Huddleston-Berry
Engineering & Testing, LLC

GEOTECHNICAL INVESTIGATION
IRON WHEEL ESTATES SUBDIVISION
HIGHWAY 6&50 AND 19 ROAD
FRUITA, COLORADO
PROJECT# 2009-06

BLUE STAR INDUSTRIES, LLC
2350 G ROAD
GRAND JUNCTION, COLORADO 81505

JANUARY 30, 2006

Huddleston-Berry Engineering and Testing, LLC
640 White Avenue, Unit B
Grand Junction, Colorado 81501

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

A geotechnical investigation was conducted for the proposed Iron Wheel Estates residential subdivision in Fruita, Colorado. The project location is shown on Figure 1 – Site Location Map. The purpose of the investigation was to evaluate the subsurface conditions at the site with respect to foundation design, pavement design, and earthwork for the proposed residential subdivision. This summary has been prepared to include the information required by civil engineers, structural engineers, and contractors involved in the project.

Subsurface Conditions (p. 2)

The subsurface investigation consisted of thirteen test pits, excavated on January 17th and 19th, 2006. The locations of the test pits are shown on Figure 2 – Site Plan. The test pits generally encountered silty clay, silty sand, and sandy silt soils. Groundwater was encountered in eight of the test pits at depths of between 8.5 and 10.5 feet. The soils ranged from non-plastic to slightly plastic and the silty sand and sandy silt soils were determined to be slightly to moderately collapsible.

Summary of Foundation Recommendations

- *Foundation Type* – Spread Footings or Monolithic Structural Slabs (p. 3)
- *Structural Fill* – Minimum of 24-inches below foundations. The native soils are suitable for use as structural fill. Imported structural fill should consist of pit-run, CDOT Class 6 base course, or other granular material approved by the engineer. (p. 4)
- *Maximum Allowable Bearing Capacity* – 1,250 psf. (p. 4)
- *Subgrade Modulus* – 150 pci (p. 4)
- *Lateral Earth Pressure* – 50 pcf (p. 5)

Summary of Pavement Recommendations (p. 4)

EDLA = 10, Structural Number = 3.10

ALTERNATIVE	PAVEMENT SECTION (Inches)				
	Hot-Mix Asphalt Pavement	CDOT Class 6 Base Course	CDOT Class 3 Subbase Course	Rigid Pavement	TOTAL
Full Depth HMA	7.0				7.0
A	2.0	16.0			18.0
B	3.0	13.0			16.0
C	3.0	6.0	10.0		19.0
Full Depth RP				6.0	6.0

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1.0 INTRODUCTION

As part of extensive development in Fruita, Colorado and surrounding areas, Blue Star Industries LLC is proposing to develop nine properties into the Iron Wheel Estates residential subdivision. The properties comprise approximately 70 acres and include:

- 1860 Highway 6 & 50
- 1813 Branding Iron Court
- 1812 Branding Iron Court
- 1846 Branding Iron Court
- 1778 Skiff Avenue
- 1702 Skiff Avenue
- 961 19 Road
- 953 19 Road
- 973 19 Road

As part of the development process, Huddleston-Berry Engineering and Testing, LLC (HBET) was retained by Blue Star Industries LLC to conduct a geotechnical investigation.

This report is not a geologic hazards report consistent with the Colorado Geologic Survey. However, the field investigation, laboratory testing, and analyses are designed to identify most of the geologic hazards common to the area including unstable slopes, swelling or collapsible soils and/or bedrock, soluble sulfates, and shallow groundwater. These issues can impact construction and will be discussed if present.

1.1 Scope

As discussed above, a geotechnical investigation was conducted for the Iron Wheel Estates Subdivision. The investigation was conducted in accordance with Mesa County regulations. The scope of the investigation included the following components:

- Conducting a subsurface investigation to evaluate the subsurface conditions at the site.
- Collecting soil samples and conducting laboratory testing to determine the engineering properties of the soils at the site.
- Providing recommendations for foundation type and subgrade preparation.
- Providing recommendations for bearing capacity.
- Providing recommendations for lateral earth pressure.
- Providing recommendations for drainage, grading, and general earthwork.
- Providing recommendations for pavement section alternatives.

The investigation and report were prepared by a Colorado registered professional engineer in accordance with generally accepted engineering practices. This report has been prepared for the exclusive use of Blue Star Industries LLC.

1.2 Site Location and Description

The site encompasses approximately 70 acres near Highway 6 & 50 and 19 Road in Fruita, Colorado. The project location is shown on Figure 1 – Site Location Map.

At the time of the investigation the properties were generally open and nearly level, with a slight slope to the southwest. Existing residences and outbuildings occupied portions of 1812 Branding Iron Court, 1846 Branding Iron Court, and 1778 Skiff Avenue. In addition, several structures and animal corrals were present at 1860 Highway 6 & 50. Vegetation across the properties consisted primarily of low grasses and weeds with scattered trees. The vicinity of the project site included primarily rural residential and agricultural/pasture land.

1.3 Proposed Construction

The proposed construction is anticipated to include single-family residential structures and utility and street pavement installation. The proposed residential structures are anticipated to be constructed of wood framing and will be built over reinforced concrete foundations. Basements are not anticipated. Foundation loads on the order of 600 to 2,000 pounds per linear foot wall loads and 8 to 12 kip column loads are expected.

2.0 SUBSURFACE INVESTIGATION

The subsurface investigation consisted of thirteen test pits, excavated on January 17th and 19th, 2006. The locations of the test pits are shown on Figure 2 – Site Plan. The test pits were located in the field by pacing distances from existing landmarks. Typed test pit logs are included in Appendix A. Samples of the subsurface soils were collected using hand-driven brass sample tubes and bulk sampling methods at the locations shown on the logs.

The test pits were excavated to depths of between 5.5 and 11.0 feet below the existing ground surface with a backhoe. As indicated on the logs, the subsurface conditions at the site are variable. Test Pits TP-1 and TP-4, conducted in the northeastern portion of the site encountered 1.5 feet of silty clay with organics topsoil above brown, dry to moist, medium stiff silty clay to depths of between 2.5 and 3.5 feet. Below the clay, brown, moist, loose silty sand extended to the bottoms of the test pits. Groundwater was not encountered in either of these test pits at the time of the investigation.

Test Pits TP-2, TP-5, and TP-7, encountered 1.5 to 2.0 feet of silty clay and silty sand with organics topsoil above brown, moist to wet, stiff to soft silty clay and silty clay with sand to the bottoms of the excavations at 6.0, 9.0, and 10.0 feet, respectively. Groundwater was encountered at a depth of 6.0 feet in TP-2, 7.0 feet in TP-5, and was not encountered in TP-7.

Test Pits TP-3, TP-6, TP-9, TP-11, and TP-12, encountered 1.5 to 2.0 feet of silty clay and silty sand with organics topsoil above brown, moist, loose silty sand to depths of between 2.5 and 5.5 feet. Below the silty sand, brown, moist to wet, medium stiff to very

soft silty clay and silty clay with sand extended to the bottoms of the excavations; at depths ranging from 5.5 to 9.0 feet. Groundwater was encountered in TP-3, TP-9, and TP-12, at depths of between 5.5 and 8.0 feet. Groundwater was not encountered in TP-6 and TP-11.

Test Pits TP-8, TP-10, and TP-13, conducted in the western portion of the site, encountered 1.5 feet of sandy silt with organics topsoil above brown, dry to moist, loose to medium dense sandy silt to depths of between 3.0 and 4.0 feet. Below the silt, brown, moist, medium stiff silty clay extended to depths of between 4.5 and 5.5 feet. The clay was underlain by brown, moist to wet, loose to very loose silty sand to the bottoms of the excavations; at depths of between 10.5 and 11.0 feet. Groundwater was encountered in TP-8, TP-10, and TP-13, at depths of between 9.0 and 10.5 feet.

As discussed above, groundwater was encountered in eight of the test pits at depths of between 5.5 and 10.5 feet. In general, groundwater was generally deeper in the western portion of the site. However, the subsurface investigation was conducted during the dry portion of the year. Groundwater elevations may rise across the site during the irrigation season.

3.0 LABORATORY TESTING

Selected soil samples collected from the test pits were tested in the Huddleston-Berry Engineering and Testing LLC geotechnical laboratory for natural moisture and density, gradation, Atterberg limits, swell/consolidation, soluble sulfates content, California Bearing Ratio (CBR), and optimum moisture/maximum dry density (Proctor). The laboratory testing results are included in Appendix B.

The laboratory testing results indicate that the soils at the site range from non-plastic to slightly plastic and slightly to moderately collapsible. In general, the silty sand soils are non-plastic and slightly collapsible. The sandy silt soils are also non-plastic; however, these soils are moderately collapsible, with approximately 2.5% collapse measured in the laboratory. The silty clay and silty clay with sand soils are generally slightly plastic and will tend to consolidate under loading.

The soluble sulfates content of the native soils ranged from 40 to 3,500 parts-per-million (ppm). These concentrations of soluble sulfates represent a negligible to severe degree of potential sulfate attack on concrete exposed to these materials. Therefore, Type V sulfate resistant cement is recommended for construction at this site.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Foundations

As discussed above, the soils at the site ranged from non-plastic to slightly plastic and slightly to moderately collapsible. Therefore, shallow foundations are recommended. Spread footings and monolithic structural slabs are both appropriate foundation

alternatives. However, it is recommended that the foundations be constructed over a minimum of 24 inches of structural fill.

The native clay, silt, and sand soils, exclusive of topsoil, may be used as structural fill. Imported structural fill should consist of a granular, non-expansive, non-free draining material such as pit run or CDOT Class 6 base course. However, if pit-run is used as structural fill below spread-footing foundations, a minimum of six inches of Class 6 base course should be placed on top of the pit-run to prevent large point stresses on the bottoms of the footings due to large particles in the pit-run.

Prior to placement of structural fill, it is recommended that the bottoms of the foundation excavations be scarified to a depth of six to eight inches, moisture conditioned, and compacted to a minimum of 95% of the standard Proctor maximum dry density, within ±2% of optimum moisture content as determined in accordance with ASTM D698. Structural fill should extend laterally beyond the edges of the foundation a distance equal to the thickness of structural fill. Structural fill should be moisture conditioned, placed in maximum 8-inch loose lifts, and compacted to a minimum of 95% of the standard Proctor maximum dry density for fine grained soils or modified Proctor maximum dry density for coarse grained soils, within ±2% of the optimum moisture content as determined in accordance with ASTM D698 or D1557C, respectively.

As discussed previously, soft/loose materials were encountered in many of the test pits. Compaction of these materials and/or structural fill above these materials may be difficult. Geogrid reinforcement may be necessary to stabilize the subgrade below the structural fill.

For the foundation building pads prepared as recommended with structural fill consisting of the native soils or suitable imported granular materials, a maximum allowable bearing capacity of 1,250 psf may be used. In addition, a modulus of subgrade reaction of 150 pci may be used. It is also recommended that the bottoms of exterior footings be at least twenty-four inches below the final grade for frost protection.

4.2 Floor Slabs and Exterior Flatwork

In order to provide limit the potential for movement of floor slabs and/or exterior flatwork, it is recommended that slabs-on-grade be constructed over a minimum of twelve inches of structural fill. Subgrade preparation and fill placement should be conducted in accordance with the Foundations section of this report.

4.3 Lateral Earth Pressures

Stemwalls or retaining walls should be designed to resist lateral earth pressures. For backfill consisting of the native soils or imported granular, non-free draining, non-expansive material, we recommend that the walls be designed for an equivalent fluid unit weight of 50 pcf in areas where no surcharge loads are present. Lateral earth pressures should be increased as necessary to reflect any surcharge loading behind the walls.

4.4 Drainage

In order to improve the long-term performance of the foundations and slabs-on-grade, grading around the structures should be designed to carry precipitation and runoff away from the structures. It is recommended that the finished ground surface drop at least twelve inches within the first ten feet away from the structures. Downspouts should empty beyond the backfill zone. It is recommended that landscaping within three feet of the structures include primarily desert plants with low water requirements. In addition, it is recommended that irrigation within ten feet of foundations be minimized or controlled with automatic shut off valves.

4.5 Excavations

Excavations in the soils at the site may stand for short periods of time but should not be considered to be stable. Trenching and excavations should be sloped back, shored, or shielded for worker protection in accordance with applicable OSHA standards. The soils generally classify as Type C soil with regard to OSHA's *Construction Standards for Excavations*. For Type C soils, the maximum allowable slope in temporary cuts is 1.5H:1V.

4.6 Pavements

The proposed construction is anticipated to include residential street construction. From the subsurface investigation, the pavement subgrade materials at the site consist of silty sand, silty clay, and sandy silt; however, the silty clay soils will be critical for pavement design. The design California Bearing Ratio (CBR) of the native clay soils was determined in the laboratory to be 1.0. This corresponds to a Resilient Modulus of approximately 1,500 psi. However, a Resilient Modulus of 3,000 psi is typically taken as the minimum value.

