250	300			
Sample + Mold Weight, gms	6399.1	6485.5	6563.1	6558.4			
Mold Weight, gms	4600.9	4600.9	4600.9	4600.9			
Wet Sample Weight, gms	1798.2	1884.6	1962.2	1957.5			
Wet Sample Weight, lbs	3.97	4.16	4.33	4.32			
Wet Density, pcf	119.2	124.9	130.1	129.8			
Moisture Sample Wet, gms	296.8	250.4	227.6	224.1			
Moisture Sample Dry, gms	272.6	225.8	200.9	194.4			
Weight of Water, gms	24.2	24.6	26.7	29.7			
Moisture, %	9.0	11.0	13.0	15.0			
Dry Density, pcf	109.4	112.5	115.1	112.9			



Maximum Dry Density, pcf: 115.1

Optimum Moisture Content, %: 13.0

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: -#4

306 (9/92)

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450122
		Report Date:	06/20/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		
Material:	Silt	Sampled By: H. Kuebler	Date 05/24/95
Source:	Swale C, Station 24 + 00	Submitted By: H. Kuebler	Date 05/24/95
		Authorized By: Client	Date 05/24/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
2"		
1-1/2"		
1-1/8"		
1"		
3/4"	100	95-100
1/2"	---	
3/8"	100	
1/4"	---	
No. 4	99	90-100
8	99	
10	98	85-100
16	98	
30	97	
40	96	65-100
50	96	
100	88	50-100
200	67.2	40-85

Moisture Density Relations, pcf (ASTM D4318)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	26
Plasticity Index	3

(Specs 4 - 12)

Copies: Client (3), Billing (1), Field File (1)
524/dn:UNC031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY Thomas Krahe

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450122
		Report Date:	06/20/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		
Material:	Sandy Lean Clay	Sampled By: H. Kuebler	Date 05/24/95
Source:	Swale C, Station 27 + 00	Submitted By: H. Kuebler	Date 05/24/95
		Authorized By: Client	Date 05/24/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
2"		
1-1/2"		
1-1/8"		
1"		
3/4"	100	95-100
1/2"	---	
3/8"	---	
1/4"	---	
No. 4	100	90-100
8	99	
10	98	85-100
16	98	
30	97	
40	97	65-100
50	96	
100	86	50-100
200	65	40-85

Moisture Density Relations, pcf (ASTM D4318)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	29
Plasticity Index	14

(Specs 4 - 12)

Copies: Client (3), Billing (1), Field File (1)
524.1/dn:UNC031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation either expressed or implied is included or intended.

REVIEWED BY Thomas Krahe

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Date of Report **08-28-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450185-9**
Authorized By **E. MORALES** Date **07-13-95**
Tested By **C.P./H.K./WT** Date **07-13-95**

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **C. PADILLA/H. KUEBLER/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0383** cu. ft. Bulk Unit Weight of Sand **94.8** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
1	0.0334	14.2	109.0	0.0	4	111.5	13.8	98	13.8 TO 15.8	95	YES
2	0.0393	15.1	108.4	0.0	4	111.5	13.8	97	13.8 TO 15.8	95	YES
3	0.0319	15.6	115.6	0.0	4	111.5	13.8	100+	13.8 TO 15.8	95	YES
4	0.0380	14.9	111.1	0.0	18	115.1	13.0	97	13.0 TO 15.0	95	YES
5	0.0339	13.1	109.4	0.0	18	115.1	13.0	95	13.0 TO 15.0	95	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL		MATERIAL TESTED
		Approximate Fill Depth, ft.	Elevation *	
1	SWALE C, STA. 21+00, BOTTOM, RAC		6983.8	SUBGRADE
2	SWALE C, STA. 23+00, W. SLOPE, RAC		6982.7	SUBGRADE
3	SWALE C, STA. 25+00, E. SLOPE, RAC		6981.7	SUBGRADE
4	SWALE C, STA. 27+00, BOTTOM, RAC		6978.1	SUBGRADE
5	SWALE C, STA. 29+00, BOTTOM, RAC		6979.8	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
4	31450122	SILT	RAC SWALE C, STA. 24+00	13.8	111.5	D698-A
18	31450122	SILTY SAND W/TRACE OF CLAY	RAC, SWALE C, STA. 27+00	13.0	115.1	D698-A

Comments: CB
* DATUM Test Elevation = Top of RAC

Distribution : CLIENT - (3)
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY **A. McHaney** AM
(SIGNED COPY ON FILE)

402 ©93 WTI

SOIL / AGGREGATE MOISTURE DENSITY RELATIONS

Job No. _____

Lab / Invoice No. _____

Type of Material: Silty Clay (RAC)

