



**Western
Technologies
Inc.**
The Quality People
Since 1955

3611 West Tompkins Avenue
Las Vegas, Nevada 89103-5618
(702) 798-8050 • fax 798-7664

PHYSICAL PROPERTIES OF SOILS & AGGREGATES

Client **MARK ALTSCHULER**
3945 N. RENO AVE.
SUITE F
LAS VEGAS, NV 89103

Date of Report **01-03-06**

Job No. **4145JX320**

Event / Invoice No. **2**

Authorized by **MARK ALTSCHULER**

Sampled by **JORGE HURTADO**

Submitted by **JORGE HURTADO**

Lab No. **1118-05**

Date **11-16-05**

Date **11-17-05**

Date **11-18-05**

Project **CANYON SAMPLING, SANDY VALLEY**
Contractor --
Type / Use of Material **TYPE II**
Sample Source / Location **MIXED STOCKPILE SAMPLE**
Testing Authorized :
Special Instructions : **U.S.S. 704.03.04**

Location **NEON SANDY VALLEY RD.**

Arch. / Engr. --

Supplier / Source **ON-SITE**

Source / Location Desig. By **JORGE HURTADO**

Date **11-17-05**

TEST RESULTS

SIEVE ANALYSIS : ASTM C136 FINER THAN NO. 200 : ASTM C117			LABORATORY COMPACTION CHARACTERISTICS : ASTM D1557 METHOD C		
SIEVE	ACCUMULATIVE % PASSING	SPECIFICATION			
6"					
3"					
2"					
1-1/2"					
1-1/4"	100	100			
1"	97	90-100			
3/4"	95				
1/2"	89				
3/8"	84				
1/4"	72				
No.4	62	35-65			
8	40				
10	36				
16	26	15-40			
30	17				
40	17				
50	10				
100	6				
200	3.7	2-10			

TEST PROCEDURE		RESULT	SPECS	TEST PROCEDURE		RESULT	SPECS
LIQUID & PLASTIC PROPERTIES : ASTM D4318 METHOD A LIQUID LIMIT → ESTIMATED % RETAINED ON NO. 40 83 PLASTIC LIMIT → SAMPLE AIR DRIED ☒ YES ☐ NO PLASTICITY INDEX →				RESISTANCE TO DEGRADATION OF SMALL-SIZE COARSE AGGREGATES BY ABRASION : ASTM C131 GRADING 100 REV, % LOSS → GRADING X 500 REV, % LOSS →			
MOISTURE CONTENT : ASTM C566 PORTION TESTED % DRY WEIGHT →				SPECIFIC GRAVITY : MAX. PARTICLE SIZE, IN. SPECIFIC GRAVITY @ 20°C →			
EXPANSION / COMPRESSION PROPERTIES OF COHESIVE SOIL : WT PROCEDURE ☐ EXPANSION ☐ COMPRESSION, % → MAXIMUM SWELL PRESSURE, KSF →				pH DETERMINATION : pH →			
SURCHARGE, KSF INITIAL WATER CONTENT, % DRY DENSITY, PCF				SOLUBLE SALTS : PPM →			
				MINIMUM RESISTIVITY : OHM-CM →			
SOIL CLASSIFICATION : ASTM D2487				GROUP SYMBOL: SW NAME: WELL-GRADED SAND WITH GRAVEL			

Comments : * DOES NOT MEET SIEVE ANALYSIS SPECIFICATIONS. SEE SCALPED SIEVE.

Copies to : CLIENT - (2)

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PHYSICAL PROPERTIES OF AGGREGATES

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Authorized by **MARK ALTSCHULER**

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Lab No. **1118-05**

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Project **CANYON SAMPLING, SANDY VALLEY**
Contractor --
Type / Use of Material **TYPE II**
Sample Source / Location **MIXED STOCKPILE SAMPLE**
Testing Authorized :
Special Instructions : **U.S.S. 704.03.04**