Based upon the subgrade conditions and anticipated traffic loading, pavement section alternatives were developed in accordance with the *Guideline for the Design and Use of Asphalt Pavements for Colorado Roadways* by the Colorado Asphalt Pavement Association. Due to the fact that the subdivision layout is unknown, an Equivalent Daily Load Application (EDLA) of 10 will be used for the pavement design. During final design, the pavement recommendations may be revised for an EDLA of 5, depending on the actual street layout. Based upon an EDLA of 10, the following minimum pavement section alternatives are recommended:

EDLA = 10, Structural Number = 3.10

ALTERNATIVE	PAVEMENT SECTION (Inches)				
	Hot-Mix Asphalt Pavement	CDOT Class 6 Base Course	CDOT Class 3 Subbase Course	Rigid Pavement	TOTAL
Full Depth HMA	7.0				7.0
A	2.0	16.0			18.0
B	3.0	13.0			16.0
C	3.0	6.0	10.0		19.0
Full Depth RP				6.0	6.0

Prior to roadway construction, the roadway prism should be stripped of all topsoil, fill, or other unsuitable materials. It is recommended that the subgrade be proofrolled to identify any soft or weak materials. Soft or weak materials should be reworked or removed and replaced with structural fill.

Aggregate base course and subbase course should be placed in maximum 8 inch loose lifts, moisture conditioned, and compacted to a minimum of 95% and 93% of the maximum dry density, respectively, at -2% to +3% of optimum moisture content as determined by AASHTO T-180.

It is recommended that Hot-Mix Asphaltic (HMA) pavement conform to CDOT grading SX or S specifications and consist of an approved 75 gyration Superpave method mix design. HMA pavement should be compacted to between 92% and 96% of the maximum theoretical density. An end point stress of 50 psi should be used. In addition, pavements should conform to local specifications.

The long-term performance of the pavements is dependent on positive drainage away from the pavements. Ditches, culverts, and inlet structures in the vicinity of paved areas must be maintained to prevent ponding of water on the pavement.

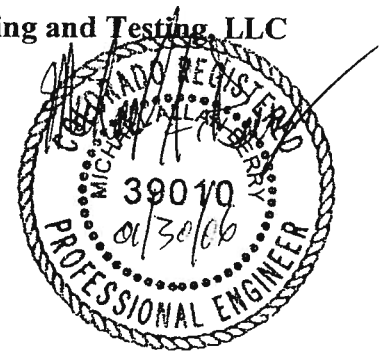
5.0 GENERAL

The recommendations included above are based upon the results of the subsurface investigation and on our local experience. These conclusions and recommendations are valid only for the proposed construction.

As discussed previously, the subsurface conditions at the site are variable. Although HBET believes that the investigation was sufficient to adequately characterize the range of subsurface conditions at the site, the precise nature and extent of subsurface variability may not become evident until construction. Therefore, it is recommended that a representative of HBET be retained to provide engineering oversight and construction materials testing services during the foundation, pavement, and earthwork phases of the construction. This is to verify compliance with the recommendations included in this report or permit identification of significant variations in the subsurface conditions which may require modification of the recommendations.

Huddleston-Berry Engineering and Testing, LLC is pleased to be of service to your project. Please contact us if you have any questions or comments regarding the contents of this report.

Respectfully Submitted:
Huddleston-Berry Engineering and Testing, LLC



Michael A. Berry, P.E.
Vice President of Engineering

FIGURES

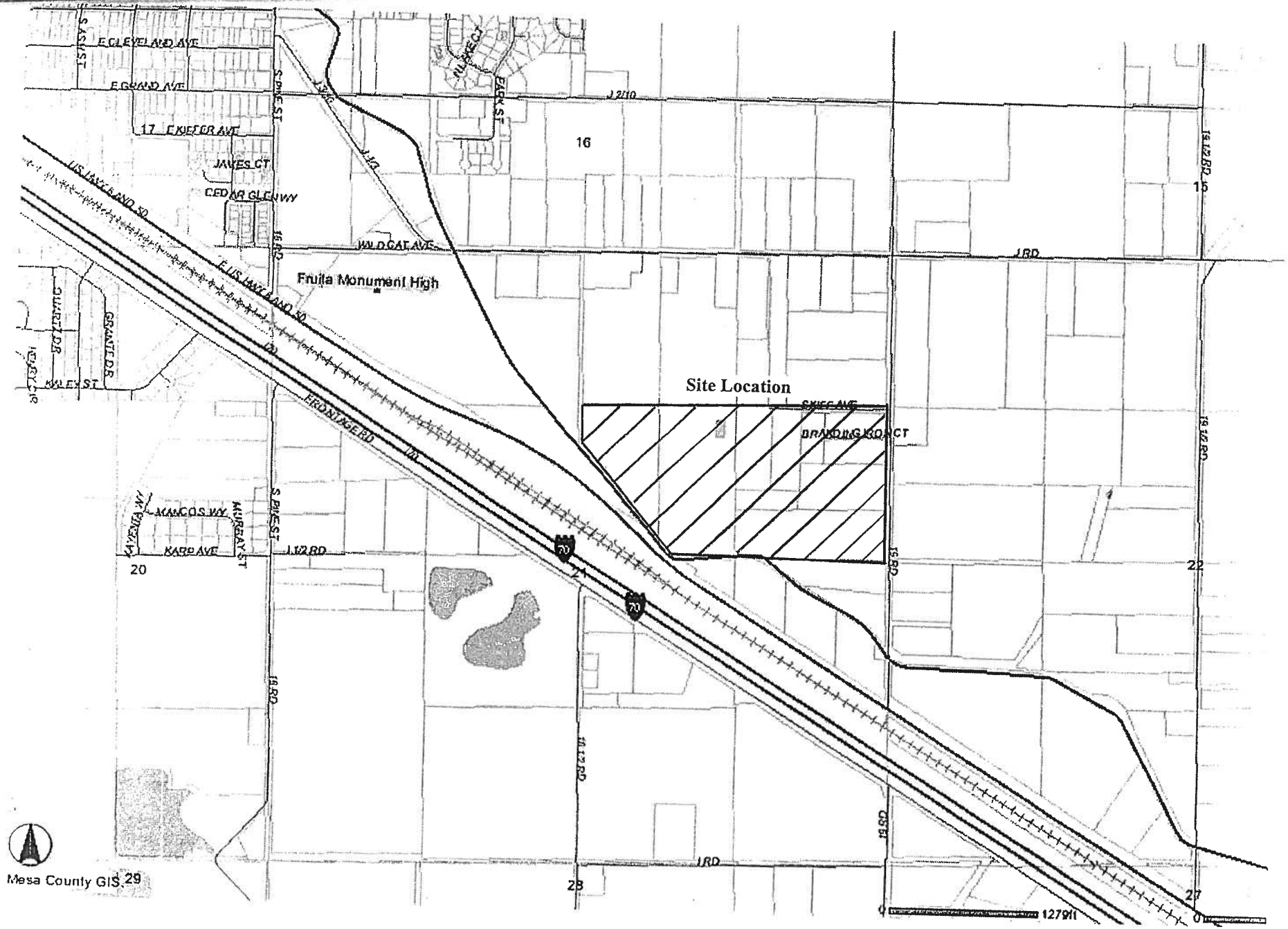


FIGURE 1
Site Location Map

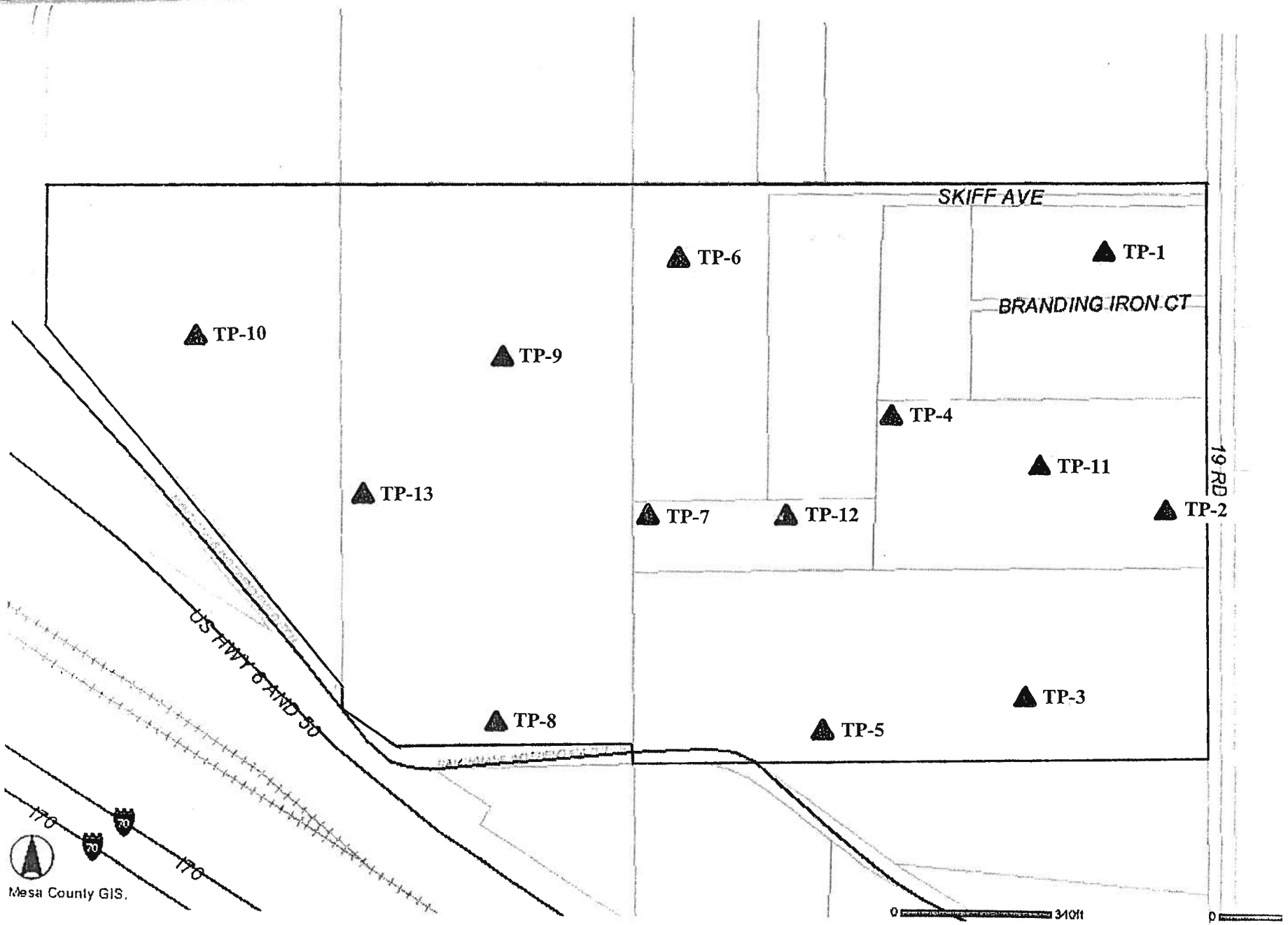


FIGURE 2
Site Plan

APPENDIX A
Typed Test Pit Logs

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

TEST PIT NUMBER TP

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 COMPLETED 1/17/06
GROUND ELEVATION ____ TEST PIT SIZE ____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
AT TIME OF EXCAVATION dry
LOGGED BY MAB CHECKED BY MAB
AT END OF EXCAVATION dry
NOTES ____
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0.0		Silty CLAY with Organics (TOPSOIL), brown, moist									
2.5		Silty CLAY (cl), brown, dry to moist, medium stiff, abundant sulfates	MC 1 GB 1								
5.0		Silty SAND (sm), brown, moist, loose	MC 2 GB 2								
7.5		Bottom of test pit at 7.5 feet.									

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970-255-8005
970-255-6818

TEST PIT NUMBER TP-

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 COMPLETED 1/17/06
GROUND ELEVATION ____ TEST PIT SIZE ____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
▽ AT TIME OF EXCAVATION 6.0 ft
LOGGED BY MAB CHECKED BY MAB
▼ AT END OF EXCAVATION 6.0 ft
NOTES
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Silty CLAY with Organics (TOPSOIL), brown, moist										
		Silty CLAY (CL), brown, moist, stiff, abundant sulfates										
2.5			MC 1				103	20				
		GB1: Lab Classified	GB 1						35	19	16	9
5.0												
		Bottom of test pit at 6.0 feet.										