Source of Material: Swale C. 19+00 E Slope Elev. 6986.8

Test Procedure: ASTM D698A

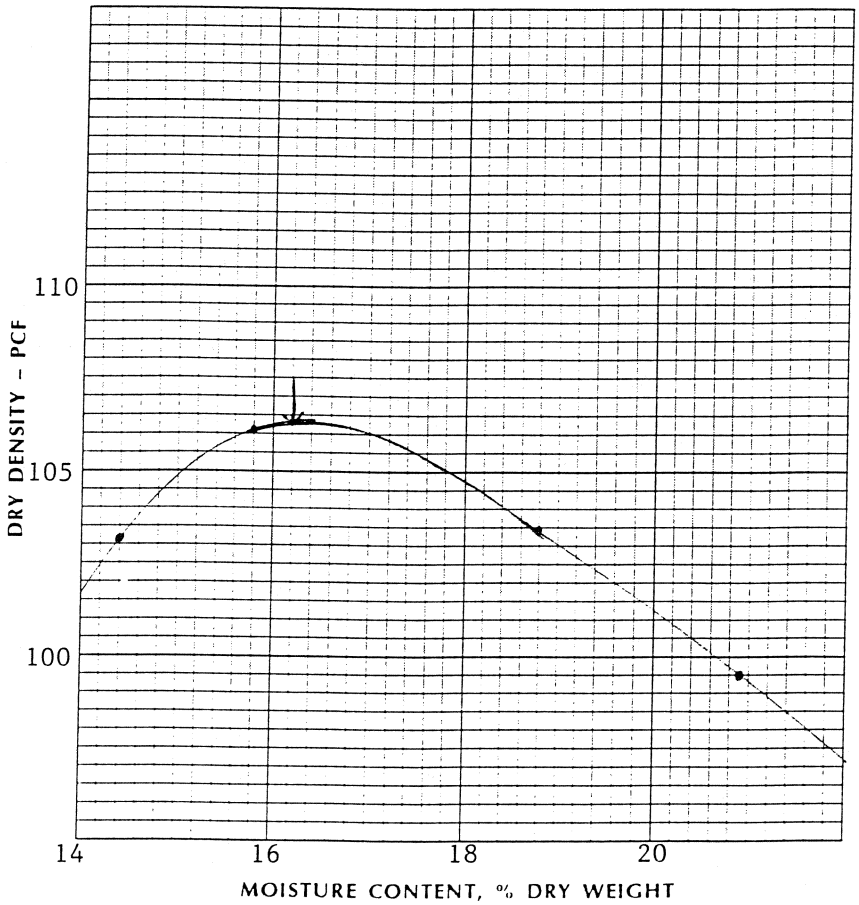
Sampled By: C. Padilla/WT Date: 07/20

Submitted By: C. Padilla/WT Date: 07/20

Tested / Calc. By: C. Padilla/WT Date: 07/20

Reviewed By: _____ Date: _____

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	0	50	100	150			
Sample + Mold Weight, gms	6040.0	6119.0	6114.0	6076.0			
Mold Weight, gms	4257.0	4257.0	4257.0	4257.0			
Wet Sample Weight, gms	1783.0	1862	1857	1819			
Wet Sample Weight, lbs	3.931	4.105	4.094	4.010			
Wet Density, pcf	117.9	123.1	122.8	120.3			
Moisture Sample Wet, gms	295.4	318.1	292.3	416.8			
Moisture Sample Dry, gms	258.2	274.7	246.1	344.7			
Weight of Water, gms	37.2	43.4	46.2	72.1			
Moisture, %	14.4	15.8	18.8	20.9			
Dry Density, pcf	103.1	106.3	103.4	99.5			



Maximum Dry Density, pcf: 106.3

Optimum Moisture Content, %: 16.2

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: -#4

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Date of Report **10-17-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450185-14**
Authorized By **E. MORALES** Date **07-20-95**
Tested By **C. PADILLA/WT** Date **07-20-95**

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **C. PADILLA/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0383** cu. ft. Bulk Unit Weight of Sand **94.8** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
1	0.0368	14.0	108.9	0.0	4	111.5	13.8	98	13.8 TO 15.8	95	YES
2	0.0371	16.4	97.0	0.0	34	106.3	16.2	91		90	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL		MATERIAL TESTED
		Approximate Fill Depth, ft.	Elevation *	
1	SWALE C, STATION 20+00, BOTTOM		6984.3	SUBGRADE
2	SWALE C, STATION 19+00, W. SLOPE**		6983.4	SUBGRADE**

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
4	31450122	SILT	RAC SWALE C, STA. 24+00	13.8	111.5	D698-A
34	31450185	SILTY CLAY, RAC	SWALEC,19+00,E SLP,6986.8	16.2	106.3	D698-A

Comments: **Elev. of Test No. 2 = Top of Subgrade Prior to Bedding Placement CB
* DATUM Elevation of Test = Top of RAC

Distribution : **CLIENT - (3)**
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY **A. McHaney**
(SIGNED COPY ON FILE)

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE A - .02 SAND THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 14+00	3 1/2	3	3
Station 15+00	3	3 1/2	3
Station 15+50	3	3	3

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/4

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE B - .02 SAND THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 14+00	3 1/4	3 1/4	3 1/4
Station 15+00	3	3	3
Station 16+00	3 1/4	3	3
Station 17+00	3	3	3
Station 18+00	3	3 1/2	3
Station 19+00	3	3 1/2	3
Station 20+00	3	3	3 1/2
Station 21+00	3 1/2	3	3 1/2
Station 22+00	3 1/2	3	3 1/2
Station 23+00	3	3 1/2	3
Station 24+00	3 1/4	3	3
Station 25+00	3 1/2	3 1/2	3 1/2

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/13

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE B - .02 SAND THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 26+00	3 1/2	3	3
Station 27+00	3	3 1/2	3 1/4
Station 28+00	3	3	3
Station 29+00	3 1/4	3 1/2	3 1/4
Station 30+00	3 1/2	3 1/4	3 1/2
Station 31+00	3 1/4	3 1/2	3 1/4
Station 32+00	3	3	3
Station 33+00	3	3 1/4	3 1/2

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/14

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE C - .02 SAND THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 18+00	3	3 1/4	3 1/4
Station 19+00	3	3 1/2	3
Station 20+00	3	3 1/2	3
Station 21+00	3 1/4	3	3 1/2
Station 22+00	3 1/4	3 1/4	3 1/4
Station 23+00	3 1/2	3 1/2	3
Station 24+00	3 1/4	3 1/4	3
Station 25+00	3	3	3 1/4
Station 26+00	3 1/4	3 1/4	3 1/4
Station 27+00	3 1/2	3 1/4	3 1/4
Station 28+00	3 1/2	3	3 1/2
Station 29+00	3 1/4	3 1/4	3 1/2

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/2

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE C - .02 SAND THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 30+00	3	3 1/2	3 1/2
Station 31+00	3 1/4	3 1/2	3 1/4
Station 32+00	3 1/2	3 1/2	3 1/4

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/3

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE A - .35 AGGREGATE THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 14+00	4	4	3 3/4
Station 15+00	3 1/4	3 1/2	3 3/4
Station 15+50	3	3 1/4	3

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/5

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY _____

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE B - .035 AGGREGATE THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 14+00	3	4	3 1/2
Station 15+00	3	3 1/2	3 1/4
Station 16+00	3 1/4	3	3
Station 17+00	3 1/2	3 1/2	4
Station 18+00	3 1/2	3 3/4	3 1/2
Station 19+00	3 1/4	3	3
Station 20+00	3 1/4	3	3
Station 21+00	3	4	3 1/4
Station 22+00	4	3 3/4	4
Station 23+00	3 1/2	4	3 3/4
Station 24+00	4	3 1/2	3
Station 25+00	3 1/2	3 3/4	4

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/11

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE B - .035 AGGREGATE THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 26+00	3	3	3 3/4
Station 27+00	3	3 1/2	3 1/2
Station 28+00	3 1/4	3 1/2	3
Station 29+00	3 1/2	3	4
Station 30+00	3 1/4	3 3/4	4
Station 31+00	3 1/4	3 3/4	3 1/4
Station 32+00	4	3 3/4	3
Station 33+00	3 1/4	3 1/4	3

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/12

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE B - D 50 - 3" THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 14+00	7	7	6
Station 15+00	7	7	6 1/4
Station 16+00	6 1/4	6 1/2	7
Station 17+00	6 1/4	6 1/4	7
Station 18+00	7	7	7
Station 19+00	7	7	8
Station 20+00	7	7	6 1/4
Station 21+00	6 1/4	6	6
Station 22+00	6 1/2	7	6 1/2
Station 23+00	6	6 1/4	6 1/2
Station 24+00	6 1/2	6 1/4	7
Station 25+00	6 1/4	6	6 1/2