Location **NEON SANDY VALLEY RD.**

Arch. / Engr. --

Supplier / Source **ON-SITE**

Source / Location Desig. By **JORGE HURTADO**

Date **11-17-05**

TEST RESULTS

SIEVE ANALYSIS			PHYSICAL PROPERTIES				RESULTS	SPECS
☒ ASTM C136 ☐ AASHTO T27 ☒ ASTM C117 ☐ AASHTO T11								
FINER THAN #200								
SIEVE	ACCUMULATIVE % PASSING	SPECIFICATION	UNIT WEIGHT & VOIDS					
6"			☐ ASTM C29 ☐ AASHTO T19 ☐ RODDING ☐ JIGGING ☐ LOOSE					
3"			FINE AGGREGATE UNIT WEIGHT, KG/M ³ →					
2"			VOIDS, % →					
1-1/2"			COARSE AGGREGATE UNIT WEIGHT, KG/M ³ →					
1-1/4"	100	100	VOIDS, % →					
1"	97	90-100	SPECIFIC GRAVITY & ABSORPTION					
3/4"	95		FINE AGGREGATE BULK SPECIFIC GRAVITY → ☐ ASTM C128 ☐ AASHTO T84 BULK SPECIFIC GRAVITY (SSD) → AGGREGATE DRIED APPARENT SPECIFIC GRAVITY → ☐ YES ☐ NO ABSORPTION, % →					
1/2"	89		COARSE AGGREGATE BULK SPECIFIC GRAVITY → ☐ ASTM C127 ☐ AASHTO T85 BULK SPECIFIC GRAVITY (SSD) → AGGREGATE DRIED APPARENT SPECIFIC GRAVITY → ☐ YES ☐ NO ABSORPTION, % →					
3/8"	84							
1/4"	72							
No.4	62	35-65						
8	40							
10	36							
16	26	15-40						
30	17		SAND EQUIVALENT VALUE ☐ ASTM D2419 ☐ AASHTO T196 SE, % →					
40	17							
50	10							
100	6							
200	3.7	2-10						
LIQUID LIMIT & PLASTIC PROPERTIES			RESISTANCE TO DEGRADATION					
☒ ASTM D4318 ☐ AASHTO T89 & T90 METHOD A SAMPLE AIR DRIED - ☒ YES ☐ NO ESTIMATED % RETAINED ON NO 40 83			SMALL COARSE AGGREGATE GRADING 100 REV., %LOSS → ☒ ASTM C131 ☐ AASHTO T96 GRADING C 500 REV., %LOSS →				37	45 MAX
			LARGE COARSE AGGREGATE GRADING 200 REV., %LOSS → ☐ ASTM C535 GRADING 1000 REV., %LOSS →					
			LIGHTWEIGHT PIECES					
			☐ ASTM C123 ☐ AASHTO T113 FINE AGGREGATE, % → COARSE AGGREGATE, % →					
LIQUID LIMIT →			CLAY LUMPS & FRIABLE PARTICLES					
PLASTIC LIMIT →			☐ ASTM C142 ☐ AASHTO T112 FINE AGGREGATE, % → COARSE AGGREGATE, % →					
PLASTICITY INDEX →								
FINENESS MODULUS			FRACTURED FACES OF COARSE AGGREGATES BY WEIGHT					
☒ ASTM C125 → 4.60			☐ AZ 212 ☐ FLH T507 ☒ NEV T230 ONE OR MORE FACES, % → TWO OR MORE FACES, % →				99.0	70 MIN
ORGANIC IMPURITIES			DURABILITY INDEX					
☐ ASTM C40 PLATE NO. → ☐ AASHTO T21			☐ ASTM D3744 ☐ AASHTO T210 D _c → PROCEDURE : A ☐ COARSE B ☐ FINE C ☐ COARSE & FINE D _f →					
CLEANNESS VALUE			UNCOMPACTED VOID CONTENT					
☐ CA 227 →			☐ AZ 247 ☐ ASTM C1252 METHOD VC, % →					

Comments : * SIEVE ANALYSIS DOES NOT MEET SPECIFICATION. SEE SCALPED SIEVE.

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REVIEWED BY

[Signature]

PHYSICAL PROPERTIES OF AGGREGATES

Date of Report 01-03-06

Job No. 4145JX320

Event / Invoice No. 2

Authorized by **MARK ALTSCHULER**

Sampled by **JORGE HURTADO**

Submitted by **JORGE HURTADO**

Lab No. 1118-05A

Date 11-16-05

Date 11-17-05

Date 11-17-05

Client **MARK ALTSCHULER**
3945 N. RENO AVE.
SUITE F
LAS VEGAS, NV 89103

Project CANYON SAMPLING, SANDY VALLEY

Contractor --

Type / Use of Material TYPE II

Sample Source / Location **MIXED STOCKPILE SAMPLE**

Testing Authorized :

Special Instructions : U.S.S. 704.03.04

Location NEON SANDY VALLEY RD.