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TEST PIT NUMBER TP-

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 **COMPLETED** 1/17/06
GROUND ELEVATION _____ **TEST PIT SIZE** _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
AT TIME OF EXCAVATION 5.5 ft
LOGGED BY MAB **CHECKED BY** MAB
AT END OF EXCAVATION 5.5 ft
NOTES _____
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0.0		Silty CLAY with Organics (TOPSOIL), brown, moist										
2.5		Silty SAND (SM), brown, moist, loose	MC 1				90	18				
		GB1: Lab Classified	GB 1						NP	NP	NP	3
5.0		Bottom of test pit at 5.5 feet.										

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TEST PIT NUMBER TP-

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 **COMPLETED** 1/17/06
GROUND ELEVATION _____ **TEST PIT SIZE** _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
AT TIME OF EXCAVATION dry
LOGGED BY MAB **CHECKED BY** MAB
AT END OF EXCAVATION dry
NOTES _____
AFTER EXCAVATION ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Silty CLAY with Organics (TOPSOIL), brown, moist										
		Silty CLAY (CL), brown, dry to moist, medium stiff	GB 1						34	17	17	8
2.5		GB1: Lab Classified	MC 1				90	28				
		Silty SAND (sm), brown, moist, loose										
5.0		Bottom of test pit at 6.0 feet.										

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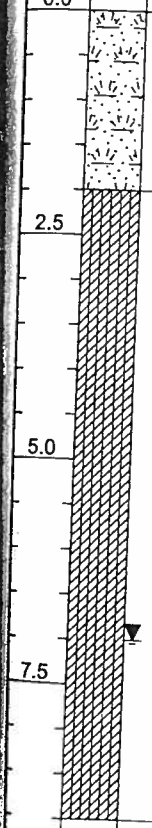
TEST PIT NUMBER TP

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 COMPLETED 1/17/06
GROUND ELEVATION ____ TEST PIT SIZE ____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
▽ AT TIME OF EXCAVATION 7.0 ft
LOGGED BY MAB CHECKED BY MAB
▼ AT END OF EXCAVATION 7.0 ft
NOTES
AFTER EXCAVATION --



DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0.0	Silty CLAY with Organics (TOPSOIL), brown, moist									
2.5	Silty CLAY with Sand (cl-ml), brown, moist to wet, medium stiff to soft	GB 1								
5.0										
7.5										
	Bottom of test pit at 9.0 feet.									

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TEST PIT NUMBER TP-

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 **COMPLETED** 1/17/06
GROUND ELEVATION _____ **TEST PIT SIZE** _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
AT TIME OF EXCAVATION dry
LOGGED BY MAB **CHECKED BY** MAB
AT END OF EXCAVATION dry
NOTES _____
AFTER EXCAVATION ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Silty SAND with Organics (TOPSOIL), brown, moist										
2.5		Silty SAND (sm), brown, moist, loose	MC 1				92	28				
5.0		Silty CLAY (cl), brown, moist, medium stiff	GB 1									
		Bottom of test pit at 6.5 feet.										

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Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

TEST PIT NUMBER TP

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 **COMPLETED** 1/17/06
GROUND ELEVATION _____ **TEST PIT SIZE** _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
AT TIME OF EXCAVATION dry
LOGGED BY MAB **CHECKED BY** MAB
AT END OF EXCAVATION dry
NOTES _____
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
0.0		Silty SAND with Organics (TOPSOIL), brown, moist									
2.5		Silty CLAY with Sand (CL-ML), brown, moist, medium stiff to soft, abundant roots									
		GB1: Lab Classified	GB 1						22	18	4
5.0											
7.5											
10.0		Bottom of test pit at 10.0 feet.									

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970-255-6818

TEST PIT NUMBER TP-8

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/19/06 **COMPLETED** 1/19/06
GROUND ELEVATION _____ **TEST PIT SIZE** _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
▽ **AT TIME OF EXCAVATION** 9.0 ft
LOGGED BY MAB **CHECKED BY** MAB
▼ **AT END OF EXCAVATION** 9.0 ft
NOTES _____
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Sandy SILT with Organics (TOPSOIL), brown, moist										
		Sandy SILT (ml), brown, moist, loose										
2.5		Silty CLAY (cl), brown, moist, medium stiff	GB 1									
5.0		Silty SAND (sm), brown, moist to wet, loose to very loose										
7.5		▼										
10.0												
		Bottom of test pit at 11.0 feet.										

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970-255-6818

TEST PIT NUMBER TP-

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/19/06 **COMPLETED** 1/19/06
GROUND ELEVATION _____ **TEST PIT SIZE** _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
▽ **AT TIME OF EXCAVATION** 8.0 ft
LOGGED BY MAB **CHECKED BY** MAB
▼ **AT END OF EXCAVATION** 8.0 ft
NOTES _____
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Silty SAND with Organics (TOPSOIL), brown, moist										
		Silty SAND (sm), brown, moist, loose										
2.5		Silty CLAY (cl), brown, moist, medium stiff	GB 1						32	20	12	9
		GB1: Lab Classified	MC 1									
		Silty CLAY with Sand (cl-ml), brown, moist to wet, soft to very soft										
5.0												
7.5												
		Bottom of test pit at 9.0 feet.										

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TEST PIT NUMBER TP-1

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/19/06 **COMPLETED** 1/19/06
GROUND ELEVATION _____ **TEST PIT SIZE** _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
AT TIME OF EXCAVATION 10.0 ft
LOGGED BY MAB **CHECKED BY** MAB
AT END OF EXCAVATION 10.0 ft
NOTES _____
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Sandy SILT with Organics (TOPSOIL), brown, moist										
		Sandy SILT (ML), brown, dry, loose to medium dense										
2.5		GB1: Lab Classified	MC 1				86	2				
			GB 1						NP	NP	NP	
5.0		Silty CLAY (cl), brown, moist, medium stiff										
		Silty SAND (sm), brown, moist to wet, loose										
7.5												
10.0												
		Bottom of test pit at 10.5 feet.										

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TEST PIT NUMBER TP-11

CLIENT Blue Star Industries
PROJECT NUMBER 2009-06
DATE STARTED 1/17/06 COMPLETED 1/17/06
EXCAVATION CONTRACTOR Hi-River
EXCAVATION METHOD Backhoe
LOGGED BY MAB CHECKED BY MAB
NOTES

PROJECT NAME Iron Wheel Estates
PROJECT LOCATION Fruita, CO
GROUND ELEVATION TEST PIT SIZE
GROUND WATER LEVELS:
AT TIME OF EXCAVATION dry
AT END OF EXCAVATION dry
AFTER EXCAVATION ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		Silty CLAY with Organics (TOPSOIL), brown, moist										
2.5		Silty SAND (sm), brown, moist, loose	MC 1									
			GB 1									
5.0		Silty CLAY (cl), brown, moist to wet, very soft	GB 2									
7.5												
		Bottom of test pit at 9.0 feet.										

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TEST PIT NUMBER TP-1

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/17/06 COMPLETED 1/17/06
GROUND ELEVATION _____ TEST PIT SIZE _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
AT TIME OF EXCAVATION 8.0 ft
LOGGED BY MAB CHECKED BY MAB
AT END OF EXCAVATION 8.0 ft
NOTES
AFTER EXCAVATION —

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Silty SAND with Organics (TOPSOIL), brown, moist										
2.5		Silty SAND (sm), brown, moist, loose	MC 1									
5.0		Silty CLAY (cl), brown, moist, very stiff to soft	GB 1									
7.5		Bottom of test pit at 8.0 feet.										

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TEST PIT NUMBER TP-1

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO
DATE STARTED 1/19/06 COMPLETED 1/19/06
GROUND ELEVATION _____ TEST PIT SIZE _____
EXCAVATION CONTRACTOR Hi-River
GROUND WATER LEVELS:
EXCAVATION METHOD Backhoe
▽ AT TIME OF EXCAVATION 10.5 ft
LOGGED BY MAB CHECKED BY MAB
▼ AT END OF EXCAVATION 10.5 ft
NOTES
AFTER EXCAVATION ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT
0.0		Sandy SILT with Organics (TOPSOIL), brown, moist										
		Sandy SILT (ml), brown, dry, loose	MC 1									
2.5			GB 1									
		Silty CLAY (cl), brown, dry to moist, medium stiff										
5.0		Silty SAND (sm), brown, moist to wet, loose to very loose										
7.5												
10.0		Bottom of test pit at 10.5 feet.										

APPENDIX B
Laboratory Testing Results

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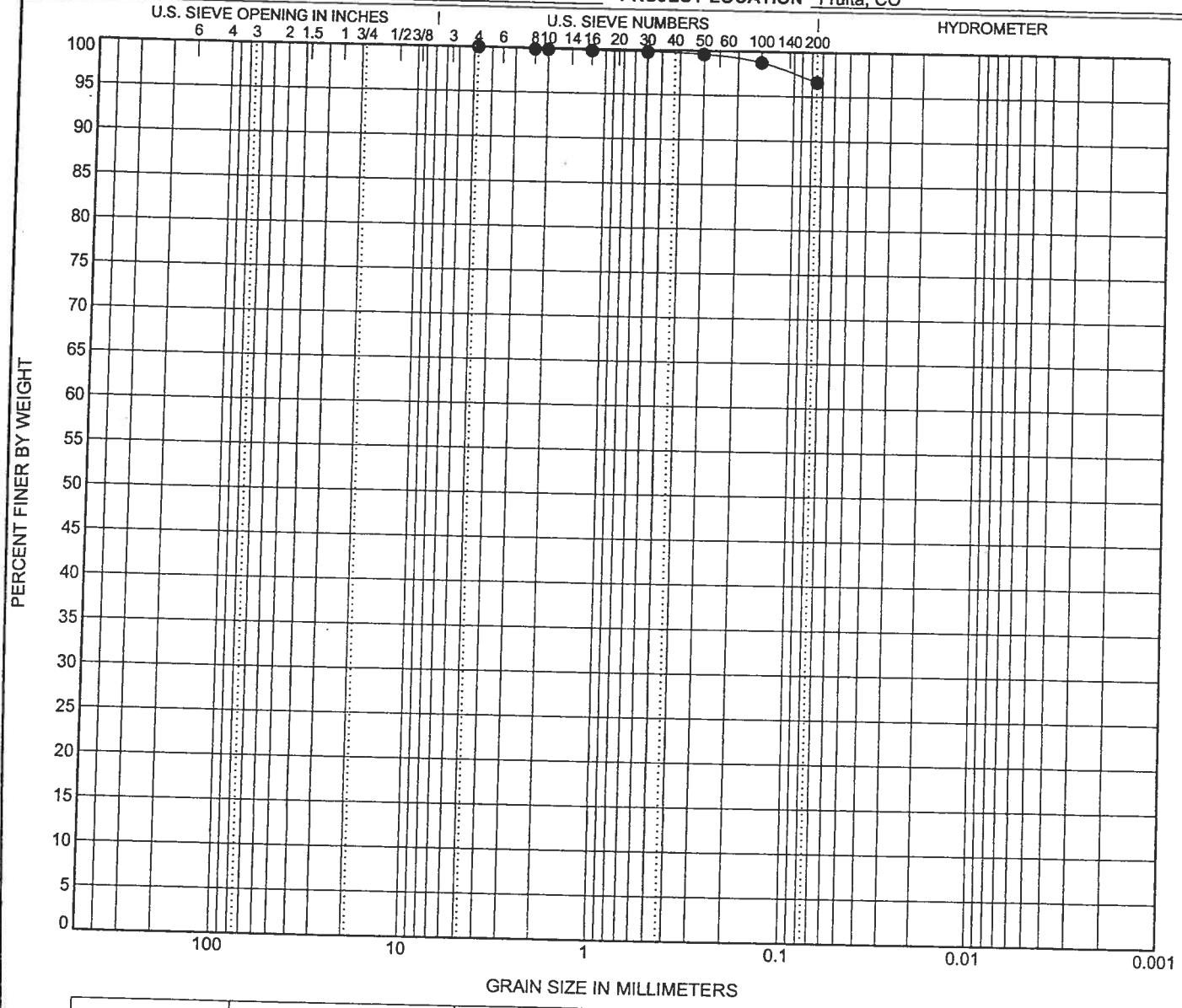
GRAIN SIZE DISTRIBUTION

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● TP-2, GB1 01/06	LEAN CLAY(CL)	35	19	16		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-2, GB1 01/06	4.75				0.0	3.4	96.6	