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/9

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE B - D 50 - 3" THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 26+00	6 3/4	8	7
Station 27+00	6 1/2	7	7
Station 28+00	6	7 1/2	7
Station 29+00	7	6	6 1/2
Station 30+00	7	6 1/4	6
Station 31+00	6	6	6 1/4
Station 32+00	7	6	6 1/2
Station 33+00	6 3/4	6 1/2	7

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/10

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE A - 3." AGGREGATE THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 14+00	7	6 1/2	7
Station 14+50	7	6 3/4	7
Station 15+00	7	7	7

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/6

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 08/17/95

SWALE C - D50 - 1.5 AGGREGATE THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 18+00	3 1/4	3 1/2	3
Station 19+00	3	3 1/4	3 1/4
Station 20+00	3 3/4	4	4 1/4
Station 21+00	4	4	4
Station 22+00	3 1/2	3 3/4	4
Station 23+00	3 1/2	4	4
Station 24+00	3	3 3/4	3 3/4
Station 25+00	3	3 1/2	4
Station 26+00	4	4	4
Station 27+00	3 1/2	3	3 1/4
Station 28+00	3	3	3 1/4
Station 29+00	4	3 3/4	3

Dist: Client (3) Field File (1) Billing (1)

/cb:031.SWE/1

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY _____

APPENDIX
K

SMITH

APPENDIX K

BEDDING MATERIAL GRADATION TESTS

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB03

TEST SUMMARY FOR BEDDING MATERIAL

DATE OF REPORT 12/07/95

DATE	SAMPLE LOCATION	% PASS 3" SPEC. 100%	% PASS 3/4" SPEC. 85-100%	% PASS #4 SPEC. 65-100%	% PASS #10 SPEC. 47-94%	% PASS #40 SPEC. 23-70%	% PASS 200 SPEC. 15-30%	WITHIN SPECS. ?
03/13/95	Hamilton Brothers	100	100	96	73	47	26.0	Yes
05/23/95	UNC Stockpile	100	100	100	73	39	18.0	Yes
06/20/95	UNC Stockpile	100	100	96	76	48	21.5	Yes

cb/1995.UNC/5

Dist: Client (3) Field File (1) Billing (1)

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450051
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	.02 Aggregate	Sampled By:	P. Christensen/WT	Date	03/13/95
Source:	Hamilton Brothers Crusher	Submitted By:	P. Christensen/WT	Date	03/13/95
		Authorized By:	Client	Date	03/13/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
2"		
1-1/2"		
1-1/8"		
1"		
3/4"	100	85-100
1/2"		
3/8"		
1/4"		
No. 4	96	65-100
8		
10	73	47-94
16		
30		
40	47	23-70
50		
100		
200	26.0	15-30

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
313/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450122
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	.02 Aggregate	Sampled By:	H. Kuebler/WT	Date	05/23/95
Source:	UNC Stockpile	Submitted By:	H. Kuebler/WT	Date	05/23/95
		Authorized By:	Client	Date	05/23/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	100
1-1/2"		
1-1/8"		
1"		
3/4"	100	85-100
1/2"		
3/8"		
1/4"		
No. 4	100	65-100
8		
10	73	47-94
16		
30		
40	39	23-70
50		
100		
200	18.0	15-30

Moisture Density Relations, pcf (ASTM D698 Method A)	
Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318	
Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
523.1/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450145
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	.02 Aggregate	Sampled By:	H. Kuebler/WT	Date	06/20/95
Source:	UNC	Submitted By:	H. Kuebler/WT	Date	06/20/95
		Authorized By:	Client	Date	06/20/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	100
1-1/2"		
1-1/8"		
1"		
3/4"	100	85-100
1/2"		
3/8"		
1/4"		
No. 4	96	65-100
8		
10	76	47-94
16		
30		
40	48	23-70
50		
100		
200	21.5	15-30

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
620/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY _____

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB03

TEST SUMMARY FOR D50 .35 MATERIAL

DATE OF REPORT 12/07/95

DATE	SAMPLE LOCATION	% PASS 3" SPEC. 65-100%	% PASS 3/4" SPEC. 43-80%	% PASS #4 SPEC. 22-60%	% PASS #10 SPEC. 15-38%	% PASS #40 SPEC. 5-12%	% PASS 200 SPEC. 0-10%	WITHIN SPECS. ?
03/09/95	Hamilton Brothers	100	98	49	32	19	10.7	No
03/13/95	Hamilton Brothers	100	94	41	26	14	7.5	No
05/19/95	Hamilton Brothers	100	90	41	29	19	8.8	No
05/23/95	Rock Score							
05/25/95	Hamilton Brothers	100	80	31	22	14	6.9	No
05/25/95	Hamilton Brothers	100	75	34	24	14	8.1	No
06/12/95	Rock Score							
06/12/95	Hamilton Brothers	100	68	27	18	10	6.7	Yes
06/22/95	Hamilton Brothers	100	73	39	17	10	7.4	Yes
07/10/95	Rock Score							
07/10/95	Hamilton Brothers	100	67	33	15	10	6.1	Yes

NOTE: Material that did not meet specifications was discarded.

cb/1995.UNC/4

Dist: Client (3) Field File (1) Billing (1)

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450051
Report Date: 11/16/95

Project: 1995 Reclamation
Location: Church Rock, NM
Material: .35 Aggregate
Source: Hamilton Brothers

Sampled By: H. Kuebler/WT Date 03/09/95
Submitted By: H. Kuebler/WT Date 03/09/95
Authorized By: Client Date 03/09/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	98	43-80
1/2"		
3/8"		
1/4"		
No. 4	49	22-60
8		
10	32	15-38
16		
30		
40	19	5-12
50		
100		
200	10.7	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
309/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450051
Report Date: 11/16/95

Project: 1995 Reclamation

Location: Church Rock, NM

Material: .35 Material — Sampled By: P. Christensen/WT — Date 03/13/95

Source: Hamilton Brothers Crusher — Submitted By: P. Christensen/WT — Date 03/13/95

Authorized By: Client — Date 03/13/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	94	43-80
1/2"		
3/8"		
1/4"		
No. 4	41	22-60
8		
10	26	15-38
16		
30		
40	14	5-12
50		
100		
200	7.5	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
313.1/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450122
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	.35 Aggregate	Sampled By:	H. Kuebler/WT	Date	05/19/95
Source:	Hamilton Brothers	Submitted By:	H. Kuebler/WT	Date	05/19/95
		Authorized By:	Client	Date	05/19/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	90	43-80
1/2"		
3/8"		
1/4"		
No. 4	41	22-60
8		
10	29	15-38
16		
30		
40	19	5-12
50		
100		
200	8.8	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
519/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450122
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	D^{50} .35 Aggregate	Sampled By:	H. Kuebler/WT	Date	05/23/95
Source:	Hamilton Yard	Submitted By:	H. Kuebler/WT	Date	05/23/95
		Authorized By:	Client	Date	05/23/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	70	43-80
1/2"		
3/8"		
1/4"		
No. 4	26	22-60
8		
10	20	15-38
16		
30		
40	14	5-12
50		
100		
200	7.7	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
523.3/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450122
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	.35 Aggregate	Sampled By:	H. Kuebler/WT	Date	05/25/95
Source:	Hamilton Brothers	Submitted By:	H. Kuebler/WT	Date	05/25/95
		Authorized By:	Client	Date	05/25/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	80	43-80
1/2"		
3/8"		
1/4"		
No. 4	31	22-60
8		
10	22	15-38
16		
30		
40	14	5-12
50		
100		
200	6.9	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
525/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450122
Report Date: 11/16/95