Arch. / Engr. --

Supplier / Source ON-SITE

Source / Location Desig. By **JORGE HURTADO**

Date 11-17-05

TEST RESULTS

SIEVE ANALYSIS			PHYSICAL PROPERTIES				RESULTS	SPECS
☒ ASTM C136 ☒ FINER THAN #200			☐ AASHTO T27 ☐ AASHTO T11					
SIEVE	ACCUMULATIVE % PASSING	SPECIFICATION	UNIT WEIGHT & VOIDS					
6"			FINE AGGREGATE UNIT WEIGHT, KG/M ³ →					
3"			VOIDS, % →					
2"			COARSE AGGREGATE UNIT WEIGHT, KG/M ³ →					
1-1/2"			VOIDS, % →					
1-1/4"								
1"	100	100						
3/4"	98	90-100						
1/2"	92							
3/8"	86							
1/4"	74							
No. 4	64	35-65						
8	41							
10	37							
16	27	15-40						
30	17							
40	17							
50	10							
100	6							
200	3.8	2-10						
LIQUID LIMIT & PLASTIC PROPERTIES								
☒ ASTM D4318 METHOD A			☐ AASHTO T89 & T90					
SAMPLE AIR DRIED ☒ YES ☐ NO ESTIMATED % RETAINED ON NO 40 83								
		RESULTS						
		SPECS						
LIQUID LIMIT	→	35 MAX						
PLASTIC LIMIT	→	NP						
PLASTICITY INDEX	→	12 MAX						
FINENESS MODULUS								
☒ ASTM C125 → 4.51								
ORGANIC IMPURITIES								
☐ ASTM C40 ☐ AASHTO T21			PLATE NO. →					
CLEANNESS VALUE								
☐ CA 227 →								
			DURABILITY INDEX					
			☐ ASTM D3744 ☐ AASHTO T210				D _c →	
			PROCEDURE : A ☐ COARSE B ☐ FINE C ☐ COARSE & FINE				D _f →	
			UNCOMPACTED VOID CONTENT					
			☐ AZ 247 ☐ ASTM C1252				METHOD	
							VC, % →	

Comments :SIEVE ANALYSIS SCALPED OVER 1 INCH SIEVE.

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LABORATORY REPORT ON SOILS OR AGGREGATES