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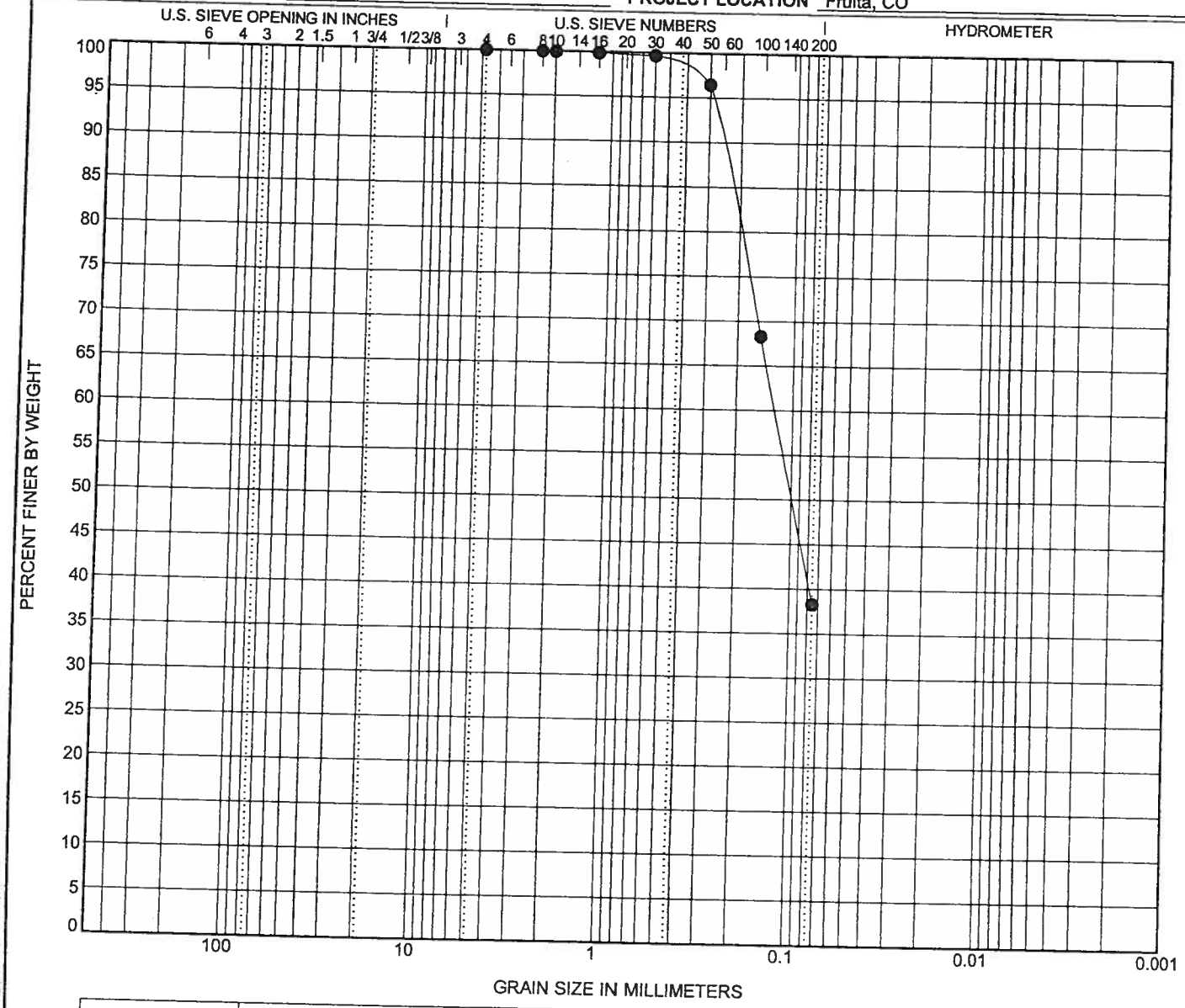
GRAIN SIZE DISTRIBUTIOI

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● TP-3, GB1 01/06	SILTY SAND(SM)	NP	NP	NP		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-3, GB1 01/06	4.75	0.124			0.0	61.7	38.3	

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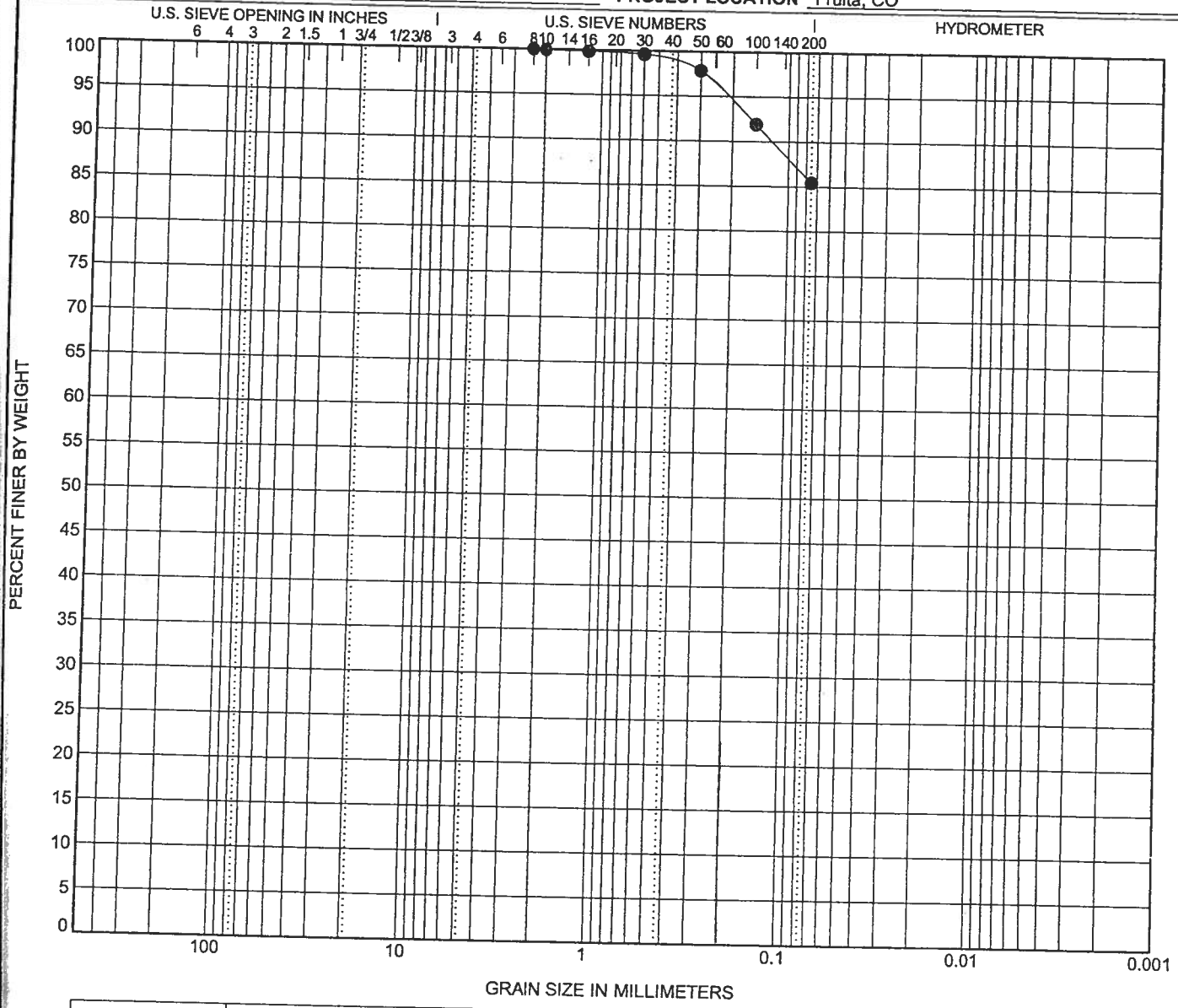
GRAIN SIZE DISTRIBUTION

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● TP-4, GB1 01/06	LEAN CLAY(CL)	34	17	17		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-4, GB1 01/06	2.36				0.0	14.5	85.5	

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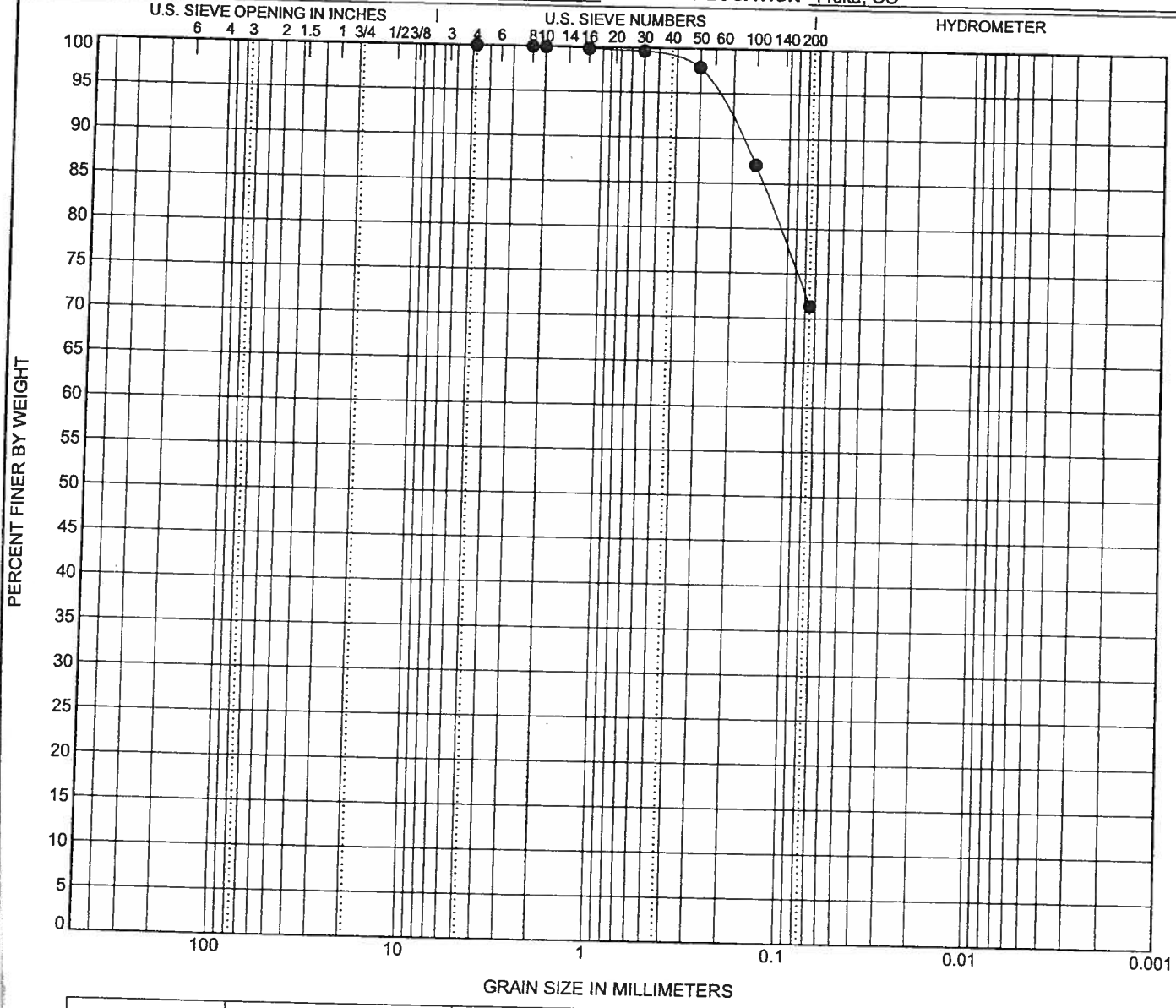
GRAIN SIZE DISTRIBUTION

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
TP-7, GB1 01/06	SILTY CLAY with SAND(CL-ML)	22	18	4		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
TP-7, GB1 01/06	4.75				0.0	28.6	71.4	