Project: 1995 Reclamation
Location: Church Rock, NM
Material: .35 Aggregate
Source: Hamilton Brothers

Sampled By: H. Kuebler/WT Date 05/25/95
Submitted By: H. Kuebler/WT Date 05/25/95
Authorized By: Client Date 05/25/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	75	43-80
1/2"		
3/8"		
1/4"		
No. 4	34	22-60
8		
10	24	15-38
16		
30		
40	14	5-12
50		
100		
200	8.1	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
525.1/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450145
Report Date: 11/16/95

Project: 1995 Reclamation
Location: Church Rock, NM
Material: .35 Aggregate
Source: Hamilton Brothers

Sampled By: H. Kuebler/WT Date 06/12/95
Submitted By: H. Kuebler/WT Date 06/12/95
Authorized By: Client Date 06/12/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	68	43-80
1/2"		
3/8"		
1/4"		
No. 4	27	22-60
8		
10	18	15-38
16		
30		
40	10	5-12
50		
100		
200	6.7	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
612/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450145
Report Date: 11/16/95

Project: 1995 Reclamation
Location: Church Rock, NM
Material: .35 Aggregate
Source: Hamilton Brothers Crusher

Sampled By: J. Golding/WT Date 06/22/95
Submitted By: J. Golding/WT Date 06/22/95
Authorized By: Client Date 06/22/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	73	43-80
1/2"		
3/8"		
1/4"		
No. 4	39	22-60
8		
10	17	15-38
16		
30		
40	17	5-12
50		
100		
200	7.4	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
622.1/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450145
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	.35 Aggregate	Sampled By:	J. Golding/WT	Date	06/22/95
Source:	Hamilton Brothers Crusher	Submitted By:	J. Golding/WT	Date	06/22/95
		Authorized By:	Client	Date	06/22/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	70	43-80
1/2"		
3/8"		
1/4"		
No. 4	37	22-60
8		
10	15	15-38
16		
30		
40	15	5-12
50		
100		
200	6.8	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
622/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY _____

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales Post Office Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450145
		Report Date:	11/16/95
Project:	1995 Reclamation		
Location:	Church Rock, NM		

Material:	.35 Aggregate	Sampled By:	J. Golding/WT	Date	07/10/95
Source:	Hamilton Brothers Crusher	Submitted By:	J. Golding/WT	Date	07/10/95
		Authorized By:	Client	Date	07/10/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
3"	100	65-100
1-1/2"		
1-1/8"		
1"		
3/4"	67	43-80
1/2"		
3/8"		
1/4"		
No. 4	33	22-60
8		
10	15	15-38
16		
30		
40	10	5-12
50		
100		
200	6.1	0-10

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	N/A
Plasticity Index	N/A

Copies: Client (3), Billing (1) Field File (1)
710/cb:UNC.031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

APPENDIX
L

SMITH

APPENDIX L

TEST RESULTS, NORTH CELL DRAINAGE CHANNEL

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

TEST SUMMARY FOR NORTH DIVERSION CHANNEL

DATE OF REPORT 12/06/95

DATE	TYPE OF TEST	GRID	NORTHING	EASTING	ELEV.	MATERIAL TYPE	DENSITY, PCF	MOISTURE, %	RELATIVE COMPACTION	USCS SOIL CLASS	WITHIN SPECS. ?
08/21/95	Soil Classification	North	Diversion Ditch	Sta. 8+00		Subgrade				CL	Yes
08/21/95	Proctor-ASTM D698	North	Diversion Ditch	Sta. 8+00		Subgrade	112.5	13.9		CL	Yes
08/21/95	Sandcone	North	Diversion Ditch	Sta. 9+00	West Slope	Subgrade	109.3	13.6	97	CL	Yes
08/21/95	Sandcone	North	Diversion Ditch	Sta. 9+00	Bottom	Subgrade	104.6	15.6	93	CL	Yes
08/21/95	Sandcone	North	Diversion Ditch	Sta. 9+00	East Slope	Subgrade	110.1	14.3	98	CL	Yes
08/21/95 to 09/29/95	Bedding and Aggregate Placement in Channel										

cb/UNC.031/29

Dist: Client (3) Field File (1) Billing (1)

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450185
		Report Date:	10/04/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		

Material:	Silty Clay	Sampled By:	H. Kuebler	Date	08/21/95
Source:	North Diversion Channel	Submitted By:	H. Kuebler	Date	08/21/95
	Station 8 + 00	Authorized By:	Client	Date	08/21/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
2"		
1-1/2"		
1-1/8"	100	
1"	97	
3/4"	97	95-100
1/2"	97	
3/8"	96	
1/4"		
No. 4	96	90-100
8	94	
10	94	85-100
16	93	
30	92	
40	91	65-100
50	89	
100	74	50-100
200	63.9	40-85

Plasticity Index, ASTM D4318

Liquid Limit	25
Plasticity Index	9

Copies: Client (3), Billing (1), Field File (1)
8.21/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY Harry Kuebler