Client **MARK ALTSCHULER**
3945 N. RENO AVE.
SUITE F
LAS VEGAS, NV 89103

Date of Report **12-29-05**

Job No. **4145JX320**

Event / Invoice No. **2**

Lab No. **1118-05**

Authorized By **MARK ALTSCHULER**

Date **11-16-05**

Sampled By **JORGE HURTADO**

Date **11-17-05**

Submitted By **JORGE HURTADO**

Date **11-18-05**

Project **CANYON SAMPLING, SANDY VALLEY**

Location **NEON SANDY VALLEY RD.**

Contractor--

Arch./Engr. --

Type / Use of Material **TYPE II**

Supplier / Source **ON-SITE**

Sample Source / Location **MIXED STOCKPILE SAMPLE**

Source / Location Desig. By **JORGE HURTADO**

Date **11-17-05**

Reference: **RESISTANCE 'R' VALUE & EXPANSION PRESSURE OF COMPACTED SOILS**

☒ **ASTM D2844** ☐ **AASHTO T190** ☐

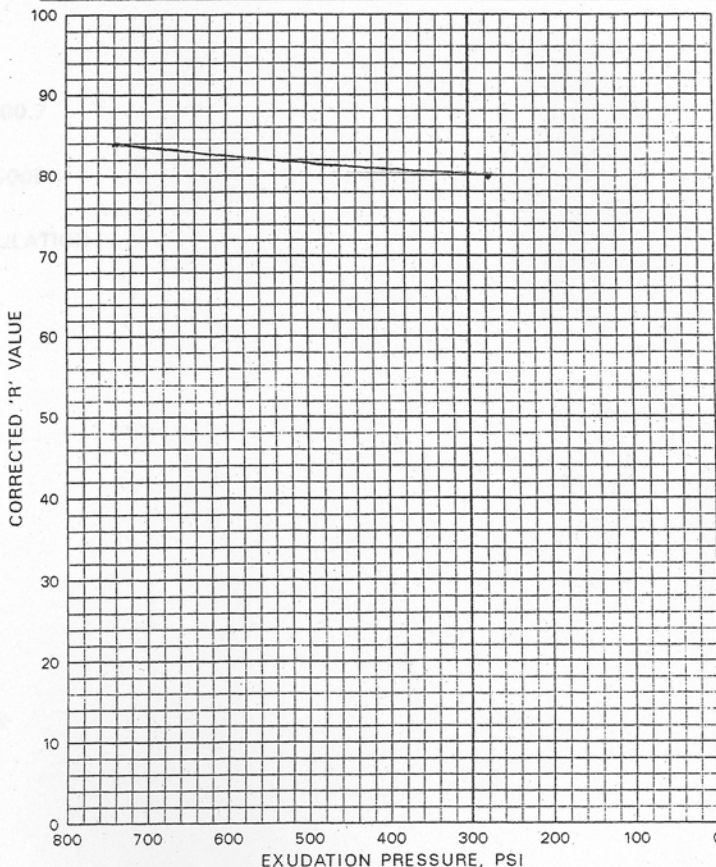
TEST RESULTS

SIEVE ANALYSIS ☐ ASTM C136 ☐ AASHTO T27 ☐			
SIEVE SIZE U.S. - MM	ACCUMULATIVE % PASSING	SPECIFICATION	GRADING AS TESTED
3 IN. - 75.0			
2 1/2 - 62.5			
2 IN. - 50.0			
1 1/2 - 37.5			
1 1/8 - 28.1			
1 - 25.0			
3/4 - 19.0			
1/2 - 12.5			
3/8 - 9.5			
1/4 - 6.3			
NO. 4 - 4.75			
8 - 2.36			
10 - 2.00			
16 - 1.18			
30 - .600			
40 - .425			
50 - .300			
100 - .150			
FINER THAN NO. 200			
☐ ASTM D1140			
☐ ASTM C117			
☐ AASHTO T11			

CORRECTED
RESISTANCE
'R' VALUE
AT 300 PSI
EXUDATION
PRESSURE

→ **80**

SPECIMEN	A	B	C
COMPACTOR PRESSURE, PSI	350	300	250
MOISTURE AT COMPACTION, %	7.6	8.0	8.5
DRY DENSITY, PCF	128.4	127.7	127.1
CORRECTED 'R' VALUE	84	81	80
EXUDATION PRESSURE, PSI	744	471	277
EXPANSION DIAL READING X 10 ⁻⁴			
EXPANSION, PSF (DIAL X 4.33)			



LIQUID & PLASTIC PROPERTIES		SOIL CLASSIFICATION	
☐ ASTM D4318	☐ AASHTO T89 & T90	☐ ASTM D2487	
METHOD ☐ A ☐ B	RESULT	SPECIFICATION	
LIQUID LIMIT		☐ AASHTO M145	
PLASTIC LIMIT		☐ ASTM D2488	
PLASTICITY INDEX		VISUAL/MANUAL	
SAMPLE AIR DRIED: ☐ YES ☐ NO		GROUP SYMBOL	
ESTIMATED % RETAINED ON NO. 40		NAME	

Comments:

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LABORATORY REPORT

Client **MARK ALTSCHULER**
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SUITE F
LAS VEGAS, NV 89103

Project **CANYON SAMPLING, SANDY VALLEY**
Contractor **--**
Type / Use of Material **TYPE II**
Sample Source / Location **MIXED STOCKPILE SAMPLE**
Reference: **U.S.S. 704.03.04**
Special Instructions:

Date of Report **12-29-05**
Job No. **4145JX320**
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Authorized By **MARK ALTSCHULER** Date **11-16-05**
Sampled By **JORGE HURTADO** Date **11-17-05**
Submitted By **JORGE HURTADO** Date **11-18-05**
Location **NEON SANDY VALLEY RD.**
Arch. / Engr. **--**
Supplier / Source **ON-SITE**
Source / Location Desig. By **JORGE HURTADO** Date **11-17-05**

TEST RESULTS

DEPTH:	SURFACE BULK SAMPLE	
IN-PLACE MOISTURE CONTENT:	0.6%	
USCS CLASSIFICATION:	SW - WELL GRADED SAND WITH GRAVEL	
PASSING #10 SIEVE:	36	
SODIUM:	0.00%	EPA 200.7
SULFATE:	0.00%	SM 4500E
SODIUM SULFATE:	0.00%	CALCULATION

Comments: PERFORMED BY SILVER STATE ANALYTICAL LABORATORY

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