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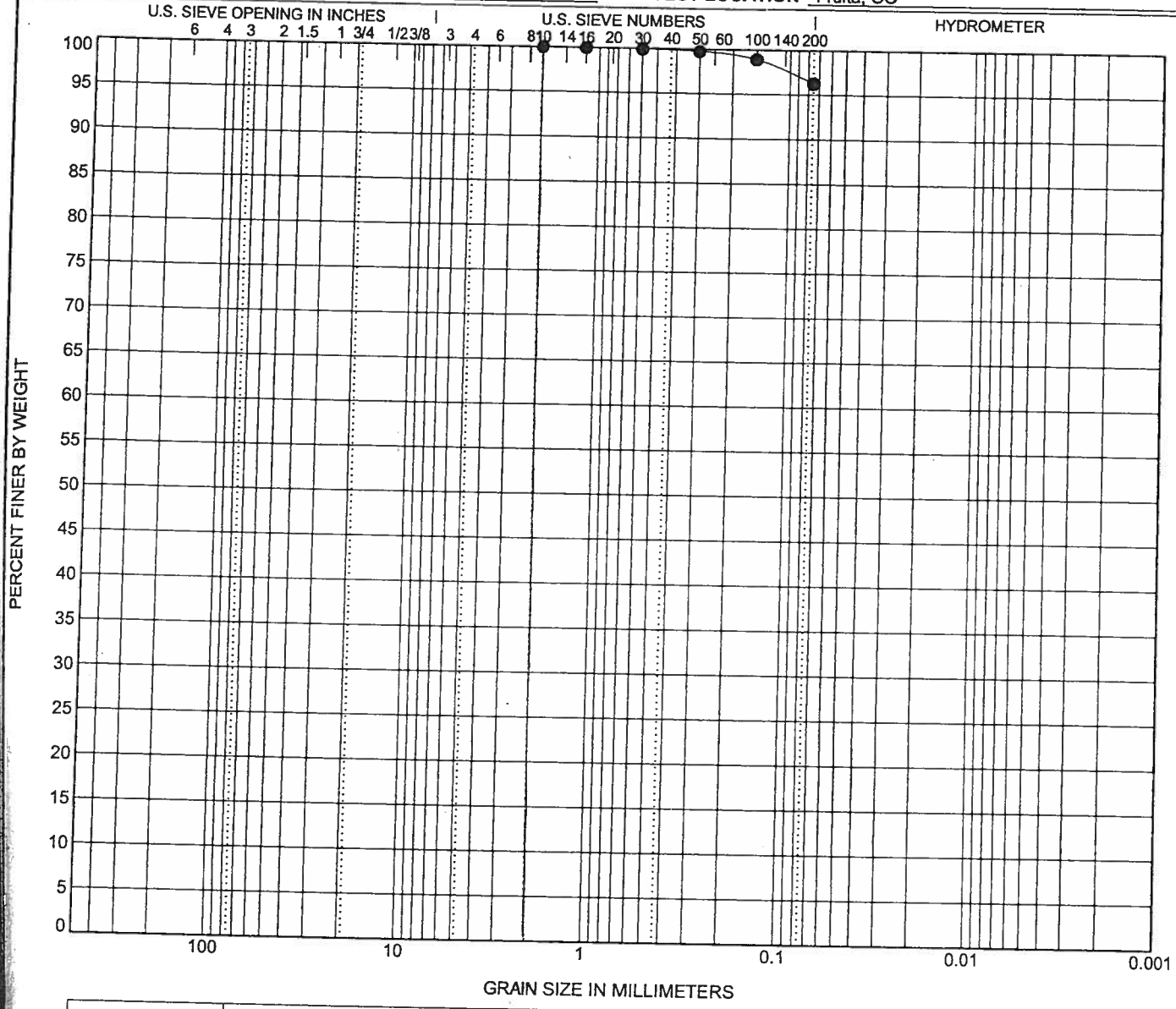
GRAIN SIZE DISTRIBUTION

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
TP-9, GB1 01/06	LEAN CLAY(CL)	32	20	12		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
TP-9, GB1 01/06	2				0.0	3.7	96.3	

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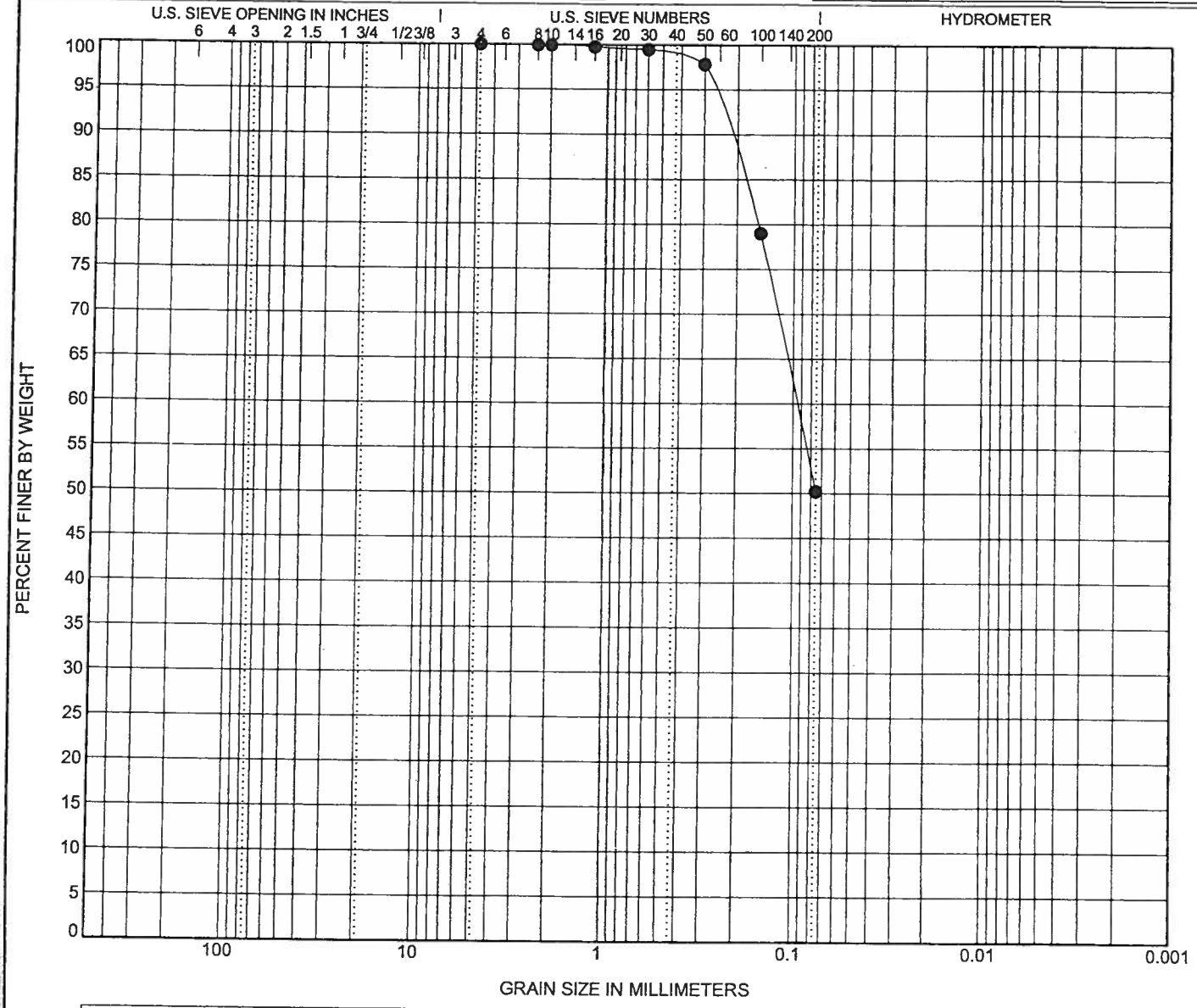
GRAIN SIZE DISTRIBUTION

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	LL	PL	PI	Cc	Cu
● TP-10, GB1 01/06	SANDY SILT(ML)	NP	NP	NP		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-10, GB1 01/06	4.75	0.095			0.0	49.8	50.2	

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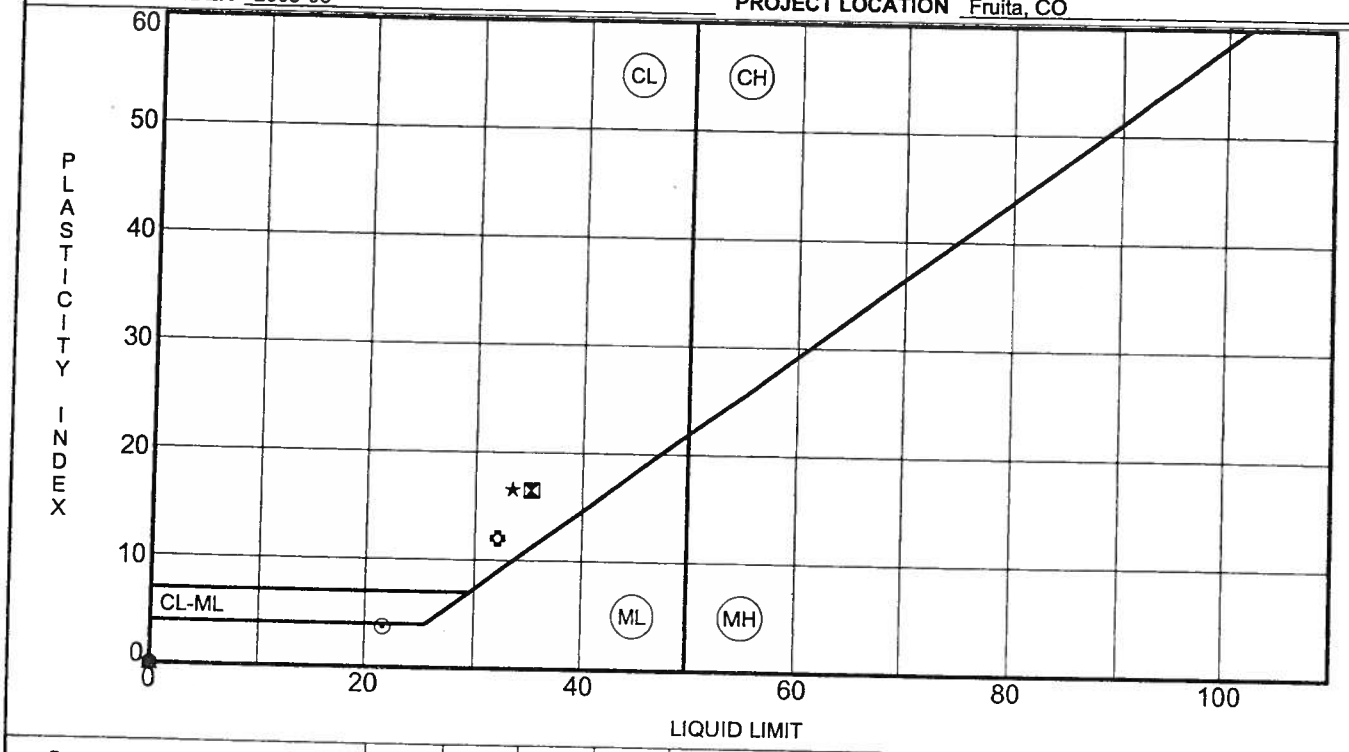
ATTERBERG LIMITS' RESULTS

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



Specimen Identification			LL	PL	PI	Fines	Classification
●	TP-10, GB1	1/19/2006	NP	NP	NP	50	SANDY SILT(ML)
⊠	TP-2, GB1	1/19/2006	35	19	16	97	LEAN CLAY(CL)
▲	TP-3, GB1	1/19/2006	NP	NP	NP	38	SILTY SAND(SM)
★	TP-4, GB1	1/19/2006	34	17	17	85	LEAN CLAY(CL)
⊙	TP-7, GB1	1/19/2006	22	18	4	71	SILTY CLAY with SAND(CL-ML)
✿	TP-9, GB1	1/19/2006	32	20	12	96	LEAN CLAY(CL)