SOIL / AGGREGATE – MOISTURE DENSITY RELATIONS

Job No. 3145JB031

Lab / Invoice No. 31450243

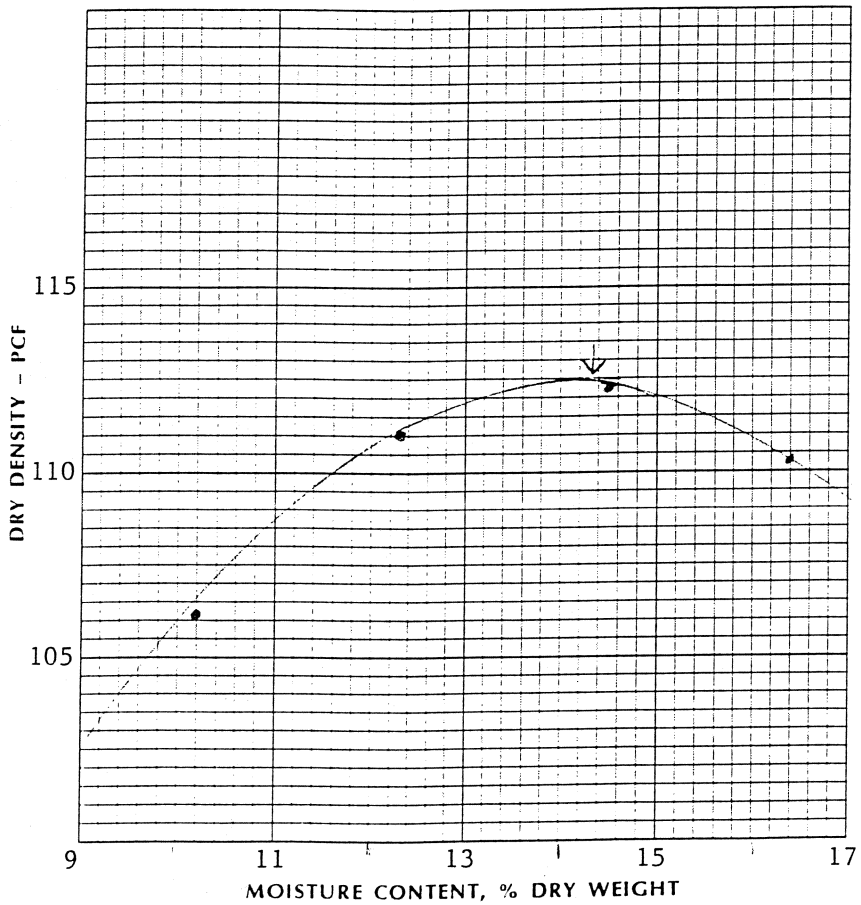
Type of Material: Silty Clay — Sampled By: H. Kuebler/WT — Date: 08/21

Source of Material: North Diversion Ditch Sta. 8+00 — Submitted By: H. Kuebler/WT — Date: 08/21

Tested / Calc. By: H. Dickson/WT — Date: 08/24

Test Procedure: ASTM D698A — Reviewed By: — Date:

Trial No.	1	2	3	4	5	6	7
Water, Estimated %							
Water, cc	100	150	200	250			
Sample + Mold Weight, gms	6022.8	6139.5	6198.2	6190.7			
Mold Weight, gms	4253.7	4253.7	4253.7	4253.7			
Wet Sample Weight, gms	1769.1	1885.8	1944.5	1937.0			
Wet Sample Weight, lbs	3.90	4.16	4.29	4.27			
Wet Density, pcf	117.0	124.7	128.6	128.1			
Moisture Sample Wet, gms	486.6	583.5	658.3	592.5			
Moisture Sample Dry, gms	441.4	519.7	575.1	509.1			
Weight of Water, gms	45.2	63.8	83.2	83.4			
Moisture, %	10.2	12.3	14.5	16.4			
Dry Density, pcf	106.2	111.0	112.3	110.1			



Maximum Dry Density, pcf: 112.5

Optimum Moisture Content, %: 13.9

Diameter of Mold, in.: 4"

Height of Mold, in.: 4.584

No. of Layers: 3

Blows Per Layer: 25

Weight of Hammer, lbs: 5.5

Height of Drop: 12"

Material Used: –#4

306 (9/92)

Western Technologies Inc.

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

SOIL / AGGREGATE FIELD UNIT WEIGHT TESTS (FIELD DENSITY)

Client **UNC MINING AND MILLING**
POST OFFICE BOX 3077
GALLUP, NM 87305

Date of Report **11-16-95**
Job No. **3145JB031** Page **1** of **1**
Event/Invoice No. **31450243-3**
Authorized By **E. MORALES** Date **08-21-95**
Tested By **H. KUEBLER/WT** Date **08-21-95**

Client **UNC MINING AND MILLING**
Project **1995 RECLAMATION**
Location **CHURCH ROCK, NM**
Test Locations Designated By **H. KUEBLER/WT**
Test Procedures In-Place Unit Weight : **ASTM D1556** Moisture Content : **ASTM D4944**
Calibrated Volume of Sand Cone Apparatus **0.0387** cu. ft. Bulk Unit Weight of Sand **94.8** lbf/cu. ft.

TEST NO.	IN-PLACE CHARACTERISTICS				LAB CHARACTERISTICS			COMPACTION	REQUIREMENTS		
	Hole Volume cu. ft.	Moisture % of Dry Unit Weight	Dry Unit Weight lbf / cu. ft.	Oversize %	ID	Maximum Dry Unit Weight lbf / cu. ft.	Optimum Moisture %	% of Maximum Dry Unit Weight	Moisture %	Compaction %	CONFORMANCE INDICATED
1	0.0319	13.6	109.3	0.0	47	112.5	13.9	97		90	YES
2	0.0381	15.6	104.6	0.0	47	112.5	13.9	93		90	YES
3	0.0318	14.3	110.1	0.0	47	112.5	13.9	98		90	YES

TEST NO.	TEST LOCATION, HORIZONTAL	TEST LOCATION, VERTICAL		MATERIAL TESTED
		Approximate Fill Depth, ft.	Elevation *	
1	N. DIVERSION RUNOFF CHANNEL, STA. 9+00, WEST SLOPE		6964.2	SUBGRADE
2	N. DIVERSION RUNOFF CHANNEL, STA. 9+00, BOTTOM		6957.9	SUBGRADE
3	N. DIVERSION RUNOFF CHANNEL, STA. 9+00, EAST SLOPE		6964.2	SUBGRADE

LABORATORY DATA & COMPACTION CHARACTERISTICS

LAB ID.	EVENT/ INVOICE NO.	DESCRIPTION OF MATERIAL	SOURCE OF MATERIAL	OPTIMUM MOISTURE, %	MAXIMUM DRY UNIT WEIGHT, lbf / cu. ft.	TEST METHOD
47	31450245	SILTY CLAY	N.DIVERSION DITCH STA.8+0	13.9	112.5	ASTM698-A

Comments: **CB**
*** DATUM Elevation of Test = Top of Natural Ground**

Distribution : **CLIENT - (3)**
FIELD FILE & BILLING (2)

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY **A. Neely**
(SIGNED COPY ON FILE)

402 ©93 WTI

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 09/29/95

NORTH DIVERSION CHANNEL - .02 SAND THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 18+00	3 1/4	3 1/2	3 1/4
Station 17+00	3	3	3
Station 16+00	3	3	3
Station 15+00	3 1/4	3	3 1/4
Station 14+00	3 3/4	3	3
Station 13+00	3 1/2	3 1/2	3 1/2
Station 12+00	5	3 1/2	4 1/2
Station 11+00	3 1/4	2 1/2	3 1/2
Station 10+00	3 1/4	3 1/2	3
Station 9+00	3 1/4	3	3
Station 8+00	3 1/2	3 1/2	3 1/2
Station 7+50	3	3 1/4	3