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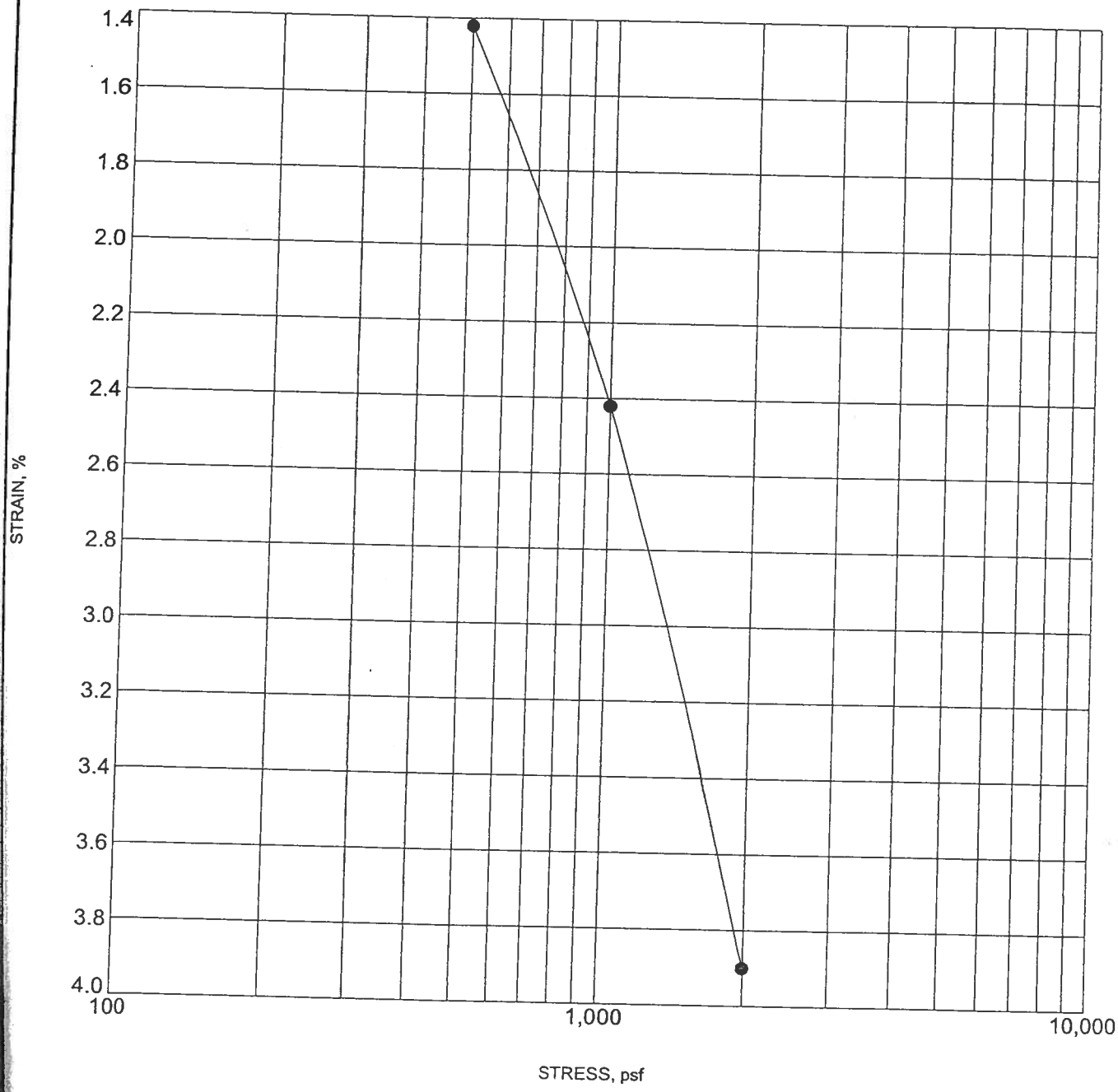
CONSOLIDATION TES

CLIENT Blue Star Industries

PROJECT NAME Iron Wheel Estates

PROJECT NUMBER 2009-06

PROJECT LOCATION Fruita, CO



Specimen Identification		Classification	γ_d	MC%
● TP-2	2.0		103	20

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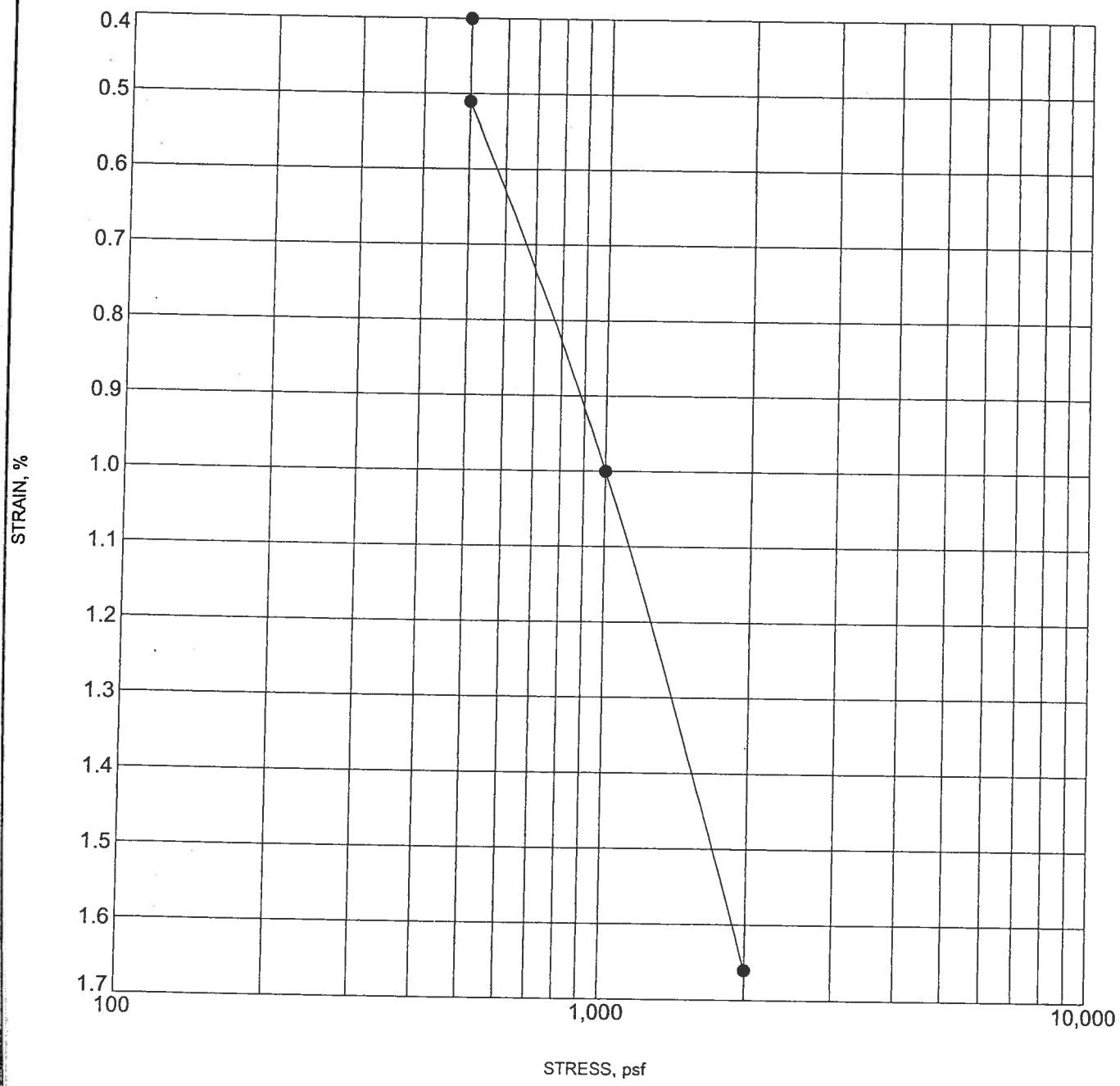
CONSOLIDATION TEST

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO



Specimen Identification		Classification	γ_d	MC%
● TP-3	2.0		90	18

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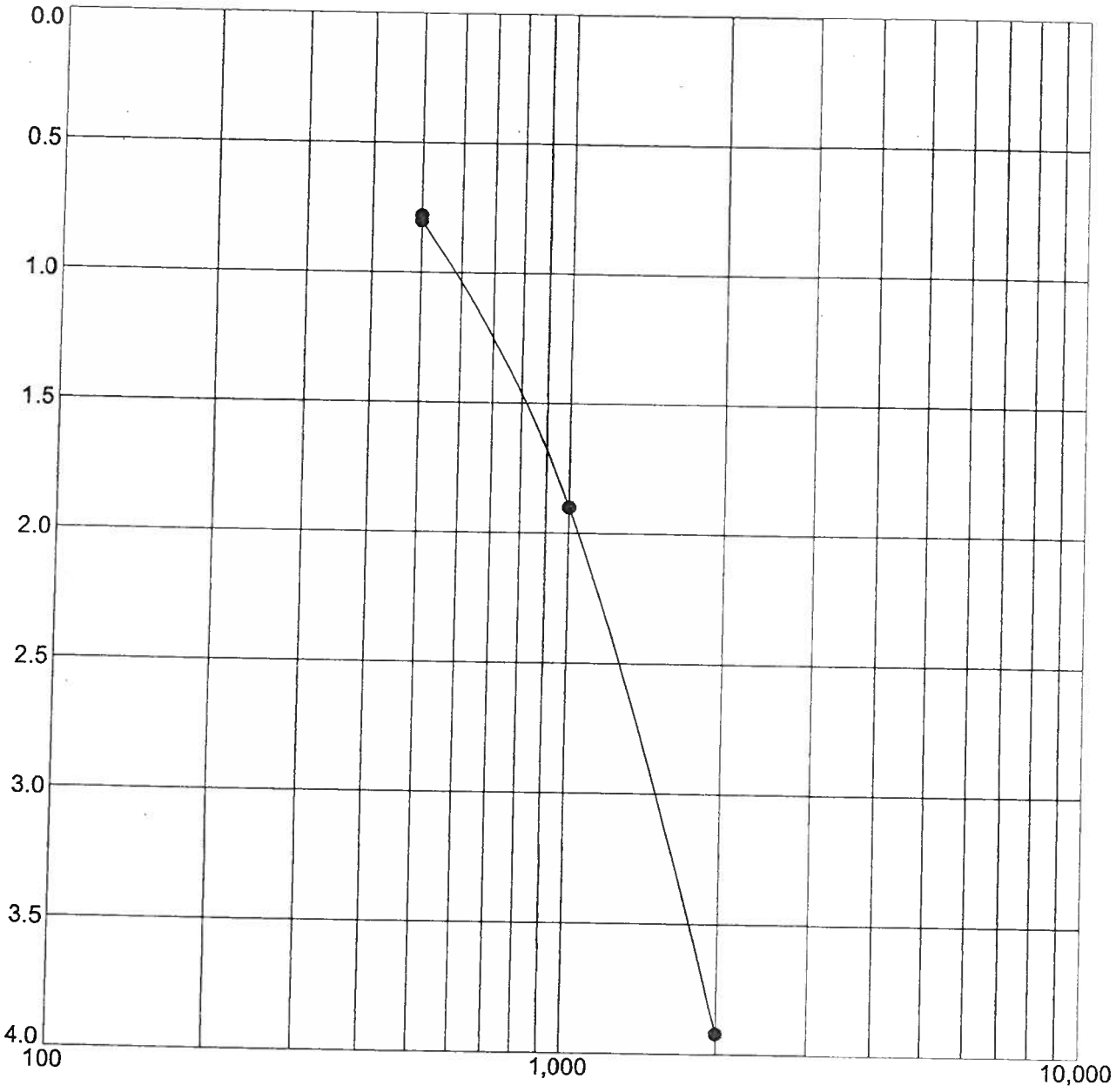
CONSOLIDATION TEST

CLIENT Blue Star Industries

PROJECT NAME Iron Wheel Estates

PROJECT NUMBER 2009-06

PROJECT LOCATION Fruita, CO



Specimen Identification		Classification	γ_d	MC%
● TP-4	2.0		90	28

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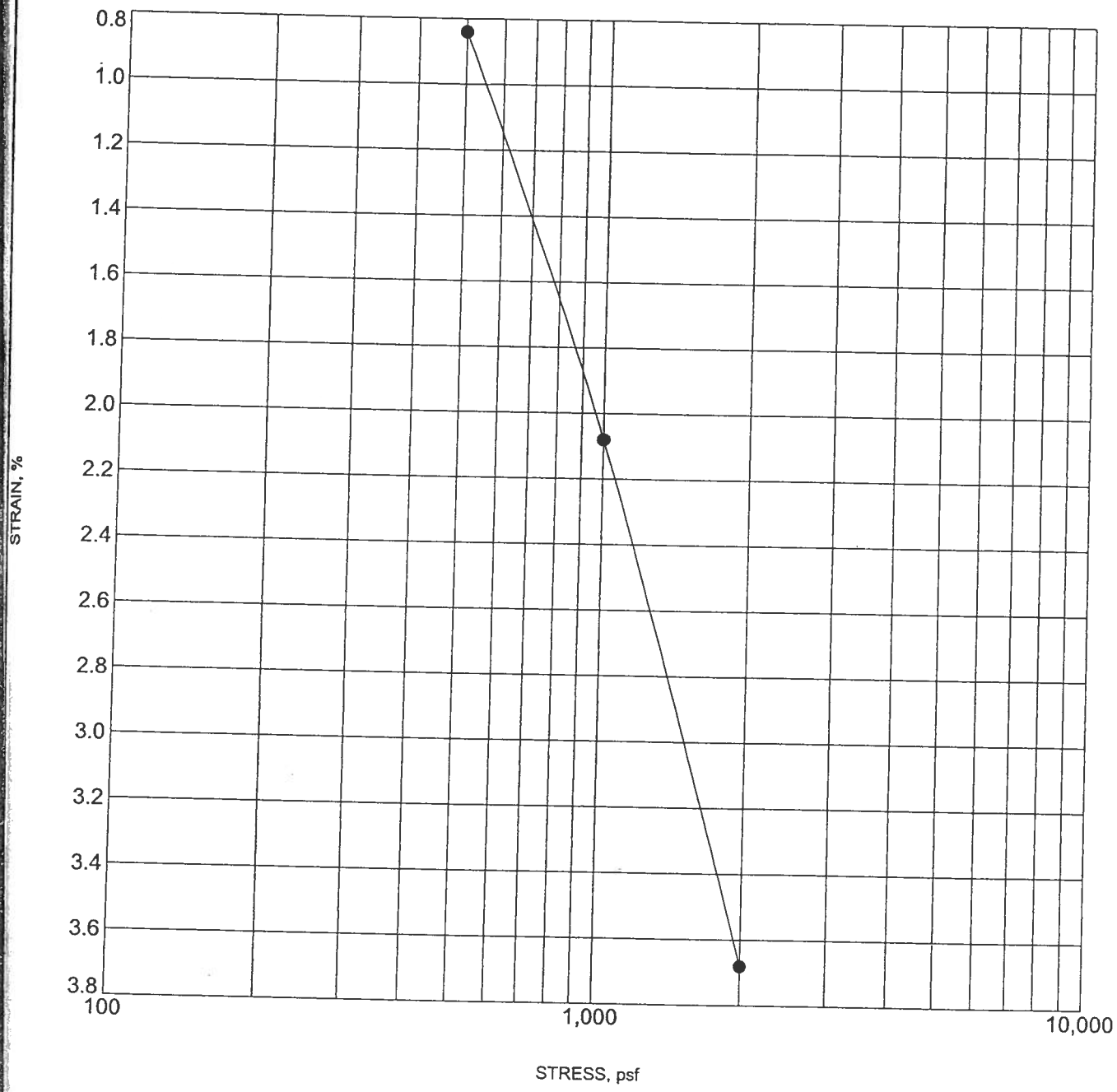
CONSOLIDATION TEST

CLIENT Blue Star Industries **PROJECT NAME** Iron Wheel Estates

PROJECT NUMBER 2009-06 **PROJECT LOCATION** Fruita, CO



Specimen Identification		Classification	γ_d	MC%
● TP-6	2.0		92	28

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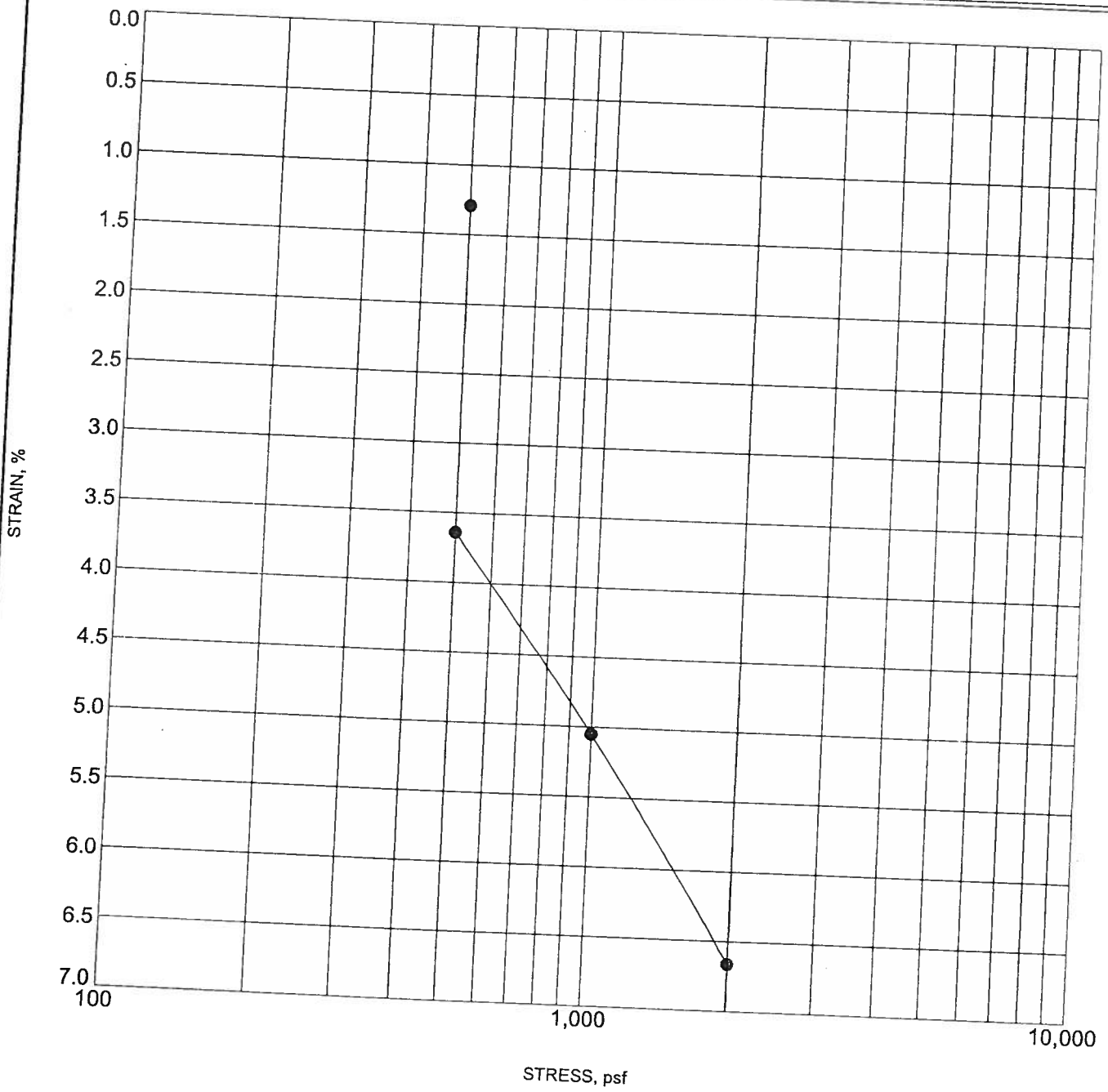
CONSOLIDATION TEST

CLIENT Blue Star Industries

PROJECT NAME Iron Wheel Estates

PROJECT NUMBER 2009-06

PROJECT LOCATION Fruita, CO



Specimen Identification		Classification	γ_d	MC%
● TP-10	2.0		86	2

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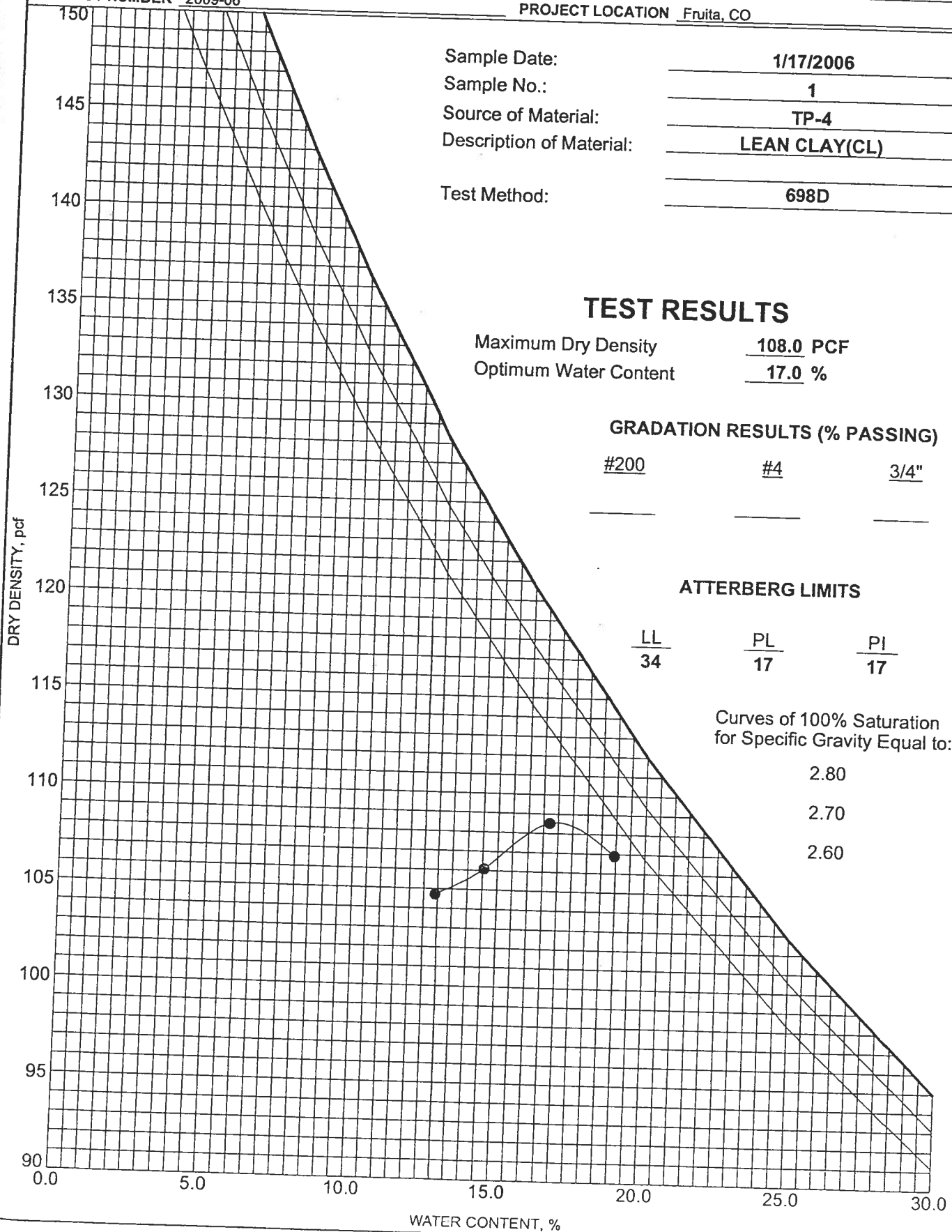
MOISTURE-DENSITY RELATIONSHIP

CLIENT Blue Star Industries

PROJECT NAME Iron Wheel Estates

PROJECT NUMBER 2009-06

PROJECT LOCATION Fruita, CO



Sample Date:	1/17/2006
Sample No.:	1
Source of Material:	TP-4
Description of Material:	LEAN CLAY(CL)
Test Method:	698D

TEST RESULTS

Maximum Dry Density	108.0 PCF
Optimum Water Content	17.0 %

GRADATION RESULTS (% PASSING)

#200	#4	3/4"

ATTERBERG LIMITS

LL	PL	PI
34	17	17

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

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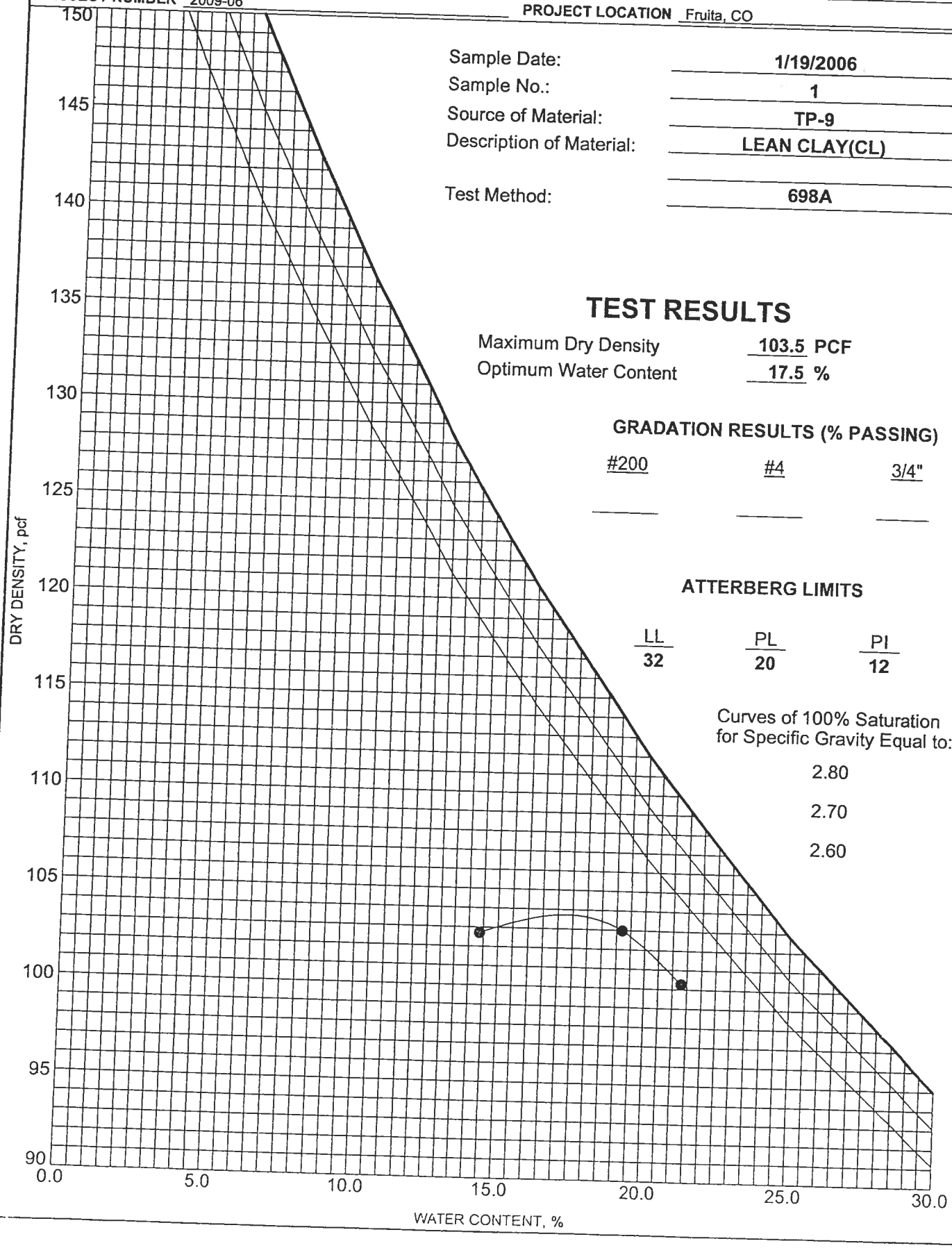
MOISTURE-DENSITY RELATIONSHIP