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/15

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 09/29/95

NORTH DIVERSION CHANNEL - D50 .35 AGGREGATE THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 18+00	3 1/2	3	3 1/4
Station 17+00	4	3	3
Station 16+00	3 1/4	3	3 1/4
Station 15+00	3 3/4	3 1/2	3 1/2
Station 14+00	3 1/2	4	3 1/2
Station 13+00	4	3 3/4	3
Station 12+00	3 3/4	4	3 1/4
Station 11+00	3 1/2	3 1/2	3 3/4
Station 10+00	4	3 1/2	4
Station 9+00	3 1/2	4	4
Station 8+00	4	3 3/4	3 3/4
Station 7+50	3 1/2	3 3/4	3 1/2

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/16

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY _____

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 09/29/95

NORTH DIVERSION CHANNEL - D50 9 INCH AGGREGATE THICKNESS

LOCATION	RIGHT BERM	BOTTOM OF SWALE	LEFT BERM
Station 18+00	15	15 1/2	15 3/4
Station 17+00	16 1/2	15	17 1/2
Station 16+00	15 1/2	15	15
Station 15+00	16 1/2	16 1/2	15 1/4
Station 14+00	16	17	15 1/2
Station 13+00	15 1/4	16	16 1/2
Station 12+00	17	16 1/2	16 3/4
Station 11+00	16	17 3/4	16 1/4
Station 10+00	16 1/4	15	15 1/2
Station 9+00	15	15	15 1/2
Station 8+00	17 1/2	15	18
Station 7+00	15	15 1/2	15 3/4

Dist: Client (3) Field File (1) Billing (1)
/cb:031.SWE/17

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

TEST SUMMARY FOR D50 9" MATERIAL

DATE OF REPORT 12/07/95

dK

DATE	SAMPLE LOCATION	% PASS 15" SPEC. 100%	% PASS 10" SPEC. 45-58%	% PASS 5" SPEC. 10-33%	% PASS 3" SPEC. 0-23%	WITHIN SPECS. ?
06/12/95	Hamilton Brothers	100	88*	35	2.4	No
06/12/95	Rock Score					
08/30/95	Hamilton Brothers	100	46	11	9.4	Yes
08/30/95	Rock Score					
09/27/95	Hamilton Brothers	100	53	10	9	Yes
09/27/95	Rock Score					

*MATERIAL WAS DISCARDED

cb/1995.UNC/2

Dist: Client (3) Field File (1) Billing (1)

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450145
		Report Date:	12/04/95

Project:	1995 Reclamation				
Location:	Church Rock, New Mexico				
Material:	D^{50} - 9 inch	Sampled By:	H. Kuebler /WT	Date	06/12/95
Source:	Hamilton Brothers	Submitted By:	H. Kuebler /WT	Date	06/12/95
		Authorized By:	Client	Date	06/12/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
15"	100	100
10"	88	45 - 58
5"	35	10 - 33
3"	2.4	0 - 23
3/4"		
1/2"		
3/8"		
1/4"		
No. 4		
8		
10		
16		
30		
40		
50		
100		
200		

Moisture Density Relations, pcf (ASTM D698 Method A)

Maximum Dry Density, pcf	N/A
Optimum Moisture, %	N/A

Plasticity Index, ASTM D4318

Liquid Limit	26
Plasticity Index	8

Copies: Client (3), Billing (1), Field File (1)
6.12/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY _____

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

ROCK QUALITY DETERMINATION

United Nuclear Corporation
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, New Mexico 87305-3077

Job No. 3145JB031
Inv. No. 31450243
Date of Report 12/05/95
Reviewed By

Project: 1995 Church Rock Uranium Mill Tailings Reclamation Project
Location: Church Rock, New Mexico Sampled by: H. Kuebler/WT Date 06/12/95
Material Source: Hamilton Brothers Construction Authorized by: E. Morales/Client Date 09/27/95
Material Type: Crushed Basalt Intended Use

Property	Value	Score	Weighting Factor	Score x Weight
Specific Gravity (SSD)	2.719	9.2	9	82.8
Absorption, %	1.493	4.0	2	8
L.A. Abrasion, 100 rev, %	4.9	8.0	1	8.0
Sodium Soundness Loss, %	.62	10	11	110

Total = 208.8, Rock Quality Score = 208.8/230 x 100 = 91

Dist: Client (3) Field File (1)

/cb:RQD.UNC11

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450415
Report Date: 12/04/95

Project: 1995 Reclamation

Location: Church Rock, New Mexico

Material: Coarse Aggregate — Sampled By: H. Kuebler /WT — Date 06/12/95

Source: D^{50} - 9 inch — Submitted By: H. Kuebler /WT — Date 06/12/95

Authorized By: Client — Date 06/12/95

Coarse Aggregate, ASTM C127

Bulk Specific Gravity	2.679
Bulk Specific Gravity (SSD)	2.719
Apparent Specific Gravity	2.791
Absorption, Percent	1.493

Copies to: Addressee (3), Billing (1), Field File (1)
6-12.1/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY _____

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450415
		Report Date:	12/04/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		

Material:	-2 Coarse Aggregate	Sampled By:	H. Kuebler /WT	Date	06/12/95
Source:	D^{50} - 9 inch	Submitted By:	H. Kuebler /WT	Date	06/12/95
Supplier:	Hamilton Brothers	Authorized By:	Client	Date	06/12/95

L.A. Abrasion, ASTM C535, Grading A

% Loss at 100 Revs. 4.9

% Loss at 500 Revs. N/A

Copies to: Addressee (3), Billing (1), Field File (1)
6-12.2/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY _____

LABORATORY REPORT

SOUNDNESS OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450415
Report Date: 12/04/95

Project: 1995 Reclamation

Location: Church Rock, New Mexico

Material: D^{50} - 9 inch
Sampled By: H. Kuebler /WT Date 06/12/95

Source: Hamilton Brothers
Submitted By: H. Kuebler /WT Date 06/12/95

Procedure: **ASTM C88**
Authorized By: Client Date 06/12/95

Solution: Sodium Sulfate (Fresh)

FINE AGGREGATE

Fine Fraction Size	Grading of Original Sample Percent	Wt. of Test Fractions Before Test, grams	Percentage Passing Designated Sieve	Weight Percentage Loss, %
Minus No. 100				
No. 50 to No. 100				
No. 30 to No. 50				
No. 16 to No. 30				
No. 8 to No. 16				
No. 4 to No. 8				
3/8 to No. 4				
Totals				

COARSE AGGREGATE

Coarse Fraction Size	Grading of Original Sample Percent	Wt. of Test Fractions Before Test, grams	Percentage Passing Designated Sieve	Weighted Percentage Loss, %
2-1/2" to 2" 2" to 1-1/2"				
1-1/2" to 1" 1" to 3/4"	9	1508.4	2.94	.26
3/4" to 1/2" 1/2" to 3/8"	4	998.4	7.88	.32
3/8" to No. 4 Minus No. 4	1	301.2	3.75	.04
Totals				.62

*The size fraction indicated contains less than 5% of one or more components therefore, the percent loss is assumed to be that of the next smaller size.

Percentage of fraction in original grading: % Plus #4, % Minus #4.

Copies to: Addressee (3), Billing (1), Field File (1)
6-12.3/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY _____

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450185
Report Date: 10/04/95

Project: 1995 Reclamation

Location: Church Rock, New Mexico

Material: D^{50} - 9 inch

Source: Hamilton Brothers Yard

Sampled By: H. Kuebler Date 08/30/95

Submitted By: H. Kuebler Date 08/30/95

Authorized By: Client Date 08/30/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
15"	100	100
10"	46	45-58
5"	11	10-33
3"	9.4	0-23
1 1/8"		
1"		
3/4"		
1/2"		
3/8"		
1/4"		
#4		
#8		
#10		
#16		
#30		
#40		
#50		

Copies: Client (3), Billing (1), Field File (1)
830/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

ROCK QUALITY DETERMINATION

United Nuclear Corporation
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, New Mexico 87305-3077

Job No. 3145JB031
Inv. No. 31450243
Date of Report 12/05/95
Reviewed By _____

Project: 1995 Church Rock Uranium Mill Tailings Reclamation Project
Location: Church Rock, New Mexico Sampled by: H. Kuebler/WT Date 08/30/95
Material Source: Hamilton Brothers Construction Authorized by: E. Morales/Client Date 08/30/95
Material Type: Crushed Basalt D50 9 Inch Intended Use Swales

Property	Value	Score	Weighting Factor	Score x Weight
Specific Gravity (SSD)	2.726	9.5	9	85.5
Absorption, %	1.015	4.8	2	9.6
L.A. Abrasion, 100 rev, %	9.9	5.5	1	5.5
Sodium Soundness Loss, %	.34	10	11	110

Total = 210.6, Rock Quality Score = 210.6/230 x 100 = 92

Dist: Client (3) Field File (1)

/cb:RQD.UNC2

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450415
Report Date: 12/04/95

Project: 1995 Reclcmation

Location: Church Rock, New Mexico

Material: D^{50} - 9 inch — Sampled By: H. Kuebler /WT — Date 08/30/95

Source: UNC — Submitted By: H. Kuebler /WT — Date 09/29/95

Authorized By: Client — Date 08/30/95

Coarse Aggregate, ASTM C127

Bulk Specific Gravity	2.699
Bulk Specific Gravity (SSD)	2.726
Apparent Specific Gravity	2.775
Absorption, Percent	1.015

Copies to: Addressee (3), Billing (1), Field File (1)
8-30/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY H Kuebler

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450415
		Report Date:	12/04/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		

Material:	D^{50} - 9 inch	Sampled By:	H. Kuebler /WT	Date	08/30/95
Source:	Hamilton Brothers	Submitted By:	H. Kuebler /WT	Date	08/30/95
Supplier:	Hamilton Brothers	Authorized By:	Client	Date	08/30/95

L.A. Abrasion, ASTM C535, Grading A

% Loss at 100 Revs. 9.9

% Loss at 500 Revs. N/A

Copies to: Addressee (3), Billing (1), Field File (1)
8-30.1/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY H. Kuebler

LABORATORY REPORT

SOUNDNESS OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450415
Report Date: 12/04/95

Project: 1995 Reclamation

Location: Church Rock, New Mexico

Material: D^{50} - 9 inch — Sampled By: H. Kuebler /WT — Date 08/30/95

Source: Hamilton Brothers — Submitted By: H. Kuebler /WT — Date 08/30/95

Procedure: **ASTM C88** — Authorized By: Client — Date 08/30/95

Solution: Sodium Sulfate (Fresh)

FINE AGGREGATE

Fine Fraction Size	Grading of Original Sample Percent	Wt. of Test Fractions Before Test, grams	Percentage Passing Designated Sieve	Weight Percentage Loss, %
Minus No. 100				
No. 50 to No. 100				
No. 30 to No. 50				
No. 16 to No. 30				
No. 8 to No. 16				
No. 4 to No. 8				
3/8 to No. 4				
Totals				

COARSE AGGREGATE

Coarse Fraction Size	Grading of Original Sample Percent	Wt. of Test Fractions Before Test, grams	Percentage Passing Designated Sieve	Weighted Percentage Loss, %
2-1/2" to 2" 2" to 1-1/2"				
1-1/2" to 1" 1" to 3/4"	9	1547.6	2.84	.26
3/4" to 1/2" 1/2" to 3/8"	4	986.3	1.50	.06
3/8" to No. 4 Minus No. 4	1	292.9	2.43	.02
Totals				.34

*The size fraction indicated contains less than 5% of one or more components therefore, the percent loss is assumed to be that of the next smaller size.

Percentage of fraction in original grading: % Plus #4, % Minus #4.

Copies to: Addressee (3), Billing (1), Field File (1)
8-30.2/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY H Kuebler

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450185
		Report Date:	10/04/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		
Material:	D^{50} - 9 inch	Sampled By: H. Kuebler	Date 09/27/95
Source:	Hamilton Brothers Truck	Submitted By: H. Kuebler	Date 09/27/95
		Authorized By: Client	Date 09/27/95

SIEVE ANALYSIS, ASTM C136 & C117

Sieve Size	% Passing Accumulative	Specification (As Required)
15"	100	100
10"	53	45-58
5"	10	10-33
3"	9	0-23
1 1/8"		
1"		
3/4"		
1/2"		
3/8"		
1/4"		
#4		
#8		
#10		
#16		
#30		
#40		
#50		

Copies: Client (3), Billing (1), Field File (1)
927/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

ROCK QUALITY DETERMINATION

United Nuclear Corporation
Attn: Mr. Ed Morales
Post Office Box 3077
Gallup, New Mexico 87305-3077

Job No. 3145JB031
Inv. No. 31450292
Date of Report 12/05/95
Reviewed By DR

Project: 1995 Church Rock Uranium Mill Tailings Reclamation Project
Location: Church Rock, New Mexico Sampled by: H. Kuebler/WT Date 09/27/95
Material Source: Hamilton Brothers Construction Authorized by: E. Morales/Client Date 09/27/95
Material Type: Crushed Basalt D50 9 Inch Intended Use Swales

Property	Value	Score	Weighting Factor	Score x Weight
Specific Gravity (SSD)	2.773	10	9	90
Absorption, %	1.81	3.5	2	7
L.A. Abrasion, 100 rev, %	9.1	5.5	1	5.5
Sodium Soundness Loss, %	.50	10	11	110

Total = 212.5, Rock Quality Score = 212.5/230 x 100 = 92

Dist: Client (3) Field File (1)