CLIENT Blue Star Industries
PROJECT NAME Iron Wheel Estates
PROJECT NUMBER 2009-06
PROJECT LOCATION Fruita, CO



Sample Date:	1/19/2006
Sample No.:	1
Source of Material:	TP-9
Description of Material:	LEAN CLAY(CL)
Test Method:	698A

TEST RESULTS

Maximum Dry Density	103.5 PCF
Optimum Water Content	17.5 %

GRADATION RESULTS (% PASSING)

#200	#4	3/4"

ATTERBERG LIMITS

LL	PL	PI
32	20	12

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION 2009-06.GPJ GINT US LAB.GDT 1/26/06

Huddleston-Berry
Engineering & Testing, LLC

CALIFORNIA BEARING RATI(
ASTM D188

Project No.: 2009-06
Project Name: Iron Wheel Estates Subdivision
Client Name: Blue Star Industries
Sample Number: 055-06 **Location:** TP-4, SD1 @ 1.5'

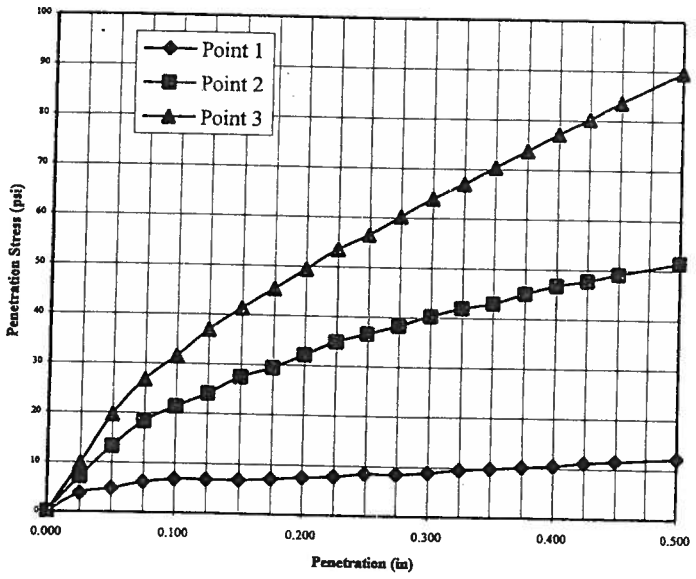
Authorized By:	MAB	**Date:**	01/18/06
Sampled By:	MAB	**Date:**	01/18/06
Submitted By:	MAB	**Date:**	01/18/06
Reviewed By:	JCH	**Date:**	01/26/06

Compaction Method ASTM D698-A

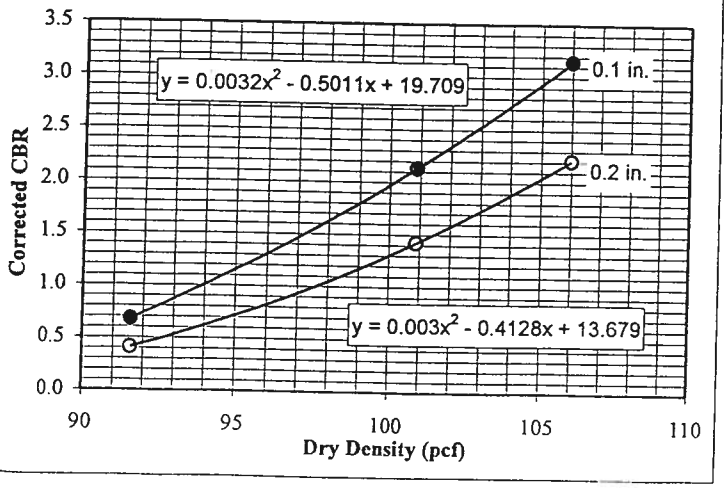
Maximum Dry Density (pcf): 108.0
Opt. Moisture Content (%): 17.0
Sample Condition: Soaked
Remarks:

Sample Data		Point 1	Point 2	Point 3
Blows per Compacted Lift:		15	25	56
Surcharge Weight (lbs):		10.0	10.0	10.0
Dry Density Before Soak (pcf):		91.6	100.9	106.0
Dry Density After Soak (pcf):		88.9	98.0	103.2
Moisture Content (%)	Before Compaction:	15.6	16.1	16.4
	After Compaction:	16.5	16.0	16.7
	Top 1" After Test	32.0	27.2	28.3
	Average After Soak:	27.3	23.1	21.3
Percent Swell After Soak:		3.0	3.0	2.7

Load Pentration Curve(s)



Dry Density vs CBR



Penetration Data

Point 1			Point 2			Point 3		
Dist. (in)	Load (lbs)	Stress (psi)	Dist. (in)	Load (lbs)	Stress (psi)	Dist. (in)	Load (lbs)	Stress (psi)
0.000	0	0	0.000	0	0	0.000	0	0
0.025	11	4	0.025	21	7	0.025	29	10
0.050	14	5	0.050	39	13	0.050	58	20
0.075	18	6	0.075	54	18	0.075	79	27
0.100	20	7	0.100	63	21	0.100	93	31
0.125	20	7	0.125	71	24	0.125	109	37
0.150	20	7	0.150	81	27	0.150	122	41
0.175	21	7	0.175	87	29	0.175	134	45
0.200	22	7	0.200	95	32	0.200	146	49
0.225	23	8	0.225	103	35	0.225	158	53
0.250	25	8	0.250	108	37	0.250	167	56
0.275	25	8	0.275	113	38	0.275	178	60
0.300	26	9	0.300	119	40	0.300	189	64
0.325	28	9	0.325	124	42	0.325	198	67
0.350	29	10	0.350	127	43	0.350	208	70
0.375	30	10	0.375	133	45	0.375	218	74
0.400	31	10	0.400	138	47	0.400	228	77
0.425	33	11	0.425	141	48	0.425	237	80
0.450	34	12	0.450	145	49	0.450	247	84
0.500	36	12	0.500	152	51	0.500	265	90

Corrected CBR @ 0.1"		
0.7	2.1	3.1
Corrected CBR @ 0.2"		
0.4	1.4	2.2

Penetration Distance Correction (in)		
0.000	0.000	0.000

Figure: ____

Huddleston-Berry
Engineering & Testing, LLC

CALIFORNIA BEARING RATIO
ASTM D1883

Project No.:	2009-06		**Authorized By:**	MAB	**Date:** 01/18/06
Project Name:	Iron Wheel Estates Subdivision		**Sampled By:**	MAB	**Date:** 01/18/06
Client Name:	Blue Star Industries		**Submitted By:**	MAB	**Date:** 01/18/06
Sample Number:	060-06	**Location:** TP-9, SD1 @ 2.5'	**Reviewed By:**	JCH	**Date:** 01/26/06

Compaction Method ASTM D698-A

Maximum Dry Density (pcf): 103.5

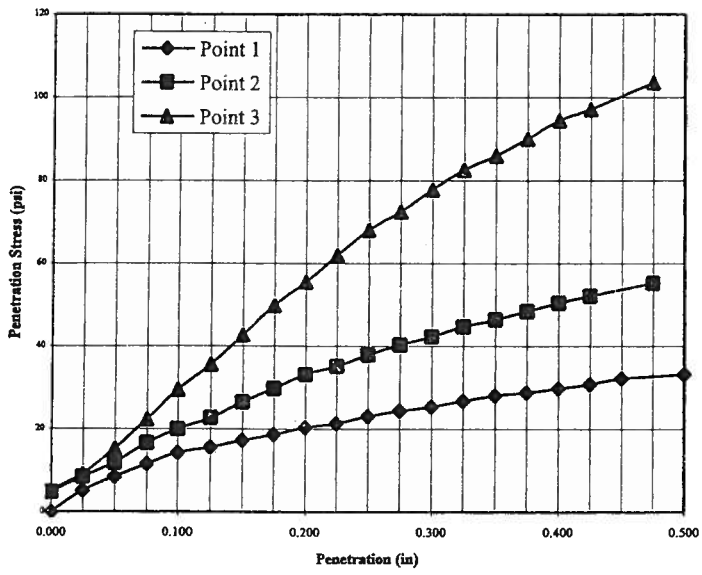
Opt. Moisture Content (%): 17.5

Sample Condition: Soaked

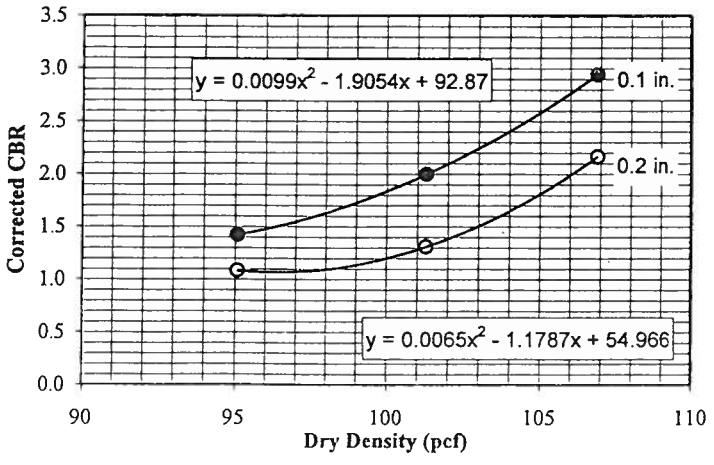
Remarks:

Sample Data		Point 1	Point 2	Point 3
Blows per Compacted Lift:		15	25	56
Surcharge Weight (lbs):		10.0	10.0	10.0
Dry Density Before Soak (pcf):		95.1	101.3	106.9
Dry Density After Soak (pcf):		92.9	98.2	103.9
Moisture Content (%)	Before Compaction:	17.9	17.6	17.4
	After Compaction:	18.0	17.3	17.3
	Top 1" After Test	31.3	29.2	27.6
	Average After Soak:	26.6	25.0	21.8
Percent Swell After Soak:		2.4	3.2	2.9

Load Pentration Curve(s)



Dry Density vs CBR



Penetration Data								
Point 1			Point 2			Point 3		
Dist. (in)	Load (lbs)	Stress (psi)	Dist. (in)	Load (lbs)	Stress (psi)	Dist. (in)	Load (lbs)	Stress (psi)
0.000	0	0	-0.025	0	0	-0.025	0	0
0.025	15	5	0.000	14	5	0.000	15	5
0.050	25	8	0.025	25	8	0.025	27	9
0.075	34	12	0.050	35	12	0.050	45	15
0.100	42	14	0.075	49	17	0.075	66	22
0.125	46	16	0.100	59	20	0.100	87	29
0.150	51	17	0.125	67	23	0.125	105	36
0.175	55	19	0.150	78	26	0.150	126	43
0.200	60	20	0.175	88	30	0.175	147	50
0.225	63	21	0.200	98	33	0.200	164	55
0.250	68	23	0.225	104	35	0.225	183	62
0.275	72	24	0.250	112	38	0.250	201	68
0.300	75	25	0.275	119	40	0.275	214	72
0.325	79	27	0.300	125	42	0.300	230	78
0.350	83	28	0.325	132	45	0.325	244	83
0.375	85	29	0.350	137	46	0.350	254	86
0.400	88	30	0.375	143	48	0.375	266	90
0.425	91	31	0.400	149	50	0.400	279	94
0.450	95	32	0.425	154	52	0.425	287	97
0.500	98	33	0.475	163	55	0.475	306	104

Corrected CBR @ 0.1"		
1.4	2.0	2.9
Corrected CBR @ 0.2"		
1.1	1.3	2.2

Penetration Distance Correction (in)		
0.000	0.025	0.025

Figure: _____