/cb:RQD.UNC2

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450415
Report Date: 12/04/95

Project: 1995 Reclamation

Location: Church Rock, New Mexico

Material: D^{50} - 9 inch
Source: Hamilton Brothers

Sampled By: H. Kuebler /WT Date 09/27/95
Submitted By: H. Kuebler /WT Date 09/27/95
Authorized By: Client Date 09/27/95

Coarse Aggregate, ASTM C127

Bulk Specific Gravity	2.724
Bulk Specific Gravity (SSD)	2.773
Apparent Specific Gravity	2.865
Absorption, Percent	1.81

Copies to: Addressee (3), Billing (1), Field File (1)
9-27.1/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY H. Kuebler

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

LABORATORY REPORT

PHYSICAL PROPERTIES OF AGGREGATES

Client: UNC Mining & Milling
Attn: Mr. Ed Morales
PO Box 3077
Gallup, NM 87305

Job No. 3145JB031
Lab/Inv. No. 31450415
Report Date: 12/04/95

Project: 1995 Reclamation

Location: Church Rock, New Mexico

Material: Basalt, D^{50} - 9 inch — Sampled By: H. Kuebler /WT — Date 09/27/95

Source: D^{50} - 9 inch — Submitted By: H. Kuebler /WT — Date 09/27/95

Supplier: Hamilton Brothers — Authorized By: Client — Date 09/27/95

L.A. Abrasion, ASTM C535, Grading A

% Loss at 100 Revs. 9.1

% Loss at 500 Revs. N/A

Copies to: Addressee (3), Billing (1), Field File (1)
9-27.3/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY H. Kuebler

LABORATORY REPORT

SOUNDNESS OF AGGREGATES

Client:	UNC Mining & Milling Attn: Mr. Ed Morales PO Box 3077 Gallup, NM 87305	Job No.	3145JB031
		Lab/Inv. No.	31450415
		Report Date:	12/04/95
Project:	1995 Reclamation		
Location:	Church Rock, New Mexico		
Material:	D^{50} - 9 inch	Sampled By: H. Kuebler /WT	Date 09/27/95
Source:	Hamilton Brothers	Submitted By: H. Kuebler /WT	Date 09/27/95
Procedure:	**ASTM C88**	Authorized By: Client	Date 09/27/95
		Solution: Sodium Sulfate (Fresh)	

FINE AGGREGATE

Fine Fraction Size	Grading of Original Sample Percent	Wt. of Test Fractions Before Test, grams	Percentage Passing Designated Sieve	Weight Percentage Loss, %
Minus No. 100				
No. 50 to No. 100				
No. 30 to No. 50				
No. 16 to No. 30				
No. 8 to No. 16				
No. 4 to No. 8				
3/8 to No. 4				
Totals				

COARSE AGGREGATE

Coarse Fraction Size	Grading of Original Sample Percent	Wt. of Test Fractions Before Test, grams	Percentage Passing Designated Sieve	Weighted Percentage Loss, %
2-1/2" to 2" 2" to 1-1/2"				
1-1/2" to 1" 1" to 3/4"	9	1543.9	2.63	.24
3/4" to 1/2" 1/2" to 3/8"	4	1003.6	4.12	.17
3/8" to No. 4 Minus No. 4	1	300.7	9.11	.50
Totals				.34

*The size fraction indicated contains less than 5% of one or more components therefore, the percent loss is assumed to be that of the next smaller size.

Percentage of fraction in original grading: % Plus #4, % Minus #4.

Copies to: Addressee (3), Billing (1), Field File (1)
9-27.2/dn:unc031

The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between WT and client. WT warrants that this was performed under the appropriate standard of care, including the skill and judgement that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either expressed or implied is included or intended.

REVIEWED BY H. Kuebler

APPENDIX
M

SMITH

APPENDIX M

NORTH SLOPE OF NORTH CELL

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 09/29/95

D50 1.5 AGGREGATE PLACEMENT THICKNESS
North Slope of North Cell

Location	Thickness	Location	Thickness
A-1.5	4 1/4"	A-1	3"
A+0	3"	B-2	4"
B-1	3 1/2"	B+0	3"
C-1	3"	C-2	5"
C-3	3"	D-2	3"
D-3	4"	D-4	3"
E-3	3"	E-4	3 1/2"
E-5	3 1/2"	F-4	3 3/4"
F-5	3 3/4"	G-5	3 1/2"
G-6	3"	G.5-6.5	3 1/4"
H-6	3 1/2"	H-7	4 1/4"
I-6	3 1/2"	I-7	3 3/4"
J-6	3 1/2"	J-7	3"
A.5-0.5	3"	A.5-1.5	4"

Dist: Client (3) Field File (1) Billing (1)
/cb:031.UNC/4

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 09/29/95

D50 1.5 AGGREGATE PLACEMENT THICKNESS
North Slope of North Cell

Location	Thickness	Location	Thickness
B.5-2.5	3 1/2"	B.5-1.5	4"
B.5-0.5	3 1/4"	C.5-3.5	4"
C.5-2.5	4 1/4"	D.5-4.5	4 3/4"
D.5-3.5	3 3/4"	D.5-2.5	3 1/2"
E.5-5.5	4"	E.5-4.5	3"
E.5-3.5	3 3/4"	F.5-5.5	3 1/2"
F.5-4.5	3 1/4"	G.5-6.5	3 1/2"
G.5-5.5	4"	H.5-6.5	3"
H.5-5.5	3 1/2"	I.5-7.5	3 1/2"
I.5-6.5	3 1/2"	I.5-5.5	3 1/2"

Dist: Client (3) Field File (1) Billing (1)
/cb:031.UNC/5

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY _____

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

UNITED NUCLEAR CORPORATION 1995 RECLAMATION

WT JOB NO. 3145JB031

DATE OF REPORT 09/29/95

D50 1.5 AGGREGATE PLACEMENT THICKNESS
South Slope of North Diversion Channel

Location	Thickness	Location	Thickness
Sta. 3+00	3"	Sta. 4+00	3"
Sta. 5+00	3"	Sta. 6+00	3 1/4"
Sta. 7+00	3 1/4"	Sta. 8+00	3"
Sta. 9+00	3"	Sta. 10+00	4"
Sta. 11+00	3 3/4"	Sta. 12+00	3"

Dist: Client (3) Field File (1) Billing (1)
/cb:031.UNC/6

TESTS REPORTED HEREIN ARE INDICATIVE OF CONDITIONS FOUND AT THE EXACT LOCATION AND TIME OF TESTING ONLY. THE ABOVE SERVICES AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE APPROPRIATE STANDARD OF CARE, INCLUDING THE SKILL AND JUDGMENT THAT IS REASONABLY EXPECTED FROM SIMILARLY SITUATED PROFESSIONALS. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY