Appendix 2.5C—Geotechnical Investigation and Laboratory Testing Data Report – COL

Prepared by
MACTEC Engineering and Consulting, Inc.

November 16, 2007

Page intentionally left blank.

MACTEC

DATA REPORT

RESULTS OF GEOTECHNICAL EXPLORATION AND LABORATORY TESTING
VOGTLE UNITS 3 & 4 COL PROJECT
VOGTLE ELECTRIC GENERATING PLANT

Waynesboro, Burke County, Georgia
November 9, 2007

Prepared By:

MACTEC ENGINEERING AND CONSULTING, INC

ATLANTA, GEORGIA

MACTEC PROJECT NUMBER 6141-06-0286

Submitted To:

GEORGIA POWER COMPANY
c/o SOUTHERN NUCLEAR OPERATING COMPANY

Birmingham, Alabama

SNC SUBCONTRACT NUMBER 7074425

DCN VGCOL 324
Revision 3, 11/9/07

MACTEC

November 9, 2007

Mr. Tom McCallum
Georgia Power Company
C/O Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Phone: (205) 992-6697
e-mail: tomccall@southernco.com

Subject: **Geotechnical Data Report**
Vogtle Units 3 & 4 COL Project
Vogtle Electric Generating Plant
Burke County, Georgia
MACTEC Project Number 6141-06-0286

Dear Mr. McCallum:

MACTEC Engineering & Consulting, Inc. is pleased to submit this Data Report for the geotechnical exploration and laboratory testing for the Vogtle Units 3 & 4 COL Project located adjacent to the existing Vogtle Electric Generating Plant near Waynesboro, Burke County, Georgia.

It has been a pleasure to perform the work described in the attached report. If you have any questions, or if we may be of further service, we hope that you will contact us at your convenience.

Sincerely,

MACTEC ENGINEERING & CONSULTING, INC.

Matthew F. Cooke
Site Superintendent WITH PERMISSION
Senior Geologist
Registered, Georgia 1887

Wm. Allen Lancaster
Project Manager BY KLB WITH PERMISSION.
Civil Engineer
Registered, Georgia 7075

Pieter J. DePree
Principal Geotechnical Engineer
Registered Georgia 19637

DCN VGCOL 324
Revision 3, 11/9/07

TABLE OF CONTENTS

Section 1 OVERVIEW

1.1 INTRODUCTION

1.2 PERSONNEL

1.3 ORGANIZATION OF REPORT

1.4 QUALITY ASSURANCE

Section 2 TEST METHODS

2.1 SURVEYING

2.2 UTILITY LOCATION

2.3 DRILLING EQUIPMENT/METHODS

2.4 SPT ENERGY MEASUREMENTS

2.5 SAMPLING IN GEOTECHNICAL BORINGS

2.5.1 Standard Penetration Test Sampling

2.5.2 Undisturbed Sampling

2.6 BORING LOGS

2.7 SAMPLING IN GEOTECHNICAL TEST PITS

2.8 CONE PENETROMETER TESTING

2.9 BOREHOLE GEOPHYSICAL LOGGING

2.9.1 Natural Gamma

2.9.2 Long and Short Normal Resistivity

2.9.3 Three Arm Caliper

2.9.4 Data

2.10 SUSPENSION P-S VELOCITY LOGGING

2.11 FIELD ELECTRICAL RESISTIVITY TESTING

2.12 REFRACTION MICROTREMOR (ReMi) TESTING

Section 3 SAMPLE STORAGE

3.1 ON-SITE SAMPLE STORAGE FACILITY

3.2 LABORATORY SAMPLE STORAGE FACILITY

Section 4 LABORATORY TESTING-GEOECHNICAL

4.1 IDENTIFICATION TESTS

4.2 COMPRESSIBILITY TESTS

4.3 COMPACTION AND STRENGTH TESTS

4.4 REPORTING

4.5 DESCRIPTIONS

Section 5 RCTS TESTING OF SOIL

List of Tables

Table 1 Organizations Performing Work at the Site or in the Laboratory

Table 2A Test Location Summary (Depth Below Ground Surface)

Table 2B Test Location Summary (Elevation)

Table 3 Soil Layer Descriptions

Table 4 Certain Terms Used for Soil Descriptions on Boring Logs

Table 5 Summary of Soil Tests (Table F-1, Attachment F)

List of Figures

Figure 1 Site Location Map

Figure 2A Boring Location Plan (Bechtel Drawing 23162-0-CY-0000-00001, Revision 4)

Figure 2B Power Block Boring Location Plan (Bechtel Drawing 23162-0-CY-0000-00001, Revision 5)

List of Attachments (Submitted under Separate Covers on Various Dates)

Attachment	Revision Number	Submittal Date	Attachment Title
A	1	July 31, 2007	Survey Data and Test Locations
B	3	November 9, 2007	Geotechnical Boring Logs, Geotechnical Test Pit Logs, and SPT Energy Ratio Measurements
C	0	May 31, 2007	Cone Penetrometer Test Results
D	0	May 31, 2007	Geophysical Test Data (Downhole), Field Electrical Resistivity
E	0	May 31, 2007	ReMi Seismic Shear Wave Velocity Measurements
F	3	November 9, 2007	Laboratory Testing Data (Geotechnical)
G	0	To Be Determined	Resonant Column Torsional Shear (RCTS) Test Results

LIST OF ACRONYMS, SYMBOLS AND TERMINOLOGY

AP1000	Nuclear Technology by Westinghouse Electric Company
ASTM	American Society for Testing and Materials
Bechtel	Bechtel Power Corporation
bpf	blows per foot
c	total cohesion
c’	effective cohesion
C’	bearing capacity index
C_c	compression index
C_e	SPT Energy Ratio to ER=60%
CD	consolidated drained triaxial test
cf	cubic feet
CH	highly plastic clay
CL	clay of low plasticity
C_n	vertical effective stress correction factor for SPT-N
COC	Chain of Custody
COE	Corps of Engineers
COL	Combined Construction and Operating License
CPT	cone penetration test sounding (used in lieu of SCPTU or CPTU where distinction is not important)
CPTU	piezocone penetration test sounding
C_r	recompression index
CU	consolidated undrained triaxial test
Cv	coefficient of consolidation

D_{50}	mean grain size
DCC	Document Control Center
DCN	Document Control Number
DOE	Department of Energy
D_r	relative density
EPA	Environmental Protection Agency
ER	Energy Ratio for Standard Penetration Test
e_o	initial void ratio
fps	feet per second
fr or FR	CPT friction ratio
fs	CPT sleeve stress (also called sleeve friction)
FS	factor of safety
ft	foot or feet
g	acceleration of gravity
G	shear modulus
GPS	Global Positioning System
gINT	Geotechnical Data presentation Software provided by gINT, Inc.
G_{max}	low strain shear modulus
GW	groundwater table or groundwater depth
H	layer thickness
HSA	hollow stem auger
K	soil permeability coefficient (hydraulic conductivity)
K_a	active earth pressure coefficient
K_d	Distribution Coefficient
K_o	at-rest earth pressure coefficient
K_p	passive earth pressure coefficient
kip	1,000 pounds
km	kilometer
ksf	kips per square foot
LL	liquid limit
LL	Live Load, force or pressure
m/sec	meters per second

MACTEC	MACTEC Engineering and Consulting, Inc. f/k/a LAW
MH	high plasticity silt
micaceous	containing mica
ML	low plasticity silt
mm	millimeter
MOD	modified
MSL	mean sea level, ft
M&TE	Measuring and Test Equipment
N-value	Sum of second and third set of recorded blows from the SPT
N60, N_{60}	SPT N-value corrected to 60 percent energy ratio (ER)
N_1	SPT N-value normalized to 1 tsf
$(N_1)_{60}$	SPT N-value normalized to 1 tsf and 60% max. hammer energy ratio (also modified to account for room for liner but no sample liner used for Project)
NIST	National Institute of Standards and Technology
NRC	Nuclear Regulatory Commission
MDD	maximum dry density, pcf (laboratory compaction test)
OCR	overconsolidation ratio
OD	outside diameter
OMC	optimum moisture content, % (laboratory compaction test)
OW	Observation Well
P	P-wave, compressional seismic wave
P	Pitcher Samples (UD, Soil Sampling)
p - q	total stress path strength parameters
p' - q'	effective stress path strength parameters
pH	Index of acidity
p_c or P_c	preconsolidation pressure (also called σ_c')
p_o or P_o	existing vertical effective stress (also called σ_o')
pcf	pounds per cubic foot
pci	pounds per cubic inch
PDA	pile driving analyzer
PI	plasticity index
PL	plastic limit

Pitcher	Pitcher Sampler (Undisturbed (UD) soil sampling, also see ST)
psf	pounds per square foot
psi	pounds per square inch
QA	quality assurance
QAPD	Quality Assurance Project Document
QAR	Quality Assurance Representative
Q_a	allowable bearing pressure
q_c or Q_c	measured CPT tip resistance
$Q_{t,}$ q_{NT}	normalized CPT tip resistance $Q_t = (q_t-\sigma_{vo})/ \sigma'_o$
$q_{t,}$ qT	CPTU tip stress corrected for unequal area effects
$(q_c)_1$	CPT tip resistance normalized to 1 ton per square foot
QC	quality control
RC	Relative Compaction
RCTS	Resonant Column Torsional Shear (Laboratory Test)
REC	Recovery (SPT Samples, UD Samples)
ReMi	Refraction Microtremor Testing
r_u	pore water pressure ratio = $\Delta u/\sigma_0'$
SC	clayey sand
SCPTU	seismic piezocone penetration test sounding
slickenside surface	parting surface in sample with particles oriented parallel to surface, giving shiney appearance
SM	silty sand
SNC	Southern Nuclear Operating Company, Inc.
SP	poorly graded sand
SPT	Standard Penetration Test
Specification	1) SNC Technical Specification AR01-0000-XGS-2001, Version 1.0, Issued 9/20/06 Subsurface Investigation and Laboratory Testing.
SRP	Standard Review Plan
ST	Shelby tube (undisturbed (UD) soil sampling)
STD	standard
STDEV	standard deviation (also known as σ)
S_u	undrained shear strength
t	time

TP	Test Pit
tsf	tons per square foot
TX	triaxial
UD	undisturbed (soil sampling, either ST (Shelby Tube), pushed or P (Pitcher Sample), drilled
US	United States
USCS	Unified Soil Classification System (e.g. SM. SC, etc.)
USNRC	U. S. Nuclear Regulatory Commission
UU	Unconsolidated Undrained Triaxial Test
VEGP	Vogtle Electric Generating Plant
v_s	S-wave velocity (Shear wave velocity)
$(v_s)_1$	S-wave velocity normalized to 1 ton per square foot
WI	Work Instruction
WC or W	water content (moisture content)
α	total stress path angle
α'	effective stress path angle
ε or γ	normal strain or shear strain
ε_r or γ_r	reference strain
ϕ	total stress friction angle
ϕ'	effective stress friction angle
γ	unit weight of soil
γ_s	saturated unit weight of soil
γ'	effective or buoyant unit weight of soil, $\gamma_s - \gamma_w$
γ_w	unit weight of water
ρ	mass density of the soil
σ	standard deviation
σ_1, σ_3	principal normal stresses
σ_c'	preconsolidation pressure
σ_o'	initial effective vertical stress
σ_v'	effective vertical stress
σ_{vo}	initial total vertical stress
τ	shear stress

υ	Poisson's ratio

List of Tables

Table 1	Organizations Performing Work at the Site or in the Laboratory
Table 2A	Test Location Summary (Depth Below Ground Surface)
Table 2B	Test Location Summary (Elevation)
Table 3	Soil Layer Descriptions
Table 4	Certain Terms Used for Soil Descriptions on Boring Logs
Table 5	Summary of Soil Tests (Table F-1, Attachment F)

SECTION 1
OVERVIEW

1.1 INTRODUCTION

MACTEC Engineering and Consulting (MACTEC) was retained by Georgia Power Company by and through its agent Southern Nuclear Operating Company (SNC) to conduct a geotechnical exploration and associated laboratory testing at the Vogtle Units 3 & 4 COL Project Site. The site is located adjacent to the existing Vogtle Electric Generating Plant (VEGP) near Waynesboro, Burke County, Georgia. MACTEC executed these services per SNC Subcontract Number 7074425.

The geotechnical services were completed as part of the combined construction and operating license (COL) project for SNC. The field work commenced on November 7, 2006 and was substantially completed on April 20, 2007.

The Scope of Work was defined in Section 1.0 of the Technical Specification, SNC Technical Specification AR01-0000-XGS-2001, Version 1.0, Subsurface Investigation and Laboratory Testing. The scope of work is briefly described below:

- Prepare and submit a quality plan (Quality Assurance Project Document).
- Submit a qualified Safety Program.
- Submit a Work Plan.
- Provide quality assurance inspectors (surveillance) of the field and laboratory work activities.
- Perform a utility location survey using one or more approved method at each exploration point prior to starting work.
- Obtained necessary permits to accomplish work.
- Drill geotechnical borings at locations specified by Bechtel, adjust as necessary and as approved by Bechtel's representatives to accommodate access and utility conflicts. Geotechnical borings were completed at locations identified in Tables 2A and 2B.
- Conduct Standard Penetration Testing (SPT) to obtain samples of soil and undisturbed sampling of soil as directed by Bechtel field representatives.
- Prepare field logs for all drilling and sampling and transfer all samples to a secure, on-site sample storage facility, provided by SNC.
- Seal all boreholes by grouting.
- Perform electronic cone penetrometer tests (CPT) in 21 locations; perform down-hole seismic tests; perform pore pressure dissipation tests at locations selected by Bechtel. The CPT numbers are identified in Tables 2A and 2B.
- Perform down-hole geophysical logging in 6 locations.
- Perform suspension P-S velocity logging in 6 locations
- Perform four pole field electrical resistivity tests along ten arrays. These are identified on Tables 2A and 2B
- Perform Refraction Microtremor Testing along four arrays. These are identified in Tables 2A and 2B.
- Excavate test pits at 8 locations determined by Bechtel. Obtain bulk samples of the excavated material as directed by the Bechtel field representative. The center of each test pit is identified in Tables 2A and 2B.
- Conduct laboratory testing on soil samples as assigned by Bechtel.

The work was completed under a Quality Assurance Program meeting the Code of Federal Regulations 10CFR50, Appendix B and conforming to the provisions of ANSI/ASME N45.2-1977.

This Data Report describes the field and laboratory testing methods and presents the results.

1.2 PERSONNEL

All work to prepare this report was performed by MACTEC with assistance from SNC in providing office space, office facilities, and sample storage facilities located in the Plant Vogtle Administration Support Building (November through about February) and at the former Vogtle Security Building (February through April). Both of these facilities are located on Plant Vogtle property and are near the proposed Units 3 & 4 Site. After MACTEC completed its work at the site, the soil jar samples were placed in a locked, 40-foot metal storage container located adjacent to the former Vogtle Security Building. Undisturbed samples were stored in a climate controlled room in the former Vogtle Security Building. Upon the completion of field work, all undisturbed samples were transported to the MACTEC Atlanta laboratory. The logistical assistance and White Badge training sessions given to numerous MACTEC and subcontractor personnel provided by Mr. Greg Lee are gratefully acknowledged. Bechtel site representatives during the field work were Mr. Mohab Sabry, Mr. Sami Jabbour, and Mr. Gerald Lefevre. Jose Clemente and John Damm of Bechtel were on site several times during the field work. MACTEC personnel and their responsibilities were:

Wm. Allen Lancaster, P.E., Project Manager
Pieter J. Depree, P.E., Principal Geotechnical Engineer
Matthew F. Cooke, Senior Geologist, Site Superintendent (Site Coordinator)

Rig Geologist/Engineers:

Daniel Atkinson	Dustin Brooks	Christopher Bruce
Rodney Clark	Luke Davis	Chris Gandy
Mandel Harvey	Martha Herrera	Bill Mabie
Gautham Pillappa	Adria Reimer	Bill Sharp
Alexandra Taylor	Stephen Woodham	

Christopher J. Gaskins, Senior Geotechnical Professional, ReMi Testing
Daniel J. Powell, Project Professional, ReMi Testing
Jeremiah Harmon, Staff Geotechnical Professional, ReMi Testing
Alexandra Taylor, Engineer, supervised preparation of gINT Boring Logs
Bill Sharp, Geologist, assisted in preparation of Data Report
Scott Towe, Drilling Manager
James Lane, Geotechnical Laboratory Group Leader
Harry Johnson, Geotechnical Laboratory Manager
John Jedrosko, Quality Assurance Representative
John E. Lynch, Quality Assurance Manager

The organizations that performed on-site work or laboratory testing of samples as part of this effort are listed in Table 1.

1.3 ORGANIZATION OF REPORT

This report and its attachments are organized in the following sequence; this report consists of the transmittal letter; table of contents; list of tables; list of figures; acronyms, symbols and terminology; text; tables; and figures. The attachments are in separate volumes submitted on various dates and are as follows:

Attachment	Contains
A	Survey Data and Test Locations
B	Geotechnical Boring Logs, Geotechnical Test Pit Logs, and SPT Energy Ratio Measurements
C	Cone Penetrometer Test Results
D	Geophysical Test Data (Downhole), Field Electrical Resistivity
E	ReMi Seismic Shear Wave Velocity Measurements
F	Laboratory Testing Data (Geotechnical)
G	Resonant Column Torsional Shear (RCTS) Test Results

The current revision status and date of the Attachments are summarized in the Table of Contents. Revision 2 of Attachment B was issued for internal review and comment only. Revision 3 of Attachment B is being issued for the COL application. Revision 3 of Attachment B contains changes to the boring logs previously submitted. Depictions of changes are difficult to illustrate on the boring logs, therefore, a Log of Revisions to Geotechnical Boring Logs is provided in Attachment B. The changes to the logs were made to clarify material descriptors of the various strata. Engineering personnel from MACTEC and Bechtel reviewed the soil samples from the borings stored on site and provided the basis for the changes.

Revision 2 of Attachment F was issued for internal review and comment only. Revision 3 of Attachment F provides the results of the completed laboratory testing program, excluding data from a forthcoming Addendum and RCTS testing. Revision 3 of Attachment F is being issued for the COL application. Previous revisions of Attachment F (Revisions 0 and 1) contained an incomplete data set.

1.4 QUALITY ASSURANCE

Quality related activities performed by MACTEC and its subcontractors organizations during the work herein presented were in accordance with the MACTEC Quality Assurance Manual and the MACTEC Quality Assurance Project Document. The MACTEC QA program complies with NQA-1 Subpart 2.20 and to the requirements of 10CFR50 Appendix B.

SECTION 2
TEST METHODS

2.1 SURVEYING

The Surveyor was Toole Surveying Company, Inc. of Augusta, Georgia under direct subcontract to SNC.

The surveying for the project was conducted in two phases. The initial phase was to complete ("stake") the preliminary boring layout based on initial coordinates for test locations provided by the Specification drawings prepared by Bechtel (Drawings 23162-0-CY-0000-00001 and 23162-0-CY-0000-00002, latest revisions). After completing an initial assessment of test locations and potential utility and access conflicts, relocation of some borings were proposed by MACTEC field personnel and approved by Bechtel. The relocated borings were referenced to the staked locations left by Toole Surveying and were tabulated by MACTEC.

Several of the test locations were initially field located by MACTEC, as authorized by Bechtel using a hand-held GPS unit, and/or using a survey tape and a compass to measure from existing known points or other landmarks.

Some of the boring locations required bulldozer clearing to remove vegetation and/or to level the surface for drilling access. The stake marking the location was referenced to offset witness points outside the area to be disturbed, and then re-established after the access was completed. Some locations required multiple holes to be drilled due to drilling difficulties or for SPT energy testing. In all cases, a marked stake was placed in the grouted, abandoned hole to mark the as-drilled location.

The second phase of surveying was performed after the completion of drilling. The surveyor returned to the site and determined the locations and elevations of the actual, as drilled boring and test pit locations. This information is contained in Tables 2A and 2B. Full details are contained in Attachment A.

2.2 UTILITY LOCATION

Utility location was performed by GEOVision, a subcontractor to MACTEC. Prior to the start of, and during the surveying, MACTEC and GEOVision reviewed the available utility drawings of the site area provided by SNC. Utility surveying was performed within a 10 foot radius of most of the exploration points using the following geophysical equipment:

- GSSI SIR 3000 Ground Penetrating Radar with 400 MHz Antenna
- Ditchwitch Subsite 950R Electromagnetic Utility Locator
- Metrotech 810 Electromagnetic Utility Locator
- Fisher TW-6 Deep Search Pipe Locator/Metal Detector

In general, the utility location procedures consisted of the following for each location:

- Visually inspect the area surrounding each location for evidence of subsurface utilities (maholes, valve boxes, etc.).
- Delineate the surface trace of identified utilities and mark their surface trace using a color code established by the American Public Works Association.
- Scan the target area with an 8 KHz signal connected directly to water and/or electric to identify any utilities that the signal bleeds into.

- Scan the site with the utility locator in passive 60 Hz and Radio modes to locate any active electrical lines not already located.
- Screen the clearance area using the Fisher TW-6 to identify abandoned conduits that have no surface expression.
- Conduct perpendicular GPR traverses throughout the target area tracing any additional pipes/cables encountered.
- Hold the Metrotech 810 transmitter over the target and circle at an approximate 40-foot radius tracing and marking any additional pipes/cables encountered.
- Daily Field Summaries and sketches showing the utilities encountered at each location and any recommended exploration point offset were prepared and submitted to the MACTEC Site Superintendent.

Utility survey as described above was not performed in some locations. These locations included undisturbed wooded areas where there was no evidence to indicate that underground utilities might exist. In all cases where utility survey was not performed, MACTEC and/or SNC's site representative reviewed the available utility drawings and obtained approval from SNC prior to drilling.

2.3 DRILLING EQUIPMENT/METHODS

Drilling equipment mobilized to the site included the following:

Hammer Serial Marker	Owner	Drill Rig	Driller	Drill Rod Type (1)
100	MACTEC	Dietrich D-50	Gary Skoglund	AWJ
165952	Gregg Drilling	CME-850	Marshall Burnett	NWJ/AWJ
200587	MACTEC	CME-75	Tony Christian	NWJ
211797	MACTEC	CME-75	Jimmy Warren	NWJ
219505	MACTEC	CME-55	Wayne Melvin	N3
219907	MACTEC	CME-75	Jimmy Oglesby/John Rosser	N3
270256	Miller Drilling	CME-85	Glen Bilbrey	NWJ
311025	Gregg Drilling	CME-55	Brian Giesecke	NWJ
328848	AE Drilling	CME-750	Kevin ("KW") Warren	NWJ
331145	MACTEC	CME-55LC	David White	AWJ
337153	MACTEC	CME-550	Robert Banks	AWJ
X02958	Gregg Drilling	Fraste Multidrill XL	Bill Poole/Marshall Burnett	NWJ
N/A	Gregg Drilling/Gregg In-Situ	20Ton CPT Track-Mounted	Aguilar	N/A (CPT Rig)

(1) AWJ rod is approximately 1.75" O.D., N3 Rod is approximately 2.375" O.D., NWJ rod is approximately 2.625" O.D.; N/A = Not applicable; CPT = Cone Penetration Test

In addition, rubber-tired highway-type water tanker trucks were utilized to haul water for the drill rigs from the on-site water source. Initial site access clearing was performed by Vernon Wallace under subcontract to SNC using a DC8 bulldozer. Mr. Wallace also visited the site several times during the course of the project to perform additional clearing as needed.

A John Deere Model 310G rubber-tired backhoe/front-end loader from Hertz Equipment Company was leased by MACTEC and used for minor clearing and other miscellaneous loading and unloading tasks during the course of the project.

Borings were advanced in soil using mud rotary wash drilling techniques, with the exception of one boring, B-3002A, which was drilled using hollow stem augers for SPT Energy Test purposes. Water used for drilling at the majority of the boring locations was obtained from an on-site potable water supply discharge point. Water used for drilling in floodplain areas near the Savannah River was pumped directly from the river to the drill rigs.

Temporary flush-threaded steel casing (3 or 4 inch size) was installed to various depths in many of the boreholes due to drilling fluid circulation loss and/or borehole cave-in. The temporary steel casing was removed upon completion of the borehole. Permanent steel (6-inch threaded and coupled) and PVC (6-inch flush threaded) casing was installed and grouted in-place in several boreholes in which geophysical testing and/or undisturbed sampling using the Pitcher rotary sampler was performed.

All boreholes and the grouted-in PVC and steel casings plus the CPT locations were filled prior to demobilizing from the site using a cement-bentonite grout. The grout was placed by pumping through a tremie pipe. The grout mixture in Specification Section 3.3.13 (approximately 8 gallons of water and 2.5 pounds of bentonite per 94 pound sack of cement) was used. As requested by SNC, boreholes in which permanent steel or PVC casing was installed were left approximately two feet above ground, capped, and painted bright orange.

2.4 SPT ENERGY MEASUREMENTS

SPT energy measurements were made on the drill rigs performing standard penetration testing (SPT). Energy measurements were recorded during sampling at the depth intervals shown in the SPT Energy Ratio Measurement Reports in Attachment B. The length of the drill rod string, including the instrumented drill rod insert for each sample was generally 4 feet longer than the depth of the sample being collected.

The energy measurements were performed with a Pile Driving Analyzer (PDA) model PAK and calibrated accelerometers and strain gages. A section of appropriately sized drill rod, 2 feet long and instrumented with dedicated strain gages, was inserted at the top of the drill rod string immediately below the SPT automatic hammer. The inserted rod was also instrumented with two piezoresistive accelerometers that were bolted to the outside of the rod.

The work was done in general accordance with ASTM D 4633-05. The strain and acceleration signals were converted to force and velocity by the PDA, and the data was interpreted by the PDA according to the Case Method equation. The EFV method of energy calculation is recommended in ASTM Standard D4633-05. The maximum energy transmitted to the drill rod string (as measured at the location of the strain gages and accelerometers) was calculated by the PDA using the EFV method equation, as shown below:

$$EFV = \int F(t) * V(t) * dt$$

Where: EFV = Transferred energy (EFV equation), or Energy of FV
F(t) = Calculated force at time t
V(t) = Calculated velocity at time t

The EFV equation, integrated over the complete wave event, measures the total energy content of the event using both force and velocity measurements. The EFV values associated with each blow analyzed were tabulated and averaged to obtain the average measured energy at each depth tested. The ratio of the average measured energy to the theoretical potential energy of the SPT system (140 lb weight with the specified 30 inch fall) is the ETR.

The ETR range of the automatic hammers used at the site is 70.1% to 90.2% of the theoretical potential energy. These ETR values are within the range of typical values for automatic hammers. The ETR values (as percent of the theoretical value) are shown in the SPT Energy Ratio Measurement Reports in Attachment B.

2.5 SAMPLING IN GEOTECHNICAL BORINGS

2.5.1 Standard Penetration Test Sampling (SPT)

Soil sampling in the borings using the SPT was conducted at intervals of 2.5 feet within the upper 15 feet and thereafter at 5 to 10 foot intervals using equipment and methods described in ASTM D 1586. For one boring in each Power Block area, the 2.5 ft sample interval was used to the full depth of the boring to accomplish continuous sampling. Automatic Hammers were used to perform the SPT tests. The sampler was typically driven 18 inches in soil with the number of hammer blows recorded for each six inch interval of penetration. In very hard soils, the test was terminated at 50 blows and the actual penetration recorded, (e.g., 50 blows / 3 inches).

The split tube sampler was opened at the drill site and the recovered materials were visually described and classified by MACTEC's rig geologist or engineer. A selected portion of the sample (typically the material for the lower portion of the sample) was placed in a glass sample jar with a moisture proof lid. Sample jars were labeled, placed in cardboard boxes, and transported to the on-site storage area.

2.5.2 Undisturbed Sampling

Undisturbed soil samples were taken when directed by Bechtel, using a 3-inch diameter thin-walled tube sampler in accordance with ASTM D 1587.

When subsurface material was too dense or hard to allow satisfactory samples to be recovered by pushing the tube sampler into the material using the drill rig hydraulics, a Pitcher sampler was used where requested by Bechtel. The Pitcher is a rotary sampler that drills the 3-inch diameter tube into the subsurface material. All undisturbed samples were sealed at the top and bottom against moisture loss, labeled, kept in an upright condition and transported to the climate-controlled on-site storage area following ASTM D4220.

2.6 BORING LOGS

The soil description on the boring logs in Attachment B are based on the field descriptions (ASTM D 2488) by the rig geologist or engineer, modified according to ASTM D 2487 where lab test results are

available. The water depths on these boring logs are from observations during drilling. Because water was introduced during rotary and core drilling, the water depths on the boring logs may not represent the stabilized water depths. The boring logs in Attachment B were prepared using the computer program "gINT" (Version 7). Electronic files with gINT data were provided with Attachment B.

2.7 SAMPLING IN GEOTECHNICAL TEST PITS

Test pits were excavated at eight locations identified by Bechtel (field-located). A track-mounted backhoe (Caterpillar 315L) was used to excavate the pits. The Bechtel field representative selected the materials to be sampled. A MACTEC rig geologist or engineer collected the bulk samples. As approved by Bechtel, the bulk samples were placed in new 5-gallon plastic buckets with handles for carrying. Two buckets of each sampled material were obtained. Glass jar samples were also obtained and sealed for moisture retention. The backhoe was used to backfill the test excavation using the excavated materials. The backfilled materials were tamped in-place using the backhoe. The rig geologist or engineer placed a stake for later survey location.

The buckets and jar samples were labeled and transported to the on-site storage area. The rig geologist or engineer prepared a Geotechnical Test Pit Log based on visual description of the excavated materials according to ASTMD 2488. These descriptions were modified according to ASTM D 2487 where lab test results are available. The Geotechnical Test Pit Logs are included in Attachment B. The surveyed locations of the test pits are contained in Attachment A and Tables 2A and 2B herein.

2.8 CONE PENETOMETER TESTING

Locations for 21 Cone Penetrometer Tests, (CPT) were included in the original scope of work for this project. Specified probe depths were to a depth of 120 feet or to refusal, whichever came first. Refusal is defined as reaching the full thrust loading capable of being applied by the CPT vehicle or to a thrust condition that if exceeded would (in the opinion of the CPT Supervisor) potentially damage the cone or rods.

CPT testing was completed by Gregg In-Situ, Inc. (Gregg), a subcontractor to MACTEC. Gregg utilized a 20 ton self-contained rig mounted on a tracked ATV carrier to complete the work. Seismic testing was completed in eight of the CPTs at intervals of one meter. Pore pressure dissipation tests were performed in seventeen of the CPTs. All testing was done in accordance with project Specifications and ASTM 5778. The CPT Data is found in Attachment C.

2.9 BOREHOLE GEOPHYSICAL LOGGING

Downhole geophysical logging was performed in 6 borings as required by the Specifications. GEOVision, a MACTEC subcontractor, performed this work in accordance with ASTM D 5753. The results are found in Attachment D. The following downhole geophysical logs were performed in the selected borings.

2.9.1 Natural Gamma

Gamma logs record the amount of natural gamma radiation emitted by the soil and rocks surrounding the boring.

2.9.2 Long and Short Normal Resistivity

Normal-resistivity logs record the electrical resistivity of the borehole environment and surrounding rocks and water as measured by variably spaced potential electrodes on the logging probe. Typical spacing for potential electrodes are 16 inches for short-normal resistivity and 64 inches for long normal resistivity. Normal resistivity logs are affected by bed thickness, borehole diameter, and borehole fluid and can only be collected in water or mud filled open holes.

2.9.3 Three Arm Caliper

Caliper logs record borehole diameter. Changes in borehole diameter are related to boring construction, such as casing or drilling bit size, and to fracturing or caving along the borehole wall. Because borehole diameter commonly affects log response, the caliper log may be useful in the analysis of other geophysical logs.

2.9.4 Data

Data was recorded in digital format and are contained in Attachment D. Also contained in Attachment D are printouts of the geophysical logs and the associated lithology.

2.10 SUSPENSION P-S VELOCITY LOGGING

Suspension P-S velocity logging was performed in 6 borings as required by the Specifications. Compression (P) and shear (S) were velocity measurements were made at 1 meter intervals or less. Attachment D contains the results.

2.11 FIELD ELECTRICAL RESISTIVITY TESTING

Field electrical resistivity testing was performed along 10 arrays in the proposed switchyard, the 230 kV switchyard, the cooling towers, and the circulating water line areas of the site. The locations and array lengths were adjusted from those in the Specifications with approval of Bechtel due to topographic features, man-made obstructions, or extensive clearing requirements associated with the initial locations. The Wenner four electrode method was used to perform the tests in accordance with ASTM G57. Electrode spacing ranging from 3 feet up to 300 feet were used in order to determine the soil resistivity at increasing depths. The resistivity data interpreted from the tests are contained in Attachment D.

2.12 REFRACTION MICROTREMOR (REMI) TESTING

ReMi surveys were performed at four locations (arrays) at the site. The as-built coordinates for each array location are contained in Attachment A. The data was processed using SeisOpt® ReMi™ software to reveal a one-dimensional average shear-wave (S-wave) velocity structure up to a depth of 100 feet for each array per Work Instructions VGCOL 125, 126, 127, and 128. A report detailing the equipment used, the data acquisition and processing steps, and the results are included as Attachment E.

SECTION 3
SAMPLE STORAGE

3.1 ON-SITE SAMPLE STORAGE FACILITY

Consistent with MACTEC's QAPD Requirements, on-site sample storage facilities were established. The sample storage facilities were located in the Plant Vogtle Administration Support Building (November through February) and at the former Vogtle Security Building (February through April). Both of these facilities are located on Plant Vogtle property and are near the proposed Units 3 & 4 Site. During MACTEC's residence at the Administration Support Building, boxes containing disturbed jar samples were stored in numerical order on tables around the perimeter of a large meeting room which served as MACTEC's field office. Undisturbed samples were stored in an office located off of the large meeting room. The MACTEC work area within the Administration Support Building was locked daily and patrolled by Plant Vogtle Security.

MACTEC re-located to the former Vogtle Security Building in February 2007. At this facility, disturbed jar samples were moved to a lockable 40-foot metal storage container located adjacent to the old Vogtle Security Building. The undisturbed samples were stored upright in racks in a climate controlled room inside the former Vogtle Security Building. Plant Vogtle Gate #13, which leads to the former Vogtle Security Building, was locked nightly. The area was also patrolled frequently by Plant Vogtle Security personnel.

Samples were transported daily from the field to the sample storage area(s) by the rig geologists/engineers. SPT samples were transported as Group "B" samples in their compartmentalized cardboard boxes, each labeled to show the contents therein. The UD samples were transported according to ASTM D4220, Group C samples.

Since copies of the field boring logs were kept at the facility, their logs served as the sample inventory for the storage facility. A chain of custody form was completed for all samples removed from the facility.

3.2 LABORATORY SAMPLE STORAGE FACILITY

All of the undisturbed samples and disturbed jar samples selected for laboratory testing by Bechtel, were transported to the MACTEC laboratory in Atlanta, Georgia. The samples were transported in accordance with ASTM D4220 requirements for Group C (Undisturbed samples), and Group B samples (disturbed jar samples). The samples are stored in a lockable, climate controlled room within the MACTEC Atlanta laboratory.

SECTION 4
LABORATORY TESTING - GEOTECHNICAL

Laboratory testing was performed on disturbed, undisturbed, and remolded soil samples obtained during the subsurface investigation. All testing was performed in accordance with ASTM standards or other standards where applicable. Selection of the samples to be tested and the tests to be performed on the samples were made by Bechtel. Bechtel provided thirteen separate Geotechnical Laboratory Test Assignment Sheets. The assignment sheet number (designated by MACTEC) and the final Bechtel revision date are tabulated below.

Laboratory Test Assignment Number	Date of Final Lab Assignment Revision by Bechtel
1	December 4, 2006
2	February 14, 2007
3	February 1, 2007
4	April 16, 2007
5	April 16, 2007
6	February 15, 2007
7	March 12, 2007
8	March 31, 2007
9	April 16, 2007
10	May 4, 2007
11	April 26, 2007
12	May 18, 2007
13	July 13, 2007

The laboratory personnel determined that some of the initially assigned tests on soil samples could not be performed due to insufficient sample volume, laboratory equipment constraints, or other reasons. In these cases, the information was reported to Bechtel who issued a revised laboratory assignment sheet deleting, modifying, or assigning replacement tests on other samples.

Testing of soil samples, except for chemical tests and resonant column torsional shear (RCTS) testing, was performed in MACTEC's laboratories in Atlanta, Georgia, and Charlotte, North Carolina.

Chemical testing for pH, sulfates and chlorides in selected soil samples as assigned by Bechtel was performed by Severn Trent Laboratories, Inc. (STL), a subcontractor to MACTEC.

Resonant Column Torsional Shear (RCTS) testing of soil samples as assigned by Bechtel are being conducted by the Fugro Consultants laboratory in Houston, Texas, a subcontractor to MACTEC, under the technical overview of Dr. K.H. Stokoe of the University of Texas. The tests on the samples selected for RCTS testing, including the classification tests on these samples, when completed will be presented in Attachment G.

Excluding the RCTS tests, the following tests were assigned and performed. The results are presented in Attachment F.

4.1 IDENTIFICATION TESTS

- Moisture content, ASTM D 2216-05
- Atterberg limits, ASTM D 4318-05
- Sieve and hydrometer analysis, ASTM D 422-63 (2002) and ASTM D 6913-04
- Specific gravity of soil, ASTM D 854-06
- Chemical analysis, (pH, Chloride, Sulfate) EPA SW846 9045C and EPA MCAWW 300.0A
- Unit weight of soil, ASTM D 5084-03 (Sections 5.7 – 5.9. 8.1, 11.3.2)

4.2 COMPRESSIBILITY TEST

- Consolidation tests, ASTM D 2435-04

4.3 COMPACTION AND STRENGTH TESTS

- Unconsolidated-undrained triaxial compression, ASTM D 2850-03
- Consolidated – undrained triaxial compression, ASTM D 4767-04
- Direct shear – Soil, ASTM D 3080-04
- Moisture-density, ASTM D 1557-02

4.4 REPORTING

The laboratory test reports, with a few exceptions, consisting of individual test data and results sheets as required by the testing standard, are contained in Attachment F. A summary of the test results on soil samples in Attachment F is found in Table 5 of the Data Report, which is Table F-1 of Attachment F.

The exceptions noted above include the RCTS tests, some direct shear tests, and carbonate content tests with associated index testing. The RCTS tests, including the data and report reviewed by Dr. K. H. Stokoe, when completed will be found in Attachment G. The classification tests on the RCTS tests, when completed will also be found in Attachment G. The additional direct shear tests, and carbonate content tests with associated index testing when completed will be found in an Addendum to Attachment F.

4.5 DESCRIPTIONS

Brief descriptions of the tests performed are contained in Attachment F.

SECTION 5
RCTS TESTING OF SOIL

Resonant Column - Torsional Shear (RCTS) testing of soil samples assigned by Bechtel is being performed by Fugro Consults of Houston, Texas. The results will be reviewed by Dr. K.H. Stokoe of the University of Texas, Austin. These test results as well as the classification tests for the undisturbed samples upon which RCTS testing is performed, when completed will be contained in Attachment G.

List of Tables

Table 1	Organizations Performing Work at the Site or in the Laboratory
Table 2A	Test Location Summary (Depth Below Ground Surface)
Table 2B	Test Location Summary (Elevation)
Table 3	Soil Layer Descriptions
Table 4	Certain Terms Used for Soil Descriptions on Boring Logs
Table 5	Summary of Soil Tests (Table F-1, Attachment F)

Organization	Function
MACTEC Engineering and Consulting, Inc.	USCS Soil Classification (ASTM D 2488); QA Surveillance; SPT sampling; Undisturbed Sampling; Bulk Sampling; borehole abandonment; Geotechnical Laboratory Testing; SPT Energy Measurement on Drill Rigs of MACTEC and Subcontractors, ReMi Testing
Gregg Drilling and Testing, Inc./Gregg In-Situ, Inc.	SPT Tests; Undisturbed Sampling; CPT Tests; borehole abandonment
AE Drilling Services, LLC	SPT Tests; Undisturbed Sampling; borehole abandonment
Miller Drilling Company, Inc.	SPT Tests; Undisturbed Sampling; borehole abandonment
Graves Environmental and Geotechnical Services, Inc.	Steel Casing Installation, borehole abandonment, excavation of test pits
GEOVision	Downhole geophysical logging; natural gamma; short and long normal resistivity; 3 arm caliper; p-s suspension logging; surface electrical resistivity test arrays.
Toole Surveying Company, Inc.	Surveying of borings, CPTs, test pits, ReMi arrays, and surface electrical resistivity test arrays
Wallace Trucking, Grading & Logging, Inc.	Clearing for access and grading as necessary for drill access to boring and CPT locations.
Fugro Consultants – Houston, Texas	RCTS Tests
Prof. K.H. Stokoe, University of Texas / Austin Consultants	Review of RCTS Tests

Prepared By/Date: Matt Cooke/7-31-07 MC WITH PERMISSION

Checked By/Date: Alexandra Taylor/7-31-07 AT

TABLE 1
ORGANIZATIONS PERFORMING WORK AT THE SITE OR IN THE LABORATORY

TABLE 2A
TEST LOCATION SUMMARY (DEPTH BELOW GROUND SURFACE)
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Depth (ft, bgs) (1)	Top of Crushed Stone (ft, bgs) (1)	Top of Fill (ft, bgs) (1)	Top of Alluvium (ft, bgs) (1)	Top of Barnwell Group (ft, bgs) (1)	Top of Utley Limestone (ft, bgs) (1)	Top of Blue Bluff Marl (ft, bgs) (1)	Top of Still Branch (ft, bgs) (1)	Top of Congaree Formation (ft, bgs) (1)	Top of Snapp Formation (ft, bgs) (1)
B-1105	165952	SWITCHYARD	1144168.36	620002.76	257.89	148.8	-	-	-	-	0.0	-	-	-	-	-
B-1107	X02958	SWITCHYARD	1144153.75	620916.11	266.66	150.0	-	-	-	-	0.0	128.5	136.5	-	-	-
B-1108	X02958	SWITCHYARD	1144214.07	621273.00	273.56	149.8	-	-	-	-	0.0	122.0	138.5	-	-	-
B-1109	165952	SWITCHYARD	1144180.46	621580.64	276.48	150.0	-	-	-	-	0.0	117.0	131.6	-	-	-
B-1110	165952	SWITCHYARD	1144170.91	622011.31	265.14	150.0	-	-	-	-	0.0	97.0	118.0	-	-	-
B-1111	331145	SWITCHYARD	1144212.59	622333.79	224.90	150.0	-	-	-	-	0.0	71.5	81.8	146.8	-	-
B-1112	331145	SWITCHYARD	1144223.37	622691.31	213.74	23.0	-	-	0.0	-	1.0	-	-	-	-	-
B-1112A	328848	SWITCHYARD	1144219.36	622561.49	227.14	150.0	-	-	-	-	0.0	-	82.0	147.0	-	-
B-1113	331145	SWITCHYARD	1143901.44	620217.17	249.99	170.0	-	-	-	-	0.0	137.0	151.8	-	-	-
B-1116	165952	SWITCHYARD	1143894.12	621264.65	261.82	138.5	-	-	-	-	0.0	117.0	127.0	-	-	-
B-1117	337153	SWITCHYARD	1143890.75	621628.43	263.89	149.3	-	-	-	-	0.0	-	123.5	-	-	-
B-1118	165952	SWITCHYARD	1143885.92	622007.97	257.91	149.4	-	-	-	-	0.0	-	113.0	-	-	-
B-1119	331145	SWITCHYARD	1143888.30	622333.77	223.57	150.0	-	-	-	-	0.0	66.8	81.8	-	-	-
B-1120	219505	SWITCHYARD	1143893.05	622558.49	227.18	149.8	-	-	0.0	-	1.5	82.0	86.8	-	-	-
B-1121	331145	SWITCHYARD	1143575.57	620216.27	241.33	150.0	-	-	-	-	0.0	127.0	142.5	-	-	-
B-1123	337153	SWITCHYARD	1143575.43	620921.98	241.27	150.0	-	-	-	-	0.0	97.0	108.5	-	-	-
B-1124	337153	SWITCHYARD	1143627.62	621421.59	241.21	150.0	-	-	0.0	-	1.5	-	97.0	-	-	-
B-1125	337153	SWITCHYARD	1143586.80	621628.20	240.97	150.0	-	-	-	-	0.0	86.8	96.5	-	-	-
B-1126	211797	SWITCHYARD	1143567.68	621980.43	219.88	150.0	-	-	0.0	-	0.5	-	78.5	142.0	-	-
B-1127	165952	SWITCHYARD	1143573.26	622332.29	219.67	150.0	-	-	0.0	-	2.0	-	78.0	143.0	-	-
B-1128	331145	SWITCHYARD	1143572.65	622682.42	218.26	73.0	-	-	-	-	0.0	-	-	-	-	-
B-1128A	331145	SWITCHYARD	1143573.71	622685.46	217.92	148.8	-	-	-	-	-	-	76.5	141.8	-	-
B-1129	211797	POWER BLOCK ROADS	1143278.22	621893.74	221.84	100.0	-	-	0.0	-	1.5	76.8	81.7	-	-	-
B-1130	337153	POWER BLOCK ROADS	1142482.76	622250.00	217.46	99.2	-	-	-	-	0.0	72.0	81.0	-	-	-
B-1131	211797	POWER BLOCK ROADS	1143172.99	621823.06	222.18	98.6	-	-	-	-	0.0	85.0	88.5	-	-	-
B-1132	211797	POWER BLOCK ROADS	1142614.19	621450.08	218.73	100.0	-	-	0.0	-	1.5	81.8	91.8	-	-	-
B-1133	100	POWER BLOCK ROADS	1142968.94	621451.15	221.20	100.0	-	-	-	-	0.0	-	81.0	-	-	-
B-1134	211797	POWER BLOCK ROADS	1143282.88	621104.27	222.04	100.0	-	-	0.0	-	0.5	67.0	86.8	-	-	-
B-1136	211797	POWER BLOCK ROADS	1143178.11	621023.00	221.65	100.0	-	-	0.0	-	0.6	-	91.8	-	-	-
B-1138	331145	HEAVY HAUL ROAD	1143469.69	619192.80	215.82	100.0	-	-	-	-	0.0	-	-	-	-	-
B-1139	211797	POWER BLOCK ROADS	1142289.86	621026.81	216.68	150.0	-	-	0.0	-	1.5	87.0	94.8	-	-	-
B-1140	211797	POWER BLOCK ROADS	1142290.16	621823.56	216.58	150.0	-	-	0.0	-	0.6	83.5	88.5	-	-	-
B-1142	331145	HEAVY HAUL ROAD	1144416.58	620649.58	224.69	100.0	-	-	-	-	0.0	-	-	-	-	-
B-1146	331145	HEAVY HAUL ROAD	1145428.36	622272.08	240.04	98.6	-	-	-	-	0.0	87.0	92.0	-	-	-
B-1148	331145	HEAVY HAUL ROAD	1145537.78	623236.50	218.94	100.0	-	-	0.0	-	3.0	-	69.5	-	-	-
B-1150	331145	HEAVY HAUL ROAD	1145467.29	624235.30	170.69	100.0	-	-	0.0	-	0.5	-	26.5	96.5	-	-
B-1152	331145	HEAVY HAUL ROAD	1145581.68	625227.34	117.05	100.0	0.0	0.5	3.0	-	-	-	6.8	72.0	-	-
B-1153	331145	HEAVY HAUL ROAD	1145568.97	625673.46	103.58	100.0	0.0	0.6	2.5	-	-	-	4.5	51.0	-	-

TABLE 2A
TEST LOCATION SUMMARY (DEPTH BELOW GROUND SURFACE)
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Depth (ft, bgs) (1)	Top of Crushed Stone (ft, bgs) (1)	Top of Fill (ft, bgs) (1)	Top of Alluvium (ft, bgs) (1)	Top of Barnwell Group (ft, bgs) (1)	Top of Utley Limestone (ft, bgs) (1)	Top of Blue Bluff Marl (ft, bgs) (1)	Top of Still Branch (ft, bgs) (1)	Top of Congaree Formation (ft, bgs) (1)	Top of Snapp Formation (ft, bgs) (1)
B-1154	331145	HEAVY HAUL ROAD	1145664.20	626216.06	95.08	98.8	-	-	0.0	21.5	-	-	-	66.5	96.5	-
B-1155	331145	PUMPHOUSE	1147390.34	624936.42	84.95	150.0	-	-	-	0.0	-	-	-	46.5	76.5	-
B-1156	331145	PUMPHOUSE	1147302.50	624571.69	85.70	99.2	-	-	-	0.0	-	-	-	26.5	66.5	-
B-1157	331145	PUMPHOUSE	1147209.56	625062.18	86.77	150.0	-	-	-	0.0	-	-	31.5	49.3	69.4	-
B-1158	331145	PUMPHOUSE	1145194.92	626669.12	88.74	149.5	-	-	-	0.0	-	-	-	51.5	86.5	-
B-1159	331145	PUMPHOUSE	1147285.78	624954.51	88.70	150.0	-	-	-	0.0	-	-	36.5	41.5	66.5	-
B-1161	337153	PUMPHOUSE	1147363.37	624862.14	86.10	150.0	-	-	-	0.0	-	-	-	46.8	71.5	-
B-1162	337153	PUMPHOUSE	1147234.91	624815.03	85.55	200.0	-	-	-	0.0	-	-	-	42.0	76.0	178.8
B-1163	337153	PUMPHOUSE	1147170.58	624938.82	85.95	150.0	-	-	-	0.0	-	-	32.0	52.5	73.0	-
B-1164	337153	PIPE LINE	1146994.84	624518.63	220.50	150.0	-	-	-	-	0.0	62.5	68.5	136.8	-	-
B-1166	337153	PIPE LINE	1147452.97	623961.56	203.40	100.0	-	-	-	-	0.0	-	62.0	-	-	-
B-1168	100	PIPE LINE	1147688.45	623467.78	202.20	100.0	-	-	-	-	0.0	-	57.0	-	-	-
B-1170	100	PIPE LINE	1147423.85	622953.71	223.29	98.9	-	-	-	-	0.0	-	-	-	-	-
B-1172	100	PIPE LINE	1146983.44	622538.70	249.49	100.0	-	-	-	-	0.0	-	-	-	-	-
B-1174	100	PIPE LINE	1146476.06	622228.06	225.81	100.0	-	-	-	-	0.0	-	-	-	-	-
B-1176	100	PIPE LINE	1145876.27	622195.21	221.48	35.0	-	-	-	-	0.0	-	-	-	-	-
B-1176A	100	PIPE LINE	1145878.82	622196.80	221.51	100.0	-	-	-	-	-	35.0	72.5	-	-	-
B-1185	165952	SWITCHYARD	1144716.64	622232.17	226.78	148.9	-	-	-	-	0.0	53.5	83.0	143.0	-	-
B-1186	331145	BATCH PLANT	1144711.88	618818.88	277.51	178.8	-	-	-	-	0.0	-	-	-	-	-
B-1187	331145	BATCH PLANT	1144710.19	619259.61	277.68	150.0	-	-	-	-	0.0	-	-	-	-	-
B-1189	331145	BATCH PLANT	1144459.72	618997.50	279.98	150.0	-	-	-	-	0.0	-	-	-	-	-
B-1191	337153	BATCH PLANT	1144301.60	619490.75	260.30	150.0	-	-	-	-	0.0	-	-	-	-	-
B-1192	331145	BATCH PLANT	1144217.44	618840.90	243.17	179.5	-	-	-	-	0.0	-	157.5	-	-	-
B-1193	337153	BATCH PLANT	1144091.49	619277.79	254.11	178.8	-	-	-	-	0.0	-	162.0	-	-	-
B-1194	100	BORROW AREA 4	1147504.69	621630.15	199.35	50.0	-	-	-	-	0.0	-	-	-	-	-
B-1195	100	BORROW AREA 4	1147574.84	622478.35	220.60	50.0	-	-	-	-	0.0	-	-	-	-	-
B-1196	100	BORROW AREA 4	1147286.63	622017.51	217.52	50.0	-	-	-	-	0.0	-	-	-	-	-
B-1197	100	BORROW AREA 4	1146874.74	622003.82	245.60	50.0	-	-	-	-	0.0	-	-	-	-	-
B-3001(DH)	211797 (2)	EAST POWER BLOCK	1142599.50	621799.64	218.40	420.0	-	-	0.0	-	1.5	74.5	88.5	157.0	214.5 (3)	344.0 (3)
B-3002(DH)	200587 (2)	EAST POWER BLOCK	1142599.97	621872.49	218.89	249.9	-	-	0.0	-	2.0	76.0	85.5	153.0	220.0 (3)	-
B-3002A	X02958	EAST POWER BLOCK	1142597.90	621878.80	218.83	21.5	-	-	-	-	-	-	-	-	-	-
B-3003(DH)	211797 (2)	EAST POWER BLOCK	1142599.85	621727.30	218.29	250.0	-	-	0.0	-	1.5	77.0	88.5	152.0	215.0 (3)	-
B-3004	270256	EAST POWER BLOCK	1142447.42	621867.12	218.51	160.0	-	-	0.0	-	2.1	78.0	86.4	157.0	-	-
B-3005	337153	EAST POWER BLOCK	1142717.58	621749.10	219.20	155.0	-	-	-	-	0.0	82.0	87.0	150.5	-	-
B-3006	200587	EAST POWER BLOCK	1142425.58	621924.99	217.59	155.0	-	-	0.0	-	1.5	78.5	88.0	152.0	-	-
B-3007	200587	EAST POWER BLOCK	1142718.50	621876.74	220.78	159.8	-	-	0.0	-	1.0	78.0	86.5	157.5	-	-
B-3008	200587	EAST POWER BLOCK	1142425.35	621773.01	217.86	155.0	-	-	0.0	-	1.2	-	87.0	152.0	-	-
B-3009	211797	EAST POWER BLOCK	1142484.48	621956.58	217.85	153.9	-	-	-	-	0.0	77.0	88.5	148.5	-	-

TABLE 2A
TEST LOCATION SUMMARY (DEPTH BELOW GROUND SURFACE)
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Depth (ft, bgs) (1)	Top of Crushed Stone (ft, bgs) (1)	Top of Fill (ft, bgs) (1)	Top of Alluvium (ft, bgs) (1)	Top of Barnwell Group (ft, bgs) (1)	Top of Utley Limestone (ft, bgs) (1)	Top of Blue Bluff Marl (ft, bgs) (1)	Top of Still Branch (ft, bgs) (1)	Top of Congaree Formation (ft, bgs) (1)	Top of Snapp Formation (ft, bgs) (1)
B-3010	270256	EAST POWER BLOCK	1142634.86	622024.97	219.69	160.0	-	-	0.0	-	0.2	76.0	86.0	157.0	-	-
B-3011	211797	EAST POWER BLOCK	1142776.68	622024.86	220.57	165.0	-	-	-	-	0.0	87.0	92.0	162.0	-	-
B-3012	165952	EAST POWER BLOCK	1142772.53	621911.91	220.40	159.3	-	-	-	-	0.0	-	87.0	157.0	-	-
B-3013(C)	337153	EAST POWER BLOCK	1142842.89	621825.35	220.51	155.0	-	-	-	-	0.0	83.0	85.5	150.5	-	-
B-3014	X02958	EAST POWER BLOCK	1142799.43	621748.55	220.26	158.7	-	-	0.0	-	7.0	81.0	88.0	152.0	-	-
B-3015	328848	EAST POWER BLOCK	1142956.89	621823.95	221.78	150.0	-	-	-	-	0.0	84.8	87.0	149.0	-	-
B-3016	200587	EAST POWER BLOCK	1142978.42	621913.43	222.48	150.0	-	-	-	-	0.0	80.0	88.5	-	-	-
B-3017	270256	EAST POWER BLOCK	1143034.35	621749.86	222.10	150.0	-	-	-	-	0.0	83.5	86.0	-	-	-
B-3018	328848	EAST POWER BLOCK	1142738.11	622115.75	219.80	155.0	-	-	-	-	0.0	77.0	87.0	152.0	-	-
B-3019	219505	EAST POWER BLOCK	1142977.36	622167.48	222.42	153.8	-	-	-	-	0.0	77.0	86.8	148.0	-	-
B-3020	328848	EAST POWER BLOCK	1142977.94	622074.78	222.44	149.4	-	-	-	-	0.0	82.0	87.0	147.0	-	-
B-3021	311025 (2)	EAST POWER BLOCK	1143070.22	622033.23	223.19	154.5	-	-	-	-	0.0	77.0	86.0	148.0	-	-
B-3022	200587	EAST POWER BLOCK	1143069.84	621873.43	223.86	150.0	-	-	-	-	0.0	-	87.0	146.5	-	-
B-3023	270256	EAST POWER BLOCK	1143061.11	621679.90	222.81	150.5	-	-	-	-	0.0	83.5	86.0	149.0	-	-
B-3024	337153	CIRC. WATER LINE	1142905.82	621399.65	220.16	150.0	-	-	-	-	0.0	-	82.0	-	-	-
B-3025	219907	CIRC. WATER LINE	1142460.42	621425.34	218.21	150.0	-	-	0.0	-	1.0	83.5	92.0	-	-	-
B-3026	219907	CIRC. WATER LINE	1142290.23	621403.73	215.76	149.2	-	-	0.0	-	0.5	78.5	85.5	-	-	-
B-3027	311025	CIRC. WATER LINE	1142058.69	621423.26	218.80	150.0	-	-	-	-	0.0	82.0	86.0	-	-	-
B-3028	311025	CIRC. WATER LINE	1141867.30	621408.76	220.12	150.0	-	-	-	-	0.0	87.0	92.0	-	-	-
B-3029	219505	CIRC. WATER LINE	1141881.50	621803.88	220.13	149.9	-	-	-	-	0.0	83.0	92.0	-	-	-
B-3030	311025	COOLING TOWER	1141699.94	621799.67	221.99	150.0	-	-	0.0	-	5.5	87.0	99.0	-	-	-
B-3031	219505	COOLING TOWER	1141398.73	622042.01	222.70	150.0	-	-	-	-	0.0	95.0	104.0	-	-	-
B-3032	219505	COOLING TOWER	1141158.18	621709.53	220.05	149.5	-	-	-	-	0.0	-	105.0	-	-	-
B-3033	219505	COOLING TOWER	1141405.26	621715.21	222.26	149.3	-	-	-	-	0.0	-	103.0	-	-	-
B-3034	219907	COOLING TOWER	1141399.76	621914.68	224.67	149.2	-	-	0.0	-	1.5	72.0	106.0	-	-	-
B-3035	328848	EAST POWER BLOCK	1142729.18	621675.37	219.34	150.5	-	-	-	-	0.0	78.0	90.0	150.0	-	-
B-3036	211797	EAST POWER BLOCK	1142441.55	621675.96	217.87	155.0	-	-	0.0	-	0.4	73.5	88.0	153.5	-	-
B-3037	270256	EAST POWER BLOCK	1143057.42	621768.87	222.94	150.0	-	-	-	-	0.0	83.0	87.0	149.0	-	-
B-3038	211797	CIRC. WATER LINE	1141882.97	621543.15	220.76	98.9	-	-	0.0	-	1.5	87.0	98.5	-	-	-
B-3039	331145	EAST POWER BLOCK	1142917.72	621753.54	219.17	150.0	-	-	-	-	0.0	-	81.5	147.0	-	-
B-4001(DH)	219907 (2)	WEST POWER BLOCK	1142599.53	621000.20	218.88	399.9	-	-	0.0	-	0.6	-	89.7	166.6	219.0 (3)	335.0 (3)
B-4002(DH)	219907	WEST POWER BLOCK	1142600.19	621072.22	219.06	250.0	-	-	0.0	-	0.8	82.0	92.0	161.7	224.8 (3)	-
B-4003(DH)	219907	WEST POWER BLOCK	1142599.93	620927.13	218.99	249.8	-	-	0.0	-	0.6	-	92.0	166.0	228.0 (3)	-
B-4004	219907	WEST POWER BLOCK	1142459.68	621046.56	218.45	150.0	-	-	0.0	-	1.0	87.5	91.0	-	-	-
B-4005	219907	WEST POWER BLOCK	1142714.97	620948.74	221.13	164.9	-	-	0.0	-	1.0	-	89.5	163.0	-	-
B-4006	219907	WEST POWER BLOCK	1142719.63	621076.36	220.98	165.0	-	-	-	-	0.0	-	89.5	160.0	-	-
B-4007	219907	WEST POWER BLOCK	1142426.19	621125.28	217.90	170.0	-	-	0.0	-	1.0	82.0	93.8	166.0	-	-
B-4008	219907	WEST POWER BLOCK	1142424.22	620973.78	218.08	169.4	-	-	0.0	-	0.8	87.0	92.0	165.0	-	-

TABLE 2A
TEST LOCATION SUMMARY (DEPTH BELOW GROUND SURFACE)
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Depth (ft, bgs) (1)	Top of Crushed Stone (ft, bgs) (1)	Top of Fill (ft, bgs) (1)	Top of Alluvium (ft, bgs) (1)	Top of Barnwell Group (ft, bgs) (1)	Top of Utley Limestone (ft, bgs) (1)	Top of Blue Bluff Marl (ft, bgs) (1)	Top of Still Branch (ft, bgs) (1)	Top of Congaree Formation (ft, bgs) (1)	Top of Snapp Formation (ft, bgs) (1)
B-4009	328848	WEST POWER BLOCK	1142486.09	621156.86	217.91	164.9	-	-	0.0	-	0.3	81.5	92.5	162.0	-	-
B-4010	328848	WEST POWER BLOCK	1142667.58	621249.04	219.09	160.0	-	-	-	-	0.0	82.0	89.8	157.0	-	-
B-4011	328848	WEST POWER BLOCK	1142773.07	621236.36	219.08	150.0	-	-	-	-	0.0	-	83.0	147.0	-	-
B-4013(C)	337153	WEST POWER BLOCK	1142842.72	621020.31	222.24	165.0	-	-	-	-	0.0	-	88.5	160.0	-	-
B-4014	200587	WEST POWER BLOCK	1142831.99	620950.23	220.74	158.6	-	-	-	-	0.0	77.0	87.2	156.8	-	-
B-4015	328848	WEST POWER BLOCK	1142773.04	621115.24	220.11	155.0	-	-	-	-	0.0	-	84.5	152.0	-	-
B-4016	328848	WEST POWER BLOCK	1142996.39	621112.90	221.23	149.6	-	-	0.0	-	1.5	-	86.5	-	-	-
B-4017	219907	WEST POWER BLOCK	1143034.80	620949.92	220.94	150.0	0.0	-	-	-	0.5	66.0	89.0	-	-	-
B-4018	270256	WEST POWER BLOCK	1142735.45	621315.51	220.30	160.0	-	-	0.0	-	1.5	82.0	86.5	155.5	-	-
B-4019	328848	WEST POWER BLOCK	1142975.89	621371.41	221.76	160.0	-	-	-	-	0.0	77.0	87.0	157.0	-	-
B-4020	100	WEST POWER BLOCK	1142969.39	621280.02	222.79	89.4	-	-	0.0	-	1.0	72.0	87.0	-	-	-
B-4020A	337153	WEST POWER BLOCK	1142973.73	621280.34	222.56	165.0	-	-	-	-	-	-	-	160.5	-	-
B-4021	200587	WEST POWER BLOCK	1143092.61	621247.38	224.55	150.0	-	-	-	-	0.0	72.0	86.5	-	-	-
B-4022	328848	WEST POWER BLOCK	1143081.30	621073.52	220.71	148.7	-	-	-	-	0.0	81.5	87.5	-	-	-
B-4023	328848	WEST POWER BLOCK	1143062.36	620879.81	220.71	150.0	-	-	0.0	-	8.0	-	88.3	-	-	-
B-4024	328848	CIRC. WATER LINE	1142904.78	620601.81	223.80	150.0	-	-	0.0	-	1.0	78.0	91.0	-	-	-
B-4025	211797	CIRC. WATER LINE	1142510.01	620625.03	220.80	150.0	-	-	0.0	-	1.0	87.0	91.8	-	-	-
B-4026	211797	CIRC. WATER LINE	1142330.16	620597.72	221.54	150.0	-	-	-	-	0.0	85.0	97.0	-	-	-
B-4027	328848	CIRC. WATER LINE	1142180.05	620633.45	217.73	150.0	-	-	-	-	0.0	72.0	87.0	-	-	-
B-4028	219505	CIRC. WATER LINE	1141984.20	620587.77	219.57	150.0	-	-	-	-	0.0	74.5	89.0	-	-	-
B-4029	328848	CIRC. WATER LINE	1141874.85	620699.95	220.28	150.0	-	-	0.0	-	1.2	-	91.0	-	-	-
B-4030	219505	COOLING TOWER	1141676.68	620698.48	222.35	150.3	-	-	-	-	0.0	-	97.0	-	-	-
B-4031	211797	COOLING TOWER	1141399.83	620975.03	222.13	150.0	-	-	-	-	0.0	-	96.8	-	-	-
B-4032	211797	COOLING TOWER	1141118.48	620794.64	220.24	38.5	-	-	-	-	0.0	-	-	-	-	-
B-4032A	211797	COOLING TOWER	1141123.72	620794.66	220.22	150.0	-	-	-	-	-	-	101.0	-	-	-
B-4033	219505	COOLING TOWER	1141398.11	620348.78	219.93	149.4	-	-	-	-	0.0	77.0	87.0	-	-	-
B-4034	219505	COOLING TOWER	1141375.68	620795.35	222.79	150.0	-	-	0.0	-	0.5	-	98.5	-	-	-
B-4035	328848	WEST POWER BLOCK	1142729.08	620876.27	220.52	164.8	-	-	0.0	-	1.5	82.0	86.0	162.0	-	-
B-4036	219907	WEST POWER BLOCK	1142457.21	620876.25	218.05	170.0	-	-	0.0	-	0.6	82.0	91.0	166.0	-	-
B-5001	331145	230 KV SWITCHYARD	1146177.05	621807.73	218.99	150.0	-	-	-	-	0.0	-	102.0	-	-	-
B-5002	337153	230 KV SWITCHYARD	1146339.76	621808.33	241.53	150.0	-	-	-	-	0.0	-	127.0	-	-	-
B-5003	337153	230 KV SWITCHYARD	1146386.61	621574.70	227.94	148.7	-	-	-	-	0.0	-	117.0	-	-	-
B-5004	331145	230 KV SWITCHYARD	1146547.79	621568.38	236.61	149.8	-	-	-	-	0.0	117.0	122.0	-	-	-
B-6002	331145	BATCH PLANT	1144134.10	619626.88	247.90	150.0	-	-	-	-	0.0	-	-	-	-	-
B-6003	331145	BATCH PLANT	1143925.02	619422.80	229.76	179.4	-	-	-	-	0.0	-	136.8	-	-	-
B-6004	331145	BATCH PLANT	1143718.15	619473.34	231.59	150.0	-	-	-	-	0.0	-	136.8	-	-	-
B-6005	331145	BATCH PLANT	1143717.98	619873.77	242.59	178.8	-	-	-	-	0.0	-	147.5	-	-	-
B-6006	331145	CONSTRUCTION WAREHOUSE	1143069.79	620301.79	248.22	50.0	-	-	0.0	-	27.0	-	-	-	-	-

TABLE 2A
TEST LOCATION SUMMARY (DEPTH BELOW GROUND SURFACE)
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Depth (ft, bgs) (1)	Top of Crushed Stone (ft, bgs) (1)	Top of Fill (ft, bgs) (1)	Top of Alluvium (ft, bgs) (1)	Top of Barnwell Group (ft, bgs) (1)	Top of Utley Limestone (ft, bgs) (1)	Top of Blue Bluff Marl (ft, bgs) (1)	Top of Still Branch (ft, bgs) (1)	Top of Congaree Formation (ft, bgs) (1)	Top of Snapp Formation (ft, bgs) (1)
B-6007	219907	CONSTRUCTION WAREHOUSE	1142730.73	620301.79	222.28	50.0	-	-	0.0	-	1.5	-	-	-	-	-
B-6008	331145	DECHLORINATION BUILDING	1145443.82	622676.36	240.11	150.0	-	-	-	-	0.0	-	92.5	-	-	-
B-6009	X02958	HEAVY HAUL ROAD	1144773.69	621748.18	246.04	100.0	-	-	-	-	0.0	92.0	-	-	-	-
B-6010	331145	500 KV SWITCHYARD	1143893.34	621059.21	263.39	169.3	-	-	-	-	0.0	117.0	126.5	-	-	-
B-6011	X02958	HEAVY HAUL ROAD	1144557.94	621261.73	244.00	120.0	-	-	-	-	0.0	92.0	107.0	-	-	-
B-6012	331145	HEAVY HAUL ROAD	1144256.66	620480.54	194.20	120.0	-	-	-	-	0.0	82.0	96.5	-	-	-
B-6013	331145	ACCESS ROAD	1143169.54	617234.87	251.14	50.0	-	-	-	-	0.0	-	-	-	-	-
B-6014	331145	ACCESS ROAD	1143168.15	618281.46	209.79	50.0	-	-	-	-	0.0	-	-	-	-	-
B-6015	331145	ACCESS ROAD	1143166.26	619317.85	221.52	50.0	-	-	-	-	0.0	-	-	-	-	-
B-6018	331145	LAY DOWN YARD	1142909.31	618366.55	204.66	50.0	-	-	-	-	0.0	-	-	-	-	-
B-6019	331145	LAY DOWN YARD	1142132.73	618344.49	163.94	50.0	-	-	-	-	0.0	-	-	-	-	-
B-6020	331145	LAY DOWN YARD	1142634.02	619555.91	221.48	130.0	-	-	0.0	-	3.0	112.0	122.0	-	-	-
B-6021	331145	LAY DOWN YARD	1142185.73	619103.41	209.80	120.0	-	-	-	-	0.0	97.0	113.0	-	-	-
B-6022	331145	LAY DOWN YARD	1142224.77	620040.33	216.23	90.0	-	-	0.0	-	10.5	-	82.0	-	-	-
B-6023	331145	LAY DOWN YARD	1141553.10	619177.88	202.77	50.0	-	-	0.0	-	8.5	-	-	-	-	-
B-6024	331145	LAY DOWN YARD	1141545.87	619997.72	216.07	50.0	-	-	0.0	-	3.5	-	-	-	-	-
B-6025	331145	LAY DOWN YARD	1140518.65	619189.73	172.69	50.0	-	-	0.0	-	1.5	-	47.0	-	-	-
B-6026	331145	LAY DOWN YARD	1140537.74	619900.15	215.46	50.0	-	-	0.0	-	1.0	-	-	-	-	-
B-6027	331145	NEW BARGE SLIP	1145779.35	626145.09	96.65	75.0	-	-	0.0	18.0	-	-	-	33.5	-	-
B-6028	331145	NEW BARGE SLIP	1145611.36	626062.41	95.70	50.0	-	-	0.0	18.5	-	-	-	-	-	-
B-6029	331145	NEW INTAKE ACCESS ROAD	1147771.71	623966.62	85.41	50.0	-	-	-	0.0	-	-	21.7	26.7	-	-
B-6030	331145	NEW INTAKE ACCESS ROAD	1147588.12	624222.62	88.37	50.0	-	-	-	0.0	-	-	-	42.0	-	-
C-1101	NA	HEAVY HAUL ROAD	1144357.46	620185.46	265.76	71.4	-	-	-	-	-	-	-	-	-	-
C-1102	NA	HEAVY HAUL ROAD	1144424.00	621333.43	267.61	51.4	-	-	-	-	-	-	-	-	-	-
C-1103	NA	HEAVY HAUL ROAD	1145011.61	622037.40	236.52	27.4	-	-	-	-	-	-	-	-	-	-
C-1104	NA	HEAVY HAUL ROAD	1145601.77	622746.95	230.19	77.1	-	-	-	-	-	-	-	-	-	-
C-1105	NA	HEAVY HAUL ROAD	1145483.00	623733.68	200.57	50.2	-	-	-	-	-	-	-	-	-	-
C-1106	NA	HEAVY HAUL ROAD	1145533.96	624748.08	138.02	20.0	-	-	-	-	-	-	-	-	-	-
C-1107	NA	PIPE LINE	1147233.91	624202.32	211.92	71.0	-	-	-	-	-	-	-	-	-	-
C-1108	NA	PIPE LINE	1147628.30	623753.23	200.89	59.6	-	-	-	-	-	-	-	-	-	-
C-1109	NA	PIPE LINE	1147622.11	623171.88	209.79	72.5	-	-	-	-	-	-	-	-	-	-
C-1110	NA	PIPE LINE	1147198.95	622740.32	242.39	72.3	-	-	-	-	-	-	-	-	-	-
C-1111	NA	PIPE LINE	1146753.15	622346.15	250.69	32.2	-	-	-	-	-	-	-	-	-	-
C-3001	NA	EAST POWER BLOCK	1142610.55	621726.54	218.37	70.1	-	-	-	-	-	-	-	-	-	-
C-3002	NA	EAST POWER BLOCK	1142606.51	621872.75	218.89	67.9	-	-	-	-	-	-	-	-	-	-
C-3003	NA	COOLING TOWER AREA	1141771.79	621801.62	221.38	82.0	-	-	-	-	-	-	-	-	-	-
C-3004	NA	COOLING TOWER AREA	1141542.00	621807.33	223.25	72.7	-	-	-	-	-	-	-	-	-	-
C-3005	NA	COOLING TOWER AREA	1141266.89	621792.33	221.27	101.1	-	-	-	-	-	-	-	-	-	-

TABLE 2A
TEST LOCATION SUMMARY (DEPTH BELOW GROUND SURFACE)
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Depth (ft, bgs) (1)	Top of Crushed Stone (ft, bgs) (1)	Top of Fill (ft, bgs) (1)	Top of Alluvium (ft, bgs) (1)	Top of Barnwell Group (ft, bgs) (1)	Top of Utley Limestone (ft, bgs) (1)	Top of Blue Bluff Marl (ft, bgs) (1)	Top of Still Branch (ft, bgs) (1)	Top of Congaree Formation (ft, bgs) (1)	Top of Snapp Formation (ft, bgs) (1)
C-4001	NA	WEST POWER BLOCK	1142599.87	620918.51	218.87	74.2	-	-	-	-	-	-	-	-	-	-
C-4002	NA	WEST POWER BLOCK	1142599.94	621063.82	219.08	82.2	-	-	-	-	-	-	-	-	-	-
C-4003	NA	COOLING TOWER AREA	1141784.64	620708.48	221.16	82.5	-	-	-	-	-	-	-	-	-	-
C-4004	NA	COOLING TOWER AREA	1141543.07	620597.67	219.99	77.1	-	-	-	-	-	-	-	-	-	-
C-4005	NA	COOLING TOWER AREA	1141249.90	620593.96	220.01	90.2	-	-	-	-	-	-	-	-	-	-
ER-1103CL	NA	SWITCHYARD	1144258.24	621799.94	279.61	NA	-	-	-	-	-	-	-	-	-	-
ER-1103N	NA	SWITCHYARD	1144706.50	621821.45	250.84	NA	-	-	-	-	-	-	-	-	-	-
ER-1103S	NA	SWITCHYARD	1143809.08	621785.19	258.96	NA	-	-	-	-	-	-	-	-	-	-
ER-1104CL	NA	SWITCHYARD	1143823.00	621536.77	257.11	NA	-	-	-	-	-	-	-	-	-	-
ER-1104E	NA	SWITCHYARD	1143820.75	621986.25	257.44	NA	-	-	-	-	-	-	-	-	-	-
ER-1104W	NA	SWITCHYARD	1143821.35	621086.95	258.33	NA	-	-	-	-	-	-	-	-	-	-
ER-1105	NA	230 KV SWITCHYARD	1146579.02	621622.05	243.09	NA	-	-	-	-	-	-	-	-	-	-
ER-1105	NA	230 KV SWITCHYARD	1146866.31	621276.81	226.62	NA	-	-	-	-	-	-	-	-	-	-
ER-1105	NA	230 KV SWITCHYARD	1146286.04	621961.60	226.63	NA	-	-	-	-	-	-	-	-	-	-
ER-1106	NA	230 KV SWITCHYARD	1146706.48	621999.64	256.15	NA	-	-	-	-	-	-	-	-	-	-
ER-1106	NA	230 KV SWITCHYARD	1146039.75	621401.84	164.68	NA	-	-	-	-	-	-	-	-	-	-
ER-1106	NA	230 KV SWITCHYARD	1146365.63	621702.00	237.53	NA	-	-	-	-	-	-	-	-	-	-
ER-3001	NA	COOLING TOWER	1141404.39	621932.86	223.41	NA	-	-	-	-	-	-	-	-	-	-
ER-3001	NA	COOLING TOWER	1141104.51	621935.56	219.44	NA	-	-	-	-	-	-	-	-	-	-
ER-3001	NA	COOLING TOWER	1141704.88	621929.94	221.43	NA	-	-	-	-	-	-	-	-	-	-
ER-3002	NA	COOLING TOWER	1141220.32	621725.95	220.47	NA	-	-	-	-	-	-	-	-	-	-
ER-3002	NA	COOLING TOWER	1141206.51	622025.58	220.02	NA	-	-	-	-	-	-	-	-	-	-
ER-3002	NA	COOLING TOWER	1141200.00	622324.03	220.49	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1141375.68	620795.35	222.79	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1141133.24	620798.50	220.41	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1141583.32	620797.68	223.47	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1140683.32	620798.70	215.33	NA	-	-	-	-	-	-	-	-	-	-
ER-4002	NA	COOLING TOWER	1141375.68	620795.35	222.79	NA	-	-	-	-	-	-	-	-	-	-
ER-4002	NA	COOLING TOWER	1141796.43	620333.57	220.73	NA	-	-	-	-	-	-	-	-	-	-
ER-4002	NA	COOLING TOWER	1140897.17	620349.94	219.86	NA	-	-	-	-	-	-	-	-	-	-
ER-4002CL	NA	COOLING TOWER	1141346.76	620341.65	219.84	NA	-	-	-	-	-	-	-	-	-	-
ER-4003	NA	CIRC. WATER LINE	1142180.05	620633.45	217.73	NA	-	-	-	-	-	-	-	-	-	-
ER-4003	NA	CIRC. WATER LINE	1142049.90	620629.66	219.61	NA	-	-	-	-	-	-	-	-	-	-
ER-4003	NA	CIRC. WATER LINE	1141575.77	620263.31	217.95	NA	-	-	-	-	-	-	-	-	-	-
ER-4003CL	NA	CIRC. WATER LINE	1141813.06	620446.25	220.68	NA	-	-	-	-	-	-	-	-	-	-
ER-4004	NA	CIRC. WATER LINE	1142060.89	621873.12	218.35	NA	-	-	-	-	-	-	-	-	-	-
ER-4004	NA	CIRC. WATER LINE	1142060.45	621423.14	218.46	NA	-	-	-	-	-	-	-	-	-	-
ER-4004	NA	CIRC. WATER LINE	1142057.75	620973.50	219.21	NA	-	-	-	-	-	-	-	-	-	-

TABLE 2A
TEST LOCATION SUMMARY (DEPTH BELOW GROUND SURFACE)
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Depth (ft, bgs) (1)	Top of Crushed Stone (ft, bgs) (1)	Top of Fill (ft, bgs) (1)	Top of Alluvium (ft, bgs) (1)	Top of Barnwell Group (ft, bgs) (1)	Top of Utley Limestone (ft, bgs) (1)	Top of Blue Bluff Marl (ft, bgs) (1)	Top of Still Branch (ft, bgs) (1)	Top of Congaree Formation (ft, bgs) (1)	Top of Snapp Formation (ft, bgs) (1)
REMI-1101CL	NA	UNIT 1 & 2 PROTECTED AREA	1143195.74	623156.24	217.83	NA	-	-	-	-	-	-	-	-	-	-
REMI-1101N	NA	UNIT 1 & 2 PROTECTED AREA	1143344.68	623156.02	218.60	NA	-	-	-	-	-	-	-	-	-	-
REMI-1101S	NA	UNIT 1 & 2 PROTECTED AREA	1143046.36	623156.23	217.87	NA	-	-	-	-	-	-	-	-	-	-
REMI-1102CL	NA	UNIT 1 & 2 PROTECTED AREA	1143432.28	623846.88	217.84	NA	-	-	-	-	-	-	-	-	-	-
REMI-1102E	NA	UNIT 1 & 2 PROTECTED AREA	1143433.70	623995.86	217.75	NA	-	-	-	-	-	-	-	-	-	-
REMI-1102W	NA	UNIT 1 & 2 PROTECTED AREA	1143431.62	623697.54	217.88	NA	-	-	-	-	-	-	-	-	-	-
REMI-3001EAST	NA	EAST POWER BLOCK	1142620.86	621877.24	218.54	NA	-	-	-	-	-	-	-	-	-	-
REMI-3001WEST	NA	EAST POWER BLOCK	1142620.58	621577.79	218.20	NA	-	-	-	-	-	-	-	-	-	-
REMI-4001EAST	NA	WEST POWER BLOCK	1142620.95	621150.17	218.71	NA	-	-	-	-	-	-	-	-	-	-
REMI-4001WEST	NA	WEST POWER BLOCK	1142624.08	620856.90	219.31	NA	-	-	-	-	-	-	-	-	-	-
TP-B-1108	NA	SWITCHYARD	1144312.49	621145.92	264.14	12.2	-	-	0.0	-	0.5	-	-	-	-	-
TP-B-1117	NA	SWITCHYARD	1143967.31	621627.50	269.50	9.0	-	-	0.0	-	2.0	-	-	-	-	-
TP-B-1121	NA	SWITCHYARD	1143591.74	620401.53	241.17	14.0	-	-	0.0	-	-	-	-	-	-	-
TP-B-1125	NA	SWITCHYARD	1143603.70	621685.81	240.61	11.0	-	-	0.0	-	-	-	-	-	-	-
TP-B-1185	NA	SWITCHYARD	1144634.18	622242.15	225.17	11.0	-	-	0.0	-	1.5	-	-	-	-	-
TP-B-1194	NA	BORROW AREA 4	1147500.59	621708.45	202.73	11.5	-	-	0.0	-	0.5	-	-	-	-	-
TP-B-1195	NA	BORROW AREA 4	1147648.39	622363.06	212.15	8.0	-	-	-	-	0.0	-	-	-	-	-
TP-B-1197	NA	BORROW AREA 4	1146874.40	622074.57	245.94	11.0	-	-	0.0	-	1.5	-	-	-	-	-

NOTES:

NA	Not Applicable
bgs	below ground surface
msl	Mean Sea Level
(1)	The layer depths tabulated are estimated depths based on the rig geologist/engineer's examination of samples under the direction of the Site Coordinator from depth intervals ranging from 2.5 to 10.0 feet. Other observations, including but not limited to drilling resistance and drilling fluid pressure were used to estimate the depth to layers between sample intervals. The elevations of certain layers encountered beneath alluvial soils in the floodplain of the Savannah River may not correlate to elevations of these layers in other areas of the site. This may be due to scouring and subsequent deposition of alluvial sediments by the Savannah River.
(2)	Multiple drill rigs with different SPT Hammers were used to drill various portions of borings B-3001, B-3002, B-3003, B-4001, and B-3021. Please see the boring logs in Attachment B for details.
(3)	Layer depth picks made by examination of geophysical logs in conjunction with samples.

Prepared By/Date: Alexandra Taylor/11-6-07

Checked By/Date: Martha Lucia Herrera/11-6-07

TABLE 2B
TEST LOCATION SUMMARY (ELEVATION)
VOGTLE UNITS 3&4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Elevation (ft, msl)	Top of Crushed Stone Elevation (ft, msl)	Top of Fill Elevation (ft, msl)	Top of Alluvium Elevation (ft, msl)	Top of Barnwell Group Elevation (ft, msl)	Top of Utley Limestone Elevation (ft, msl)	Top of Blue Bluff Marl Elevation (ft, msl)	Top of Still Branch Elevation (ft, msl)	Top of Congaree Formation Elevation (ft, msl)	Top of Snapp Formation Elevation (ft, msl)
B-1105	165952	SWITCHYARD	1144168.36	620002.76	257.89	148.8	-	-	-	-	257.9	-	-	-	-	-
B-1107	X02958	SWITCHYARD	1144153.75	620916.11	266.66	150.0	-	-	-	-	266.7	138.2	130.2	-	-	-
B-1108	X02958	SWITCHYARD	1144214.07	621273.00	273.56	149.8	-	-	-	-	273.6	151.6	135.1	-	-	-
B-1109	165952	SWITCHYARD	1144180.46	621580.64	276.48	150.0	-	-	-	-	276.5	159.5	144.9	-	-	-
B-1110	165952	SWITCHYARD	1144170.91	622011.31	265.14	150.0	-	-	-	-	265.1	168.1	147.1	-	-	-
B-1111	331145	SWITCHYARD	1144212.59	622333.79	224.90	150.0	-	-	-	-	224.9	153.4	143.2	78.2	-	-
B-1112	331145	SWITCHYARD	1144223.37	622691.31	213.74	23.0	-	-	213.7	-	212.7	-	-	-	-	-
B-1112A	328848	SWITCHYARD	1144219.36	622561.49	227.14	150.0	-	-	-	-	227.1	-	145.1	80.1	-	-
B-1113	331145	SWITCHYARD	1143901.44	620217.17	249.99	170.0	-	-	-	-	250.0	113.0	98.2	-	-	-
B-1116	165952	SWITCHYARD	1143894.12	621264.65	261.82	138.5	-	-	-	-	261.8	144.8	134.8	-	-	-
B-1117	337153	SWITCHYARD	1143890.75	621628.43	263.89	149.3	-	-	-	-	263.9	-	140.4	-	-	-
B-1118	165952	SWITCHYARD	1143885.92	622007.97	257.91	149.4	-	-	-	-	257.9	-	144.9	-	-	-
B-1119	331145	SWITCHYARD	1143888.30	622333.77	223.57	150.0	-	-	-	-	223.6	156.8	141.8	-	-	-
B-1120	219505	SWITCHYARD	1143893.05	622558.49	227.18	149.8	-	-	227.2	-	225.7	145.2	140.4	-	-	-
B-1121	331145	SWITCHYARD	1143575.57	620216.27	241.33	150.0	-	-	-	-	241.3	114.3	98.8	-	-	-
B-1123	337153	SWITCHYARD	1143575.43	620921.98	241.27	150.0	-	-	-	-	241.3	144.3	132.8	-	-	-
B-1124	337153	SWITCHYARD	1143627.62	621421.59	241.21	150.0	-	-	241.2	-	239.7	-	144.2	-	-	-
B-1125	337153	SWITCHYARD	1143586.80	621628.20	240.97	150.0	-	-	-	-	241.0	154.2	144.5	-	-	-
B-1126	211797	SWITCHYARD	1143567.68	621980.43	219.88	150.0	-	-	219.9	-	219.4	-	141.4	77.9	-	-
B-1127	165952	SWITCHYARD	1143573.26	622332.29	219.67	150.0	-	-	219.7	-	217.7	-	141.7	76.7	-	-
B-1128	331145	SWITCHYARD	1143572.65	622682.42	218.26	73.0	-	-	-	-	218.3	-	-	-	-	-
B-1128A	331145	SWITCHYARD	1143573.71	622685.46	217.92	148.8	-	-	-	-	-	-	141.4	76.2	-	-
B-1129	211797	POWER BLOCK ROADS	1143278.22	621893.74	221.84	100.0	-	-	221.8	-	220.3	145.0	140.1	-	-	-
B-1130	337153	POWER BLOCK ROADS	1142482.76	622250.00	217.46	99.2	-	-	-	-	217.5	145.5	136.5	-	-	-
B-1131	211797	POWER BLOCK ROADS	1143172.99	621823.06	222.18	98.6	-	-	-	-	222.2	137.2	133.7	-	-	-
B-1132	211797	POWER BLOCK ROADS	1142614.19	621450.08	218.73	100.0	-	-	218.7	-	217.2	137.0	127.0	-	-	-
B-1133	100	POWER BLOCK ROADS	1142968.94	621451.15	221.20	100.0	-	-	-	-	221.2	-	140.2	-	-	-
B-1134	211797	POWER BLOCK ROADS	1143282.88	621104.27	222.04	100.0	-	-	222.0	-	221.5	155.0	135.3	-	-	-
B-1136	211797	POWER BLOCK ROADS	1143178.11	621023.00	221.65	100.0	-	-	221.6	-	221.0	-	129.9	-	-	-
B-1138	331145	HEAVY HAUL ROAD	1143469.69	619192.80	215.82	100.0	-	-	-	-	215.8	-	-	-	-	-
B-1139	211797	POWER BLOCK ROADS	1142289.86	621026.81	216.68	150.0	-	-	216.7	-	215.2	129.7	121.9	-	-	-
B-1140	211797	POWER BLOCK ROADS	1142290.16	621823.56	216.58	150.0	-	-	216.6	-	216.0	133.1	128.1	-	-	-
B-1142	331145	HEAVY HAUL ROAD	1144416.58	620649.58	224.69	100.0	-	-	-	-	224.7	-	-	-	-	-
B-1146	331145	HEAVY HAUL ROAD	1145428.36	622272.08	240.04	98.6	-	-	-	-	240.0	153.0	148.0	-	-	-
B-1148	331145	HEAVY HAUL ROAD	1145537.78	623236.50	218.94	100.0	-	-	218.9	-	215.9	-	149.4	-	-	-
B-1150	331145	HEAVY HAUL ROAD	1145467.29	624235.30	170.69	100.0	-	-	170.7	-	170.2	-	144.2	74.2	-	-
B-1152	331145	HEAVY HAUL ROAD	1145581.68	625227.34	117.05	100.0	117.0	116.5	114.0	-	-	-	110.2	45.0	-	-
B-1153	331145	HEAVY HAUL ROAD	1145568.97	625673.46	103.58	100.0	103.6	103.0	101.1	-	-	-	99.1	52.6	-	-

TABLE 2B
TEST LOCATION SUMMARY (ELEVATION)
VOGTLE UNITS 3&4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Elevation (ft, msl)	Top of Crushed Stone Elevation (ft, msl)	Top of Fill Elevation (ft, msl)	Top of Alluvium Elevation (ft, msl)	Top of Barnwell Group Elevation (ft, msl)	Top of Utley Limestone Elevation (ft, msl)	Top of Blue Bluff Marl Elevation (ft, msl)	Top of Still Branch Elevation (ft, msl)	Top of Congaree Formation Elevation (ft, msl)	Top of Snapp Formation Elevation (ft, msl)
B-1154	331145	HEAVY HAUL ROAD	1145664.20	626216.06	95.08	98.8	-	-	95.1	73.6	-	-	-	28.6	-1.4	-
B-1155	331145	PUMPHOUSE	1147390.34	624936.42	84.95	150.0	-	-	-	84.9	-	-	-	38.4	8.4	-
B-1156	331145	PUMPHOUSE	1147302.50	624571.69	85.70	99.2	-	-	-	85.7	-	-	-	59.2	19.2	-
B-1157	331145	PUMPHOUSE	1147209.56	625062.18	86.77	150.0	-	-	-	86.8	-	-	55.3	37.5	17.4	-
B-1158	331145	PUMPHOUSE	1145194.92	626669.12	88.74	149.5	-	-	-	88.7	-	-	-	37.2	2.2	-
B-1159	331145	PUMPHOUSE	1147285.78	624954.51	88.70	150.0	-	-	-	88.7	-	-	52.2	47.2	22.2	-
B-1161	337153	PUMPHOUSE	1147363.37	624862.14	86.10	150.0	-	-	-	86.1	-	-	-	39.3	14.6	-
B-1162	337153	PUMPHOUSE	1147234.91	624815.03	85.55	200.0	-	-	-	85.6	-	-	-	43.6	9.6	-93.3
B-1163	337153	PUMPHOUSE	1147170.58	624938.82	85.95	150.0	-	-	-	86.0	-	-	54.0	33.5	13.0	-
B-1164	337153	PIPE LINE	1146994.84	624518.63	220.05	150.0	-	-	-	-	220.5	158.0	152.0	83.7	-	-
B-1166	337153	PIPE LINE	1147452.97	623961.56	203.40	100.0	-	-	-	-	203.4	-	141.4	-	-	-
B-1168	100	PIPE LINE	1147688.45	623467.78	202.20	100.0	-	-	-	-	202.2	-	145.2	-	-	-
B-1170	100	PIPE LINE	1147423.85	622953.71	223.29	98.9	-	-	-	-	223.3	-	-	-	-	-
B-1172	100	PIPE LINE	1146983.44	622538.70	249.49	100.0	-	-	-	-	249.5	-	-	-	-	-
B-1174	100	PIPE LINE	1146476.06	622228.06	225.81	100.0	-	-	-	-	225.8	-	-	-	-	-
B-1176	100	PIPE LINE	1145876.27	622195.21	221.48	35.0	-	-	-	-	221.5	-	-	-	-	-
B-1176A	100	PIPE LINE	1145878.82	622196.80	221.51	100.0	-	-	-	-	-	-	149.0	-	-	-
B-1185	165952	SWITCHYARD	1144716.64	622232.17	226.78	148.9	-	-	-	-	226.8	173.3	143.8	83.8	-	-
B-1186	331145	BATCH PLANT	1144711.88	618818.88	277.51	178.8	-	-	-	-	277.5	-	-	-	-	-
B-1187	331145	BATCH PLANT	1144710.19	619259.61	277.68	150.0	-	-	-	-	277.7	-	-	-	-	-
B-1189	331145	BATCH PLANT	1144459.72	618997.50	279.98	150.0	-	-	-	-	280.0	-	-	-	-	-
B-1191	337153	BATCH PLANT	1144301.60	619490.75	260.30	150.0	-	-	-	-	260.3	-	-	-	-	-
B-1192	331145	BATCH PLANT	1144217.44	618840.90	243.17	179.5	-	-	-	-	243.2	-	85.7	-	-	-
B-1193	337153	BATCH PLANT	1144091.49	619277.79	254.11	178.8	-	-	-	-	254.1	-	92.1	-	-	-
B-1194	100	BORROW AREA 4	1147504.69	621630.15	199.35	50.0	-	-	-	-	199.3	-	-	-	-	-
B-1195	100	BORROW AREA 4	1147574.84	622478.35	220.60	50.0	-	-	-	-	220.6	-	-	-	-	-
B-1196	100	BORROW AREA 4	1147286.63	622017.51	217.52	50.0	-	-	-	-	217.5	-	-	-	-	-
B-1197	100	BORROW AREA 4	1146874.74	622003.82	245.60	50.0	-	-	-	-	245.6	-	-	-	-	-
B-3001(DH)	211797	EAST POWER BLOCK	1142599.50	621799.64	218.40	420.0	-	-	218.4	-	216.9	143.9	129.9	61.4	3.9 (3)	-125.6 (3)
B-3002(DH)	200587	EAST POWER BLOCK	1142599.97	621872.49	218.89	249.9	-	-	218.9	-	216.9	142.9	133.4	65.9	-1.1 (3)	-
B-3002A	X02958	EAST POWER BLOCK	1142597.90	621878.80	218.83	21.5	-	-	-	-	-	-	-	-	-	-
B-3003(DH)	211797	EAST POWER BLOCK	1142599.85	621727.30	218.29	250.0	-	-	218.3	-	216.8	141.3	129.8	66.3	3.3 (3)	-
B-3004	270256	EAST POWER BLOCK	1142447.42	621867.12	218.51	160.0	-	-	218.5	-	216.4	140.5	132.1	61.5	-	-
B-3005	337153	EAST POWER BLOCK	1142717.58	621749.10	219.20	155.0	-	-	-	-	219.2	137.2	132.2	68.7	-	-
B-3006	200587	EAST POWER BLOCK	1142425.58	621924.99	217.59	155.0	-	-	217.6	-	216.1	139.1	129.6	65.6	-	-
B-3007	200587	EAST POWER BLOCK	1142718.50	621876.74	220.78	159.8	-	-	220.8	-	219.8	142.8	134.3	63.3	-	-
B-3008	200587	EAST POWER BLOCK	1142425.35	621773.01	217.86	155.0	-	-	217.9	-	216.7	-	130.9	65.9	-	-
B-3009	211797	EAST POWER BLOCK	1142484.48	621956.58	217.85	153.9	-	-	-	-	217.8	140.8	129.3	69.3	-	-

TABLE 2B
TEST LOCATION SUMMARY (ELEVATION)
VOGTLE UNITS 3&4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Elevation (ft, msl)	Top of Crushed Stone Elevation (ft, msl)	Top of Fill Elevation (ft, msl)	Top of Alluvium Elevation (ft, msl)	Top of Barnwell Group Elevation (ft, msl)	Top of Utley Limestone Elevation (ft, msl)	Top of Blue Bluff Marl Elevation (ft, msl)	Top of Still Branch Elevation (ft, msl)	Top of Congaree Formation Elevation (ft, msl)	Top of Snapp Formation Elevation (ft, msl)
B-3010	270256	EAST POWER BLOCK	1142634.86	622024.97	219.69	160.0	-	-	219.7	-	219.5	143.7	133.7	62.7	-	-
B-3011	211797	EAST POWER BLOCK	1142776.68	622024.86	220.57	165.0	-	-	-	-	220.6	133.6	128.6	58.6	-	-
B-3012	165952	EAST POWER BLOCK	1142772.53	621911.91	220.40	159.3	-	-	-	-	220.4	-	133.4	63.4	-	-
B-3013(C)	337153	EAST POWER BLOCK	1142842.89	621825.35	220.51	155.0	-	-	-	-	220.5	137.5	135.0	70.0	-	-
B-3014	X02958	EAST POWER BLOCK	1142799.43	621748.55	220.26	158.7	-	-	220.3	-	213.3	139.3	132.3	68.3	-	-
B-3015	328848	EAST POWER BLOCK	1142956.89	621823.95	221.78	150.0	-	-	-	-	221.8	137.0	134.8	72.8	-	-
B-3016	200587	EAST POWER BLOCK	1142978.42	621913.43	222.48	150.0	-	-	-	-	222.5	142.5	134.0	-	-	-
B-3017	270256	EAST POWER BLOCK	1143034.35	621749.86	222.10	150.0	-	-	-	-	222.1	138.6	136.1	-	-	-
B-3018	328848	EAST POWER BLOCK	1142738.11	622115.75	219.80	155.0	-	-	-	-	219.8	142.8	132.8	67.8	-	-
B-3019	219505	EAST POWER BLOCK	1142977.36	622167.48	222.42	153.8	-	-	-	-	222.4	145.4	135.7	74.4	-	-
B-3020	328848	EAST POWER BLOCK	1142977.94	622074.78	222.44	149.4	-	-	-	-	222.4	140.4	135.4	75.4	-	-
B-3021	311025	EAST POWER BLOCK	1143070.22	622033.23	223.19	154.5	-	-	-	-	223.2	146.2	137.2	75.2	-	-
B-3022	200587	EAST POWER BLOCK	1143069.84	621873.43	223.86	150.0	-	-	-	-	223.9	-	136.9	77.4	-	-
B-3023	270256	EAST POWER BLOCK	1143061.11	621679.90	222.81	150.5	-	-	-	-	222.8	139.3	136.8	73.8	-	-
B-3024	337153	CIRC. WATER LINE	1142905.82	621399.65	220.16	150.0	-	-	-	-	220.2	-	138.2	-	-	-
B-3025	219907	CIRC. WATER LINE	1142460.42	621425.34	218.21	150.0	-	-	218.2	-	217.2	134.7	126.2	-	-	-
B-3026	219907	CIRC. WATER LINE	1142290.23	621403.73	215.76	149.2	-	-	215.8	-	215.3	137.3	130.3	-	-	-
B-3027	311025	CIRC. WATER LINE	1142058.69	621423.26	218.80	150.0	-	-	-	-	218.8	136.8	132.8	-	-	-
B-3028	311025	CIRC. WATER LINE	1141867.30	621408.76	220.12	150.0	-	-	-	-	220.1	133.1	128.1	-	-	-
B-3029	219505	CIRC. WATER LINE	1141881.50	621803.88	220.13	149.9	-	-	-	-	220.1	137.1	128.1	-	-	-
B-3030	311025	COOLING TOWER	1141699.94	621799.67	221.99	150.0	-	-	222.0	-	216.5	135.0	123.0	-	-	-
B-3031	219505	COOLING TOWER	1141398.73	622042.01	222.70	150.0	-	-	-	-	222.7	127.7	118.7	-	-	-
B-3032	219505	COOLING TOWER	1141158.18	621709.53	220.05	149.5	-	-	-	-	220.0	-	115.0	-	-	-
B-3033	219505	COOLING TOWER	1141405.26	621715.21	222.26	149.3	-	-	-	-	222.3	-	119.3	-	-	-
B-3034	219907	COOLING TOWER	1141399.76	621914.68	224.67	149.2	-	-	224.7	-	223.2	152.7	118.7	-	-	-
B-3035	328848	EAST POWER BLOCK	1142729.18	621675.37	219.34	150.5	-	-	-	-	219.3	141.3	129.3	69.3	-	-
B-3036	211797	EAST POWER BLOCK	1142441.55	621675.96	217.87	155.0	-	-	217.9	-	217.5	144.4	129.9	64.4	-	-
B-3037	270256	EAST POWER BLOCK	1143057.42	621768.87	222.94	150.0	-	-	-	-	222.9	139.9	135.9	73.9	-	-
B-3038	211797	CIRC. WATER LINE	1141882.97	621543.15	220.76	98.9	-	-	220.8	-	219.3	133.8	122.3	-	-	-
B-3039	331145	EAST POWER BLOCK	1142917.72	621753.54	219.17	150.0	-	-	-	-	219.2	-	137.7	72.2	-	-
B-4001(DH)	219907	WEST POWER BLOCK	1142599.53	621000.20	218.88	399.9	-	-	218.9	-	218.3	-	129.2	52.3	-0.1 (3)	-116.1 (3)
B-4002(DH)	219907	WEST POWER BLOCK	1142600.19	621072.22	219.06	250.0	-	-	219.1	-	218.3	137.1	127.1	57.4	-5.7 (3)	-
B-4003(DH)	219907	WEST POWER BLOCK	1142599.93	620927.13	218.99	249.8	-	-	219.0	-	218.4	-	127.0	53.0	-9.0 (3)	-
B-4004	219907	WEST POWER BLOCK	1142459.68	621046.56	218.45	150.0	-	-	218.5	-	217.5	131.0	127.5	-	-	-
B-4005	219907	WEST POWER BLOCK	1142714.97	620948.74	221.13	164.9	-	-	221.1	-	220.1	-	131.6	58.1	-	-
B-4006	219907	WEST POWER BLOCK	1142719.63	621076.36	220.98	165.0	-	-	-	-	221.0	-	131.5	61.0	-	-
B-4007	219907	WEST POWER BLOCK	1142426.19	621125.28	217.90	170.0	-	-	217.9	-	216.9	135.9	124.1	51.9	-	-
B-4008	219907	WEST POWER BLOCK	1142424.22	620973.78	218.08	169.4	-	-	218.1	-	217.3	131.1	126.1	53.1	-	-

TABLE 2B
TEST LOCATION SUMMARY (ELEVATION)
VOGTLE UNITS 3&4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Elevation (ft, msl)	Top of Crushed Stone Elevation (ft, msl)	Top of Fill Elevation (ft, msl)	Top of Alluvium Elevation (ft, msl)	Top of Barnwell Group Elevation (ft, msl)	Top of Utley Limestone Elevation (ft, msl)	Top of Blue Bluff Marl Elevation (ft, msl)	Top of Still Branch Elevation (ft, msl)	Top of Congaree Formation Elevation (ft, msl)	Top of Snapp Formation Elevation (ft, msl)
B-4009	328848	WEST POWER BLOCK	1142486.09	621156.86	217.91	164.9	-	-	217.9	-	217.6	136.4	125.4	55.9	-	-
B-4010	328848	WEST POWER BLOCK	1142667.58	621249.04	219.09	160.0	-	-	-	-	219.1	137.1	129.3	62.1	-	-
B-4011	328848	WEST POWER BLOCK	1142773.07	621236.36	219.08	150.0	-	-	-	-	219.1	-	136.1	72.1	-	-
B-4013(C)	337153	WEST POWER BLOCK	1142842.72	621020.31	222.24	165.0	-	-	-	-	222.2	-	133.7	62.2	-	-
B-4014	200587	WEST POWER BLOCK	1142831.99	620950.23	220.74	158.6	-	-	-	-	220.7	143.7	133.5	64.0	-	-
B-4015	328848	WEST POWER BLOCK	1142773.04	621115.24	220.11	155.0	-	-	-	-	220.1	-	135.6	68.1	-	-
B-4016	328848	WEST POWER BLOCK	1142996.39	621112.90	221.23	149.6	-	-	221.2	-	219.7	-	134.7	-	-	-
B-4017	219907	WEST POWER BLOCK	1143034.80	620949.92	220.94	150.0	220.9	-	-	-	220.4	154.9	131.9	-	-	-
B-4018	270256	WEST POWER BLOCK	1142735.45	621315.51	220.30	160.0	-	-	220.3	-	218.8	138.3	133.8	64.8	-	-
B-4019	328848	WEST POWER BLOCK	1142975.89	621371.41	221.76	160.0	-	-	-	-	221.8	144.8	134.8	64.8	-	-
B-4020	100	WEST POWER BLOCK	1142969.39	621280.02	222.79	89.4	-	-	222.8	-	221.8	150.8	135.8	-	-	-
B-4020A	337153	WEST POWER BLOCK	1142973.73	621280.34	222.56	165.0	-	-	-	-	-	-	-	62.1	-	-
B-4021	200587	WEST POWER BLOCK	1143092.61	621247.38	224.55	150.0	-	-	-	-	224.6	152.6	138.1	-	-	-
B-4022	328848	WEST POWER BLOCK	1143081.30	621073.52	220.71	148.7	-	-	-	-	220.7	139.2	133.2	-	-	-
B-4023	328848	WEST POWER BLOCK	1143062.36	620879.81	220.71	150.0	-	-	220.7	-	212.7	-	132.4	-	-	-
B-4024	328848	CIRC. WATER LINE	1142904.78	620601.81	223.80	150.0	-	-	223.8	-	222.8	145.8	132.8	-	-	-
B-4025	211797	CIRC. WATER LINE	1142510.01	620625.03	220.80	150.0	-	-	220.8	-	219.8	133.8	129.0	-	-	-
B-4026	211797	CIRC. WATER LINE	1142330.16	620597.72	221.54	150.0	-	-	-	-	221.5	136.5	124.5	-	-	-
B-4027	328848	CIRC. WATER LINE	1142180.05	620633.45	217.73	150.0	-	-	-	-	217.7	145.7	130.7	-	-	-
B-4028	219505	CIRC. WATER LINE	1141984.20	620587.77	219.57	150.0	-	-	-	-	219.6	145.1	130.6	-	-	-
B-4029	328848	CIRC. WATER LINE	1141874.85	620699.95	220.28	150.0	-	-	220.3	-	219.1	-	129.3	-	-	-
B-4030	219505	COOLING TOWER	1141676.68	620698.48	222.35	150.3	-	-	-	-	222.4	-	125.4	-	-	-
B-4031	211797	COOLING TOWER	1141399.83	620975.03	222.13	150.0	-	-	-	-	222.1	-	125.4	-	-	-
B-4032	211797	COOLING TOWER	1141118.48	620794.64	220.24	38.5	-	-	-	-	220.2	-	-	-	-	-
B-4032A	211797	COOLING TOWER	1141123.72	620794.66	220.22	150.0	-	-	-	-	-	-	119.2	-	-	-
B-4033	219505	COOLING TOWER	1141398.11	620348.78	219.93	149.4	-	-	-	-	219.9	142.9	132.9	-	-	-
B-4034	219505	COOLING TOWER	1141375.68	620795.35	222.79	150.0	-	-	222.8	-	222.3	-	124.3	-	-	-
B-4035	328848	WEST POWER BLOCK	1142729.08	620876.27	220.52	164.8	-	-	220.5	-	219.0	138.5	134.5	58.5	-	-
B-4036	219907	WEST POWER BLOCK	1142457.21	620876.25	218.05	170.0	-	-	218.0	-	217.4	136.0	127.0	52.0	-	-
B-5001	331145	230 KV SWITCHYARD	1146177.05	621807.73	218.99	150.0	-	-	-	-	219.0	-	117.0	-	-	-
B-5002	337153	230 KV SWITCHYARD	1146339.76	621808.33	241.53	150.0	-	-	-	-	241.5	-	114.5	-	-	-
B-5003	337153	230 KV SWITCHYARD	1146386.61	621574.70	227.94	148.7	-	-	-	-	227.9	-	110.9	-	-	-
B-5004	331145	230 KV SWITCHYARD	1146547.79	621568.38	236.61	149.8	-	-	-	-	236.6	119.6	114.6	-	-	-
B-6002	331145	BATCH PLANT	1144134.10	619626.88	247.90	150.0	-	-	-	-	247.9	-	-	-	-	-
B-6003	331145	BATCH PLANT	1143925.02	619422.80	229.76	179.4	-	-	-	-	229.8	-	93.0	-	-	-
B-6004	331145	BATCH PLANT	1143718.15	619473.34	231.59	150.0	-	-	-	-	231.6	-	94.8	-	-	-
B-6005	331145	BATCH PLANT	1143717.98	619873.77	242.59	178.8	-	-	-	-	242.6	-	95.1	-	-	-
B-6006	331145	CONSTRUCTION WAREHOUSE	1143069.79	620301.79	248.22	50.0	-	-	248.2	-	221.2	-	-	-	-	-

TABLE 2B
TEST LOCATION SUMMARY (ELEVATION)
VOGTLE UNITS 3&4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Elevation (ft, msl)	Top of Crushed Stone Elevation (ft, msl)	Top of Fill Elevation (ft, msl)	Top of Alluvium Elevation (ft, msl)	Top of Barnwell Group Elevation (ft, msl)	Top of Utley Limestone Elevation (ft, msl)	Top of Blue Bluff Marl Elevation (ft, msl)	Top of Still Branch Elevation (ft, msl)	Top of Congaree Formation Elevation (ft, msl)	Top of Snapp Formation Elevation (ft, msl)
B-6007	219907	CONSTRUCTION WAREHOUSE	1142730.73	620301.79	222.28	50.0	-	-	222.3	-	220.8	-	-	-	-	-
B-6008	331145	DECHLORINATION BUILDING	1145443.82	622676.36	240.11	150.0	-	-	-	-	240.1	-	147.6	-	-	-
B-6009	X02958	HEAVY HAUL ROAD	1144773.69	621748.18	246.04	100.0	-	-	-	-	246.0	154.0	-	-	-	-
B-6010	331145	500 KV SWITCHYARD	1143893.34	621059.21	263.39	169.3	-	-	-	-	263.4	146.4	136.9	-	-	-
B-6011	X02958	HEAVY HAUL ROAD	1144557.94	621261.73	244.00	120.0	-	-	-	-	244.0	152.0	137.0	-	-	-
B-6012	331145	HEAVY HAUL ROAD	1144256.66	620480.54	194.20	120.0	-	-	-	-	194.2	112.2	97.7	-	-	-
B-6013	331145	ACCESS ROAD	1143169.54	617234.87	251.14	50.0	-	-	-	-	251.1	-	-	-	-	-
B-6014	331145	ACCESS ROAD	1143168.15	618281.46	209.79	50.0	-	-	-	-	209.8	-	-	-	-	-
B-6015	331145	ACCESS ROAD	1143166.26	619317.85	221.52	50.0	-	-	-	-	221.5	-	-	-	-	-
B-6018	331145	LAY DOWN YARD	1142909.31	618366.55	204.66	50.0	-	-	-	-	204.7	-	-	-	-	-
B-6019	331145	LAY DOWN YARD	1142132.73	618344.49	163.94	50.0	-	-	-	-	163.9	-	-	-	-	-
B-6020	331145	LAY DOWN YARD	1142634.02	619555.91	221.48	130.0	-	-	221.5	-	218.5	109.5	99.5	-	-	-
B-6021	331145	LAY DOWN YARD	1142185.73	619103.41	209.80	120.0	-	-	-	-	209.8	112.8	96.8	-	-	-
B-6022	331145	LAY DOWN YARD	1142224.77	620040.33	216.23	90.0	-	-	216.2	-	205.7	-	134.2	-	-	-
B-6023	331145	LAY DOWN YARD	1141553.10	619177.88	202.77	50.0	-	-	202.8	-	194.3	-	-	-	-	-
B-6024	331145	LAY DOWN YARD	1141545.87	619997.72	216.07	50.0	-	-	216.1	-	212.6	-	-	-	-	-
B-6025	331145	LAY DOWN YARD	1140518.65	619189.73	172.69	50.0	-	-	172.7	-	171.2	-	125.7	-	-	-
B-6026	331145	LAY DOWN YARD	1140537.74	619900.15	215.46	50.0	-	-	215.5	-	214.5	-	-	-	-	-
B-6027	331145	NEW BARGE SLIP	1145779.35	626145.09	96.65	75.0	-	-	96.7	78.7	-	-	-	63.2	-	-
B-6028	331145	NEW BARGE SLIP	1145611.36	626062.41	95.70	50.0	-	-	95.7	77.2	-	-	-	-	-	-
B-6029	331145	NEW INTAKE ACCESS ROAD	1147771.71	623966.62	85.41	50.0	-	-	-	85.4	-	-	63.7	58.7	-	-
B-6030	331145	NEW INTAKE ACCESS ROAD	1147588.12	624222.62	88.37	50.0	-	-	-	88.4	-	-	-	46.4	-	-
C-1101	NA	HEAVY HAUL ROAD	1144357.46	620185.46	265.76	71.4	-	-	-	-	-	-	-	-	-	-
C-1102	NA	HEAVY HAUL ROAD	1144424.00	621333.43	267.61	51.4	-	-	-	-	-	-	-	-	-	-
C-1103	NA	HEAVY HAUL ROAD	1145011.61	622037.40	236.52	27.4	-	-	-	-	-	-	-	-	-	-
C-1104	NA	HEAVY HAUL ROAD	1145601.77	622746.95	230.19	77.1	-	-	-	-	-	-	-	-	-	-
C-1105	NA	HEAVY HAUL ROAD	1145483.00	623733.68	200.57	50.2	-	-	-	-	-	-	-	-	-	-
C-1106	NA	HEAVY HAUL ROAD	1145533.96	624748.08	138.02	20.0	-	-	-	-	-	-	-	-	-	-
C-1107	NA	PIPE LINE	1147233.91	624202.32	211.92	71.0	-	-	-	-	-	-	-	-	-	-
C-1108	NA	PIPE LINE	1147628.30	623753.23	200.89	59.6	-	-	-	-	-	-	-	-	-	-
C-1109	NA	PIPE LINE	1147622.11	623171.88	209.79	72.5	-	-	-	-	-	-	-	-	-	-
C-1110	NA	PIPE LINE	1147198.95	622740.32	242.39	72.3	-	-	-	-	-	-	-	-	-	-
C-1111	NA	PIPE LINE	1146753.15	622346.15	250.69	32.2	-	-	-	-	-	-	-	-	-	-
C-3001	NA	EAST POWER BLOCK	1142610.55	621726.54	218.37	70.1	-	-	-	-	-	-	-	-	-	-
C-3002	NA	EAST POWER BLOCK	1142606.51	621872.75	218.89	67.9	-	-	-	-	-	-	-	-	-	-
C-3003	NA	COOLING TOWER AREA	1141771.79	621801.62	221.38	82.0	-	-	-	-	-	-	-	-	-	-
C-3004	NA	COOLING TOWER AREA	1141542.00	621807.33	223.25	72.7	-	-	-	-	-	-	-	-	-	-
C-3005	NA	COOLING TOWER AREA	1141266.89	621792.33	221.27	101.1	-	-	-	-	-	-	-	-	-	-

TABLE 2B
TEST LOCATION SUMMARY (ELEVATION)
VOGTLE UNITS 3&4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Elevation (ft, msl)	Top of Crushed Stone Elevation (ft, msl)	Top of Fill Elevation (ft, msl)	Top of Alluvium Elevation (ft, msl)	Top of Barnwell Group Elevation (ft, msl)	Top of Utley Limestone Elevation (ft, msl)	Top of Blue Bluff Marl Elevation (ft, msl)	Top of Still Branch Elevation (ft, msl)	Top of Congaree Formation Elevation (ft, msl)	Top of Snapp Formation Elevation (ft, msl)
C-4001	NA	WEST POWER BLOCK	1142599.87	620918.51	218.87	74.2	-	-	-	-	-	-	-	-	-	-
C-4002	NA	WEST POWER BLOCK	1142599.94	621063.82	219.08	82.2	-	-	-	-	-	-	-	-	-	-
C-4003	NA	COOLING TOWER AREA	1141784.64	620708.48	221.16	82.5	-	-	-	-	-	-	-	-	-	-
C-4004	NA	COOLING TOWER AREA	1141543.07	620597.67	219.99	77.1	-	-	-	-	-	-	-	-	-	-
C-4005	NA	COOLING TOWER AREA	1141249.90	620593.96	220.01	90.2	-	-	-	-	-	-	-	-	-	-
ER-1103CL	NA	SWITCHYARD	1144258.24	621799.94	279.61	NA	-	-	-	-	-	-	-	-	-	-
ER-1103N	NA	SWITCHYARD	1144706.50	621821.45	250.84	NA	-	-	-	-	-	-	-	-	-	-
ER-1103S	NA	SWITCHYARD	1143809.08	621785.19	258.96	NA	-	-	-	-	-	-	-	-	-	-
ER-1104CL	NA	SWITCHYARD	1143823.00	621536.77	257.11	NA	-	-	-	-	-	-	-	-	-	-
ER-1104E	NA	SWITCHYARD	1143820.75	621986.25	257.44	NA	-	-	-	-	-	-	-	-	-	-
ER-1104W	NA	SWITCHYARD	1143821.35	621086.95	258.33	NA	-	-	-	-	-	-	-	-	-	-
ER-1105	NA	230 KV SWITCHYARD	1146579.02	621622.05	243.09	NA	-	-	-	-	-	-	-	-	-	-
ER-1105	NA	230 KV SWITCHYARD	1146866.31	621276.81	226.62	NA	-	-	-	-	-	-	-	-	-	-
ER-1105	NA	230 KV SWITCHYARD	1146286.04	621961.60	226.63	NA	-	-	-	-	-	-	-	-	-	-
ER-1106	NA	230 KV SWITCHYARD	1146706.48	621999.64	256.15	NA	-	-	-	-	-	-	-	-	-	-
ER-1106	NA	230 KV SWITCHYARD	1146039.75	621401.84	164.68	NA	-	-	-	-	-	-	-	-	-	-
ER-1106	NA	230 KV SWITCHYARD	1146365.63	621702.00	237.53	NA	-	-	-	-	-	-	-	-	-	-
ER-3001	NA	COOLING TOWER	1141404.39	621932.86	223.41	NA	-	-	-	-	-	-	-	-	-	-
ER-3001	NA	COOLING TOWER	1141104.51	621935.56	219.44	NA	-	-	-	-	-	-	-	-	-	-
ER-3001	NA	COOLING TOWER	1141704.88	621929.94	221.43	NA	-	-	-	-	-	-	-	-	-	-
ER-3002	NA	COOLING TOWER	1141220.32	621725.95	220.47	NA	-	-	-	-	-	-	-	-	-	-
ER-3002	NA	COOLING TOWER	1141206.51	622025.58	220.02	NA	-	-	-	-	-	-	-	-	-	-
ER-3002	NA	COOLING TOWER	1141200.00	622324.03	220.49	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1141375.68	620795.35	222.79	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1141133.24	620798.50	220.41	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1141583.32	620797.68	223.47	NA	-	-	-	-	-	-	-	-	-	-
ER-4001	NA	COOLING TOWER	1140683.32	620798.70	215.33	NA	-	-	-	-	-	-	-	-	-	-
ER-4002	NA	COOLING TOWER	1141375.68	620795.35	222.79	NA	-	-	-	-	-	-	-	-	-	-
ER-4002	NA	COOLING TOWER	1141796.43	620333.57	220.73	NA	-	-	-	-	-	-	-	-	-	-
ER-4002	NA	COOLING TOWER	1140897.17	620349.94	219.86	NA	-	-	-	-	-	-	-	-	-	-
ER-4002CL	NA	COOLING TOWER	1141346.76	620341.65	219.84	NA	-	-	-	-	-	-	-	-	-	-
ER-4003	NA	CIRC. WATER LINE	1142180.05	620633.45	217.73	NA	-	-	-	-	-	-	-	-	-	-
ER-4003	NA	CIRC. WATER LINE	1142049.90	620629.66	219.61	NA	-	-	-	-	-	-	-	-	-	-
ER-4003	NA	CIRC. WATER LINE	1141575.77	620263.31	217.95	NA	-	-	-	-	-	-	-	-	-	-
ER-4003CL	NA	CIRC. WATER LINE	1141813.06	620446.25	220.68	NA	-	-	-	-	-	-	-	-	-	-
ER-4004	NA	CIRC. WATER LINE	1142060.89	621873.12	218.35	NA	-	-	-	-	-	-	-	-	-	-
ER-4004	NA	CIRC. WATER LINE	1142060.45	621423.14	218.46	NA	-	-	-	-	-	-	-	-	-	-
ER-4004	NA	CIRC. WATER LINE	1142057.75	620973.50	219.21	NA	-	-	-	-	-	-	-	-	-	-

TABLE 2B
TEST LOCATION SUMMARY (ELEVATION)
VOGTLE UNITS 3&4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Boring/CPT/Test Pit Number	Hammer Serial Number	Location/Remarks	Northing	Easting	Surface Elevation (ft, msl)	Total Depth (ft, bgs)	Top of Concrete Elevation (ft, msl)	Top of Crushed Stone Elevation (ft, msl)	Top of Fill Elevation (ft, msl)	Top of Alluvium Elevation (ft, msl)	Top of Barnwell Group Elevation (ft, msl)	Top of Utley Limestone Elevation (ft, msl)	Top of Blue Bluff Marl Elevation (ft, msl)	Top of Still Branch Elevation (ft, msl)	Top of Congaree Formation Elevation (ft, msl)	Top of Snapp Formation Elevation (ft, msl)
REMI-1101CL	NA	UNIT 1 & 2 PROTECTED AREA	1143195.74	623156.24	217.83	NA	-	-	-	-	-	-	-	-	-	-
REMI-1101N	NA	UNIT 1 & 2 PROTECTED AREA	1143344.68	623156.02	218.60	NA	-	-	-	-	-	-	-	-	-	-
REMI-1101S	NA	UNIT 1 & 2 PROTECTED AREA	1143046.36	623156.23	217.87	NA	-	-	-	-	-	-	-	-	-	-
REMI-1102CL	NA	UNIT 1 & 2 PROTECTED AREA	1143432.28	623846.88	217.84	NA	-	-	-	-	-	-	-	-	-	-
REMI-1102E	NA	UNIT 1 & 2 PROTECTED AREA	1143433.70	623995.86	217.75	NA	-	-	-	-	-	-	-	-	-	-
REMI-1102W	NA	UNIT 1 & 2 PROTECTED AREA	1143431.62	623697.54	217.88	NA	-	-	-	-	-	-	-	-	-	-
REMI-3001EAST	NA	EAST POWER BLOCK	1142620.86	621877.24	218.54	NA	-	-	-	-	-	-	-	-	-	-
REMI-3001WEST	NA	EAST POWER BLOCK	1142620.58	621577.79	218.20	NA	-	-	-	-	-	-	-	-	-	-
REMI-4001EAST	NA	WEST POWER BLOCK	1142620.95	621150.17	218.71	NA	-	-	-	-	-	-	-	-	-	-
REMI-4001WEST	NA	WEST POWER BLOCK	1142624.08	620856.90	219.31	NA	-	-	-	-	-	-	-	-	-	-
TP-B-1108	NA	SWITCHYARD	1144312.49	621145.92	264.14	12.2	-	-	264.1	-	263.6	-	-	-	-	-
TP-B-1117	NA	SWITCHYARD	1143967.31	621627.50	269.50	9.0	-	-	269.5	-	267.5	-	-	-	-	-
TP-B-1121	NA	SWITCHYARD	1143591.74	620401.53	241.17	14.0	-	-	241.2	-	-	-	-	-	-	-
TP-B-1125	NA	SWITCHYARD	1143603.70	621685.81	240.61	11.0	-	-	240.6	-	-	-	-	-	-	-
TP-B-1185	NA	SWITCHYARD	1144634.18	622242.15	225.17	11.0	-	-	225.2	-	223.7	-	-	-	-	-
TP-B-1194	NA	BORROW AREA 4	1147500.59	621708.45	202.73	11.5	-	-	202.7	-	202.2	-	-	-	-	-
TP-B-1195	NA	BORROW AREA 4	1147648.39	622363.06	212.15	8.0	-	-	-	-	212.1	-	-	-	-	-
TP-B-1197	NA	BORROW AREA 4	1146874.40	622074.57	245.94	11.0	-	-	245.9	-	244.4	-	-	-	-	-

NOTES:

NA	Not Applicable
bgs	below ground surface
msl	Mean Sea Level
(1)	The layer elevations tabulated are from estimated depths based on the rig geologist/engineer's examination of samples under the direction of the Site Coordinator from depth intervals ranging from 2.5 to 10.0 feet. Other observations, including but not limited to drilling resistance and drilling fluid pressure were used to estimate the depth to layers between sample intervals. The elevations of certain layers encountered beneath alluvial soils in the floodplain of the Savannah River may not correlate to elevations of these layers in other areas of the site. This may be due to scouring and subsequent deposition of alluvial sediments by the Savannah River.
(2)	Multiple drill rigs with different SPT Hammers were used to drill various portions of borings B-3001, B-3002, B-3003, B-4001, and B-3021. Please see the boring logs in Attachment B for details.
(3)	Layer depth picks made by examination of geophysical logs in conjunction with samples.

Prepared By/Date: Alexandra Taylor/11-6-07

Checked By/Date: Martha Lucia Herrera/11-6-07 MLH.

SOIL LAYER	DESCRIPTION
FILL	Man-placed fill soils of varying type and quality placed during previous construction activities on the site. This layer may include layers or zones of asphalt, concrete, or crushed stone.
ALLUVIUM	Soil formed by deposition from water after erosion and transportation from higher ground; typically occurs on the sides and bottom of drainage features. Most of these soils were encountered in or near the floodplain of the Savannah River.
CONCRETE	Concrete encountered at or near the surface that was placed for roadways and/or building slabs during previous construction activities at the site.
CRUSHED STONE	Crushed stone base material placed beneath concrete pavement encountered in borings (B-1152 and B-1153) drilled in the existing river intake access road.
BARNWELL GROUP • Tobacco Road Sand • Dry Branch Formation	Upper Eocene aged unit generally encountered near ground surface in most areas of the site, with the exception of boreholes drilled in low-lying areas along the floodplain of the Savannah River, where the Barnwell Soils had been eroded away. Soils most likely belonging to the Tobacco Road Sand and/or the Dry Branch Formation are reported as "Barnwell Group" on the soil test boring records and in the tables contained in this report. The Dry Branch Formation consists of three lithofacies, which include the Twiggs Clay, The Irwinton Sand, and the calcareous and fossiliferous Griffins Landing Member. The three Dry Branch lithofacies were observed in the soil test borings performed for this exploration. However, due to the interlayered nature of the Dry Branch lithofacies, and the generally wide sample intervals in the boreholes, identification of layer contacts was not practical. Therefore, the Dry Branch Formation lithofacies are reported as Barnwell Group on the soil test boring records and in the tables of this report. The Barnwell Group soils encountered during this investigation generally consist of very fine to very course grained sands with varying silt and clay content (SP, SP-SM, SM, SC, SP-SC, SC-SM) with some layers and zones of silt and clay (CL and ML). The Barnwell Group soils generally range in color from varying shades of red, yellow and brown. Distinct subhorizontal structure consisting of clay laminae, clay wisps, sand lenses and color banding is characteristic in many samples. The lower portion of the Barnwell Group section includes some calcareous soils which were generally sampled as sand with varying silt and clay content, silts, and clays. Large oyster shells, and other unidentified shell and phosphatic fragments were frequently observed. Some layers contained an appreciable concentration of shells. The bottom portion of the Barnwell Group often consists of pale olive green clayey silt with abundant distinct, very thin, subhorizontal yellowish brown sand lenses. Soft zones and zones of drilling fluid loss were occasionally encountered in the Barnwell Group.
BARNWELL GROUP • Clinchfield Formation-**Utley Limestone Member**	The Utley Limestone is a mostly calcareous sub-unit of the Barnwell Group, generally encountered below the Tobacco Road Sand and Dry Branch. This sub-unit of the Barnwell Group is reported as "Utley Limestone" on the soil test boring records and in the tables of this report. The Utley Limestone was present sporadically throughout the site. The Utley Limestone was exposed briefly during the excavation

TABLE 3
Soil Layer Descriptions

SOIL LAYER	DESCRIPTION
	for the nearby VEGP Units 1 and 2 and was generally described as a grayish-yellow, well indurated, fossiliferous limestone which grades locally into coquina. Due to the well indurated nature of the Utley, split spoon sample recovery was generally low. The Utley was typically broken down by the split spoon sampler and laboratory testing indicated gravel-sized fragments (GP, GC, GM), or a sand with varying silt and clay content (SP, SM, SC). Minor amounts of silt and clay soils (CL and ML) were encountered in the Utley. Fossils consisting of large oyster shells and other unidentified shell and phosphatic fragments were also encountered. Well cemented zones were encountered which generally consisted of quartz sand and/or shell fragments with a carbonate cement matrix. Soft zones were also encountered in this layer and drilling fluid circulation loss occurred frequently. The Utley Limestone soils encountered during this exploration generally range in color from varying shades of yellow, brown, gray and green. Faint to distinct subhorizontal structure consisting of clay laminae and sand lenses are characteristic, especially in softer zones of the formation.
CLAIBORNE GROUP • Lisbon Formation – **Blue Bluff Member**	The Blue Bluff Member is a fine grained, calcareous sub-unit of the middle Eocene Lisbon Formation within the Claiborne Group, encountered below the Utley Limestone. This unit is referred to as the Blue Bluff Marl on the soil test boring records and in the tables of this report. The Blue Bluff Marl was present in most areas of the site, with the main exception being in low-lying areas along the floodplain of the Savannah River, where it had been eroded away. The Blue Bluff Marl encountered at the site is typically a very stiff to hard carbonate-rich clayey silt to silty clay with trace amounts of very fine to fine grained sand. One of the most distinguishing features of this formation is its dark greenish gray color, usually forming a distinct contact where captured in the split spoon samples. Faint to distinct, very thin laminations were observed in most samples. Other distinguishing features of the Blue Bluff Marl are the presence of shell and phosphatic fragments in localized vertical horizons and the abundance of partially cemented, well indurated layers (limestone) consisting of very fine grained to fine grained quartz sand with carbonate mud cement. Mechanical breakage by the split spoon sampler of the well indurated zones (limestone) often disclosed gravel sized particles in the laboratory test results.
CLAIBORNE GROUP • Still Branch Sand	The Still Branch Sand, also part of the middle Eocene Claiborne Group and underlying the Blue Bluff Member of the Lisbon Formation, is referred to as the Still Branch Formation on the soil test boring records and in the tables of this report. The Still Branch Formation observed in the test borings generally consists of dense to very dense, fine to medium grained sand with varying amounts of silt and clay (typically SM). The Still Branch Formation encountered at the site is also characterized by its dark greenish gray to almost black color most likely due to the presence of glauconite, resulting in a typically well-defined contact between it and the overlying Blue Bluff Marl where captured in the split spoon samples. In general, the sands become less glauconitic and therefore lighter in color with depth. The

TABLE 3
Soil Layer Descriptions

SOIL LAYER	DESCRIPTION
	lower part of the formation is typically more silt and/or clay rich. Occasional zones containing scattered shell fragments are encountered in the upper section of the Still Branch Formation.
CLAIBORNE GROUP • Congaree Formation	The Congaree Formation is also part of the middle Eocene Claiborne Group and is generally encountered immediately below the Still Branch Sand. It is referred to as the Congaree Formation on the soil test boring records and in the tables of this report. The Congaree Formation was encountered in the deeper borings within the proposed power block area and in the borings located in the Savannah River floodplain. The Congaree Formation observed in the test borings generally consists of dense to very dense, medium to coarse grained sand with layers of clay and silt. Occasional micaceous zones and thin beds of white kaolinitic clay are also present. Few of the borings contain minor amounts of carbonate in the form of carbonate mud and/or coarse grained calcareous concretions. Colors generally range in shades of green, gray, brown and white.. The contact between the Congaree Formation and the overlying Still Branch Formation is not well defined but is typically identified by a significant increase in density or hardness and grain size. Where available, borehole geophysical logs were used in conjunction with the samples to pick the top of the Congaree Formation.
SNAPP FORMATION	The Snapp Formation is Upper Paleocene in age and generally underlies the middle Eocene Congaree Formation. It is referred to as the Snapp Formation on the soil test boring records and in the tables of this report. The Snapp Formation was encountered in two of the deep test borings, B-3001 and B-4001, and in one of the borings located in the Savannah River floodplain, B-1162. The Snapp Formation observed in the test borings generally consists of hard, iron-stained, oxidized kaolinitic clay to very dense, fine to medium grained sand with minor amounts of clay. Colors generally range in shades of gray, brown, red and white. The contact between the Snapp Formation and the overlying Congaree Formation is typically identified by a significant increase in hardness and the presence of white kaolinitic clay with reddish brown to yellowish brown iron-staining. Where available, borehole geophysical logs were used in conjunction with the samples to pick the top of the Snapp Formation.

REFERENCES:

Huddleston, P.F., and Summerour, J.H., 1996, “The Lithostratigraphic Framework of the Uppermost Cretaceous and Lower Tertiary of Eastern Burke County, Georgia, Georgia Department of Natural Resources Bulletin 127, 94 p.

Appendix 2B, “Geology”, from “Final Safety Analysis Report” (FSAR) prepared for Vogtle Electric Generating Plant Units 1 and 2.

TABLE 3
Soil Layer Descriptions

NOTES:

The layer descriptions contained in Table 3 were prepared from the rig geologist's/engineer's examination of samples under the direction and review of the Site Coordinator taken at depth intervals ranging from 1.5 to 10 feet. MACTEC also visited nearby type localities of the Blue Bluff Marl, Utley Limestone, and Griffins Landing Member of the Dry Branch Formation exposed in bluffs along the Savannah River. The estimated depth and elevation to the layers encountered in the soil test borings are contained in Tables 2A and 2B of this report.

Prepared By/Date: Matt Cooke/7-31-07 WITH PERMISSION

Checked By: Alexandra Taylor/7-31-07

TABLE 3
Soil Layer Descriptions

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	GRAVEL, well graded
			GP	GRAVEL, poorly graded
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	GRAVEL, sand and silt
			GC	GRAVEL, clay
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)	SW	SAND, well graded
			SP	SAND, poorly graded
		SANDS WITH FINES (Appreciable amount of fines)	SM	SAND, silty
			SC	SAND, clayey
FINE GRAINED SOILS (More than 50% of material is SMALLER than the No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	SILT, sandy or clayey, low plasticity
			CL	CLAY, low plasticity
			OL	SILT, organic or CLAY organic, low plasticity
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	SILT, sandy or clayey, high plasticity
			CH	CLAY, high plasticity
			OH	CLAY, organic, or SILT, organic, high plasticity

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

Correlation of Penetration Resistance with Relative Density and Consistency			
SAND & GRAVEL		SILT & CLAY	
No. of Blows	**Relative Density**	**No. of Blows**	**Consistency**
0 - 4	Very Loose	0 - 1	Very Soft
5 – 10	Loose	2 – 4	Soft
11 – 30	Medium Dense	5 – 8	Medium Stiff
31 - 50	Dense	9 – 15	Stiff
Over 50	Very Dense	16 - 30	Very Stiff
		Over 31	Hard

TABLE 4 (Page 1 of 2)
CERTAIN TERMS USED FOR SOIL DESCRIPTIONS ON gINT BORING LOGS IN ATTACHMENT B

MOISTURE CONDITION:		
	Dry	Absence of moisture, dusty, dry to the touch.
	Damp	Slight moisture content, difficult to mold fines into ball.
	Moist	Moisture evident but no visible water, fines can be molded into ball.
	Wet	Visible free water, soil is usually below water table.

SAMPLE TYPE		
	SS	Split spoon sample
	UD	Undisturbed sample (direct push or pitcher)
	BK	Bulk Sample
	AU	Hand Auger Cuttings

LINE TYPE		
	- - - - - - - - - -	Soil layer contact where contact was not observed in samples
	————	Soil layer contact where contact was observed in samples
	. . . . .	Soil layer contact above and below samples with no recovery

Prepared By/Date: Matt Cooke/7-31-07 MC @ WITH PERMISSION

Checked By/Date: Alexandra Taylor/7-31-07 AT

TABLE 4 (2 of 2)
CERTAIN TERMS USED FOR SOIL DESCRIPTIONS ON gINT BORING LOGS IN ATTACHMENT B

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o						LL	PL	G_s	Dry Density (pcf) at e_o						Wet	pH	Chloride	Sulfate
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.				SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.			
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-1105	SS-1	0.0	SS	0.0	87.5	12.5			SM			8.3					8.3												
B-1105	SS-3	3.5	SS	0.0	66.7	33.3			SM			18.5					18.5												
B-1105	SS-4	6.0	SS	0.2	82.1	17.7			SM			12.5					12.5												
B-1105	SS-6	11.0	SS	0.0	80	20			SM			12.9					12.9												
B-1105	SS-8	18.5	SS	0.0	66.2	33.8			SC			23.8					23.8	69	19										
B-1105	SS-9	23.5	SS	0.0	77.5	22.5			SC			16.4					16.4												
B-1105	SS-11	33.5	SS	0.9	74.3	24.8			SM			14.8					14.8												
B-1105	SS-13	43.5	SS	0.7	89.8	9.5			SP-SM			15.1					15.1												
B-1108	SS-2	1.5	SS	0.2	75.6	24.2			SM																				
B-1108	SS-3	3.5	SS	NA	NA	8.8			SP-SM																				
B-1108	SS-4	6.0	SS	0.0	94.1	5.9			SP-SM																				
B-1108	SS-6	11.0	SS	0.0	88.9	11.1			SP-SC									41	20										
B-1108	SS-8	18.5	SS	1.0	69.8	29.2			SM																				
B-1108	SS-9	23.5	SS	NA	NA	8.4			SP-SM																				
B-1108	SS-11	33.5	SS	NA	NA	7.7			SP-SM																				
B-1108	SS-12	38.5	SS	0.0	83.4	16.6			SC									45	16										
B-1113	SS-2	1.5	SS	0.0	93.5	6.5			SP-SM																				
B-1113	SS-4	6.0	SS	NA	NA	6.1			SP-SM																				
B-1113	SS-5	8.5	SS	0.0	94.1	5.9			SP-SM																				
B-1113	SS-6	11.0	SS	NA	NA	6.0			SP-SM																				
B-1113	SS-8	18.5	SS	0.0	95.9	4.1			SP																				
B-1113	SS-10	28.5	SS	NA	NA	4.9			SP																				
B-1113	SS-11	33.5	SS	0.0	18.4	81.6	16.9	64.7	CL																				
B-1116	SS-2	1.5	SS	0.0	90.5	9.5			SP-SM			2.4					2.4												
B-1116	SS-4	6.0	SS	0.0	92.8	7.2			SP-SM			8.3					8.3												
B-1116	SS-6	11.0	SS	0.0	81.5	18.5			SC			8.5					8.5												
B-1116	SS-7	13.5	SS	0.0	75.1	24.9			SC			8.8					8.8												
B-1116	SS-9	23.5	SS	0.0	78.5	21.5			SC			17.1					17.1												
B-1116	SS-11	33.5	SS	0.4	84.6	15.0			SC			14.4					14.4												
B-1118	SS-5	8.5	SS	0.0	75.4	24.6			SC																				
B-1118	SS-8	18.5	SS	0.0	82.1	17.9			SC																				
B-1118	SS-10	28.5	SS	0.0	82.1	17.9			SC									83	32										
B-1121	SS-1	0.0	SS	0.0	81.6	18.4			SM			10.2					10.2												
B-1121	SS-3	3.5	SS	1.5	85.1	13.4			SM			13.3					13.3												
B-1121	SS-4	6.0	SS	0.0	75.0	25.0			SM			12.6					12.6												
B-1121	SS-6	11.0	SS	0.0	72.4	27.6			SC			18.6					18.6	35	13										
B-1121	SS-9	23.5	SS	0.0	84.6	15.4			SC			20.8					20.8	77	27										
B-1123	SS-2	1.5	SS	NA	NA	12.4			SM																				
B-1123	SS-3	3.5	SS	0.0	85.1	14.9			SM																				
B-1123	SS-4	6.0	SS	NA	NA	9.6			SP-SM																				
B-1123	SS-6	11.0	SS	0.0	78.3	21.7			SC									31	13										
B-1123	SS-7	13.5	SS	NA	NA	27.5			SC																				
B-1123	SS-8	18.5	SS	NA	NA	27.5			SC																				
B-1123	SS-10	28.5	SS	0.0	73.9	26.1			SC																				
B-1123	SS-12	38.5	SS	0.0	85.9	14.1			SC									63	23										
B-1124	SS-3	3.5	SS	NA	NA	10.8			SP-SM																				
B-1124	SS-5	8.5	SS	0.0	93.2	6.8			SP-SM																				
B-1124	SS-7	18.5	SS	NA	NA	20.5			SC																				

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o								G_s	Dry Density (pcf) at e_o						Wet	pH	Chloride	Sulfate
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL		SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.			
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-1124	SS-8	18.5	SS	0.0	75.2	24.8			SC			14.6					14.6	35	20											
B-1124	SS-10	28.5	SS	NA	NA	25.3			SC																					
B-1125	SS-2	1.5	SS	0.8	85.6	13.6			SM																					
B-1125	SS-4	6.0	SS	NA	NA	8.2			SP-SM																					
B-1125	SS-6	11.0	SS	NA	NA	13.5			SM																					
B-1125	SS-8	18.5	SS	0.0	82.7	17.3			SC									35	22											
B-1125	SS-10	28.5	SS	NA	NA	77.6			MH									121	58											
B-1127	SS-3	3.5	SS	0.0	77.1	22.9			SC			13.5					13.5	32	20											
B-1127	SS-6	11.0	SS	0.0	77.6	22.4			SC			16.1					16.1	46	22											
B-1127	SS-8	18.5	SS	0.0	90.5	9.5			SP-SM			9.7					9.7													
B-1127	SS-9	23.5	SS	0.0	80.6	19.4			SM			15.1					15.1													
B-1130	UD-1	28.5	UD	NA	NA	16.5			SC																					
B-1130	UD-2	33.5	UD						CL				33.5	29.4	28.9		30.6					85.1	90.8	91.4		89.1	116			
B-1130	UD-3	38.5	UD	NA	NA	6.7			SP-SC				16.9	16.9			16.9					96.8	96.4			96.6	113			
B-1131	UD-1	28.5	UD						SM				36.2	18.6			27.4					85.7	110.3			98.0	124			
B-1132	UD-2	33.5	UD						CL				34.3				34.3					88.2				88.2	118			
B-1132	UD-3	38.5	UD						CH				35.2			51.0	43.1	85	33			82.8			70.0	76.4	109			
B-1133	UD-1	28.0	UD	0.0	60.9	39.1			SM				25.0	27.2	17.3		23.2					97.2	89.3	100.9		95.8	118			
B-1133	UD-2	33.0	UD	NA	NA	14.4			SM				19.0				19.0					93.9				93.9	112			
B-1133	UD-3	38.5	UD	NA	NA	66.2			CL				38.2	42.9	42.9		41.3					79.5	77.0	75.8		77.4	109			
B-1136	UD-2	33.5	UD	NA	NA	19.9			SC-SM				20.9	18.1			19.5					95.8	104.9			100.4	120			
B-1136	UD-3	38.5	UD	NA	NA	36.9			SM							71.1	71.1	107	58						55.0	55.0	94			
B-1136	UD-4	43.5	UD						SM				68.5				68.5					58.5				58.5	99			
B-1138	SS-2	1.5	SS	0.0	65.5	34.5			SC			18.0					18.0													
B-1138	SS-4	6.0	SS	0.0	87.7	12.3			SM			13.0					13.0													
B-1138	SS-6	11.0	SS	0.0	94.4	5.6			SP-SM			13.3					13.3													
B-1138	SS-8	18.5	SS	1.1	81.1	17.8			SM			20.0					20.0													
B-1138	SS-10	28.5	SS	0.0	67.3	32.7			SC			31.4					31.4													
B-1139	UD-1	28.5	UD	0.0	81.9	18.1			SC			19.8					19.8													
B-1139	UD-2	33.5	UD	NA	NA	16.1			SC				19.3	25.0			22.2					106.3	88.7			97.5	119			
B-1139	UD-3	38.5	UD	NA	NA	30.7			SC									65	24											
B-1155	SS-3	3.5	SS	19.4	78.0	2.6			SP											2.65										
B-1155	SS-6	11.0	SS						CL									37	22	2.73										
B-1155	SS-10	28.5	SS						SP									NV	NP											
B-1155	SS-11	33.5	SS						MH									55	41											
B-1155	SS-14B	48.5	SS	0.0	95.7	4.3			SP			23.9					23.9			2.74										
B-1155	SS-18	68.5	SS	0.0	92.3	7.7	1.5	6.2	SP-SC			25.2					25.2													
B-1155	SS-21	83.5	SS	0.0	95.7	4.3			SP			14.0					14.0													
B-1155	SS-22	88.5	SS						CH									112	39											
B-1155	SS-25	103.5	SS	0.2	91.8	8.0	2.8	5.2	SP-SC			20.8					20.8													
B-1155	SS-27	113.5	SS						SP									NV	NP											
B-1155	SS-34	148.5	SS						CL									34	18											
B-1156	SS-4	6.0	SS	0.0	9.1	90.9	32.4	58.5	CH									100	39	2.76										
B-1156	SS-6	11.0	SS						ML									44	34	2.67										
B-1156	SS-8	18.5	SS						CH			32.2					32.2	61	22											
B-1156	SS-10	28.5	SS	0.0	93.5	6.5			SP-SC																					
B-1156	SS-12	48.5	SS						CL			35.9					35.9	39	17											
B-1156	SS-13	53.5	SS	0.0	92.5	7.5			SP-SM																					
B-1156	SS-16	68.5	SS	0.0	94.9	5.1	1.9	3.2	SP-SC																					

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o						LL	PL	G_s	Dry Density (pcf) at e_o						Wet	pH	Chloride	Sulfate
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.				SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.			
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-1156	SS-18	78.5	SS	0.6	93.1	6.3			SP-SM																				
B-1156	SS-21	98.5	SS	4.4	83.5	12.1	6.1	6.0	SC-SM																				
B-1157	SS-3	3.5	SS	0.0	98.9	1.1			SP			17.5					17.5			2.66								
B-1157	SS-6	11.0	SS						ML									39	26	2.65								
B-1157	SS-8	18.5	SS						MH									59	42	2.56								
B-1157	SS-11	33.5	SS						CH									56	22									
B-1157	SS-14A	48.5	SS						CL									44	17									
B-1157	SS-16	58.5	SS	0.0	76.7	23.3			SC			32.9					32.9											
B-1157	SS-19	73.5	SS	0.0	88.7	11.3	1.8	9.5	SP-SC			33.7					33.7											
B-1157	SS-21	83.5	SS	0.5	96.2	3.3			SP			25.1					25.1											
B-1157	SS-25	103.5	SS	0.0	73.4	26.6	14.4	12.2	SC-SM			32.8					32.8											
B-1157	SS-26	108.5	SS						CL			26.7					26.7	43	20									
B-1159	SS-3	3.5	SS						CH									58	30	2.78								
B-1159	SS-6	11.0	SS						CH									50	28	2.58								
B-1159	SS-5	18.5	SS						ML									NV	NP	2.59								
B-1159	SS-8	18.5	SS						ML									NV	NP									
B-1159	SS-12	38.5	SS	45.1	34.5	20.4			GM																			
B-1159	SS-14	48.5	SS	0.0	84.8	15.2			SC																			
B-1159	SS-16	58.5	SS	0.0	88.3	11.7			SP-SC																			
B-1159	SS-22	88.5	SS						SP-SC									69	27									
B-1161	SS-3	3.5	SS						MH									56	32									
B-1161	SS-4	6.0	SS						CL									36	23									
B-1161	SS-6	11.0	SS						CL									40	25									
B-1161	SS-10	28.5	SS	0.9	94.9	4.2			SP											2.70								
B-1161	SS-11	33.5	SS						MH									78	41									
B-1161	SS-12	38.5	SS						MH									86	47	2.59								
B-1161	SS-14	48.5	SS	0.0	91.5	8.5			SP-SM																			
B-1161	SS-22	88.5	SS						CH									69	27									
B-1162	SS-3	3.5	SS						CH									58	28									
B-1162	SS-4	6.0	SS						MH									50	29									
B-1162	SS-6	11.0	SS						ML									NV	NP	2.76								
B-1162	SS-10	33.5	SS						CL									33	20									
B-1162	SS-11	38.5	SS						CL									37	20									
B-1162	SS-13A	48.5	SS	0.0	89.2	10.8			SP-SM																			
B-1162	SS-16	73.5	SS	0.0	93.9	6.1			SP-SC																			
B-1162	SS-20	93.5	SS						CH									87	33									
B-1162	SS-26	138.5	SS	0.2	85.9	13.9			SM																			
B-1162	SS-29	158.5	SS	1.6	63.6	34.8			SC																			
B-1162	SS-31	188.5	SS						CH									51	25									
B-1162	UD-1	13.5	UD						ML				45.5	38.7	38.1		40.8					74.4	82.8	82.4		79.9	112			
B-1162	UD-2	53.5	UD	0.0	95.2	4.8			SP							21.9	21.9	50	19	2.68					102.3	102.3	125			
B-1162	UD-3	58.5	UD						SM				27.0	23.8	23.7		24.8					93.8	96.0	96.3		95.4	119			
B-1162	UD-7	168.5	UD	0.3	81.6	19.1			SC							9.5	9.5	56	21	2.65					110.8	110.8	121			
B-1163	SS-2	1.5	SS						MH									65	35									
B-1163	SS-3	3.5	SS						MH									58	33									
B-1163	SS-10	28.5	SS						CH									68	29									
B-1163	SS-11	33.5	SS						CH									60	25									
B-1163	SS-12	38.5	SS						CH									64	30									
B-1163	SS-15	53.5	SS	0.0	95.3	4.7			SP																			

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o					LL	PL	G_s	Dry Density (pcf) at e_o						Wet	pH	Chloride	Sulfate
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.				SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.			
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-1163	SS-19	73.5	SS	0.2	91.8	8.0			SP-SM																			
B-1163	SS-22	88.5	SS						CH								98	38										
B-1164	UD-1	28.0	UD						SP-SC				13.7	14.4	16.9		15.0	95	25			96.6	95.6	93.9		95.4	110			
B-1164	UD-2	38.0	UD	0.0	66.7	33.3			SC				25.5	25.4	34.2		28.4	70	27			88.2	91.3	82.7		87.4	112			
B-1164	UD-3	73.0	UD						CL				30.2				30.2					90.3				90.3	118			
B-1164	UD-4	98.0	UD	6.4	27.4	66.2			MH							26.4	26.4	66	34						90.8	90.8	115			
B-1164	UD-5	103.0	UD						CL				19.5				19.5					110.8				110.8	132			
B-1185	SS-2	1.5	SS	0.0	89.9	10.1			SP-SM			7.8					7.8												
B-1185	SS-4	6.0	SS	0.4	79.1	20.5			SC			11.0					11.0	46	15										
B-1185	SS-6	11.0	SS	0.0	72.0	28.0			SC			16.3					16.3	75	26										
B-1185	SS-11	33.5	SS	0.2	77.5	22.3			SC			34.4					34.4	96	33										
B-1186	SS-1	0.0	SS	0.0	90.8	9.2			SP-SM			6.9					6.9												
B-1186	SS-3	3.5	SS	0.0	90.6	9.4			SP-SM			8.8					8.8												
B-1186	SS-5	8.5	SS	0.0	76.2	23.8			SC			15.6					15.6												
B-1186	SS-7	13.5	SS	0.0	67.6	32.4			SC			19.3					19.3	57	22										
B-1186	SS-12	38.5	SS	0.0	78.2	21.8			SC-SM			23.6					23.6												
B-1189	SS-2	1.5	SS	0.0	92.6	7.4			SP-SM																				
B-1189	SS-4	6.0	SS	NA	NA	4.1			SP																				
B-1189	SS-6	11.0	SS	NA	NA	21.8			SC																				
B-1189	SS-7	13.5	SS	4.5	56.2	39.3			SC									53	27										
B-1189	SS-8	18.5	SS	NA	NA	37.6			SC									59	25										
B-1189	SS-10	28.5	SS	0.0	76.3	23.7			SM																				
B-1189	SS-12	38.5	SS	NA	NA	28.7			SC									42	22										
B-1189	SS-14	48.5	SS	0.0	91.4	8.6			SP-SM																				
B-1194	SS-1	0.0	SS	0.0	93.4	6.6			SP-SM																				
B-1194	SS-3	3.5	SS	0.0	92.9	7.1			SP-SM									NV	NP										
B-1194	SS-5	8.5	SS	0.0	77.9	22.1			SM									NV	NP										
B-1194	SS-7	13.5	SS	0.0	70.5	29.5			SM																				
B-1194	SS-9	23.5	SS	0.0	79.3	20.7			SC																				
B-1194	SS-11	33.5	SS	0.0	89.2	10.8			SP-SM																				
B-1194	SS-13	43.5	SS	0.0	88.2	11.8			SP-SC																				
B-1195	SS-2	1.5	SS	0.0	92.9	7.1			SP-SM			5.4					5.4	NV	NP										
B-1195	SS-4	6.0	SS	0.0	93.2	6.8			SP-SM			7.2					7.2	NV	NP										
B-1195	SS-6	11.0	SS	0.0	81.6	18.4			SC			14.5					14.5												
B-1195	SS-8	18.5	SS	0.0	77.2	22.8			SC			13.5					13.5												
B-1195	SS-10	28.5	SS	0.0	80.7	19.3			SC			19.7					19.7												
B-1195	SS-12	38.5	SS	0.0	74.8	25.2			SC			33.1					33.1												
B-1195	SS-14	48.5	SS	0.0	64.4	35.6			SC			39.8					39.8												
B-1196	SS-1	0.0	SS	0.0	93.0	7.0			SP-SM																				
B-1196	SS-3	3.5	SS	0.0	92.6	7.4			SP-SM																				
B-1196	SS-5	8.5	SS	0.0	93.3	6.7			SP-SM																				
B-1196	SS-7	13.5	SS	0.0	82.6	17.4			SM									NV	NP										
B-1196	SS-9	23.5	SS	0.6	81.0	18.4			SM									NV	NP										
B-1196	SS-11	33.5	SS	0.0	68.3	31.7			SC																				
B-1196	SS-13	43.5	SS	0.0	78.4	21.6			SC																				
B-1197	SS-2	1.5	SS	0.0	90.1	9.9			SP-SM			5.6					5.6	NV	NP										
B-1197	SS-4	6.0	SS	0.0	87.7	12.3			SM			14.2					14.2												
B-1197	SS-6	11.0	SS	0.0	86.2	13.8			SM			11.9					11.9	NV	NP										
B-1197	SS-8	18.5	SS	0.0	91.6	8.4			SP-SM			13.5					13.5												

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o								Dry Density (pcf) at e_o						Wet				
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL	G_s	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.	pH	Chloride	Sulfate
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-1197	SS-10	28.5	SS	0.0	89.5	10.5			SP-SM			17.1					17.1												
B-1197	SS-12	38.5	SS	0.0	91.9	8.1			SP-SM			5.9					5.9												
B-1197	SS-14	48.5	SS	0.0	56.7	43.3			SM			48.5					48.5												
B-3001	SS-2	1.5	SS	NA	NA	25.1			SM																				
B-3001	SS-4	6.0	SS	NA	NA	7.4			MH																				
B-3001	SS-6	11.0	SS	0.0	69.7	30.3			SM																				
B-3001	SS-7	13.5	SS	NA	NA	27.7			SM																				
B-3001	SS-8	18.5	SS	0.0	80.0	20.0			SM																				
B-3001	SS-10	28.5	SS	0.0	71.5	28.5			SM																				
B-3001	SS-11	33.5	SS	NA	NA	34.2			SM			29.7					29.7												
B-3001	SS-12	38.5	SS	0.0	74.3	25.7			SC																				
B-3001	SS-13	43.5	SS	NA	NA	6.1			SP-SM																				
B-3001	SS-15	53.5	SS	0.0	95.2	4.8			SP																				
B-3001	SS-16	58.5	SS	0.0	93.6	6.4			SP-SM																				
B-3001	UD-3	108.5	UD						CL							27.2	27.2								94.9	94.9	121			
B-3001	UD-4	113.5	UD	NA	NA	57.8			CH				23.9	33.1			28.5	63	33	2.66		94.3	86.7			90.5	116			
B-3001	UD-5	133.5	UD	NA	NA	67.5			CL				25.8			29.7	27.8	47	23	2.61		97.2			91.6	94.4	121			
B-3001	UD-6	153.5	UD						CL				24.8	26.6			25.7					99.3	97.5			98.4	124			
B-3001	UD-8	173.5	UD	NA	NA	11.6			SP-SC							24.2	24.2	43	24	2.65					99.1	99.1	123			
B-3001	UD-9	193.5	UD						SP-SC				28.1				28.1					95.0				95.0	122			
B-3001	UD-10	208.5	UD	NA	NA	17.0			SP-SC				21.2	21.5	21.5		21.4	74	28			106.0	105.4	99.4		103.6	126			
B-3001	UD-14	388.5	UD						CL				32.8	26.9	25.0		28.2					85.8	98.0	100.5		94.8	121			
B-3002	SS-3	3.5	SS	NA	NA	18.7			SM																				
B-3002	SS-4	6.0	SS	NA	NA	35.2			SC-SM																				
B-3002	SS-8	18.5	SS	NA	NA	17.5			SC-SM																				
B-3002	SS-12	38.5	SS	NA	NA	11.7			SP-SC																				
B-3002	SS-15	53.5	SS	NA	NA	6.3			SP-SC																				
B-3002	SS-17	63.5	SS	0.0	84.3	15.7			SC			47.0					47.0	137	31										
B-3002	SS-22	88.5	SS	0.0	2.5	97.5			MH			47.9					47.9	93	46										
B-3002	SS-25	108.5	SS	0.0	29.8	70.2			CH			33.4					33.4	93	35										
B-3002	UD-1	97.0	UD	NA	NA	75.1			MH				41.2	41.2	38.0		40.1	94	40			73.0	74.8	77.8		75.2	105			
B-3002	UD-2	113.5	UD	NA	NA	46.1			SM							39.3	39.3	76	35	2.65					73.0	73.0	102			
B-3003	SS-2	1.5	SS	NA	NA	33.3			SC																				
B-3003	SS-4	6.0	SS	NA	NA	18.9			SM																				
B-3003	SS-9	23.5	SS	NA	NA	14.7			SM																				
B-3003	SS-11	33.5	SS	NA	NA	55.3			ML																				
B-3003	SS-15	53.5	SS	NA	NA	10.1			SP-SM																				
B-3003	SS-16	58.5	SS	NA	NA	15.4			SM																				
B-3003	SS-22	88.5	SS	0.0	4.6	95.4			MH			42.3					42.3	98	45										
B-3003	SS-23	93.5	SS	0.0	11.7	88.3			MH			48.8					48.8	95	43										
B-3003	SS-24	113.5	SS	37.0	22.2	40.8			GM			22.0					22.0	60	32										
B-3003	SS-27	128.5	SS	0.0	23.3	76.7			CL			28.5					28.5	49	27										
B-3003	UD-2	103.0	UD						CL				33.9	24.4		37.6	32.0					84.7	99.8		75.0	86.5	114			
B-3003	UD-5	148.0	UD	NA	NA	63.7			CH				30.0	27.4	17.7		25.0	55	21			89.1	96.2	108.8		98.0	122			
B-3003	UD-6	163.0	UD	NA	NA	20.8			SC				20.4	19.9	20.0		20.1					99.4	101.2	102.7		101.1	121			
B-3004	SS-3	3.5	SS	NA	NA	24.1			SC																				
B-3004	SS-5	8.5	SS	NA	NA	27.6			SC																				
B-3004	SS-8	18.5	SS	NA	NA	7.3			SP-SM																				
B-3004	SS-12	38.5	SS	0.0	77.2	22.8			SC			28.2					28.2	63	31										

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o								G_s	Dry Density (pcf) at e_o						Wet	pH	Chloride	Sulfate
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL		SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.			
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-3004	SS-14	48.5	SS	NA	NA	13.9			SC																				
B-3004	SS-16	58.5	SS	NA	NA	5.3			SP-SM																				
B-3004	SS-23	98.5	SS	0.0	7.4	92.6			MH			32.2					32.2	80	43										
B-3004	SS-26	118.5	SS	0.0	27.2	72.8			MH			39.1					39.1	60	32										
B-3004	UD-1	93.0	UD						MH				42.0	39.9	31.2		37.7	97	53			74.6	76.1	79.5		76.7	106			
B-3004	UD-2	113.0	UD						CL				21.6				21.6					102.2				102.2	124			
B-3005	SS-3	3.5	SS	0.0	76.5	23.5			SC			14.1					14.1	34	18										
B-3005	SS-6	11.0	SS	0.0	86.0	14.0			SM			5.9					5.9	NV	NP										
B-3005	SS-9	23.5	SS	0.0	87.2	12.8			SC			12.2					12.2	47	21										
B-3005	SS-14	48.5	SS	0.0	90.4	9.6			SP-SM			19.2					19.2	NV	NP										
B-3005	SS-23	103.5	SS	0.0	10.4	89.6			MH			38.5					38.5	109	47										
B-3005	SS-25	123.5	SS	1.4	23.5	75.1			CH			29.8					29.8	50	24										
B-3005	UD-1	93.0	UD	NA	NA	92.7			CL-ML				46.8	49.6	55.0		50.5					69.2	69.7	66.2		68.4	103			
B-3005	UD-3	118.0	UD						CL-ML				42.4	38.4	27.6		36.1					77.5	81.0	95.2		84.6	115			
B-3005	UD-4	138.0	UD	NA	NA	65.0			CH				16.8	27.0	25.0		22.9	52	24			103.0	97.3	100.1		100.1	123			
B-3006	SS-4	6.0	SS	NA	NA	31.1			SC-SM																				
B-3006	SS-7	13.5	SS	NA	NA	30.5			SC-SM																				
B-3006	SS-9	23.5	SS	NA	NA	19.1			SM																				
B-3006	SS-15	53.5	SS	NA	NA	7.1			SP-SC																				
B-3006	SS-23	93.5	SS	0.0	29.3	70.7			MH			31.9					31.9	67	39										
B-3006	SS-25	103.5	SS	0.0	8.8	91.2			MH			42.2					42.2	80	42										
B-3006	SS-30	128.5	SS	0.0	22.1	77.9			CL			27.9					27.9	43	26										
B-3006	SS-33	143.5	SS	46.0	24.6	29.4			GC			14.3					14.3	49	20										
B-3007	SS-5	8.5	SS	NA	NA	20.1			SM																				
B-3007	SS-9	23.5	SS	NA	NA	19.7			SM																				
B-3007	SS-14	48.5	SS	NA	NA	10.5			SP-SC																				
B-3007	SS-23	93.5	SS	0.0	8.6	91.4			MH			42.2																		
B-3007	SS-26	108.5	SS	0.0	10.8	89.2			CH			41.6					41.6	112	64										
B-3008	SS-2	1.5	SS	0.0	77.8	22.2			SC																				
B-3008	SS-3	3.5	SS	10.4	62.0	27.6			SC																				
B-3008	SS-4	6.0	SS	0.0	75.5	24.5			SC																				
B-3008	SS-6	11.0	SS	0.0	79.1	20.9	1.9	19.0	SC			15.1					15.1											5.09	140.0	19.0
B-3008	SS-9	23.5	SS	0.0	89.6	10.4			SP-SM																				
B-3008	SS-10	28.5	SS	0.0	73.4	26.6			SC									55	25										
B-3008	SS-11	33.5	SS	NA	NA	31.5			SC																				
B-3008	SS-12	38.5	SS	NA	NA	31.1			SC																				
B-3008	SS-13	43.5	SS	0.0	85.5	14.5			SC									42	23										
B-3008	SS-15	53.5	SS	NA	NA	5.4			SP-SC																				
B-3008	SS-16	58.5	SS	0.0	84.4	15.6	1.1	14.5	SC			31.4					31.4											5.53	390.0	14.0
B-3008	SS-27	113.5	SS						MH									58	36										
B-3008	SS-29	123.5	SS						CH									61	30									7.49	150.0	2400.0
B-3009	SS-4	6.0	SS	NA	NA	21.3			SM																				
B-3009	SS-9	23.5	SS	NA	NA	6.8			SP-SM																				
B-3009	SS-13	43.5	SS	NA	NA	14.8			SM																				
B-3009	SS-24	98.5	SS	0.0	28.6	71.4			CH			32.4					32.4	65	31										
B-3009	SS-30	128.5	SS	0.0	34.1	65.9			CL			24.8					24.8	46	22										
B-3010	SS-3	3.5	SS	NA	NA	21.6			SC																				
B-3010	SS-5	8.5	SS	NA	NA	39.3			SC																				
B-3010	SS-8	18.5	SS	NA	NA	8.3			SP-SM																				

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o								Dry Density (pcf) at e_o						Wet				
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL	G_s	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.	pH	Chloride	Sulfate
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-3010	SS-25	108.5	SS	0.0	9.2	90.8			CL			36.8					36.8												
B-3010	SS-28	123.5	SS	9.5	34.4	56.1			CL			22.0					22.0	41	21										
B-3010	SS-31	143.5	SS	1.1	36.7	62.2			CL			24.7					24.7	45	21										
B-3010	UD-1	103.5	UD						CL				6.0	43.3	41.3		30.2					103.4	76.4	78.7		86.2	110			
B-3010	UD-2	128.5	UD	NA	NA	75.4			CL				28.6				28.6					93.0				93.0	120			
B-3013	UD-1	98.5	UD	NA	NA	60.4			MH							31.4	31.4	66	37	2.66					84.2	84.2	111			
B-3013	UD-2	101.0	UD						CL-ML				10.6	40.2	26.9		25.9			2.66		100.2	77.2	84.5		87.3	109			
B-3013	UD-3	118.5	UD						GP				15.2				15.2					94.0				94.0	108			
B-3013	UD-4	121.0	UD						CL-ML				41.5	28.9	23.8		31.4					86.6	92.4	91.4		90.1	118			
B-3015	SS-3	3.5	SS	NA	NA	16.0			SM			12.4					12.4												
B-3015	SS-5	8.5	SS	NA	NA	42.1			SC			15.0					15.0												
B-3015	SS-12	38.5	SS	NA	NA	29.0			SC-SM			38.2					38.2												
B-3015	SS-14	48.5	SS	NA	NA	9.8			SP-SM			24.0					24.0												
B-3015	SS-25	103.5	SS	0.0	14.5	85.5			MH			42.4					42.4	50	30										
B-3015	UD-1C	121.5	UD	NA	NA	62.2			CH				30.4			27.6	29.0	52	27			89.1			91.1	90.1	116			
B-3015	UD-2	143.5	UD						CH				17.6				17.6					111.7				111.7	131			
B-3017	SS-1	0.0	SS	0.0	85.6	14.4			SC																				
B-3017	SS-3	3.5	SS	NA	NA	15.8			SC																				
B-3017	SS-5	8.5	SS	0.0	81.0	19.0			SM																				
B-3017	SS-7	13.5	SS	NA	NA	31.6			SC																				
B-3017	SS-9	23.5	SS	NA	NA	95.5			MH									107	52										
B-3017	UD-1	93.0	UD	NA	NA	68.7			MH							34.3	34.3	65	36	2.63					84.9	84.9	114			
B-3017	UD-2	113.5	UD						CL				21.7	24.1	24.5		23.4					102.1	99.6	99.0		100.2	124			
B-3018	SS-4	6.0	SS	NA	NA	13.9			SC			8.1					8.1												
B-3018	SS-7	13.5	SS	NA	NA	19.9			SC			15.9					15.9												
B-3018	SS-10	28.5	SS	NA	NA	19.3			SM			20.1					20.1												
B-3018	SS-25	108.5	SS	0.0	30.9	69.1			MH			32.0					32.0	66	33										
B-3018	SS-28	128.5	SS	NA	NA	75.1			CL			24.9					24.9	46	22										
B-3018	SS-31	143.5	SS	1.8	22.6	75.6			CL			28.3					28.3	34	23										
B-3018	UD-2	113.5	UD	NA	NA	75.7			MH				21.4				21.4	63	37			99.7				99.7	121			
B-3018	UD-3	148.5	UD						CL				23.1				23.1					102.2				102.2	126			
B-3019	SS-3	3.5	SS	NA	NA	34.5			SM																				
B-3019	SS-8	18.5	SS	0.5	81.7	17.8			SM																				
B-3019	SS-25	108.5	SS	0.0	15.1	84.9			MH			38.9					38.9	71	35										
B-3019	SS-26	123.5	SS	0.0	14.4	85.6			CH			38.4					38.4	55	28										
B-3019	UD-1	93.5	UD						ML				55.1	43.4	43.8		47.4					68.4	75.2	75.2		72.9	107			
B-3019	UD-2	113.5	UD	NA	NA	30.3			GM							45.5	45.5								71.2	71.2	104			
B-3019	UD-3	118.5	UD						GM				28.8				28.8					92.4				92.4	119			
B-3020	UD-1	103.5	UD						CL-ML				32.8				32.8					83.4				83.4	111			
B-3020	UD-2	133.5	UD						CL-ML				52.9	28.9	29.2		37.0					80.1	91.6	93.0		88.2	120			
B-3021	UD-1	103.5	UD						CL-ML				30.2				30.2					88.6				88.6	115			
B-3021	UD-2	148.5	UD	0.5	91.6	7.9			SP-SM				20.7	15.8	16.0		17.5					98.1	101.8	98.0		99.3	117			
B-3021	UD-3	153.5	UD	0.0	87.5	12.5			SM			19.3					19.3												
B-3023	UD-1	93.0	UD						CL				29.9				29.9					89.3				89.3	116			
B-3023	UD-2	103.0	UD	NA	NA	44.8			CH							32.4	32.4	62	26						87.1	87.1	115			
B-3023	UD-3	113.0	UD						CL				38.5	25.6			32.1					80.4	94.5			87.5	115			
B-3023	UD-4	148.0	UD						SP-SM				24.5				24.5					102.1				102.1	127			
B-3024	SS-3	3.5	SS	NA	NA	13.5			SM																				
B-3024	SS-6	11.0	SS	NA	NA	24.9			SM																				

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o								G_s	Dry Density (pcf) at e_o					Wet				
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL		SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.	pH	Chloride	Sulfate
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-3024	SS-8	18.5	SS	NA	NA	30.8			SC																					
B-3024	SS-11	33.5	SS	NA	NA	41.6			SC																					
B-3024	SS-15	53.5	SS	NA	NA	13.2			SC																					
B-3024	SS-17	63.5	SS	NA	NA	8.4			SP-SC																					
B-3024	UD-1	97.0	UD						CH				40.0	40.1	36.7		38.9					80.0	76.7	80.8		79.2	110			
B-3024	UD-2	117.5	UD	NA	NA	69.1			CH							45.9	45.9	67	32						73.1	73.1	107			
B-3025	SS-4	6.0	SS	NA	NA	22.8			SC																					
B-3025	SS-7	13.5	SS	NA	NA	24.0			SC																					
B-3025	SS-10	28.5	SS	NA	NA	15.2			SC																					
B-3025	SS-11	33.5	SS	NA	NA	38.3			SC																					
B-3025	UD-1	103.5	UD						ML				38.6				38.6					78.6				78.6	109			
B-3025	UD-2	133.5	UD	NA	NA	64.9			CH				22.7				22.7	53	23			99.0				99.0	122			
B-3026	UD-1	28.5	UD	NA	NA	24.0			SC				19.1	30.8	12.8		20.9					97.8	81.5	100.7		93.3	112			
B-3026	UD-2	33.5	UD						SC				25.9	26.1	29.8		27.3					89.0	88.8	86.9		88.3	112			
B-3026	UD-3	38.5	UD	NA	NA	20.6			SC				23.3	22.4	18.5		21.4					94.1	99.1	101.4		98.2	119			
B-3030	UD-1	30.0	UD	0.0	91.9	8.1			SP-SM																					
B-3030	UD-2	35.0	UD	0.0	93.3	6.7			SP-SM			22.0					22.0			2.72	91					91.0	111	7.51	120.0	120.0
B-3030	UD-3	40.0	UD						SC				16.9	14.7	14.6		15.4					104.6	107.3	101.1		104.3	120			
B-3031	UD-1	30.0	UD	0.0	95.7	4.3			SP			22.0					22.0													
B-3031	UD-2	33.5	UD	0.0	76.6	23.4			SM			17.4					17.4													
B-3031	UD-3	38.5	UD						SP-SM				18.6	18.0	25.2		20.6					90.6	91.3	85.8		89.2	108	4.74	120.0	120.0
B-3033	UD-1	13.5	UD	0.0	91.5	8.5			SP-SM											2.69								5.96	110.0	110.0
B-3033	UD-2	28.5	UD	0.0	85.3	14.7			SM			24.9					24.9													
B-3033	UD-3	33.5	UD	0.0	90.4	9.6			SP-SM			18.3					18.3													
B-3033	UD-4	38.5	UD						SM				24.8	16.5	18.1		19.8			2.72		90.9	86.7	85.5		87.7	105			
B-3034	UD-1	28.5	UD	0.0	89.5	10.5			SP-SM			17.2					17.2													
B-3034	UD-2	33.5	UD	0.0	85.8	14.2			SM																			8.80	120.0	120.0
B-3034	UD-4	118.5	UD	0.4	30.6	69.0			MH				32.8	27.2	28.3		29.4	68	36			87.5	95.0	90.9		91.1	118			
B-3034	UD-5	138.5	UD	0.1	84.4	15.5			SC							16.4	16.4	40	19	2.65					95.8	95.8	111			
B-3035	UD-1	95.5	UD	NA	NA	90.8			MH							42.5	42.5	93	47						75.8	75.8	108			
B-3035	UD-2	103.5	UD						CL-ML				30.1	25.9	26.3		27.4					84.1	88.4	86.1		86.2	110			
B-3035	UD-3	133.5	UD						CL-ML							28.3	28.3								93.3	93.3	120			
B-3035	UD-4	148.5	UD						CL-ML				17.9				17.9					109.8				109.8	129			
B-3036	SS-3	3.5	SS	1.0	79.8	19.2			SM			13.3					13.3													
B-3036	SS-6	11.0	SS	2.0	82.2	15.8			SM			13.3					13.3													
B-3036	SS-11	33.5	SS	0.0	53.1	46.9	7.8	39.1	SC																					
B-3036	SS-13	43.5	SS	0.0	87.1	12.9			SM			39.5					39.5													
B-3036	SS-18	68.5	SS	0.0	76.5	23.5	5.6	17.9	SC																					
B-3036	SS-21	83.5	SS	0.4	37.5	62.1			ML			60.1					60.1													
B-3036	SS-22	88.5	SS	8.2	45.4	46.4			SM			48.4					48.4													
B-3036	SS-24	98.5	SS						MH									69	37											
B-3036	SS-27	113.5	SS						CH									51	26											
B-3036	SS-35	153.5	SS	9.4	81.1	9.5			SP-SC			20.0					20.0													
B-4001	SS-2	1.5	SS	NA	NA	12.6			SM																					
B-4001	SS-5	8.5	SS	0.0	74.6	25.4			SC									49	24											
B-4001	SS-7	13.5	SS	0.0	91.8	8.2			SP-SM																					
B-4001	SS-9	23.5	SS	NA	NA	57.2			MH									110	49											
B-4001	SS-11	33.5	SS	NA	NA	21.2			SC																					
B-4001	SS-13	43.5	SS	0.0	72.3	27.7			SM									50	30											

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o									Dry Density (pcf) at e_o						Wet			
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL	G_s	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.	pH	Chloride	Sulfate
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-4001	SS-23	93.5	SS	0.9	17.4	81.7			MH			45.3					45.3	101	54											
B-4001	SS-25	108.5	SS	0.0	33.0	67.0			MH			29.8					29.8	51	29											
B-4001	SS-28	138.5	SS	0.0	20.2	79.8			ML			26.7					26.7	38	25											
B-4001	SS-29	143.5	SS	0.0	25.8	74.2			CH			30.2					30.2	56	26											
B-4001	SS-31	153.5	SS	0.0	26.8	73.2			CL			28.2					28.2	44	22											
B-4001	UD-3	148.5	UD	NA	NA	44.1			SM				15.2				15.2	96	59			111.0				111.0	128			
B-4001	UD-5	133.5	UD	NA	NA	57.1			CL				15.4				15.4	50	28			114.9				114.9	133			
B-4001	UD-6	158.5	UD						ML				25.9				25.9					97.1				97.1	122			
B-4001	UD-7	178.5	UD	0.9	73.9	25.2			SM				40.0	25.4			32.7					78.8	96.9			87.8	116			
B-4001	UD-8	198.5	UD	NA	NA	19.7			SM			27.9																		
B-4001	UD-9	238.5	UD	NA	NA	69.6			ML				18.6				18.6	45	27			112.5				112.5	133			
B-4001	UD-10	248.5	UD						SP							16.5	16.5			2.65					106.7	106.7	124			
B-4001	UD-12	298.5	UD	NA	NA	13.7			SM				12.6				12.6					101.3				101.3	114			
B-4001	UD-13	308.5	UD	NA	NA	67.4			CL							16.7	16.7	49	22	2.68					114.2	114.2	133			
B-4001	UD-14	348.5	UD						CH				19.9				19.9					106.1				106.1	127			
B-4002	SS-4	6.0	SS	NA	NA	8.0			SP-SM																					
B-4002	SS-7	13.5	SS	NA	NA	47.2			SC																					
B-4002	SS-9	23.5	SS	NA	NA	13.3			SM																					
B-4002	SS-11	33.5	SS	NA	NA	36.2			SC																					
B-4002	SS-16	58.5	SS	NA	NA	10.2			SP-SM																					
B-4002	SS-19	73.5	SS	NA	NA	6.2			SP-SM																					
B-4002	SS-23	103.5	SS	0.0	19.3	80.7			MH			40.2					40.2	81	38											
B-4002	SS-26	118.5	SS	0.0	13.0	87.0			CH			38.9					38.9	78	35											
B-4002	SS-30	143.5	SS	0.0	30.4	69.6			CL			30.3					30.3	49	23											
B-4002	UD-1	98.5	UD						ML				40.4	33.1	41.7		38.4					75.5	80.3	75.1		77.0	106			
B-4002	UD-2	123.5	UD						ML							40.9	40.9			2.65					76.4	76.4	108			
B-4002	UD-3	173.5	UD	NA	NA	5.4			SP-SM				17.5	18.3			17.9					105.0	104.8			104.9	124			
B-4002	UD-4	233.5	UD						CL				27.7				27.7					94.1				94.1	120			
B-4003	SS-4	11.0	SS	NA	NA	20.8			SC																					
B-4003	SS-10	28.5	SS	0.0	71.2	28.8			SC			22.4					22.4													
B-4003	SS-14	48.5	SS	NA	NA	20.3			SC																					
B-4003	SS-24	98.5	SS	NA	NA	94.1			MH			50.8					50.8	98	51											
B-4003	SS-26	108.5	SS	1.6	35.4	63.0			MH			30.2					30.2	61	32											
B-4003	SS-32	148.5	SS	0.0	25.7	74.3			CL			25.5					25.5	45	25											
B-4003	UD-1	117.0	UD						ML				25.2				25.2					98.4				98.4	123			
B-4003	UD-2	136.0	UD						ML							34.3	34.3								85.4	85.4	115			
B-4003	UD-5	201.0	UD	NA	NA	18.3			SM				29.7	31.6	32.3		31.2			2.7		88.2	88.3	82.7		86.4	113			
B-4003	UD-6	248.5	UD	NA	NA	17.8			SM																					
B-4004	SS-5	8.5	SS	0.0	75.1	24.9			SM			14.7					14.7			2.75										
B-4004	SS-6	11.0	SS	NA	NA	22.5			SM																					
B-4004	SS-8	18.5	SS	0.0	92.8	7.2			SP-SM			12.6					12.6			2.69										
B-4004	SS-11	33.5	SS	0.0	43.1	56.9	9.3	47.6	CL																					
B-4004	SS-14	48.5	SS	0.0	74.0	26.0	5.8	20.2	SC																			5.47	150.0	20.0
B-4004	SS-16	58.5	SS	NA	NA	11.3			SP-SC																					
B-4004	SS-17	63.5	SS	10.5	70.9	18.6			SC			31.5					31.5													
B-4004	SS-19	73.5	SS	2.1	81.4	16.5			SM			24.2					24.2											8.89	130.0	20.0
B-4004	SS-22	88.5	SS	9.5	82.3	8.2			SW-SM			24.0					24.0											9.24	130.0	30.0
B-4004	SS-24	98.5	SS						MH			46.2					46.2	95	50											
B-4004	SS-25	103.5	SS	0.0	5.7	94.3			MH			50.7					50.7	97	50											

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o						LL	PL	G_s	Dry Density (pcf) at e_o						Wet	pH	Chloride	Sulfate
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.				SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.			
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-4004	SS-28	118.5	SS						MH									57	32									7.62	150.0	2600.0
B-4004	SS-31	133.5	SS						MH									66	33											
B-4004	SS-34	148.5	SS	0.0	26.3	73.7			CL			31.0					31.0	49	25											
B-4005	SS-5	8.5	SS	NA	NA	13.3			SM																					
B-4005	SS-8	18.5	SS	NA	NA	31.9			SC																					
B-4005	SS-12	38.5	SS	NA	NA	36.9			SC																					
B-4005	SS-24	98.5	SS	0.0	3.1	96.9			MH			52.2					52.2	92	45											
B-4005	SS-26	113.5	SS	1.4	33.7	64.9			MH			31.6					31.6	63	34											
B-4005	SS-29	128.5	SS	0.0	12.1	87.9			MH			45.1					45.1	68	33											
B-4005	SS-32	143.5	SS	0.0	28.5	71.5			CL			21.3					21.3	41	23											
B-4006	SS-6	11.0	SS	NA	NA	24.5			SC																					
B-4006	SS-9	23.5	SS	NA	NA	18.5			SC																					
B-4006	SS-15	53.5	SS	NA	NA	19.3			SM																					
B-4006	SS-29	123.5	SS	0.0	17.8	82.2			MH			45.2					45.2	73	35											
B-4006	SS-33	143.5	SS	0.0	35.3	64.7			CH			17.7					17.7	53	23											
B-4007	SS-3	3.5	SS	NA	NA	19.0			SC																					
B-4007	SS-10	28.5	SS	NA	NA	15.6			SC																					
B-4007	SS-16	58.5	SS	NA	NA	12.5			SC																					
B-4007	SS-25	108.5	SS	0.0	26.0	74.0			MH			40.3					40.3	87	48											
B-4007	SS-28	128.5	SS	1.7	22.8	75.5			MH			38.3					38.3	66	34											
B-4007	UD-1	98.5	UD	NA	NA	59.3			MH				30.7	45.2			38.0	95	52			80.2	71.7			76.0	104				
B-4007	UD-2	118.5	UD	9.4	39.5	51.1			CH							18.8	18.8	53	27						102.1	102.1	121			
B-4007	UD-3	153.5	UD						ML				32.2	26.6	24.6		27.8					87.9	95.6	100.2		94.6	121			
B-4008	SS-4	6.0	SS	NA	NA	26.8			SC																					
B-4008	SS-7	13.5	SS	NA	NA	18.0			SM																					
B-4008	SS-12	38.5	SS	0.0	65.4	34.6			SM			45.9					45.9	81	53											
B-4008	SS-24	108.5	SS	0.0	20.7	79.3			MH			46.4					46.4	96	43											
B-4008	SS-31	153.5	SS	0.0	32.3	67.7			CL			26.6					26.6	47	23											
B-4008	UD-1	98.5	UD						ML				32.6				32.6					71.8				71.8	95			
B-4008	UD-2	103.5	UD						ML				38.1				38.1					80.7				80.7	111			
B-4008	UD-3	123.5	UD	0.0	6.4	94.6			MH							44.6	44.6	76	35	2.61					72.8	72.8	105			
B-4008	UD-4	128.5	UD						ML				27.2				27.2					95.8				95.8	122			
B-4009	SS-5	8.5	SS	NA	NA	19.9			SM																					
B-4009	SS-8	18.5	SS	NA	NA	17.9			SC-SM																					
B-4009	SS-12	38.5	SS	0.0	57.8	42.2			SM			47.0					47.0	45	27											
B-4009	SS-17	63.5	SS	0.0	90.2	9.8			SP-SM																					
B-4009	SS-24	98.5	SS	0.0	6.7	93.3			MH			45.4					45.4	109	62											
B-4009	SS-28	123.5	SS	0.0	20.9	79.1			MH			31.0					31.0	62	32											
B-4009	SS-34	158.5	SS	0.6	29.5	69.9			CH			26.5					26.5	60	26											
B-4009	UD-1	108.0	UD	NA	NA	89.1			MH				41.7	42.5	40.9		41.7	89	48			77.4	76.8	78.1		77.4	110			
B-4009	UD-2	148.0	UD						CL-ML				28.7	27.3	30.4		28.8					93.1	95.9	92.6		93.8	121			
B-4010	SS-5	8.5	SS	NA	NA	19.1			SM																					
B-4010	SS-10	28.5	SS	NA	NA	21.4			SC-SM																					
B-4010	SS-14	48.5	SS	NA	NA	23.7			SC-SM																					
B-4010	SS-25	108.5	SS	0.0	17.9	82.1			MH			38.2					38.2	67	39											
B-4010	SS-29	143.5	SS	0.0	30.1	69.9			CH			31.1					31.1	56	26											
B-4011	SS-5	8.5	SS	NA	NA	23.9			SM																					
B-4011	SS-9	23.5	SS	NA	NA	18.4			SC-SM																					
B-4011	SS-15	53.5	SS	NA	NA	10.2			SP-SM																					
B-4011	SS-23	93.5	SS	0.0	24.0	76.0			MH			30.8					30.8	71	46											

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o								G_s	Dry Density (pcf) at e_o						Wet	pH	Chloride	Sulfate
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL		SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.			
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3							1	2	3			(pcf)		(mg/kg)	(mg/kg)
B-4011	SS-26	108.5	SS	0.0	15.9	84.1			MH			37.2					37.2	65	36											
B-4013	SS-4	6.0	SS	NA	NA	12.4			SM																					
B-4013	SS-10	21.0	SS	NA	NA	31.1			SC																					
B-4013	SS-16	36.0	SS	NA	NA	56.6			CL																					
B-4013	SS-22	51.0	SS	NA	NA	13.1			SC																					
B-4013	UD-2	101.0	UD						CL-ML				38.0				38.0					80.6				80.6	111			
B-4013	UD-3	128.5	UD						CL-ML				27.5	29.6	30.0		29.0					91.3	87.8	85.4		88.2	114			
B-4014	SS-2	1.5	SS	0.0	90.8	9.2			SP-SM																					
B-4014	SS-4	6.0	SS	NA	NA	4.5			SP																					
B-4014	SS-6	11.0	SS	NA	NA	25.7			SC																					
B-4014	SS-8	18.5	SS	0.3	74.2	25.5			SC									51	19											
B-4014	SS-10	28.5	SS	0.0	64.5	35.5			SC-SM																					
B-4014	SS-12	38.5	SS	NA	NA	67.4			MH									95	49											
B-4014	SS-14	48.5	SS	NA	NA	13.1			SC																					
B-4014	SS-16	58.5	SS	0.0	87.2	12.8			SC																					
B-4014	SS-25	103.5	SS	0.0	32.2	67.8			MH			29.9					29.9	56	35											
B-4015	SS-3	3.5	SS	NA	NA	14.9			SM																					
B-4015	SS-16	58.5	SS	NA	NA	6.8			SP-SM																					
B-4015	SS-22	88.5	SS	4.8	13.6	81.6			MH			41.1					41.1	83	49											
B-4015	SS-25	103.5	SS	0.0	17.9	82.1			CH			34.8					34.8	86	37											
B-4015	SS-32	138.5	SS	0.0	25.0	75.0			CL			21.0					21.0	44	21											
B-4016	SS-24	98.5	SS	1.2	19.1	79.7			MH			44.3					44.3	88	45											
B-4017	SS-4	6.0	SS	NA	NA	27.1			SC																					
B-4017	SS-9	23.5	SS	NA	NA	17.0			SC																					
B-4017	SS-30	138.5	SS	0.0	25.3	74.7			CL			34.7					34.7	40	24											
B-4017	UD-1	96.0	UD						ML				62.1				62.1					69.4				69.4	113			
B-4017	UD-3	116.0	UD						ML				23.5				23.5					99.3				99.3	123			
B-4018	UD-1	93.5	UD						CL				42.5	43.9	44.0		43.5					74.4	75.1	95.5		81.7	117			
B-4018	UD-3	103.0	UD						CL				28.2	24.8			26.5					92.2	99.3			95.7	121			
B-4018	UD-4	128.5	UD	NA	NA	81.8			CL							21.3	21.3	35	23			35.0	23.0		97.8	97.8	119			
B-4018	UD-5	138.5	UD						CL				28.9	23.6	24.0		25.5					91.8	98.6	99.3		96.5	121			
B-4022	SS-6	11.0	SS	NA	NA	24.8			SC																					
B-4022	SS-15	53.5	SS	NA	NA	11.4			SP-SC																					
B-4023	SS-3	3.5	SS	NA	NA	30.4			SC																					
B-4023	SS-9	23.5	SS	NA	NA	19.3			SC																					
B-4026	SS-4	6.0	SS	NA	NA	11.0			SP-SM																					
B-4026	SS-7	13.5	SS	NA	NA	28.4			SC-SM																					
B-4026	SS-11	33.5	SS	NA	NA	22.8			SM																					
B-4026	SS-15	53.5	SS	NA	NA	23.8			SC-SM																					
B-4030	UD-1	13.5	UD	0.0	89.3	10.7			SP-SM				12.2	9.7			11.0			2.72		100.5	97.4			99.0	110			
B-4030	UD-2	28.5	UD	0.0	91.5	8.5			SP-SM			12.5					12.5													
B-4030	UD-3	33.5	UD	0.0	90.4	9.6			SP-SM																					
B-4030	UD-5	103.0	UD						CL											2.68										
B-4030	UD-6	105.0	UD						CL				29.8	30.7	35.6		32.0					91.7	89.4	112.8		97.9	130			
B-4031	UD-1	28.5	UD	0.0	82.4	17.6			SM																					
B-4031	UD-2	33.5	UD						SM				15.8	13.5	13.8		14.4					103.7	107.2	107.2		106.0	121			
B-4031	UD-3	38.5	UD						SM				21.1	17.6			19.4					96.7	94.7			95.7	114			
B-4032	UD-1	28.5	UD	0.0	77.1	22.9			SM				22.8	31.6			27.2					101.3	89.6			95.5	121			
B-4032	UD-2	33.5	UD	NA	NA	11.1			SM				27.3	11.6			19.5					96.3	108.1			102.2	122			

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction		Natural Moisture Content (%) at e_o								Dry Density (pcf) at e_o						Wet				
										Optimum Moisture	Maximum Dry Density	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	LL	PL	G_s	SPT	Triaxial, Compression or Direct Shear			Consolidation	Avg.	Density Avg.	pH	Chloride	Sulfate
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)		1	2	3												(pcf)		(mg/kg)	(mg/kg)
B-4032A	UD-1	38.5	UD	0.0	96.7	3.3			SP			19.2					19.2												
B-4033	UD-1	28.5	UD	0.0	88.9	11.1			SP-SM				15.7	19.4			17.6					92.2	90.2			91.2	107	6.26	140.0	110.0
B-4033	UD-2	33.5	UD	0.0	63.4	36.6			SC-SM			22.8					22.8												
B-4033	UD-3	38.5	UD						SP-SC				26.8	26.0	22.4		25.1					82.1	81.5	88.0		83.9	105	6.73	120.0	120.0
B-4034	UD-1	28.5	UD	0.0	86.6	13.4			SM			18.0					18.0												
B-4034	UD-3	38.5	UD						SP-SC									NV	NP										
B-4034	UD-4	108.5	UD						MH				28.5				28.5					92.7				92.7	119			
B-4034	UD-5	113.5	UD	23.9	19.9	56.2			MH				33.5	29.7	20.5		27.9	53	31			87.1	90.2	108.4		95.2	121			
B-4034	UD-6	143.5	UD	0.0	38.1	61.9			CL							26.4	26.4	47	26	2.74					94.2	94.2	119			
B-4035	UD-1	98.5	UD						CL-ML				46.3	43.1	37.3		42.2					70.5	74.1	79.9		74.8	106			
B-4035	UD-2	103.5	UD	NA	NA	83.8			MH				36.4			37.2	36.8	86	50			79.9			79.6	79.7	109			
B-4035	UD-3	148.5	UD	0.0	33.6	66.4			CL			24.3					24.3	43	22		98.7					98.7	123			
B-6020	SS-2	1.5	SS	0.0	70.9	29.1			SC									53	27										
B-6020	SS-4	6.0	SS	0.0	90.1	9.9			SP-SM									NV	NP										
B-6020	SS-6	11.0	SS	0.0	76.6	23.4			SC									47	25										
B-6020	SS-14	48.5	SS	0.0	58.4	41.6			SM			44.3					44.3	111	60										
B-6020	SS-16	58.5	SS	0.0	65.7	34.3			SM			46.1					46.1	139	78										
B-6021	SS-4	6.0	SS	0.0	73.3	26.7			SC									41	22										
B-6021	SS-7	13.5	SS	0.0	66.4	33.6			SM									47	28										
B-6022	SS-12	38.5	SS	0.0	52.7	47.3			SM			41.8					41.8	82	41										
B-6022	SS-14	48.5	SS	0.0	81.9	18.1			SC			27.4					27.4	68	29										
B-6023	SS-5	8.5	SS	0.0	83.0	17.0			SC									36	17										
B-6027	SS-3	7.5	SS	7.4	85.0	7.6			SP-SM			21.2					21.2											8.52	100.0	100.0
B-6027	SS-5	12.5	SS	15.4	74.7	9.9			SP-SM			16.3					16.3											8.22	170.0	100.0
B-6027	SS-7	20.0	SS	0.0	52.2	47.8			SM			24.3					24.3													
B-6027	SS-8	23.5	SS	1.7	51.8	46.5			SM			22.9					22.9													
B-6027	SS-10	33.5	SS	0.0	78.2	21.8			SM			17.3					17.3													
B-6027	SS-11	38.5	SS	0.0	93.3	6.7			SP-SM			23.8					23.8													
B-6027	SS-13	48.5	SS	0.5	90.8	8.7			SP-SM			29.5					29.5													
B-6027	SS-14	53.5	SS	0.0	77.5	22.5			SM			23.8					23.8	46	29										
B-6027	SS-15	58.5	SS	0.0	78.8	21.2			SM			32.4					32.4	45	29										
B-6027	SS-16	63.5	SS	0.0	91.2	8.8			SW-SM			24.8					24.8													
B-6028	SS-3	3.5	SS	0.0	89.2	10.8			SP-SM			9.5					9.5											6.91	130.0	99.0
B-6028	SS-5	8.5	SS	0.0	88.4	11.6			SP-SM			8.1					8.1											6.47	98.0	98.0
B-6028	SS-6	11.0	SS	0.0	91.0	9.0			SP-SM			14.4					14.4											6.36	180.0	100.0
B-6028	SS-8	18.5	SS	0.0	2.6	97.4			ML			33.0					33.0	49	28										
B-6028	SS-10	28.5	SS	0.3	97.3	2.4			SP			25.6					25.6											6.97	110.0	65.0
B-6028	SS-12	38.5	SS	0.0	98.4	1.6			SP			19.8					19.8													
B-6028	SS-14	48.5	SS	4.9	88.3	6.8			SW-SM			19.6					19.6													
B-6029	SS-3	3.5	SS	0.0	57.1	42.9			SC			33.2					33.2	43	20										
B-6029	SS-5	8.5	SS	1.7	42.5	55.8			CL			37.1					37.1	42	20										
B-6029	SS-6	11.0	SS	10.1	44.1	45.8			SM			32.7					32.7													
B-6029	SS-8	18.5	SS	2.6	27.6	69.8			CH			46.2					46.2	76	26										
B-6029	SS-12	38.5	SS	0.0	89.1	10.9			SP-SM			23.4					23.4													
B-6030	SS-2	1.5	SS	0.0	30.0	70.0			CL			31.4					31.4	42	23										
B-6030	SS-4	6.0	SS	0.0	70.9	29.1			SC			26.4					26.4	69	22										
B-6030	SS-6	11.0	SS	0.0	67.0	33.0			SM			31.1					31.1													
B-6030	SS-8	18.5	SS	0.0	50.7	49.3			SM			47.7					47.7	NV	NP										
B-6030	SS-9	23.5	SS	0.0	53.1	46.9			SM			42.5					42.5	42	28										

TABLE 5 (ALSO TABLE F-1, ATTACHMENT F)
SUMMARY OF SOIL TESTS
VOGTLE UNITS 3 & 4 COL PROJECT
MACTEC ENGINEERING AND CONSULTING, INC.
MACTEC PROJECT No. 6141-06-0286

Source of	Sample	Depth	Sample Type	Gravel [1]	Sand [1]	Fines [1]	Silt [1]	0.005 mm Clay [1]	USCS[2]	Compaction: Optimum Moisture	Compaction: Maximum Dry Density	Natural Moisture Content (%) at e_o: SPT	Triaxial, Compression or Direct Shear: 1	2	3	Consolidation	Avg.	LL	PL	G_s	Dry Density (pcf) at e_o: SPT	Triaxial, Compression or Direct Shear: 1	2	3	Consolidation	Avg.	Wet Density Avg.	pH	Chloride	Sulfate
Sample	No.	(ft)		(%)	(%)	(%)	(%)	(%)		(%)	(pcf)																(pcf)		(mg/kg)	(mg/kg)
B-6030	SS-12	38.5	SS	0.0	92.1	7.9			SP-SM			23.1					23.1													
B-6030	SS-13	43.5	SS	0.0	44.5	55.5			CH			35.9					35.9	54	22											
TP-B-1108	B1	8.5	Bulk	0.0	75.1	24.9			SM	14.8	120.0																	5.14	80.0	8.6
TP-B-1117	B1	6.0	Bulk	0.0	92.2	7.8			SP-SM	5.1	111.3																	5.30	71.0	11.0
TP-B-1121	B1	6.0	Bulk	0.1	87.6	12.3			SM	13.7	116.3							NV	NP									6.40	450.0	13.0
TP-B-1125	B1	6.0	Bulk	0.0	95.0	5.0			SP-SM	7.3	107.1							NV	NP									7.89	71.0	8.1
TP-B-1185	B1	6.0	Bulk	0.0	26.7	73.3			MH	63.3								91	46											
TP-B-1194	B1	5.0	Bulk	0.0	91.6	8.4			SP-SM	5.4	112.8																	5.23	74.0	18.0
TP-B-1194	B2	8.0	Bulk	0.0	71.9	28.1			SC	15.1	120.7							37	22									5.25	91.0	16.0
TP-B-1197	B1	5.0	Bulk	0.0	89.9	10.1			SP-SM	6.6	113.2							NV	NP									5.69	250.0	15.0

(1) Due to computer roundoff, particle size fractions may total 100 ± 1. Fines include silt plus clay.
(2) USCS Symbol is based on visual-manual method where incomplete classification testing was performed.

Prepared By/Date: Alexandra Taylor/11-6-07
Checked By/Date: Gautham Pillappa/11-6-07 GSP

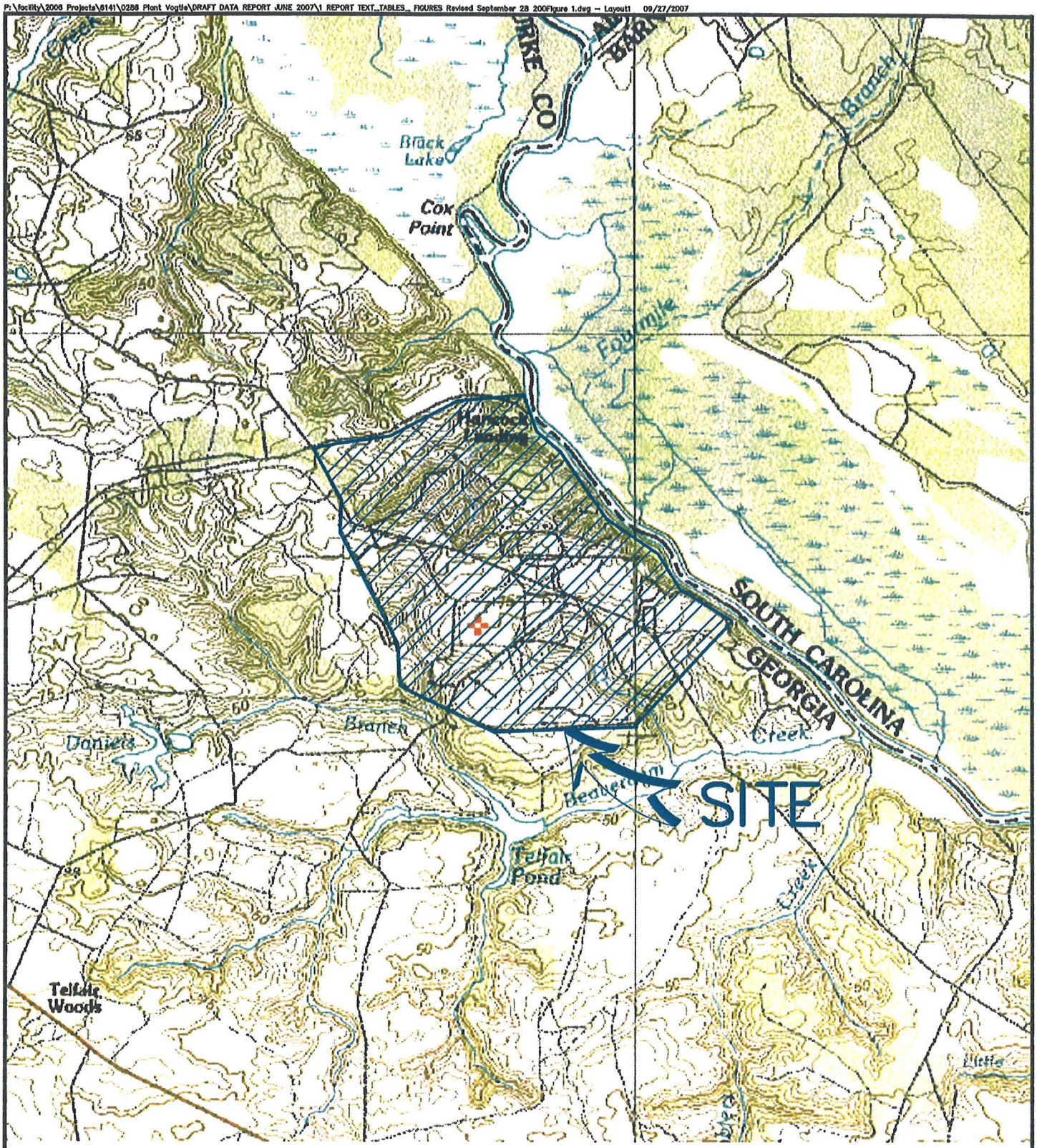
List of Figures

Figure 1 Site Location Map

Figure 2A Boring Location Plan (Bechtel Drawing 23162-0-CY-0000-00001, Revision 4)

Figure 2B Power Block Boring Location Plan (Bechtel Drawing 23162-0-CY-0000-00001, Revision 5)

P:\facility\2006 Projects\6141\0286 Plant Vogtle\DRAFT DATA REPORT JUNE 2007\1 REPORT TEXT_TABLES_ FIGURES Revised September 28 200Figure 1.dwg -- Layout1 09/27/2007



N

SOURCE: USGS SHELL BLUFF LANDING (GA, SC) QUADRANGLE

SCALE IN MILES

0 0.50 1 2

VOGTLE ELECTRIC GENERATING PLANT

UNITS 3 AND 4 COL PROJECT

BURKE COUNTY, GEORGIA

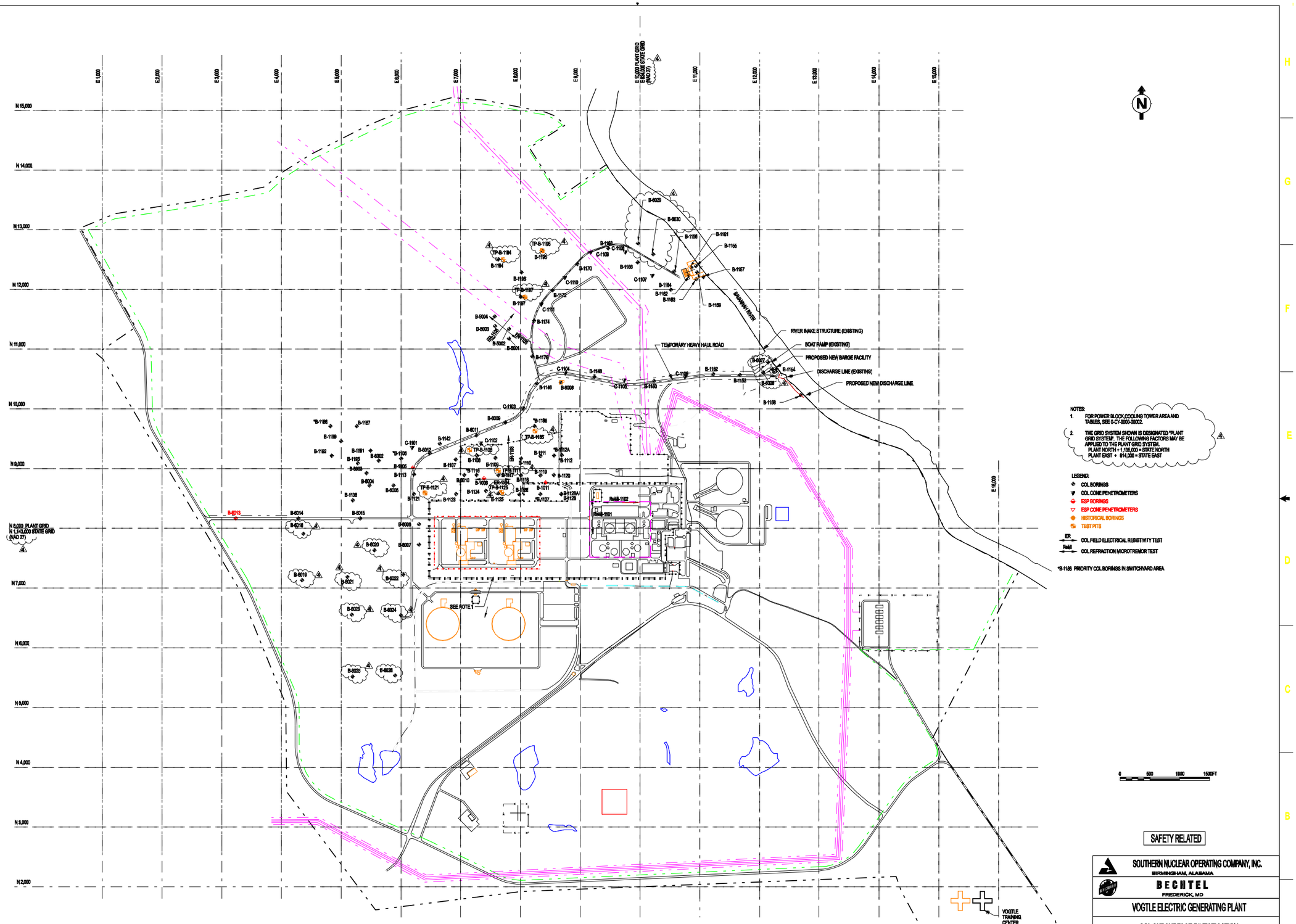
MACTEC
Mactec Engineering and Consulting, Inc.
396 PLASTERS AVENUE, N.E.
ATLANTA, GEORGIA 30324
(404)873-4761

60 of 63
61 of 64

SITE LOCATION MAP

JOB NO.	DATE:		FIGURE:
6141-06-0286	MAY 17, 2007		1
TASK: 19	DRAWN: AAT	APPROV.: MFC	SCALE: AS SHOWN

AT MFC WITH PERMISSION



NOTES:
1. FOR POWER BLOCK,COOLING TOWER AREA AND TABLES, SEE 0-CY-0000-00002.
2. THE GRID SYSTEM SHOWN IS DESIGNATED "PLANT GRID SYSTEM". THE FOLLOWING FACTORS MAY BE APPLIED TO THE PLANT GRID SYSTEM.
   PLANT NORTH + 1,135,000 = STATE NORTH
   PLANT EAST + 814,200 = STATE EAST

LEGEND:
- COL BORINGS
- COL CONE PENETROMETERS
- ESP BORINGS
- ESP CONE PENETROMETERS
- HISTORICAL BORINGS
- TEST PITS
- ER — COL FIELD ELECTRICAL RESISTIVITY TEST
- ReMi — COL REFRACTION MICROTREMOR TEST

*B-1186 PRIORITY COL BORINGS IN SWITCHYARD AREA

SAFETY RELATED

SOUTHERN NUCLEAR OPERATING COMPANY, INC.
BIRMINGHAM, ALABAMA
BECHTEL
FREDERICK, MD

VOGTLE ELECTRIC GENERATING PLANT

COL SUBSURFACE INVESTIGATION
BORING LOCATION PLAN

BECHTEL	BECHTEL DRAWING NO.	REV.
23182	0-CY-0000-00001	4
SCALE: 1"=600'	SNC DRAWING NO.	VER.
	AR01-0000-XG-2004	5.0

NO.	REVISION/VER.	DATE	DR	CHK	APPV	APPV
4	REVISED AS SHOWN AND REISSUED FOR AS-BUILT	7-30-07	MHN	JC	LM	JP
3	REVISED AS SHOWN AND REISSUED FOR USE	2-15-07	MHN	JC	LM	JP
2	REVISED AS SHOWN AND REISSUED FOR USE	2-8-07	MHN	LH	LM	JP
1	REVISED TO ADD BORROW AREA BORINGS	11-30-06	MHN	LH	LM	JP
0	ISSUED FOR USE	10-6-06	VJD	JC	LM	JP

THIS DOCUMENT CONTAINS PROPRIETARY, CONFIDENTIAL, AND/OR TRADE SECRET INFORMATION OF THE SUBSIDIARIES OF THE SOUTHERN COMPANY OR OF THIRD PARTIES. IT IS INTENDED FOR USE ONLY BY EMPLOYEES OF, OR AUTHORIZED CONTRACTORS OF, THE SUBSIDIARIES OF THE SOUTHERN COMPANY. UNAUTHORIZED POSSESSION, USE, DISTRIBUTION, COPYING, DISSEMINATION, OR DISCLOSURE OF ANY PORTION HEREOF IS PROHIBITED.

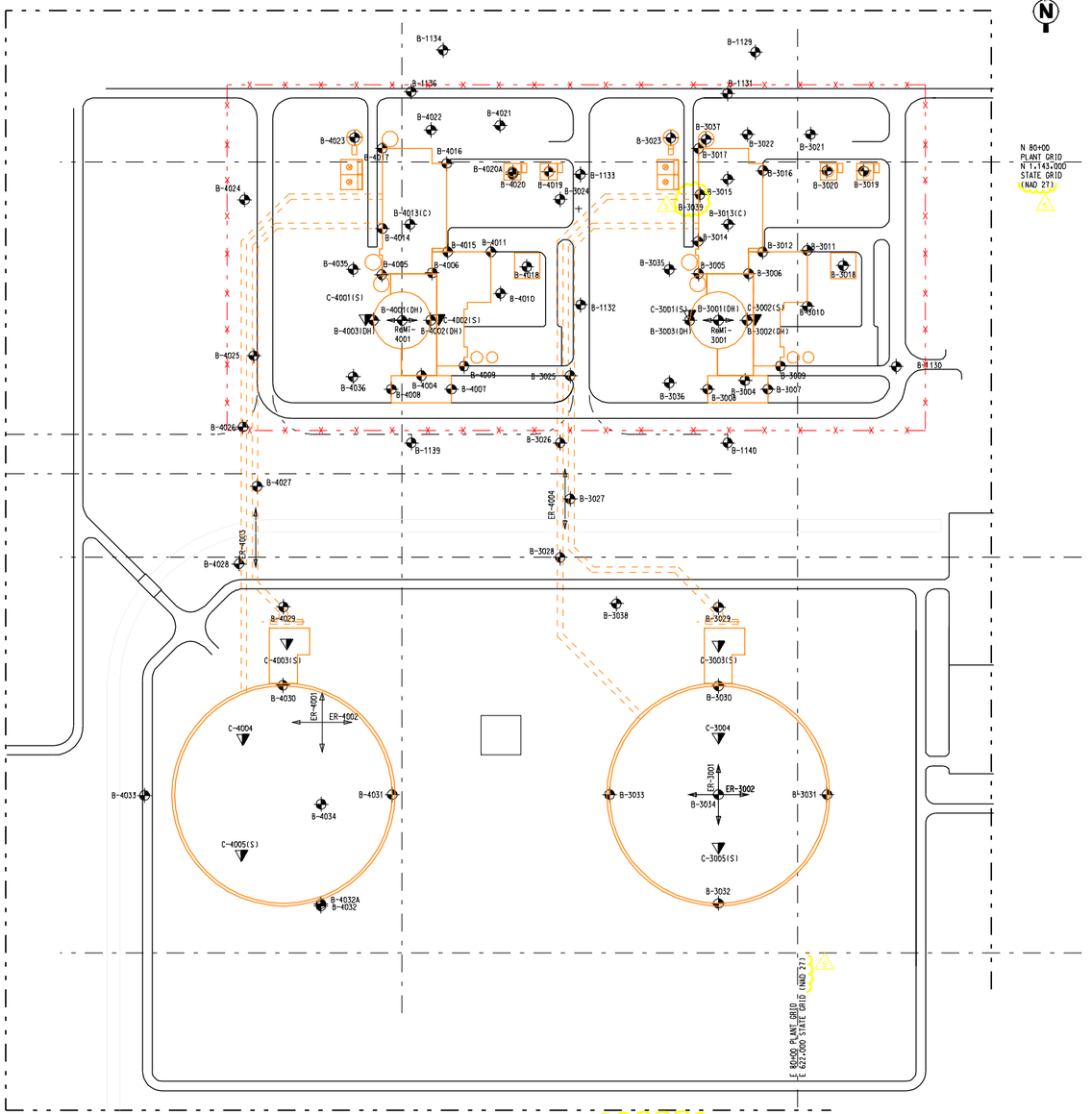
BOREHOLE No.	Coordinates (Feet) - Georgia East State Plane (NAD 27) North	East	Ground Surface Elev. (Feet) NGVD 29	Explored Depth - Ft.	Location/Remarks
B-1106	1144146.36	620502.76	257.89	148.50	500KV SWITCHYARD
B-1107	1144153.75	620916.11	268.66	150.50	500KV SWITCHYARD
B-1108	1144216.67	621273.02	273.56	149.50	500KV SWITCHYARD
B-1109	1144180.46	621580.64	276.48	150.50	500KV SWITCHYARD
B-1110	1144179.81	621911.31	285.14	150.50	500KV SWITCHYARD
B-1111	1144121.83	622235.75	284.90	150.50	500KV SWITCHYARD
B-1112	1144123.97	622631.31	213.74	69.00	500KV SWITCHYARD
B-1112A	1144219.36	622561.98	227.14	130.50	500KV SWITCHYARD
B-1113	1143901.44	620217.11	249.99	170.00	500KV SWITCHYARD
B-1116	1143584.12	621264.83	261.60	148.50	500KV SWITCHYARD
B-1117	1143305.75	621639.41	283.89	149.50	500KV SWITCHYARD
B-1118	1143389.92	622007.81	293.91	149.40	500KV SWITCHYARD
B-1119	1143888.93	622335.71	273.57	150.50	500KV SWITCHYARD
B-1120	1143833.93	622558.49	227.18	149.80	500KV SWITCHYARD
B-1121	1143575.57	625016.21	241.33	150.50	500KV SWITCHYARD
B-1122	1143575.43	625081.86	241.42	150.50	500KV SWITCHYARD
B-1124	1143627.62	626421.59	241.21	150.50	500KV SWITCHYARD
B-1125	1143586.85	627628.25	245.97	156.50	500KV SWITCHYARD
B-1126	1143567.68	621390.43	219.88	150.50	500KV SWITCHYARD
B-1127	1143573.28	622332.29	213.61	150.50	500KV SWITCHYARD
B-1128	1143512.45	622982.42	218.26	73.50	500KV SWITCHYARD
B-1128A	1143573.71	622685.46	217.92	149.80	500KV SWITCHYARD
B-1129	1143278.22	621495.74	221.64	150.50	POWER BLOCK ROADS
B-1130	1143482.78	623050.05	217.46	99.35	POWER BLOCK ROADS
B-1131	1143172.39	621823.56	222.18	89.60	POWER BLOCK ROADS
B-1132	1142614.13	621450.58	219.73	100.50	POWER BLOCK ROADS
B-1133	1142968.34	621451.13	221.05	100.50	POWER BLOCK ROADS
B-1134	1143282.88	621106.21	222.04	100.50	POWER BLOCK ROADS
B-1136	1143178.11	621023.05	221.65	100.50	POWER BLOCK ROADS
B-1138	1143469.65	619190.85	219.82	100.50	POWER BLOCK ROADS
B-1139	1142289.86	621126.81	218.68	100.50	POWER BLOCK ROADS
B-1140	1142295.15	621823.36	216.58	100.50	POWER BLOCK ROADS
B-1162	1144416.58	620649.36	224.69	100.50	HEAVY HAUL ROAD
B-1166	1145428.36	622272.28	240.04	88.60	HEAVY HAUL ROAD
B-1168	1145637.78	623296.05	219.94	100.00	HEAVY HAUL ROAD
B-1180	1145467.23	624239.38	170.69	100.50	HEAVY HAUL ROAD
B-1182	1145681.68	625927.51	117.05	100.50	HEAVY HAUL ROAD
B-1153	1145566.97	625673.46	153.58	100.50	HEAVY HAUL ROAD
B-1154	1145664.25	626216.56	95.08	99.95	HEAVY HAUL ROAD
B-1155	1147330.34	624336.62	84.95	150.58	PUMPHOUSE
B-1156	1147300.05	624671.69	86.70	99.20	PUMPHOUSE
B-1157	1147205.58	625060.18	86.72	150.50	PUMPHOUSE
B-1158	1145139.92	626969.12	88.14	149.50	PUMPHOUSE
B-1159	1147295.78	624934.51	88.70	150.50	PUMPHOUSE
B-1161	1147363.97	624862.14	86.10	150.50	PUMPHOUSE
B-1162	1147234.91	624915.53	85.55	200.00	PUMPHOUSE
B-1163	1147115.43	624936.82	85.95	150.00	PUMPHOUSE
B-1164	1146596.84	624618.63	220.05	150.50	PIPE LINE
B-1166	1147452.97	623961.56	263.40	100.50	PIPE LINE
B-1168	1147688.45	623467.78	303.20	100.50	PIPE LINE
B-1170	1147433.95	623953.71	223.29	88.80	PIPE LINE
B-1172	1146985.46	623538.73	249.98	100.50	PIPE LINE
B-1174	1146674.08	622228.58	259.61	100.50	PIPE LINE
B-1176	1145876.27	622135.21	221.48	55.50	PIPE LINE
B-1176A	1145878.82	622196.85	221.51	100.50	PIPE LINE
B-1140	1144116.64	622232.11	226.78	148.85	SWITCHYARD
B-1186	1144171.58	618819.89	277.51	179.80	BATCH PLANT
B-1187	1144119.13	618559.61	277.48	150.05	BATCH PLANT
B-1189	1144459.73	618997.58	279.08	150.50	BATCH PLANT
B-1191	1144301.63	619490.78	269.30	150.50	BATCH PLANT
B-1192	1144217.44	618840.95	243.17	179.50	BATCH PLANT
B-1193	1144031.48	619277.78	254.11	178.80	BATCH PLANT
B-1194	1147504.63	621630.15	199.35	50.05	BORROW AREA 4
B-1195	1147574.84	620478.35	229.60	50.05	BORROW AREA 4
B-1196	1147286.63	620837.53	217.50	50.05	BORROW AREA 4
B-1197	1146874.74	620005.87	246.60	50.05	BORROW AREA 4
B-3001	1146177.93	621807.13	218.99	150.50	230KV SWITCHYARD
B5002	1146339.78	621808.33	241.53	150.00	230KV SWITCHYARD
B5003	1146384.61	621574.73	227.94	148.76	230KV SWITCHYARD
B-3004	1145851.73	621569.78	236.61	149.80	230KV SWITCHYARD
B-B002	1144136.15	619628.88	241.50	150.50	BATCH PLANT
B-B068	1143895.93	619429.85	229.76	179.45	BATCH PLANT
B-B004	1143718.15	619473.54	231.59	150.50	BATCH PLANT
B-B005	1143711.98	619875.71	242.59	178.80	BATCH PLANT
B-B006	1143069.73	620201.73	249.22	50.05	CONSTRUCTION WAREHOUSE
B-B007	1142733.73	620301.73	222.28	50.05	CONSTRUCTION WAREHOUSE
B-B008	1145643.92	620676.76	240.11	150.50	MAINTENANCE BUILDING
B-B009	1144713.63	621146.18	246.04	100.50	HEAVY HAUL ROAD
B-B010	1143853.94	621030.21	263.39	169.30	500KV SWITCHYARD
B-B011	1144557.44	621261.73	254.00	120.00	HEAVY HAUL ROAD
B-B012	1144256.68	620480.16	196.02	120.50	HEAVY HAUL ROAD
B-B013	1143169.54	617234.81	251.14	50.05	ACCESS ROAD
B-B014	1143166.15	618081.48	259.78	50.05	ACCESS ROAD
B-B015	1143166.28	619311.83	221.52	50.05	ACCESS ROAD
B-B018	1142935.31	618386.15	201.66	50.05	LAYDOWN AREA
B-B013	1142135.73	618344.91	183.64	50.05	LAYDOWN AREA
B-B020	1142634.92	619555.91	221.68	150.50	MODULE ASSEMBLY AREA
B-B021	1142185.73	619153.41	209.80	120.50	MODULE ASSEMBLY AREA
B-B022	1142224.77	620040.53	216.23	90.20	MODULE ASSEMBLY AREA
B-B023	1141583.15	619177.88	230.77	50.05	LAYDOWN AREA
B-B024	1141559.87	619597.12	216.01	50.05	LAYDOWN AREA
B-B025	1140515.63	619189.73	172.69	50.05	LAYDOWN AREA
B-B026	1140537.74	619900.15	215.46	50.05	LAYDOWN AREA
B-B027	1145779.95	626145.59	98.45	75.20	BARGE SLIP AREA
B-B028	1145611.36	626052.41	96.70	50.05	BARGE SLIP AREA
B-B029	1147771.71	623966.53	85.41	50.05	ROAD TO INTAKE
B-B030	1147588.12	624222.62	88.27	50.05	ROAD TO INTAKE

CONT. No.	Coordinates (Feet) - Georgia East State Plane (NAD 27) North	East	Ground Surface Elev. (Feet) NGVD 29	Explored Depth - Ft.	Location/Remarks
C-1101	1144357.48	620185.46	265.76	71.45	HEAVY HAUL ROAD
C-1102	1144424.05	621335.41	267.61	51.45	HEAVY HAUL ROAD
C-1103	1145011.61	620037.65	256.52	27.45	HEAVY HAUL ROAD
C-1104	1145601.77	622746.95	230.79	27.15	HEAVY HAUL ROAD
C-1105	1145483.05	623735.68	220.51	50.25	HEAVY HAUL ROAD
C-1106	1145533.96	624218.58	159.52	20.50	HEAVY HAUL ROAD
C-1107	1147233.91	624250.32	211.90	71.50	PIPE LINE
C-1108	1147328.93	623755.23	200.89	50.62	PIPE LINE
C-1109	1147632.11	623171.88	203.79	72.50	PIPE LINE
C-1110	1147116.95	622745.53	242.39	72.50	PIPE LINE
C-1111	1146875.15	622346.15	250.69	50.25	PIPE LINE
C-3001(S)	1146241.05	621726.54	218.37	70.15	EAST POWER BLOCK
C-3002(S)	1143698.61	621872.75	219.89	67.95	EAST POWER BLOCK
C-3003(S)	1141771.78	621801.62	221.58	80.20	COOLING TOWER AREA
C-3004	1141842.05	621807.53	223.25	72.75	COOLING TOWER AREA
C-3005(S)	1141846.98	621790.53	221.67	100.15	COOLING TOWER AREA
C-4001(S)	1142859.87	620918.51	218.87	76.20	WEST POWER BLOCK
C-4002(S)	1142859.94	621065.82	219.08	82.20	WEST POWER BLOCK
C-4003(S)	1141784.64	620708.48	221.16	80.20	COOLING TOWER AREA
C-4004	1141843.37	620597.81	219.99	77.15	COOLING TOWER AREA
C-4005(S)	1141843.95	620553.36	220.01	80.20	COOLING TOWER AREA

BOREHOLE No.	Coordinates (Feet) - Georgia East State Plane (NAD 27) North	East	Ground Surface Elev. (Feet) NGVD 29	Explored Depth - Ft.	Location/Remarks
TP-B-1139	1144321.48	621145.82	284.15	12.25	
TP-B-1111	1143987.31	621687.05	269.10	9.85	
TP-B-1121	1143851.74	620401.53	241.12	14.25	
TP-B-1125	1143803.78	621695.81	240.61	11.25	
TP-B-1185	1144634.18	622042.13	225.17	11.25	
TP-B-1134	1147505.53	621726.45	202.73	11.25	
TP-B-1135	1147648.93	622363.58	212.15	8.25	
TP-B-1137	1146876.45	622076.51	248.24	11.25	

BOREHOLE No.	Coordinates (Feet) - Georgia East State Plane (NAD 27) North	East	Ground Surface Elev. (Feet) NGVD 29	Explored Depth - Ft.	Location/Remarks
B-3001(DH)	1142599.50	621789.64	218.40	420.00	EAST POWER BLOCK
B-3002(DH)	1142597.90	621878.80	218.83	249.80	EAST POWER BLOCK
B-3005(DH)	1142599.85	621727.20	218.29	250.00	EAST POWER BLOCK
B-3004	1142647.62	621857.12	219.51	160.00	EAST POWER BLOCK
B-3005	1142711.58	621749.10	219.20	155.00	EAST POWER BLOCK
B-3006	1142435.58	621929.89	217.59	155.00	EAST POWER BLOCK
B-3007	1142718.50	621878.74	220.78	158.80	EAST POWER BLOCK
B-3008	1142425.55	621713.01	217.86	155.00	EAST POWER BLOCK
B-3009	1142686.68	621956.68	217.85	153.80	EAST POWER BLOCK
B-3010	1142634.96	622024.97	219.69	160.00	EAST POWER BLOCK
B-3011	1142776.68	622024.86	220.57	165.00	EAST POWER BLOCK
B-3012	1142772.53	621911.91	220.40	158.30	EAST POWER BLOCK
B-3013(C)	1142842.89	621895.35	220.51	155.00	EAST POWER BLOCK
B-3014	1142789.43	621748.55	220.26	158.70	EAST POWER BLOCK
B-3015	1142956.89	621822.95	221.78	160.00	EAST POWER BLOCK
B-3016	1142978.42	621913.43	222.48	150.00	EAST POWER BLOCK
B-3017	1143034.35	621749.86	222.10	150.00	EAST POWER BLOCK
B-3018	1142738.11	622115.75	219.80	155.00	EAST POWER BLOCK
B-3019	1142971.36	622167.68	222.42	153.80	EAST POWER BLOCK
B-3020	1142971.94	622014.78	222.44	149.40	EAST POWER BLOCK
B-3021	1142070.22	622033.23	223.19	154.50	EAST POWER BLOCK
B-3022	1143069.86	621812.63	223.86	150.00	EAST POWER BLOCK
B-3023	1143061.11	621679.50	222.81	150.50	EAST POWER BLOCK
B-3024	1142905.82	621389.65	220.16	150.00	CIRC. WATER LINE
B-3025	1142680.62	621425.34	218.21	150.00	CIRC. WATER LINE
B-3026	1142290.23	621403.73	215.76	149.20	CIRC. WATER LINE
B-3027	1142068.65	621423.26	216.82	150.00	CIRC. WATER LINE
B-3028	1141867.30	621408.76	220.12	160.00	CIRC. WATER LINE
B-3029	1141881.50	621803.88	226.13	149.90	CIRC. WATER LINE
B-3030	1141699.34	621739.67	221.99	150.00	COOLING TOWER
B-3031	1141398.73	622042.01	222.10	150.00	COOLING TOWER
B-3032	1141158.18	621709.53	220.05	149.50	COOLING TOWER
B-3033	1141405.26	621715.21	222.26	149.30	COOLING TOWER
B-3034	1141395.76	621914.68	224.67	149.20	COOLING TOWER
B-3035	1142729.18	621675.27	219.34	154.50	EAST POWER BLOCK
B-3036	1142441.55	621675.96	217.87	155.00	EAST POWER BLOCK
B-3037	1145057.42	621768.87	222.94	150.00	EAST POWER BLOCK
B-3038	1141882.97	621543.15	220.76	98.50	CIRC. WATER LINE
B-3039	1142917.72	621753.64	219.17	150.00	EAST POWER BLOCK
B-4001(DH)	1142599.53	621000.20	218.88	399.90	WEST POWER BLOCK
B-4002(DH)	1142800.19	621672.22	219.06	250.00	WEST POWER BLOCK
B-4003(DH)	1142598.98	620927.13	218.99	248.80	WEST POWER BLOCK
B-4004	1142459.68	621046.56	218.45	150.00	WEST POWER BLOCK
B-4005	1142714.97	620948.74	221.13	164.90	WEST POWER BLOCK
B-4006	1142719.63	621076.36	220.98	155.00	WEST POWER BLOCK
B-4007	1142426.19	621125.28	217.50	170.00	WEST POWER BLOCK
B-4008	1142424.22	620973.78	218.08	169.40	WEST POWER BLOCK
B-4009	1142466.09	621156.86	217.91	164.90	WEST POWER BLOCK
B-4010	1142687.58	621249.06	219.09	160.00	WEST POWER BLOCK
B-4011	1142773.07	621236.36	219.08	150.00	WEST POWER BLOCK
B-4013(C)	1142842.72	621020.31	222.26	165.00	WEST POWER BLOCK
B-4014	1142831.99	620950.23	220.74	159.60	WEST POWER BLOCK
B-4015	1142773.04	621115.24	220.11	155.00	WEST POWER BLOCK
B-4016	1142996.99	621112.90	221.25	149.60	WEST POWER BLOCK
B-4017	1143034.80	620949.92	220.94	150.00	WEST POWER BLOCK
B-4018	1142735.95	621315.51	220.30	160.00	WEST POWER BLOCK
B-4019	1142975.98	621311.41	221.76	160.00	WEST POWER BLOCK
B-4020	1142969.35	621280.02	222.79	89.40	WEST POWER BLOCK
B-4020A	1142873.73	621280.34	222.56	165.00	WEST POWER BLOCK
B-4021	1143090.61	621247.38	224.55	150.00	WEST POWER BLOCK
B-4022	1143081.30	621073.52	220.71	149.70	WEST POWER BLOCK
B-4023	1143062.26	620879.81	220.71	150.00	WEST POWER BLOCK
B-4024	1142904.78	620601.81	223.80	150.00	CIRC. WATER LINE
B-4025	1142951.01	620635.05	220.80	150.00	CIRC. WATER LINE
B-4026	1142330.16	620597.72	221.54	150.00	CIRC. WATER LINE
B-4027	1142180.05	620633.45	217.73	150.00	CIRC. WATER LINE
B-4028	1141864.20	620587.77	219.57	150.00	CIRC. WATER LINE
B-4029	1141874.85	620659.95	220.28	150.00	CIRC. WATER LINE
B-4030	1141676.68	620659.48	222.36	150.30	COOLING TOWER
B-4031	1141399.83	620515.05	222.13	150.00	COOLING TOWER
B-4032	1141118.48	620734.64	220.24	98.50	COOLING TOWER
B-4034	1141123.72	620734.68	220.22	150.00	COOLING TOWER
B-4033	1141398.11	620548.78	219.93	149.40	COOLING TOWER
B-4034	1141375.68	620735.35	222.79	150.00	COOLING TOWER
B-4035	1142729.08	620815.27	220.52	164.80	WEST POWER BLOCK
B-4036	1142453.21	620816.25	218.05	170.00	WEST POWER BLOCK

RESISTIVITY No.	Coordinates (Feet) - Georgia East State Plane (NAD 27) North	East	Ground Surface Elev. (Feet) NGVD 29	Explored Depth - Ft.	Location/Remarks
ER-1101	1143821.00	620667.00			FIELD ELEC RESISTIVITY TEST
ER-1102	1143821.00	620667.00			FIELD ELEC RESISTIVITY TEST
ER-1103CL	1144258.24	621739.94	219.61		FIELD ELEC RESISTIVITY TEST
ER-1103R	1144706.50	621821.45	220.84		FIELD ELEC RESISTIVITY TEST
ER-1105S	1143809.08	621786.19	218.96		FIELD ELEC RESISTIVITY TEST
ER-1104CL	1143823.00	621536.77	217.11		FIELD ELEC RESISTIVITY TEST
ER-1104F	1143820.75	621986.25	217.64		FIELD ELEC RESISTIVITY TEST
ER-1104W	1143821.25	621086.95	218.33		FIELD ELEC RESISTIVITY TEST
ER-1105	1144579.52	621622.95	243.09		FIELD ELEC RESISTIVITY TEST
ER-1105	1144866.31	621276.81	226.62		FIELD ELEC RESISTIVITY TEST
ER-1105	1144286.54	621961.60	226.63		FIELD ELEC RESISTIVITY TEST
ER-1106	1144706.48	621999.64	256.15		FIELD ELEC RESISTIVITY TEST
ER-1106	1144039.78	621401.84	164.68		FIELD ELEC RESISTIVITY TEST
ER-1106	1144365.52	621702.00	237.03		FIELD ELEC RESISTIVITY TEST
ER-3001	1141404.39	621932.86	223.41		FIELD ELEC RESISTIVITY TEST
ER-3001	1141704.88	621929.34	221.43		FIELD ELEC RESISTIVITY TEST
ER-3001	1141304.51	621835.56	219.44		FIELD ELEC RESISTIVITY TEST
ER-3002	1141220.32	621725.95	220.67		FIELD ELEC RESISTIVITY TEST
ER-3002	1141206.51	622028.58	220.02		FIELD ELEC RESISTIVITY TEST
ER-3002	1141200.00	622324.03	220.49		FIELD ELEC RESISTIVITY TEST
ER-4001	1141375.68	620795.35	222.79		FIELD ELEC RESISTIVITY TEST
ER-4001	1141133.24	620798.50	220.41		FIELD ELEC RESISTIVITY TEST
ER-4001	1141583.32	620787.68	223.47		FIELD ELEC RESISTIVITY TEST
ER-4001	1140683.32	620798.70	215.33		FIELD ELEC RESISTIVITY TEST
ER-4002	1141375.68	620795.35	222.79		FIELD ELEC RESISTIVITY TEST
ER-4002	1141796.42	620533.97	220.73		FIELD ELEC RESISTIVITY TEST
ER-4002	1140897.17	620549.84	219.86		FIELD ELEC RESISTIVITY TEST
ER-4002CL	1141346.76	620341.65	219.84		FIELD ELEC RESISTIVITY TEST
ER-4003	1142180.05	620633.45	217.73		FIELD ELEC RESISTIVITY TEST
ER-4003	1142049.30	620629.68	219.61		FIELD ELEC RESISTIVITY TEST
ER-4003	1141875.77	620263.31	217.95		FIELD ELEC RESISTIVITY TEST
ER-4003CL	1141813.06	620446.25	220.68		FIELD ELEC RESISTIVITY TEST
ER-4004	1142060.88	621873.12	218.35		FIELD ELEC RESISTIVITY TEST
ER-4004	1142060.45	621422.14	218.68		FIELD ELEC RESISTIVITY TEST
ER-4004	1142057.75	620973.50	219.21		FIELD ELEC RESISTIVITY TEST
REMI-1101CL	1143195.74	623156.24	217.85	100.00	REFRACTION MICROTREMOR TEST
REMI-1101N	1143344.58	623156.02	218.60	100.00	REFRACTION MICROTREMOR TEST
REMI-1101S	1143046.36	623156.23	217.87	100.00	REFRACTION MICROTREMOR TEST
REMI-1102CL	1143432.29	623846.88	217.84	100.00	REFRACTION MICROTREMOR TEST
REMI-1102E	1143431.52	623995.86	217.75	100.00	REFRACTION MICROTREMOR TEST
REMI-1102N	1143431.52	623697.54	217.88	100.00	REFRACTION MICROTREMOR TEST
REMI-3001EAST	1142620.88	621877.24	218.54	100.00	REFRACTION MICROTREMOR TEST
REMI-3001WEST	1142620.88	621877.19	218.20	100.00	REFRACTION MICROTREMOR TEST
REMI-4001EAST	1142620.35	621150.17	218.71	100.00	REFRACTION MICROTREMOR TEST
REMI-4001WEST	1142624.08	620656.50	219.31	100.00	REFRACTION MICROTREMOR TEST



POWER BLOCK - COOLING TOWER AREA

NOTE:
1. WORK THIS DRAWING WITH 0-CY-0000-00001.

LEGEND:
- COL BORINGS
- COL CONE PENETROMETERS
- ESP BORINGS
- ESP CONE PENETROMETERS
- HISTORICAL BORINGS
- ER — COL FIELD ELECTRICAL RESISTIVITY TEST
- ReMI — COL REFRACTION MICROTREMOR TEST
- (DH) BORINGS WITH DOWNHOLE GEOPHYSICAL AND/OR SUSPENSION P-S VELOCITY MEASUREMENTS
- (S) CONE PENETROMETER WITH SHEAR WAVE VELOCITY MEASUREMENT
- (C) BORINGS WITH CONTINUOUS SAMPLING

SAFETY RELATED

SOUTHERN NUCLEAR OPERATING COMPANY, INC.
BIRMINGHAM, ALABAMA
BECHTEL
FREDERICK, MD

VOGTLE ELECTRIC GENERATING PLANT
COL SUBSURFACE INVESTIGATION
POWER BLOCK BORING LOCATION PLAN

BECHTEL	BECHTEL DRAWING NO.	REV.
23162	0-CY-0000-00002	5
SCALE: NTS	SNC DRAWING NO. AR01-0000-XG-2005	VER. 6.0

NO.	REVISION/VER.	DATE	DR	CHK	APPV	APPV
5	REVISED AS NOTED AND REISSUED FOR AS-BUILT	7/30/07	NHN	JC	LM	JP
4	REVISED AS NOTED AND REISSUED FOR USE	2/15/07	NHN	JC	LM	JP
3	REVISED AS NOTED AND REISSUED FOR USE	2/8/07	NHN	LH	LM	JP
2	REVISED TO ADD BORROW AREA BORINGS	11/30/06	NHN	LH	LM	JP
1	REMOVED HOLD AND MODIFIED AS SHOWN	10/27/06	VJD	JC	LM	JP
0	ISSUED FOR USE	10/6/06	VJD	JC	LM	JP

THIS DOCUMENT CONTAINS PROPRIETARY/CONFIDENTIAL AND/OR TRADE SECRET INFORMATION OF THE SUBSIDIARIES OF THE SOUTHERN COMPANY OR OF THIRD PARTIES. IT IS INTENDED FOR USE ONLY BY EMPLOYEES OF, OR AUTHORIZED CONTRACTORS OF, THE SUBSIDIARIES OF THE SOUTHERN COMPANY. UNAUTHORIZED POSSESSION, USE, DISTRIBUTION, COPYING, DISSEMINATION, OR DISCLOSURE OF ANY PORTION HEREOF IS PROHIBITED.

SIZE E 34x44

List of Attachments (Submitted Under Separate Covers on Various Dates)

Attachment	Revision Number	Submittal Date	Attachment Title
A	1	July 31, 2007	Survey Data and Test Locations
B	3	November 9, 2007	Geotechnical Boring Logs, Geotechnical Test Pit Logs, and SPT Energy Ratio Measurements
C	0	May 31, 2007	Cone Penetrometer Test Results
D	0	May 31, 2007	Geophysical Test Data (Downhole), Field Electrical Resistivity
E	0	May 31, 2007	ReMi Seismic Shear Wave Velocity Measurements
F	3	November 9, 2007	Laboratory Testing Data (Geotechnical)
G	0	To Be Determined	Resonant Column Torsional Shear (RCTS) Test Results



Vogtle Units 3 & 4 COL Project

Attachment A
Survey Data and Test Locations

Consists of:
Toole Surveying Company, Inc. Report, dated July 30, 2007
Toole Surveying Company, Inc. Report, dated May 15, 2007

Volume 1 of 1

Job No. 6141-06-0286

MACTEC ENGINEERING AND CONSULTING, INC.

July 31, 2007

MACTEC

July 31, 2007

Mr. Tom McCallum
Georgia Power Company
C/O Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Phone: (205) 992-6697
e-mail: tomccall@southernco.com

Subject: **Geotechnical Data Report Attachment A – Survey Data and Test Locations**
Vogtle Units 3 & 4 COL Project
Vogtle Electric Generating Plant
Burke County, Georgia
MACTEC Project Number 6141-06-0286

Dear Mr. McCallum:

MACTEC Engineering & Consulting, Inc. is pleased to submit Attachment A of the Final Data Report for the geotechnical exploration and laboratory testing for the Vogtle Units 3 & 4 COL Project located adjacent to the existing Vogtle Electric Generating Plant near Waynesboro, Burke County, Georgia.

It has been a pleasure to perform the work described in the attached report. If you have any questions, or if we may be of further service, we hope that you will contact us at your convenience.

Sincerely,

MACTEC ENGINEERING & CONSULTING, INC.

Matthew F. Cooke WITH PERMISSION
Senior Geologist
Site Superintendent
Registered, Georgia 1887

Wm. Allen Lancaster
Project Manager
Civil Engineer
Registered, Georgia 7075

Pieter J. DePree
Principal Geotechnical Engineer
Registered, Georgia 19637

BY KLB WITH PERMISSION.

ATTACHMENT A

This Attachment is one of a number of attachments that are part of the following report which was prepared by MACTEC Engineering & Consulting Inc.:

Geotechnical Data Report
Vogtle Units 3 & 4 COL Project
Vogtle Electric Generating Plant
Burke County, Georgia
Subsurface Investigation and Laboratory Testing
SNC Subcontract No. 7074425
MACTEC Job No. 6141-06-0286

For background and a description of scope of work contained in the report, please refer to the above referenced report. The report was addressed as follows:

Mr. Tom McCallum
Georgia Power Company
C/O Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Phone: (205) 992-6697
e-mail: tomccall@southernco.com

The following list shows other Attachments to the above report and their included information:

Geotechnical Boring Logs……..…….See Attachment B

Cone Penetrometer Test Results……..…See Attachment C

Geophysical Test Data (Downhole and Field Electrical Resistivity) ……See Attachment D

ReMi Seismic Shear Wave Velocity Measurements .....…….See Attachment E

Laboratory Testing Data (Geotechnical)...…….See Attachment F

Resonant Column Torsional Shear (RCTS) Test Results.…….See Attachment G

ATTACHMENT A

Survey Data and Test Locations

CONSISTS OF:

Toole Surveying Company, Inc. Report dated July 30, 2007
Toole Surveying Company, Inc. Report dated May 15, 2007

Volume 1 of 1

Toole Surveying Company, Inc. Report dated July 30, 2007

GA Power Company
Plant Vogtle Units 3 & 4 COL Project

Borehole Surveyor Report

Subsurface Investigation Location
Last Revised 07/30/07

Project Surveyor
Registered Land Surveyor
Barry A. Toole, RLS
GA#2565



Prepared By
Toole Surveying Company, Inc.
308 4th Street Augusta, Georgia 30901
(Voice) 706-722-4118 (Fax) 706-722-4115
www.toolesurveying.com

Table of Contents

- **PROJECT LAYOUT**
  - Project Control
  - Bore Site Locations
  - Field Staking and As-built Location
  - Daily Surveying Activities

- **EQUIPMENT**
  - Chart of Equipment Used
  - Total Station Calibration Sheet

- **RAW DATA FILES**
  - Field Data Acquisition Dates

- **QUALITY ASSURANCE REPORT**
  - As-built borehole coordinates compared to staked coordinates (excel table)

PROJECT LAYOUT

Project Control

The project control was provided by Donnie Dryden with Georgia Power Company (GPC) to Greg Schlein with Toole Surveying Co., Inc. (TSC). The project coordinates are based on NAD 27 – horizontal and NGVD 1929 – vertical. The following are the control points used as the basis for the as-built borehole coordinates:

CP-1 (GPC) N 1,141,970.366
E 623,363.196
Elev 223.776

CP-2 (GPC) N 1,141.915.275
E 623,953.193
Elev 244.00

CP-8000 (GPC) N 1,146,604.206
E 624,026.366
Elev 236.26

CP-8006 (GPC) N 1,146776.401
E 624,448.844
Elev 225.22

These points were tied together with a baseline traverse which was used for all measurements. The length of the baseline traverse was 8,347.78 linear feet with a horizontal coordinate error of 0.11' with a resulting precision of 1 in 75,888. The control coordinates were also checked with two Trimble 5700 RTK units, using the GPC monuments as a base. The resulting accuracy was 0.10' +/- of relative positional accuracy.

Bore Site Locations

The borehole locations to be staked were provided by Mr. Greg Lee with Southern Nuclear Operating Company in the following Subsurface Investigation location Plans:

23162-000-CY-0000-00001 new.tif;
23162-000-CY-0000-00002 new.tif

Field Staking and As-built Location

Boreholes were staked and as-built located using Trimble 5700 RTK – GPS (sub-centimeter accuracy) where possible. Conventional surveying methods were used in all other areas. Traverses lines were established to tie in the remaining borehole locations inaccessible by RTK-GPS. These traverse lines tied back to the main project control baseline described above for quality control checks on all horizontal loops. A Nikon DTM-530 Total station (serial # 020396) was used for staking and as-built location of the boreholes. The same traverse lines and procedures were used to perform the as-built locations of the boreholes. A differential level loop was also established (using a DINI 22 Trimble digital level) on all traverse points using the elevations provided with the GPC control points. Level loops were run through as-built borehole locations and back to known control points for quality assurance. An excel spreadsheet was prepared showing the variation between proposed and as-built coordinates.

Daily Survey Activities

Pre & Post Data Collection Checks were performed on a daily basis for staking and as-built location of the completed boreholes. These procedures are briefly described as follows:

RTK-GPS daily location was preceded by checks on at least one of the GPC control points listed under "Project Control" above. A "check shot" was stored using a different point number for inverse comparison. Any separate traverse lines used to stake or locate out-lying boreholes were looped back to the original baseline traverse (at a different point). A new point number was stored at the original control points. Subsequent inverse comparison of those coordinates was made for quality assurance.

EQUIPMENT

DESCRIPTION	SERIAL #
Trimble Zephyr Ant.	#12214559
Trimble Zephyr Geodetic Ant.	#11909699
Trimble Base 5700 Receiver	#440101198
Trimble Rover 5700 Receiver	#440102656
Trimble TS C1 using Ver. 10.70 Software	#220256429
2 meter Fixed Height Tripod 5119-00-yel	N/A
2 meter Fixed Height Carbon Fiber Rod	N/A
Bi Pod	N/A
5700 To Cell Phone Cable	N/A
48 MB Flash Card	N/A
DINI 22 - Digital Level	#700075 A
Digital Barcode Leveling Rod	N/A
Data Collector: Recon & TDS Software	#FS29A13023
Survey Pro (TDS) Software	Version 4.1.6
Nikon DTM-530 Total station	# 020396

RAW DATA FILES

Field Data Acquisition Dates

1) 01/04/07
2) 01/15/07
3) 01/16/07
4) 03/19/07
5) 03/20/07
6) 03/21/07
7) 03/22/07
8) 03/27/07
9) 04/02/07
10) 04/16/07
11) 04/017/07
12) 04/18/07

QUALITY ASSURANCE REPORTS

Borehole Location and Staking Comparison by Coordinate Comparison

Last Revised 05-15-07

AS-BUILT COORDINATES					STAKED COORDINATES		
Point #	Northing	Easting	Elevation	Description	Description	North	East
192	1144168.36	620002.76	257.89	B-1105	B-1105	1144169.50	620005.80
189	1144153.75	620916.11	266.66	B-1107	B-1107	1144153.20	620912.50
186	1144214.07	621273.00	273.56	B-1108	B-1108	1144213.10	621274.80
182	1144180.46	621580.64	276.48	B-1109	B-1109	1144170.50	621634.10
176	1144170.91	622011.31	265.14	B-1110	B-1110	1144170.50	622050.70
327	1144212.59	622333.79	224.90	B-1111	B-1111	1144213.10	622333.00
326	1144223.37	622691.31	213.74	B-1112	B-1112	1144213.10	622574.00
325	1144219.36	622561.49	227.14	B-1112A	B-1112A	1144213.10	622574.00
367	1143901.44	620217.17	249.99	B-1113	B-1113	1143893.09	619858.06
187	1143894.12	621264.65	261.82	B-1116	B-1116	1143893.10	621274.80
443	1143890.75	621628.43	263.89	B-1117	B-1117	1143893.10	621627.50
177	1143885.92	622007.97	257.91	B-1118	B-1118	1143893.10	622050.70
168	1143888.30	622333.77	223.57	B-1119	B-1119	1143893.10	622333.00
324	1143893.05	622558.49	227.18	B-1120	B-1120	1143893.10	622574.00
446	1143575.57	620216.27	241.33	B-1121	B-1121	1143573.10	620216.70
342	1143575.43	620921.98	241.27	B-1123	B-1123	1143573.10	620922.10
345	1143627.62	621421.59	241.21	B-1124	B-1124	1143650.20	621422.30
348	1143586.80	621628.20	240.97	B-1125	B-1125	1143573.10	621627.50
116	1143567.68	621980.43	219.88	B-1126	B-1126	1143573.10	621980.30
166	1143573.26	622332.29	219.67	B-1127	B-1127	1143573.10	622333.00
329	1143572.65	622682.42	218.26	B-1128	B-1128	1143573.10	622635.69
330	1143573.71	622685.46	217.92	B-1128A	B-1128A	1143573.10	622635.69
117	1143278.22	621893.74	221.84	B-1129	B-1129	1143283.00	621891.00
319	1142482.76	622250.00	217.46	B-1130	B-1130	1142485.00	622280.00
292	1143172.99	621823.06	222.18	B-1131	B-1131	1143174.00	621823.50
263	1142614.19	621450.08	218.73	B-1132	B-1132	1142639.00	621452.00
262	1142968.94	621451.15	221.20	B-1133	B-1133	1142969.00	621452.00
333	1143282.88	621104.27	222.04	B-1134	B-1134	1143283.00	621104.00
332	1143178.11	621023.00	221.65	B-1136	B-1136	1143174.00	621023.00
488	1143469.69	619192.80	215.82	B-1138	B-1138	1143469.50	619191.89
249	1142289.86	621026.81	216.68	B-1139	B-1139	1142290.00	621023.50
137	1142290.16	621823.56	216.58	B-1140	B-1140	1142290.00	621823.50
369	1144416.58	620649.58	224.69	B-1142	B-1142	1144422.40	620831.00
163	1145428.36	622272.08	240.04	B-1146	B-1146	1145428.20	622272.00
210	1145537.78	623236.50	218.94	B-1148	B-1148	1145539.30	623238.50
196	1145467.29	624235.30	170.69	B-1150	B-1150	1145467.50	624235.00
199	1145581.68	625227.34	117.05	B-1152	B-1152	1145577.60	625227.20
202	1145568.97	625673.46	103.58	B-1153	B-1153	1145570.40	625727.10
206	1145664.20	626216.06	95.08	B-1154	B-1154	1145678.70	626215.20
58	1147390.34	624936.42	84.95	B-1155	B-1155	1147397.38	624948.45
64	1147302.50	624571.69	85.70	B-1156	B-1156	1147322.90	624521.23
55	1147209.56	625062.18	86.77	B-1157	B-1157	1147219.64	625075.77
205	1145194.92	626669.12	88.74	B-1158	B-1158	1145231.34	626689.50
62	1147285.78	624954.51	88.70	B-1159	B-1159	1147283.63	624943.36
63	1147363.37	624862.14	86.10	B-1161	B-1161	1147361.34	624854.27
57	1147234.91	624815.03	85.55	B-1162	B-1162	1147228.35	624798.04
56	1147170.58	624938.82	85.95	B-1163	B-1163	1147168.53	624936.34
208	1146994.84	624518.63	220.05	B-1164	B-1164	1147039.33	624487.08

Point #	Northing	Easting	Elevation	Description	Description	North	East
453	1147452.97	623961.56	203.40	B-1166	B-1166	1147457.80	623999.10
452	1147688.45	623467.78	202.20	B-1168	B-1168	1147701.00	623461.30
485	1147423.85	622953.71	223.29	B-1170	B-1170	1147423.70	622944.90
482	1146983.44	622538.70	249.49	B-1172	B-1172	1146981.70	622539.10
475	1146476.06	622228.06	225.81	B-1174	B-1174	1146576.52	622249.13
161	1145876.27	622195.21	221.48	B-1176	B-1176	1145876.50	622195.50
162	1145878.82	622196.80	221.51	B-1176A	B-1176A	1145876.50	622195.50
114	1144716.64	622232.17	226.78	B-1185	B-1185	1144712.61	622235.93
422	1144711.88	618818.88	277.51	B-1186	B-1186	1144711.23	618821.49
425	1144710.19	619259.61	277.68	B-1187	B-1187	1144711.23	619257.47
421	1144459.72	618997.50	279.98	B-1189	B-1189	1144461.65	619000.00
412	1144301.60	619490.75	260.30	B-1191	B-1191	1144302.74	619486.81
449	1144217.44	618840.90	243.17	B-1192	B-1192	1144215.60	618833.80
357	1144091.49	619277.79	254.11	B-1193	B-1193	1144089.10	619279.90
389	1147504.69	621630.15	199.35	B-1194	B-1194	1147505.20	621631.60
385	1147574.84	622478.35	220.60	B-1195	B-1195	1147574.40	622481.30
388	1147286.63	622017.51	217.52	B-1196	B-1196	1147286.60	622013.90
390	1146874.74	622003.82	245.60	B-1197	B-1197	1146872.90	622002.10
125	1142599.50	621799.64	218.40	B-3001	B-3001(DH)	1142600.00	621800.00
126	1142599.97	621872.49	218.89	B-3002	B-3002(DH)	1142600.00	621872.50
536	1142597.90	621878.80	218.83	B-3002A	B-3002A	TBD	TBD
124	1142599.85	621727.30	218.29	B-3003	B-3003(DH)	1142600.00	621727.50
300	1142447.42	621867.12	218.51	B-3004	B-3004	1142460.00	621849.00
284	1142717.58	621749.10	219.20	B-3005	B-3005	1142718.00	621750.00
122	1142425.58	621924.99	217.59	B-3006	B-3006	1142718.00	621876.50
156	1142718.50	621876.74	220.78	B-3007	B-3007	1142425.50	621925.00
135	1142425.35	621773.01	217.86	B-3008	B-3008	1142425.50	621773.00
123	1142484.48	621956.58	217.85	B-3009	B-3009	1142484.00	621957.00
297	1142634.86	622024.97	219.69	B-3010	B-3010	1142645.50	622025.00
154	1142776.68	622024.86	220.57	B-3011	B-3011	1142773.00	622025.00
119	1142772.53	621911.91	220.40	B-3012	B-3012	1142773.00	621912.00
286	1142842.89	621825.35	220.51	B-3013	B-3013(C)	1142843.00	621823.50
285	1142799.43	621748.55	220.26	B-3014	B-3014	1142831.00	621750.00
288	1142956.89	621823.95	221.78	B-3015	B-3015	1142957.00	621823.50
118	1142978.42	621913.43	222.48	B-3016	B-3016	1142996.50	621912.00
290	1143034.35	621749.86	222.10	B-3017	B-3017	1143035.00	621750.00
296	1142738.11	622115.75	219.80	B-3018	B-3018	1142738.00	622116.00
295	1142977.36	622167.48	222.42	B-3019	B-3019	1142975.50	622171.00
294	1142977.94	622074.78	222.44	B-3020	B-3020	1142975.50	622079.00
293	1143070.22	622033.23	223.19	B-3021	B-3021	1143069.00	622031.00
120	1143069.84	621873.43	223.86	B-3022	B-3022	1143069.00	621874.00
291	1143061.11	621679.90	222.81	B-3023	B-3023	1143062.00	621680.00
261	1142905.82	621399.65	220.16	B-3024	B-3024	1142904.57	621400.00
264	1142460.42	621425.34	218.21	B-3025	B-3025	1142460.00	621425.00
265	1142290.23	621403.73	215.76	B-3026	B-3026	1142290.00	621400.00
233	1142058.69	621423.26	218.80	B-3027	B-3027	1142148.00	621425.00
232	1141867.30	621408.76	220.12	B-3028	B-3028	1142000.00	621400.00
230	1141881.50	621803.88	220.13	B-3029	B-3029	1141874.00	621800.00
228	1141699.94	621799.67	221.99	B-3030	B-3030	1141675.00	621800.00
322	1141398.73	622042.01	222.70	B-3031	B-3031	1141400.00	622075.00
221	1141158.18	621709.53	220.05	B-3032	B-3032	1141125.00	621800.00
223	1141405.26	621715.21	222.26	B-3033	B-3033	1141400.00	621525.00

Point #	Northing	Easting	Elevation	Description	Description	North	East
225	1141399.76	621914.68	224.67	B-3034	B-3034	1141400.00	621800.00
283	1142729.18	621675.37	219.34	B-3035	B-3035	1142728.70	621676.00
136	1142441.55	621675.96	217.87	B-3036	B-3036	1142441.70	621676.00
289	1143057.42	621768.87	222.94	B-3037	B-3037	1143058.10	621769.50
231	1141882.97	621543.15	220.76	B-3038	B-3038	1141883.00	621542.00
287	1142917.72	621753.54	219.17	B-3039	B-3039	TBD	TBD
254	1142599.53	621000.20	218.88	B-4001	B-4001(DH)	1142600.00	621000.00
252	1142600.19	621072.22	219.06	B-4002	B-4002(DH)	1142600.00	621072.50
255	1142599.93	620927.13	218.99	B-4003	B-4003(DH)	1142600.00	620927.50
251	1142459.68	621046.56	218.45	B-4004	B-4004	1142460.00	621049.00
273	1142714.97	620948.74	221.13	B-4005	B-4005	1142718.00	620950.00
129	1142719.63	621076.36	220.98	B-4006	B-4006	1142718.00	621076.50
248	1142426.19	621125.28	217.90	B-4007	B-4007	1142425.50	621125.00
250	1142424.22	620973.78	218.08	B-4008	B-4008	1142425.00	620973.00
247	1142486.09	621156.86	217.91	B-4009	B-4009	1142484.00	621157.00
259	1142667.58	621249.04	219.09	B-4010	B-4010	1142645.50	621225.00
276	1142773.07	621236.36	219.08	B-4011	B-4011	1142773.00	621225.00
271	1142842.72	621020.31	222.24	B-4013	B-4013(C)	1142843.00	621023.50
272	1142831.99	620950.23	220.74	B-4014	B-4014	1142831.00	620950.00
270	1142773.04	621115.24	220.11	B-4015	B-4015	1142773.00	621112.50
149	1142996.39	621112.90	221.23	B-4016	B-4016	1142996.50	621112.50
275	1143034.80	620949.92	220.94	B-4017	B-4017	1143035.00	620950.00
260	1142735.45	621315.51	220.30	B-4018	B-4018	1142738.00	621316.00
280	1142975.89	621371.41	221.76	B-4019	B-4019	1142975.50	621371.00
279	1142969.39	621280.02	222.79	B-4020	B-4020	1142975.50	621279.00
533	1142973.73	621280.34	222.56	B-4020A	B-4020A	TBD	TBD
148	1143092.61	621247.38	224.55	B-4021	B-4021	1143069.00	621231.00
150	1143081.30	621073.52	220.71	B-4022	B-4022	1143069.00	621074.00
151	1143062.36	620879.81	220.71	B-4023	B-4023	1143062.00	620880.00
152	1142904.78	620601.81	223.80	B-4024	B-4024	1142904.57	620600.00
257	1142510.01	620625.03	220.80	B-4025	B-4025	1142510.00	620625.00
244	1142330.16	620597.72	221.54	B-4026	B-4026	1142330.00	620600.00
243	1142180.05	620633.45	217.73	B-4027	B-4027	1142148.00	620625.00
240	1141984.20	620587.77	219.57	B-4028	B-4028	1142000.00	620600.00
239	1141874.85	620699.95	220.28	B-4029	B-4029	1141874.00	620700.00
237	1141676.68	620698.48	222.35	B-4030	B-4030	1141675.00	620700.00
314	1141399.83	620975.03	222.13	B-4031	B-4031	1141400.00	620975.00
309	1141118.48	620794.64	220.24	B-4032	B-4032	1141125.00	620740.00
310	1141123.72	620794.66	220.22	B-4032A	B-4032A	TBD	TBD
306	1141398.11	620348.78	219.93	B-4033	B-4033	1141400.00	620365.00
311	1141375.68	620795.35	222.79	B-4034	B-4034	1141378.00	620719.00
274	1142729.08	620876.27	220.52	B-4035	B-4035	1142728.70	620876.00
258	1142457.21	620876.25	218.05	B-4036	B-4036	1142457.00	620876.00
406	1146177.05	621807.73	218.99	B-5001	B-5001	TBD	TBD
405	1146339.76	621808.33	241.53	B-5002	B-5002	TBD	TBD
401	1146386.61	621574.70	227.94	B-5003	B-5003	TBD	TBD
400	1146547.79	621568.38	236.61	B-5004	B-5004	TBD	TBD
354	1144134.10	619626.88	247.90	B-6002	B-6002	TBD	TBD
353	1143925.02	619422.80	229.76	B-6003	B-6003	TBD	TBD
352	1143718.15	619473.34	231.59	B-6004	B-6004	TBD	TBD
351	1143717.98	619873.77	242.59	B-6005	B-6005	TBD	TBD
337	1143069.79	620301.79	248.22	B-6006	B-6006	TBD	TBD

Point #	Northing	Easting	Elevation	Description
338	1142730.73	620301.79	222.28	B-6007
383	1145443.82	622676.36	240.11	B-6008
379	1144773.69	621748.18	246.04	B-6009
372	1143893.34	621059.21	263.39	B-6010
376	1144557.94	621261.73	244.00	B-6011
363	1144256.66	620480.54	194.20	B-6012
494	1143169.54	617234.87	251.14	B-6013
492	1143168.15	618281.46	209.79	B-6014
487	1143166.26	619317.85	221.52	B-6015
491	1142909.31	618366.55	204.66	B-6018
640	1142132.73	618344.49	163.94	B-6019
601	1142634.02	619555.91	221.48	B-6020
607	1142185.73	619103.41	209.80	B-6021
613	1142224.77	620040.33	216.23	B-6022
628	1141553.10	619177.88	202.77	B-6023
510	1141545.87	619997.72	216.07	B-6024
633	1140518.65	619189.73	172.69	B-6025
616	1140537.74	619900.15	215.46	B-6026
620	1145779.35	626145.09	96.65	B-6027
619	1145611.36	626062.41	95.70	B-6028
644	1147771.71	623966.62	85.41	B-6029
643	1147588.12	624222.62	88.37	B-6030
435	1144357.46	620185.46	265.76	C-1101ALT
375	1144424.00	621333.43	267.61	C-1102
380	1145011.61	622037.40	236.52	C-1103
460	1145601.77	622746.95	230.19	C-1104
465	1145483.00	623733.68	200.57	C-1105
457	1145533.96	624748.08	138.02	C-1106ALT
469	1147233.91	624202.32	211.92	C-1107
454	1147628.30	623753.23	200.89	C-1108
472	1147622.11	623171.88	209.79	C-1109
481	1147198.95	622740.32	242.39	C-1110
393	1146753.15	622346.15	250.69	C-1111
440	1142610.55	621726.54	218.37	C-3001
439	1142606.51	621872.75	218.89	C-3002
229	1141771.79	621801.62	221.38	C-3003
224	1141542.00	621807.33	223.25	C-3004
222	1141266.89	621792.33	221.27	C-3005
256	1142599.87	620918.51	218.87	C-4001
253	1142599.94	621063.82	219.08	C-4002
238	1141784.64	620708.48	221.16	C-4003
241	1141543.07	620597.67	219.99	C-4004
242	1141249.90	620593.96	220.01	C-4005
576	1144258.24	621799.94	279.61	ER-1103CL
580	1144706.50	621821.45	250.84	ER-1103N
591	1143809.08	621785.19	258.96	ER-1103S
590	1143823.00	621536.77	257.11	ER-1104CL
592	1143820.75	621986.25	257.44	ER-1104E
589	1143821.35	621086.95	258.33	ER-1104W
542	1146579.02	621622.05	243.09	ER-1105
543	1146866.31	621276.81	226.62	ER-1105
544	1146286.04	621961.60	226.63	ER-1105

Description	North	East
B-6007	TBD	TBD
B-6008	TBD	TBD
B-6009	TBD	TBD
B-6010	TBD	TBD
B-6011	TBD	TBD
B-6012	TBD	TBD
B-6013	TBD	TBD
B-6014	TBD	TBD
B-6015	TBD	TBD
B-6018	TBD	TBD
B-6019	TBD	TBD
B-6020	TBD	TBD
B-6021	TBD	TBD
B-6022	TBD	TBD
B-6023	TBD	TBD
B-6024	TBD	TBD
B-6025	TBD	TBD
B-6026	TBD	TBD
B-6027	TBD	TBD
B-6028	TBD	TBD
B-6029	TBD	TBD
B-6030	TBD	TBD

Point #	Northing	Easting	Elevation	Description	Description	North	East
545	1146706.48	621999.64	256.15	ER-1106			
559	1146039.75	621401.84	164.68	ER-1106			
560	1146365.63	621702.00	237.53	ER-1106			
520	1141404.39	621932.86	223.41	ER-3001			
521	1141104.51	621935.56	219.44	ER-3001			
522	1141704.88	621929.94	221.43	ER-3001			
518	1141220.32	621725.95	220.47	ER-3002			
519	1141206.51	622025.58	220.02	ER-3002			
525	1141200.00	622324.03	220.49	ER-3002			
312	1141375.68	620795.35	222.79	ER-4001			
513	1141133.24	620798.50	220.41	ER-4001			
514	1141583.32	620797.68	223.47	ER-4001			
515	1140683.32	620798.70	215.33	ER-4001			
313	1141375.68	620795.35	222.79	ER-4002			
506	1141796.43	620333.57	220.73	ER-4002			
509	1140897.17	620349.94	219.86	ER-4002			
508	1141346.76	620341.65	219.84	ER-4002CL			
315	1142180.05	620633.45	217.73	ER-4003			
504	1142049.90	620629.66	219.61	ER-4003			
507	1141575.77	620263.31	217.95	ER-4003			
505	1141813.06	620446.25	220.68	ER-4003CL			
528	1142060.89	621873.12	218.35	ER-4004			
529	1142060.45	621423.14	218.46	ER-4004			
530	1142057.75	620973.50	219.21	ER-4004			
553	1143195.74	623156.24	217.83	REMI-1101CL			
551	1143344.68	623156.02	218.60	REMI-1101N			
552	1143046.36	623156.23	217.87	REMI-1101S			
555	1143432.28	623846.88	217.84	REMI-1102CL			
556	1143433.70	623995.86	217.75	REMI-1102E			
554	1143431.62	623697.54	217.88	REMI-1102W			
267	1142620.86	621877.24	218.54	REMI-3001EAST			
266	1142620.58	621577.79	218.20	REMI-3001WEST			
268	1142620.95	621150.17	218.71	REMI-4001EAST			
269	1142624.08	620856.90	219.31	REMI-4001WEST			
584	1144312.49	621145.92	264.14	TP-B-1108			
577	1143967.31	621627.50	269.50	TP-B-1117			
596	1143591.74	620401.53	241.17	TP-B-1121			
593	1143603.70	621685.81	240.61	TP-B-1125			
539	1144634.18	622242.15	225.17	TP-B-1185			
573	1147500.59	621708.45	202.73	TP-B-1194			
568	1147648.39	622363.06	212.15	TP-B-1195			
565	1146874.40	622074.57	245.94	TP-B-1197			

Toole Surveying Company, Inc. Report dated May 15, 2007

GA Power Company
Plant Vogtle Units 3 & 4 COL Project

Borehole Surveyor Report

Subsurface Investigation Location
Last Revised 05/15/07

Project Surveyor
Registered Land Surveyor
Barry A. Toole, RLS
GA#2565



Prepared By
Toole Surveying Company, Inc.
308 4th Street Augusta, Georgia 30901
(Voice) 706-722-4118 (Fax) 706-722-4115
www.toolesurveying.com

Table of Contents

- **PROJECT LAYOUT**
  - Project Control
  - Bore Site Locations
  - Field Staking and As-built Location
  - Daily Surveying Activities

- **EQUIPMENT**
  - Chart of Equipment Used
  - Total Station Calibration Sheet

- **RAW DATA FILES**
  - Field Data Acquisition Dates

- **QUALITY ASSURANCE REPORT**
  - As-built borehole coordinates compared to staked coordinates (excel table)

PROJECT LAYOUT

Project Control

The project control was provided by Donnie Dryden with Georgia Power Company (GPC) to Greg Schlein with Toole Surveying Co., Inc. (TSC). The project coordinates are based on NAD 27 – horizontal and NGVD 1929 – vertical. The following are the control points used as the basis for the as-built borehole coordinates:

CP-1 (GPC) N 1,141,970.366
E 623,363.196
Elev 223.776

CP-2 (GPC) N 1,141.915.275
E 623,953.193
Elev 244.00

CP-8000 (GPC) N 1,146,604.206
E 624,026.366
Elev 236.26

CP-8006 (GPC) N 1,146776.401
E 624,448.844
Elev 225.22

These points were tied together with a baseline traverse which was used for all measurements. The length of the baseline traverse was 8,347.78 linear feet with a horizontal coordinate error of 0.11' with a resulting precision of 1 in 75,888. The control coordinates were also checked with two Trimble 5700 RTK units, using the GPC monuments as a base. The resulting accuracy was 0.10' +/- of relative positional accuracy.

Bore Site Locations

The borehole locations to be staked were provided by Mr. Greg Lee with Southern Nuclear Operating Company in the following Subsurface Investigation location Plans:

23162-000-CY-0000-00001 new.tif;
23162-000-CY-0000-00002 new.tif

Field Staking and As-built Location

Boreholes were staked and as-built located using Trimble 5700 RTK – GPS (sub-centimeter accuracy) where possible. Conventional surveying methods were used in all other areas. Traverses lines were established to tie in the remaining borehole locations inaccessible by RTK-GPS. These traverse lines tied back to the main project control baseline described above for quality control checks on all horizontal loops. A Nikon DTM-530 Total station (serial # 020396) was used for staking and as-built location of the boreholes. The same traverse lines and procedures were used to perform the as-built locations of the boreholes. A differential level loop was also established (using a DINI 22 Trimble digital level) on all traverse points using the elevations provided with the GPC control points. Level loops were run through as-built borehole locations and back to known control points for quality assurance. An excel spreadsheet was prepared showing the variation between proposed and as-built coordinates.

Daily Survey Activities

Pre & Post Data Collection Checks were performed on a daily basis for staking and as-built location of the completed boreholes. These procedures are briefly described as follows:

RTK-GPS daily location was preceded by checks on at least one of the GPC control points listed under "Project Control" above. A "check shot" was stored using a different point number for inverse comparison. Any separate traverse lines used to stake or locate out-lying boreholes were looped back to the original baseline traverse (at a different point). A new point number was stored at the original control points. Subsequent inverse comparison of those coordinates was made for quality assurance.

EQUIPMENT

DESCRIPTION	SERIAL #
Trimble Zephyr Ant.	#12214559
Trimble Zephyr Geodetic Ant.	#11909699
Trimble Base 5700 Receiver	#440101198
Trimble Rover 5700 Receiver	#440102656
Trimble TS C1 using Ver. 10.70 Software	#220256429
2 meter Fixed Height Tripod 5119-00-yel	N/A
2 meter Fixed Height Carbon Fiber Rod	N/A
Bi Pod	N/A
5700 To Cell Phone Cable	N/A
48 MB Flash Card	N/A
DINI 22 - Digital Level	#700075 A
Digital Barcode Leveling Rod	N/A
Data Collector: Recon & TDS Software	#FS29A13023
Survey Pro (TDS) Software	Version 4.1.6
Nikon DTM-530 Total station	# 020396

1-800-251-1280
931-684-0555
931-685-9505 fax

90 DAY WARRANTY
ON TOTAL STATION REPAIRS

HAYES INSTRUMENT CO.
SERVICE DEPARTMENT
502 S. CANNON BLVD.
SHELBYVILLE, TN 37160

WORK ORDER# 150866

TECHNICIAN T. D.

MODEL OF INSTRUMENT DTM-530
SERIAL NUMBER 020396

CUSTOMER ID#: TOOL03
CUSTOMER NAME: Toole Surveying

E - 8000020

DATE RECEIVED 1/23/07
DATE RETURNED 2/01/07

WARRANTY REPAIR ☐ TOPCON ☐ NIKON ☐ SOKKIA
NON-WARRANTY REPAIR ☐ HAYES WARRANTY ☐

OPTICAL & MECHANICAL COLLIMATION CHECK LIST

	CHECK	ADJUST	ERROR
LASER/OPT. PLUMMET		✓	.001
PLATE LEVEL VIAL			5
BULLS EYE BUBBLE		✓	REMOVED
MECH. COMPENSATOR		N/A	
TILT SENSOR(S)			
X SENSOR		✓	-15"
Y SENSOR		✓	20"

Robotic Inst
Tracking Axis

	CHECK	ADJUST	ERROR
DOUBLE CENTERING		✓	2"
90 DEGREE POSITION		✓	6"
PLUNGE	✓		
PEEP SIGHTS	✓		

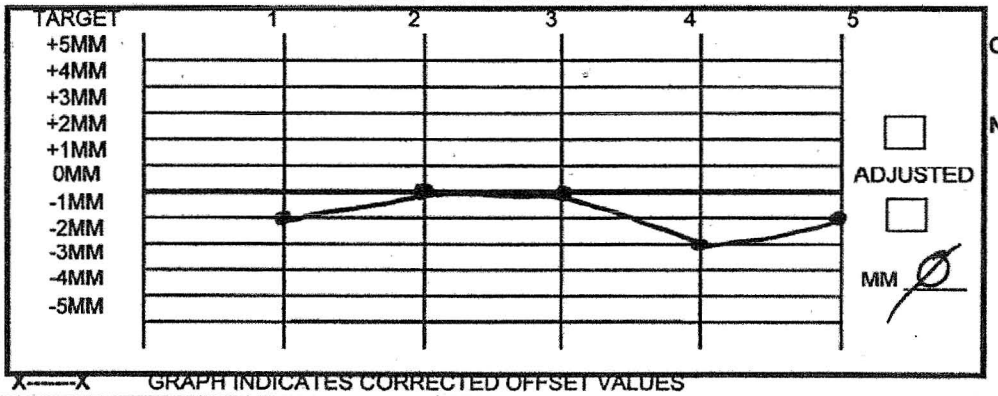
0/180 Rev/plunge — H. ANGLE ACCURACY 2 SECS
90/270 Rev/plunge — V. ANGLE ACCURACY 2 SECS

COLLIMATION STAND #1

EDM BASELINE TEST

COLLIMATION STAND #1

SLOPE DISTANCE ERROR GRAPH



☐ ADJUSTED
MM Ø

X-----X GRAPH INDICATES CORRECTED OFFSET VALUES

OLD MC CONSTANT _____mm
NEW MC CONSTANT _____mm
CYCLIC ERROR 2 MMSPREAD
Customer PSM constant 30
In Instrument when received

TARGET #		1		2		3		4		5	
	ACTUAL		ACTUAL		ACTUAL		ACTUAL		ACTUAL	
V.ANG	90.40.20	90.40.18	90.48.15	90.48.14	90.01.05	90.01.07	84.20.10	84.20.12	85.38.35	85.38.35
H.ANG	264.01.15	264.01.14	266.21.20	266.21.22	273.04.25	273.04.24	61.46.00	61.46.02	97.04.25	97.04.28
SD/MTR	132.154	153	136.380	380	47.108	108	11.659	657	13.065	064
SD/MTR ERROR		-1	ERROR	Ø	ERROR	Ø	ERROR	-2	ERROR	-1
Corrected SD/MTR										

PARTS NEEDED FOR THE REPAIR

PART NUMBER	QNTY
Recell Batt	2

DESCRIPTION OF REPAIRS PERFORMED

Collimation	
Dust & Adjust	
Clean & Collimation	X
Adjusted Compensators	
Adjusted Plunge	
Installed Key Pads	
Rebuilt Tribrach	
Repaired Tangents	
Relubed Focus	
EDM ALIGNMENT	
EDM MOTORS	

Additonal LABOR Description:
Replaced ATTN Motor
Recelled both Batteries

REPAIR LABOR HOURS

FREIGHT
(GROUND - 2nd Day - NDA) PICKUP @ OFFICE

RAW DATA FILES

Field Data Acquisition Dates

1) 01/04/07
2) 01/15/07
3) 01/16/07
4) 03/19/07
5) 03/20/07
6) 03/21/07
7) 03/22/07
8) 03/27/07
9) 04/02/07
10) 04/16/07
11) 04/017/07
12) 04/18/07

Raw Data Report

```
Line#    Record Type    1
2
3    4    5
6    7    8  9  10
11  12  13  14  15  16  17  18  19  20
    1  Job:                    Job Name: 06176
    2  Mode Setup:             Azimuth Direction: North
Distance Unit: US Feet              Scale Factor: 1.0                  Earth
Curvature: Off         EDM Offset: 0.0USft             Angle Unit: Degrees
    3  Note:                   Data Collector Serial Number: FS29A13023
    4  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
    5  Note:                   Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
    6  Note:                   Date: 09-09-2004  Time: 01:03:47
    7  Note:                   Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
    8  Occupy Pt:              Occupy Point: 18
Northing: 1144622.9235USft          Easting: 622463.3197USft
Elevation: 225.8106USft      Description: #4RS
    9  Note:                   HR:5.17 (5.17 + 0.0 Offset)
   10  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.17USft
   11  Backsight:              Occupy Point: 18
Backsight Point: 16                 Backsight Azimuth: 173.05361      Backsight
Circle: 0.0000
   12  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
   13  Note:                   BS check 18 - 16:ZE89.5125,SD712.394,HD err= -
0.049611, VD err= -0.068603
   14  Note:                   BS Circle check : angular err= 0.0000
   15  Note:                   BS check 18 - 16:ZE89.5122,SD712.398,HD err= -
0.045637, VD err= -0.058232
   16  Note:                   BS Circle check : angular err= 0.0000
   17  Note:                   BS check 18 - 16:ZE89.5115,SD712.406,HD err= -
0.037698, VD err= -0.034035
   18  Note:                   BS Circle check : angular err= 0.0000
   19  Note:                   BS check 18 - 16:ZE89.5115,SD712.408,HD err= -
0.035698, VD err= -0.03403
   20  Note:                   BS Circle check : angular err= 0.0000
   21  Note:                   BS check 18 - 16:ZE89.5113,SD712.4,HD err= -
0.043716, VD err= -0.027143
   22  Note:                   BS Circle check : angular err= 0.0000
   23  Note:                   BS check 18 - 16:ZE89.5113,SD712.422,HD err= -
0.021716, VD err= -0.027086
   24  Note:                   BS Circle check : angular err= 0.0000
   25  Note:                   BS check 18 - 16:ZE89.5111,SD712.424,HD err= -
0.019733, VD err= -0.020174
   26  Note:                   BS Circle check : angular err= 0.0000
   27  Note:                   BS check 18 - 16:ZE89.5108,SD712.408,HD err= -
0.03576, VD err= -0.009853
   28  Note:                   BS Circle check : angular err= 0.0000
   29  Note:                   BS check 18 - 16:ZE89.5108,SD712.408,HD err= -
0.03576, VD err= -0.009853
   30  Note:                   BS Circle check : angular err= 0.0000
   31  Note:                   BS check 18 - 16:ZE89.5108,SD712.422,HD err= -
0.02176, VD err= -0.009817
   32  Note:                   BS Circle check : angular err= 0.0000
   33  Side Shot:              Occupy Point: 18
Foresight Point: 9100               Angle Right: 0.0001               Zenith
Angle: 89.5108        Slope Distance: 712.412USft     Description: CHK16
   34  Note:                   Date: 09-09-2004  Time: 05:07:56
   35  Note:                   Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
```

```
   36  Occupy Pt:              Occupy Point: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.2771USft      Description: #4RS
   37  Note:                   HR:5.1 (5.1 + 0.0 Offset)
   38  Line of Sight (HI/HR):  Height of Instrument: 5.42USft
Height of Rod: 5.1USft
   39  Backsight:              Occupy Point: 21
Backsight Point: 23                  Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
   40  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   41  Note:                   BS check 21 - 23:ZE90.0855,SD482.252,HD err= -
0.0062, VD err= 0.267359
   42  Note:                   BS Circle check : angular err= 0.0000
   43  Occupy Pt:              Occupy Point: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.2771USft      Description: #4RS
   44  Backsight:              Occupy Point: 21
Backsight Point: 23                  Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
   45  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   46  Note:                   BS check 21 - 23:ZE90.0853,SD482.27,HD err=
0.011812, VD err= 0.271988
   47  Note:                   BS Circle check : angular err= 0.0000
   48  Note:                   BS check 21 - 23:ZE90.0856,SD482.246,HD err= -
0.012206, VD err= 0.265036
   49  Note:                   BS Circle check : angular err= 0.0000
   50  Note:                   BS check 21 - 23:ZE90.0856,SD482.264,HD err=
0.005794, VD err= 0.26499
   51  Note:                   BS Circle check : angular err= 0.0000
   52  Note:                   Date: 09-09-2004  Time: 05:38:02
   53  Occupy Pt:              Occupy Point: 25
Northing: 1145943.1434USft           Easting: 623027.6303USft
Elevation: 224.9629USft      Description: #4RS
   54  Backsight:              Occupy Point: 25
Backsight Point: 27                  Backsight Azimuth: 55.500261      Backsight
Circle: 0.0000
   55  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   56  Note:                   BS check 25 - 27:ZE90.0855,SD482.262,HD err= -
395.546515, VD err= -28.634167
   57  Note:                   BS Circle check : angular err= 0.0000
   58  Store Point:            Point Name: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
   59  Store Point:            Point Name: 23
Northing: 1145666.8682USft           Easting: 622037.046USft
Elevation: 237.279USft       Description: #4RS
   60  Occupy Pt:              Occupy Point: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
   61  Backsight:              Occupy Point: 21
Backsight Point: 23                  Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
   62  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   63  Note:                   BS check 21 - 23:ZE90.0853,SD482.262,HD err=
0.003812, VD err= -0.022191
   64  Note:                   BS Circle check : angular err= 0.0000
   65  Note:                   BS check 21 - 23:ZE90.0853,SD482.26,HD err=
0.001812, VD err= -0.022186
   66  Note:                   BS Circle check : angular err= 0.0000
   67  Note:                   BS check 21 - 23:ZE90.0849,SD482.262,HD err=
0.003836, VD err= -0.012839
   68  Note:                   BS Circle check : angular err= 0.0000
   69  Side Shot:              Occupy Point: 21
```

```
Foresight Point: 9101               Angle Right: 0.0000              Zenith
Angle: 90.0849        Slope Distance: 482.27USft      Description: CHK23
   70  Occupy Pt:              Occupy Point: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
   71  Backsight:              Occupy Point: 21
Backsight Point: 23                  Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
   72  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   73  Note:                   BS check 21 - 23:ZE90.0854,SD482.27,HD err=
0.011806, VD err= -0.02455
   74  Note:                   BS Circle check : angular err= 0.0000
   75  Note:                   BS check 21 - 23:ZE90.0858,SD482.258,HD err= -
0.000218, VD err= -0.033871
   76  Note:                   BS Circle check : angular err= 0.0000
   77  Note:                   BS check 21 - 23:ZE90.0854,SD482.262,HD err=
0.003806, VD err= -0.024529
   78  Note:                   BS Circle check : angular err= 0.0000
   79  Note:                   Date: 09-09-2004  Time: 05:53:51
   80  Note:                   Date: 09-09-2004  Time: 06:09:51
   81  Occupy Pt:              Occupy Point: 70
Northing: 1145923.8408USft           Easting: 622542.2584USft
Elevation: 229.101USft       Description: NS
   82  Note:                   HR:5.1 (5.1 + 0.0 Offset)
   83  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.1USft
   84  Backsight:              Occupy Point: 70
Backsight Point: 23                  Backsight Azimuth: 243.02246      Backsight
Circle: 0.0000
   85  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   86  Note:                   BS check 70 - 23:ZE89.1230,SD566.884,HD err=
0.019085, VD err= -0.225505
   87  Note:                   BS Circle check : angular err= 0.0000
   88  Note:                   BS check 70 - 23:ZE89.1230,SD566.876,HD err=
0.011085, VD err= -0.225616
   89  Note:                   BS Circle check : angular err= 0.0000
   90  Occupy Pt:              Occupy Point: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
   91  Backsight:              Occupy Point: 21
Backsight Point: 23                  Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
   92  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   93  Note:                   BS check 21 - 23:ZE89.1227,SD566.872,HD err=
84.561197, VD err= 8.864573
   94  Note:                   BS Circle check : angular err= 0.0000
   95  Store Point:            Point Name: 70
Northing: 1145923.8408USft           Easting: 622542.2584USft
Elevation: 228.875USft       Description: NS
   96  Occupy Pt:              Occupy Point: 70
Northing: 1145923.8408USft           Easting: 622542.2584USft
Elevation: 228.875USft       Description: NS
   97  Backsight:              Occupy Point: 70
Backsight Point: 23                  Backsight Azimuth: 243.02246      Backsight
Circle: 0.0000
   98  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
   99  Note:                   BS check 70 - 23:ZE89.1228,SD566.874,HD err=
0.00901, VD err= -0.446147
  100  Note:                   BS Circle check : angular err= 0.0000
  101  Occupy Pt:              Occupy Point: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
  102  Backsight:              Occupy Point: 21
```

```
Backsight Point: 23                 Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
  103  Note:                    Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
  104  Note:                    BS check 21 - 23:ZE89.1226,SD566.882,HD err=
84.571158, VD err= 8.867459
  105  Note:                    BS Circle check : angular err= 0.0000
  106  Store Point:             Point Name: 70
Northing: 1145923.8408USft           Easting: 622542.2584USft
Elevation: 229.327USft       Description: NS
  107  Occupy Pt:               Occupy Point: 70
Northing: 1145923.8408USft           Easting: 622542.2584USft
Elevation: 229.327USft       Description: NS
  108  Backsight:               Occupy Point: 70
Backsight Point: 23                 Backsight Azimuth: 243.02246      Backsight
Circle: 0.0000
  109  Note:                    Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
  110  Note:                    BS check 70 - 23:ZE89.1225,SD566.886,HD err=
0.020895, VD err= 0.014263
  111  Note:                    BS Circle check : angular err= 0.0000
  112  Note:                    BS check 70 - 23:ZE89.1225,SD566.886,HD err=
0.020895, VD err= 0.014263
  113  Note:                    BS Circle check : angular err= 0.0000
  114  Note:                    BS check 70 - 23:ZE89.1223,SD566.886,HD err=
0.020818, VD err= 0.019759
  115  Note:                    BS Circle check : angular err= 0.0000
  116  Note:                    BS check 70 - 23:ZE89.1225,SD566.88,HD err=
0.014895, VD err= 0.01418
  117  Note:                    BS Circle check : angular err= 0.0000
  118  Side Shot:               Occupy Point: 70
Foresight Point: 9102               Angle Right: 0.0000               Zenith
Angle: 89.1226        Slope Distance: 566.874USft     Description: CHK23
  119  Occupy Pt:               Occupy Point: 70
Northing: 1145923.8408USft           Easting: 622542.2584USft
Elevation: 229.327USft       Description: NS
  120  Backsight:               Occupy Point: 70
Backsight Point: 23                 Backsight Azimuth: 243.02246      Backsight
Circle: 0.0000
  121  Note:                    Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
  122  Note:                    BS check 70 - 23:ZE89.1233,SD566.876,HD err=
0.011199, VD err= -0.00786
  123  Note:                    BS Circle check : angular err= 0.0000
  124  Note:                    Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
  125  Note:                    HR:5.22 (5.22 + 0.0 Offset)
  126  Line of Sight (HI/HR):   Height of Instrument: 5.22USft
Height of Rod: 5.22USft
  127  Repeat Directional:      Backsight Direct
Set: 1                              Angle: 0.0000
  128  Repeat Directional:      Backsight Reverse
Set: 1                              Angle: 180.0004
  129  Repeat Directional:      Foresight Reverse
Set: 1                              Angle: 251.3100
  130  Repeat Directional:      Zenith Reverse
Set: 1                              Zenith: 271.3557
  131  Multiple Distances:      Set: 1
Slope Distance: 953.762USft
  132  Repeat Foresight:        Occupy Point: 70
Foresight Point: 9103               Angle Right: 251.3100             Zenith
Angle: 271.3557       Slope Distance: 953.762USft     Height of Rod: 5.22USft
Description: #4RF/TR-7
  133  Repeat Directional:      Foresight Direct
Set: 1                              Angle: 71.3052
  134  Repeat Directional:      Zenith Direct
Set: 1                              Zenith: 88.2411
```

```
  135  Multiple Distances:     Set: 1
Slope Distance: 953.726USft
  136  Repeat Foresight:       Occupy Point: 70
Foresight Point: 9103                Angle Right: 71.3052              Zenith
Angle: 88.2411        Slope Distance: 953.726USft     Height of Rod: 5.22USft
Description: #4RF/TR-7
  137  Note:                   Horizontal Angle Error: 0.0004
  138  Note:                   Zenith Angle Error: 0.0008
  139  Note:                   Slope Distance Error: 0.036
  140  Note:                   Horizontal Angle Error compares to the average:
0.0000
  141  Note:                   Zenith Angle Error compares to the average:
0.0000
  142  Note:                   Slope Distance Error compares to the average: 0.0
  143  Side Shot:              Occupy Point: 70
Foresight Point: 9103                Angle Right: 71.3054              Zenith
Angle: 88.2407        Slope Distance: 953.744USft     Description: #4RF/TR-7
  144  Note:                   Date: 09-09-2004  Time: 06:36:30
  145  Store Point:            Point Name: 9104
Northing: 1145444.05953USft          Easting: 622676.309509USft
Elevation: 239.778802USft    Description: PT9018
  146  Cut Sheet:              Elevation: 239.778802USft
Design Grade: 0.0
  147  Design Point/Location:  Point Name: 9018
Northing: 1145444.1USft              Easting: 622676.3USft
Elevation: 0.0USft           Description: B-6008
  148  Stakeout Deltas:        Delta Northing: 0.04047USft
Delta Easting: -0.009509USft         Delta Elevation: -239.778802USft
  149  Stakeout:               Occupy Point: 70
Foresight Point: 9104                Angle Right: 281.2058             Zenith
Angle: 88.4753        Slope Distance: 498.266USft     Description: PT9018
  150  Store Point:            Point Name: 9104
Northing: 1145444.05953USft          Easting: 622676.309509USft
Elevation: 240.098802USft    Description: PT9018
  151  Store Point:            Point Name: 9104
Northing: 1145444.05953USft          Easting: 622676.309509USft
Elevation: 240.098802USft    Description: PT9018/B-6008
  152  Note:                   Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
  153  Note:                   HR:5.1 (5.1 + 0.0 Offset)
  154  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.1USft
  155  Side Shot:              Occupy Point: 70
Foresight Point: 9105                Angle Right: 359.5958             Zenith
Angle: 89.1228        Slope Distance: 566.882USft     Description: CHK23
  156  Note:                   Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
  157  Occupy Pt:              Occupy Point: 9103
Northing: 1146592.723232USft         Easting: 621862.908365USft
Elevation: 255.924741USft    Description: #4RF/TR-7
  158  Note:                   HR:5.17 (5.17 + 0.0 Offset)
  159  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 5.17USft
  160  Backsight:              Occupy Point: 9103
Backsight Point: 70                  Backsight Azimuth: 134.33186      Backsight
Circle: 0.0000
  161  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
  162  Note:                   BS check 9103 - 70:ZE91.3633,SD953.732,HD err= -
0.017171, VD err= -0.114546
  163  Note:                   BS Circle check : angular err= 0.0000
  164  Note:                   BS check 9103 - 70:ZE91.3633,SD953.73,HD err= -
0.01917, VD err= -0.11449
  165  Note:                   BS Circle check : angular err= 0.0000
  166  Note:                   BS check 9103 - 70:ZE91.3633,SD953.734,HD err= -
0.015172, VD err= -0.114602
  167  Note:                   BS Circle check : angular err= 0.0000
```

```
  168  Note:                    BS check 9103 - 70:ZE91.3633,SD953.732,HD err= -
0.017171, VD err= -0.114546
  169  Note:                    BS Circle check : angular err= 0.0000
  170  Occupy Pt:               Occupy Point: 21
Northing: 1145197.2227USft           Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
  171  Backsight:               Occupy Point: 21
Backsight Point: 70                  Backsight Azimuth: 40.140209      Backsight
Circle: 0.0000
  172  Note:                    Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
  173  Note:                    BS check 21 - 70:ZE91.3633,SD953.728,HD err=
1.550834, VD err= -17.856174
  174  Note:                    BS Circle check : angular err= 0.0000
  175  Store Point:             Point Name: 9103
Northing: 1146592.723232USft         Easting: 621862.908365USft
Elevation: 256.034741USft    Description: #4RF/TR-7
  176  Occupy Pt:               Occupy Point: 9103
Northing: 1146592.723232USft         Easting: 621862.908365USft
Elevation: 256.034741USft    Description: #4RF/TR-7
  177  Backsight:               Occupy Point: 9103
Backsight Point: 70                  Backsight Azimuth: 134.33186      Backsight
Circle: 0.0000
  178  Note:                    Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
  179  Note:                    BS check 9103 - 70:ZE91.3635,SD953.724,HD err= -
0.025428, VD err= -0.013565
  180  Note:                    BS Circle check : angular err= 0.0000
  181  Note:                    BS check 9103 - 70:ZE91.3633,SD953.726,HD err= -
0.023169, VD err= -0.004377
  182  Note:                    BS Circle check : angular err= 0.0000
  183  Side Shot:               Occupy Point: 9103
Foresight Point: 9106                Angle Right: 0.0000               Zenith
Angle: 91.3633        Slope Distance: 953.726USft     Description: CHK70
  184  Note:                    Date: 09-09-2004  Time: 07:38:30
  185  Note:                    Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
  186  Note:                    HR:4.9 (4.9 + 0.0 Offset)
  187  Line of Sight (HI/HR):   Height of Instrument: 5.24USft
Height of Rod: 4.9USft
  188  Note:                    Foresight Target:My Prism, HR:7.29 (7.29 + 0.0
Offset), Prism Const.:0.0mm
  189  Note:                    HR:7.29 (7.29 + 0.0 Offset)
  190  Line of Sight (HI/HR):   Height of Instrument: 5.24USft
Height of Rod: 7.29USft
  191  Store Point:             Point Name: 9107
Northing: 1146546.999651USft         Easting: 621568.000249USft
Elevation: 236.93986USft     Description: PT9004/B-5004
  192  Cut Sheet:               Elevation: 236.93986USft
Design Grade: 0.0
  193  Design Point/Location:   Point Name: 9004
Northing: 1146547.0USft              Easting: 621568.0USft
Elevation: 0.0USft           Description: B-5004
  194  Stakeout Deltas:         Delta Northing: 0.000349USft
Delta Easting: -0.000249USft         Delta Elevation: -236.93986USft
  195  Stakeout:                Occupy Point: 9103
Foresight Point: 9107                Angle Right: 126.3754             Zenith
Angle: 93.1608        Slope Distance: 298.918USft     Description: PT9004/B-5004
  196  Note:                    Date: 09-09-2004  Time: 07:53:34
  197  Store Point:             Point Name: 9108
Northing: 1146360.136842USft         Easting: 621696.627093USft
Elevation: 237.417081USft    Description: PT9027/ER-1105/6
  198  Cut Sheet:               Elevation: 237.417081USft
Design Grade: 0.0
  199  Design Point/Location:   Point Name: 9027
Northing: 1146360.1USft              Easting: 621696.6USft
Elevation: 0.0USft           Description: ER-1105-1106
```

```
  200  Stakeout Deltas:        Delta Northing: -0.036842USft
Delta Easting: -0.027093USft         Delta Elevation: -237.417081USft
  201  Stakeout:               Occupy Point: 9103
Foresight Point: 9108                Angle Right: 81.0024              Zenith
Angle: 93.1859        Slope Distance: 286.392USft     Description: PT9027/ER-
1105/6
  202  Occupy Pt:              Occupy Point: 9103
Northing: 1146592.723232USft         Easting: 621862.908365USft
Elevation: 256.034741USft    Description: #4RF/TR-7
  203  Backsight:              Occupy Point: 9103
Backsight Point: 70                  Backsight Azimuth: 134.33186      Backsight
Circle: 0.0000
  204  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
  205  Note:                   BS check 9103 - 70:ZE91.3628,SD953.72,HD err= -
0.028518, VD err= 0.018901
  206  Note:                   BS Circle check : angular err= 0.0000
  207  Note:                   Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
  208  Note:                   HR:5.14 (5.14 + 0.0 Offset)
  209  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 5.14USft
  210  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
  211  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0003
  212  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 260.5330
  213  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 266.1801
  214  Multiple Distances:     Set: 1
Slope Distance: 278.756USft
  215  Repeat Foresight:       Occupy Point: 9103
Foresight Point: 9109                Angle Right: 260.5330             Zenith
Angle: 266.1801       Slope Distance: 278.756USft     Height of Rod: 5.14USft
Description: NS
  216  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 80.5327
  217  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 93.4211
  218  Multiple Distances:     Set: 1
Slope Distance: 278.756USft
  219  Repeat Foresight:       Occupy Point: 9103
Foresight Point: 9109                Angle Right: 80.5327              Zenith
Angle: 93.4211        Slope Distance: 278.756USft     Height of Rod: 5.14USft
Description: NS
  220  Note:                   Horizontal Angle Error: 0.0000
  221  Note:                   Zenith Angle Error: 0.0012
  222  Note:                   Slope Distance Error: 0.0
  223  Note:                   Horizontal Angle Error compares to the average:
0.0000
  224  Note:                   Zenith Angle Error compares to the average:
0.0000
  225  Note:                   Slope Distance Error compares to the average: 0.0
  226  Side Shot:              Occupy Point: 9103
Foresight Point: 9109                Angle Right: 80.5327              Zenith
Angle: 93.4205        Slope Distance: 278.756USft     Description: NS
  227  Note:                   Date: 09-09-2004  Time: 08:09:36
  228  Note:                   Foresight Target:My Prism, HR:5.24 (5.24 + 0.0
Offset), Prism Const.:0.0mm
  229  Occupy Pt:              Occupy Point: 9109
Northing: 1146366.104889USft         Easting: 621701.5851USft
Elevation: 238.13923USft     Description: NS
  230  Note:                   HR:5.24 (5.24 + 0.0 Offset)
  231  Line of Sight (HI/HR):  Height of Instrument: 5.39USft
Height of Rod: 5.24USft
  232  Backsight:              Occupy Point: 9109
```

```
Backsight Point: 9103               Backsight Azimuth: 35.26456       Backsight
Circle: 0.0000
  233  Note:                    Fixed HR at Backsight:5.24 (5.24 + 0.0 Offset),
Prism Const.:0.0mm
  234  Note:                    BS check 9109 - 9103:ZE86.2113,SD278.734,HD err=
-0.004809, VD err= -0.018436
  235  Note:                    BS Circle check : angular err= 0.0000
  236  Side Shot:               Occupy Point: 9109
Foresight Point: 9110                Angle Right: 0.0000               Zenith
Angle: 86.2114        Slope Distance: 278.734USft     Description: CHK9103
  237  Note:                    Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
  238  Note:                    HR:4.9 (4.9 + 0.0 Offset)
  239  Line of Sight (HI/HR):   Height of Instrument: 5.39USft
Height of Rod: 4.9USft
  240  Store Point:             Point Name: 9111
Northing: 1146386.998078USft         Easting: 621568.009783USft
Elevation: 227.582438USft    Description: PT9003/B-5003
  241  Cut Sheet:               Elevation: 227.582438USft
Design Grade: 0.0
  242  Design Point/Location:   Point Name: 9003
Northing: 1146387.0USft              Easting: 621568.0USft
Elevation: 0.0USft           Description: B-5003
  243  Stakeout Deltas:         Delta Northing: 0.001922USft
Delta Easting: -0.009783USft         Delta Elevation: -227.582438USft
  244  Stakeout:                Occupy Point: 9109
Foresight Point: 9111                Angle Right: 243.2638             Zenith
Angle: 94.4016        Slope Distance: 135.65USft      Description: PT9003/B-5003
  245  Store Point:             Point Name: 9112
Northing: 1146342.003775USft         Easting: 621807.982615USft
Elevation: 242.215921USft    Description: PT9002/B-5002
  246  Cut Sheet:               Elevation: 242.215921USft
Design Grade: 0.0
  247  Design Point/Location:   Point Name: 9002
Northing: 1146342.0USft              Easting: 621808.0USft
Elevation: 0.0USft           Description: B-5002
  248  Stakeout Deltas:         Delta Northing: -0.003775USft
Delta Easting: 0.017385USft          Delta Elevation: -242.215921USft
  249  Stakeout:                Occupy Point: 9109
Foresight Point: 9112                Angle Right: 67.1902              Zenith
Angle: 88.0701        Slope Distance: 109.152USft     Description: PT9002/B-5002
  250  Note:                    Date: 09-09-2004  Time: 08:30:51
  251  Occupy Pt:               Occupy Point: 9109
Northing: 1146366.104889USft         Easting: 621701.5851USft
Elevation: 238.13923USft     Description: NS
  252  Backsight:               Occupy Point: 9109
Backsight Point: 9103                Backsight Azimuth: 35.26456       Backsight
Circle: 0.0000
  253  Note:                    Fixed HR at Backsight:5.24 (5.24 + 0.0 Offset),
Prism Const.:0.0mm
  254  Note:                    BS check 9109 - 9103:ZE86.2114,SD278.734,HD err=
-0.004723, VD err= -0.019784
  255  Note:                    BS Circle check : angular err= 0.0000
  256  Note:                    Foresight Target:My Prism, HR:5.39 (5.39 + 0.0
Offset), Prism Const.:0.0mm
  257  Note:                    HR:5.39 (5.39 + 0.0 Offset)
  258  Line of Sight (HI/HR):   Height of Instrument: 5.39USft
Height of Rod: 5.39USft
  259  Repeat Directional:      Backsight Direct
Set: 1                               Angle: 0.0000
  260  Repeat Directional:      Backsight Reverse
Set: 1                               Angle: 180.0001
  261  Repeat Directional:      Foresight Reverse
Set: 1                               Angle: 304.2259
  262  Repeat Directional:      Zenith Reverse
Set: 1                               Zenith: 264.3757
  263  Multiple Distances:      Set: 1
```

Slope Distance: 207.092USft
  264 Repeat Foresight: Occupy Point: 9109
Foresight Point: 9113   Angle Right: 304.2259   Zenith
Angle: 264.3757   Slope Distance: 207.092USft   Height of Rod: 5.39USft
Description: NS
  265 Repeat Directional: Foresight Direct
Set: 1   Angle: 124.2254
  266 Repeat Directional: Zenith Direct
Set: 1   Zenith: 95.2204
  267 Multiple Distances: Set: 1
Slope Distance: 207.092USft
  268 Repeat Foresight: Occupy Point: 9109
Foresight Point: 9113   Angle Right: 124.2254   Zenith
Angle: 95.2204   Slope Distance: 207.092USft   Height of Rod: 5.39USft
Description: NS
  269 Note: Horizontal Angle Error: 0.0004
  270 Note: Zenith Angle Error: 0.0001
  271 Note: Slope Distance Error: 0.0
  272 Note: Horizontal Angle Error compares to the average:
0.0000
  273 Note: Zenith Angle Error compares to the average:
0.0000
  274 Note: Slope Distance Error compares to the average: 0.0
  275 Side Shot: Occupy Point: 9109
Foresight Point: 9113   Angle Right: 124.2256   Zenith
Angle: 95.22035   Slope Distance: 207.092USft   Description: NS
  276 Note: Foresight Target:My Prism, HR:5.28 (5.28 + 0.0
Offset), Prism Const.:0.0mm
  277 Occupy Pt: Occupy Point: 9113
Northing: 1146172.567697USft   Easting: 621772.684702USft
Elevation: 218.766602USft   Description: NS
  278 Note: HR:5.28 (5.28 + 0.0 Offset)
  279 Line of Sight (HI/HR): Height of Instrument: 5.26USft
Height of Rod: 5.28USft
  280 Backsight: Occupy Point: 9113
Backsight Point: 9109   Backsight Azimuth: 339.49416   Backsight
Circle: 0.0000
  281 Note: Fixed HR at Backsight:5.28 (5.28 + 0.0 Offset),
Prism Const.:0.0mm
  282 Note: BS check 9113 - 9109:ZE84.3801,SD207.084,HD err=
-0.007542, VD err= -0.025246
  283 Note: BS Circle check : angular err= 0.0000
  284 Note: Foresight Target:My Prism, HR:5.27 (5.27 + 0.0
Offset), Prism Const.:0.0mm
  285 Occupy Pt: Occupy Point: 9113
Northing: 1146172.567697USft   Easting: 621772.684702USft
Elevation: 218.766602USft   Description: NS
  286 Note: HR:5.27 (5.27 + 0.0 Offset)
  287 Line of Sight (HI/HR): Height of Instrument: 5.26USft
Height of Rod: 5.27USft
  288 Backsight: Occupy Point: 9113
Backsight Point: 9109   Backsight Azimuth: 339.49416   Backsight
Circle: 0.0000
  289 Note: Backsight HR:5.27 (5.27 + 0.0 Offset), Prism
Const.:0.0mm
  290 Note: BS check 9113 - 9109:ZE84.3804,SD207.084,HD err=
-0.007261, VD err= -0.018245
  291 Note: BS Circle check : angular err= 0.0000
  292 Side Shot: Occupy Point: 9113
Foresight Point: 9114   Angle Right: 0.0000   Zenith
Angle: 84.3804   Slope Distance: 207.082USft   Description: CHK9109
  293 Note: Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
  294 Note: HR:4.9 (4.9 + 0.0 Offset)
  295 Line of Sight (HI/HR): Height of Instrument: 5.26USft
Height of Rod: 4.9USft
  296 Store Point: Point Name: 9115

Northing: 1146176.998589USft Easting: 621807.989508USft
Elevation: 219.255464USft Description: PT9001/B-5001
297 Cut Sheet: Elevation: 219.255464USft
Design Grade: 0.0
298 Design Point/Location: Point Name: 9001
Northing: 1146177.0USft Easting: 621808.0USft
Elevation: 0.0USft Description: B-5001
299 Stakeout Deltas: Delta Northing: 0.001411USft
Delta Easting: 0.010492USft Delta Elevation: -219.255464USft
300 Stakeout: Occupy Point: 9113
Foresight Point: 9115 Angle Right: 103.0106 Zenith
Angle: 89.4733 Slope Distance: 35.582USft Description: PT9001/B-5001
301 Note: Date: 09-09-2004 Time: 08:52:16
302 Occupy Pt: Occupy Point: 9113
Northing: 1146172.567697USft Easting: 621772.684702USft
Elevation: 218.766602USft Description: NS
303 Backsight: Occupy Point: 9113
Backsight Point: 9109 Backsight Azimuth: 339.49416 Backsight
Circle: 0.0000
304 Note: Backsight HR:4.9 (4.9 + 0.0 Offset), Prism
Const.:0.0mm
305 Note: BS check 9113 - 9109:ZE84.3803,SD207.086,HD err=
-0.005363, VD err= 0.352941
306 Note: BS Circle check : angular err= 0.0000
307 Occupy Pt: Occupy Point: 9113
Northing: 1146172.567697USft Easting: 621772.684702USft
Elevation: 218.766602USft Description: NS
308 Backsight: Occupy Point: 9113
Backsight Point: 9109 Backsight Azimuth: 339.49416 Backsight
Circle: 0.0000
309 Note: Fixed HR at Backsight:5.27 (5.27 + 0.0 Offset),
Prism Const.:0.0mm
310 Note: BS check 9113 - 9109:ZE84.3803,SD207.08,HD err= -
0.011337, VD err= -0.01762
311 Note: BS Circle check : angular err= 0.0000
312 Note: Foresight Target:My Prism, HR:5.09 (5.09 + 0.0
Offset), Prism Const.:0.0mm
313 Note: HR:5.09 (5.09 + 0.0 Offset)
314 Line of Sight (HI/HR): Height of Instrument: 5.26USft
Height of Rod: 5.09USft
315 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
316 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0003
317 Repeat Directional: Foresight Reverse
Set: 1 Angle: 323.2652
318 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 267.5744
319 Multiple Distances: Set: 1
Slope Distance: 249.59USft
320 Repeat Foresight: Occupy Point: 9113
Foresight Point: 9116 Angle Right: 323.2652 Zenith
Angle: 267.5744 Slope Distance: 249.59USft Height of Rod: 5.09USft
Description: NS
321 Repeat Directional: Foresight Direct
Set: 1 Angle: 143.2648
322 Repeat Directional: Zenith Direct
Set: 1 Zenith: 92.0223
323 Multiple Distances: Set: 1
Slope Distance: 249.59USft
324 Repeat Foresight: Occupy Point: 9113
Foresight Point: 9116 Angle Right: 143.2648 Zenith
Angle: 92.0223 Slope Distance: 249.59USft Height of Rod: 5.09USft
Description: NS
325 Note: Horizontal Angle Error: 0.0001
326 Note: Zenith Angle Error: 0.0007
327 Note: Slope Distance Error: 0.0

```
  328  Note:                    Horizontal Angle Error compares to the average:
0.0000
  329  Note:                    Zenith Angle Error compares to the average:
0.0000
  330  Note:                    Slope Distance Error compares to the average: 0.0
  331  Side Shot:               Occupy Point: 9113
Foresight Point: 9116                 Angle Right: 143.26485            Zenith
Angle: 92.02195       Slope Distance: 249.59USft      Description: NS
  332  Note:                    Foresight Target:My Prism, HR:4.93 (4.93 + 0.0
Offset), Prism Const.:0.0mm
  333  Occupy Pt:               Occupy Point: 9116
Northing: 1146035.714707USft          Easting: 621981.221475USft
Elevation: 210.05734USft     Description: NS
  334  Note:                    HR:4.93 (4.93 + 0.0 Offset)
  335  Line of Sight (HI/HR):   Height of Instrument: 5.34USft
Height of Rod: 4.93USft
  336  Backsight:               Occupy Point: 9116
Backsight Point: 9113                 Backsight Azimuth: 303.16301      Backsight
Circle: 0.0000
  337  Note:                    Fixed HR at Backsight:4.93 (4.93 + 0.0 Offset),
Prism Const.:0.0mm
  338  Note:                    BS check 9116 - 9113:ZE88.0554,SD249.574,HD err=
0.004539, VD err= -0.017336
  339  Note:                    BS Circle check : angular err= 0.0000
  340  Side Shot:               Occupy Point: 9116
Foresight Point: 9117                 Angle Right: 0.0000               Zenith
Angle: 88.0554        Slope Distance: 249.572USft     Description: CHK9113
  341  Note:                    Foresight Target:My Prism, HR:5.02 (5.02 + 0.0
Offset), Prism Const.:0.0mm
  342  Note:                    HR:5.02 (5.02 + 0.0 Offset)
  343  Line of Sight (HI/HR):   Height of Instrument: 5.34USft
Height of Rod: 5.02USft
  344  Repeat Directional:      Backsight Direct
Set: 1                                Angle: 0.0000
  345  Repeat Directional:      Backsight Reverse
Set: 1                                Angle: 180.0004
  346  Repeat Directional:      Foresight Reverse
Set: 1                                Angle: 62.1735
  347  Repeat Directional:      Zenith Reverse
Set: 1                                Zenith: 273.3752
  348  Multiple Distances:      Set: 1
Slope Distance: 226.754USft
  349  Repeat Foresight:        Occupy Point: 9116
Foresight Point: 9118                 Angle Right: 62.1735              Zenith
Angle: 273.3752       Slope Distance: 226.754USft     Height of Rod: 5.02USft
Description: NS
  350  Repeat Directional:      Foresight Direct
Set: 1                                Angle: 242.1732
  351  Repeat Directional:      Zenith Direct
Set: 1                                Zenith: 86.2156
  352  Multiple Distances:      Set: 1
Slope Distance: 226.742USft
  353  Repeat Foresight:        Occupy Point: 9116
Foresight Point: 9118                 Angle Right: 242.1732             Zenith
Angle: 86.2156        Slope Distance: 226.742USft     Height of Rod: 5.02USft
Description: NS
  354  Note:                    Horizontal Angle Error: 0.0001
  355  Note:                    Zenith Angle Error: 0.0012
  356  Note:                    Slope Distance Error: 0.012
  357  Note:                    Horizontal Angle Error compares to the average:
0.0000
  358  Note:                    Zenith Angle Error compares to the average:
0.0000
  359  Note:                    Slope Distance Error compares to the average: 0.0
  360  Side Shot:               Occupy Point: 9116
Foresight Point: 9118                 Angle Right: 242.17315            Zenith
Angle: 86.2202        Slope Distance: 226.748USft     Description: NS
```

```
  361  Note:                    Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
  362  Occupy Pt:               Occupy Point: 9118
Northing: 1145810.489689USft          Easting: 621959.268485USft
Elevation: 224.744425USft    Description: NS
  363  Note:                    HR:5.22 (5.22 + 0.0 Offset)
  364  Line of Sight (HI/HR):   Height of Instrument: 5.15USft
Height of Rod: 5.22USft
  365  Backsight:               Occupy Point: 9118
Backsight Point: 9116                Backsight Azimuth: 5.34016        Backsight
Circle: 0.0000
  366  Note:                    Fixed HR at Backsight:5.22 (5.22 + 0.0 Offset),
Prism Const.:0.0mm
  367  Note:                    BS check 9118 - 9116:ZE93.4157,SD226.77,HD err=
0.005155, VD err= -0.013616
  368  Note:                    BS Circle check : angular err= 0.0000
  369  Side Shot:               Occupy Point: 9118
Foresight Point: 9119                Angle Right: 0.0000               Zenith
Angle: 93.4157        Slope Distance: 226.772USft     Description: CHK9116
  370  Note:                    Foresight Target:My Prism, HR:5.23 (5.23 + 0.0
Offset), Prism Const.:0.0mm
  371  Note:                    HR:5.23 (5.23 + 0.0 Offset)
  372  Line of Sight (HI/HR):   Height of Instrument: 5.15USft
Height of Rod: 5.23USft
  373  Note:                    Date: 09-09-2004  Time: 09:22:57
  374  Repeat Directional:      Backsight Direct
Set: 1                               Angle: 0.0000
  375  Repeat Directional:      Backsight Reverse
Set: 1                               Angle: 180.0004
  376  Repeat Directional:      Foresight Reverse
Set: 1                               Angle: 326.0312
  377  Repeat Directional:      Zenith Reverse
Set: 1                               Zenith: 274.2602
  378  Multiple Distances:      Set: 1
Slope Distance: 163.818USft
  379  Repeat Foresight:        Occupy Point: 9118
Foresight Point: 9120                Angle Right: 326.0312             Zenith
Angle: 274.2602       Slope Distance: 163.818USft     Height of Rod: 5.23USft
Description: PT23
  380  Repeat Directional:      Foresight Direct
Set: 1                               Angle: 146.0309
  381  Repeat Directional:      Zenith Direct
Set: 1                               Zenith: 85.3405
  382  Multiple Distances:      Set: 1
Slope Distance: 163.826USft
  383  Repeat Foresight:        Occupy Point: 9118
Foresight Point: 9120                Angle Right: 146.0309             Zenith
Angle: 85.3405        Slope Distance: 163.826USft     Height of Rod: 5.23USft
Description: PT23
  384  Note:                    Horizontal Angle Error: 0.0001
  385  Note:                    Zenith Angle Error: 0.0007
  386  Note:                    Slope Distance Error: 0.008
  387  Note:                    Horizontal Angle Error compares to the average:
0.0000
  388  Note:                    Zenith Angle Error compares to the average:
0.0000
  389  Note:                    Slope Distance Error compares to the average: 0.0
  390  Side Shot:               Occupy Point: 9118
Foresight Point: 9120                Angle Right: 146.03085            Zenith
Angle: 85.34015       Slope Distance: 163.822USft     Description: PT23
  391  Note:                    Foresight Target:My Prism, HR:5.03 (5.03 + 0.0
Offset), Prism Const.:0.0mm
  392  Occupy Pt:               Occupy Point: 9120
Northing: 1145666.788597USft          Easting: 622036.904268USft
Elevation: 237.326526USft    Description: PT23
  393  Note:                    HR:5.03 (5.03 + 0.0 Offset)
  394  Line of Sight (HI/HR):   Height of Instrument: 5.37USft
```

```
Height of Rod: 5.03USft
  395  Backsight:              Occupy Point: 9120
Backsight Point: 9118               Backsight Azimuth: 331.37101      Backsight
Circle: 0.0000
  396  Note:                   Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset),
Prism Const.:0.0mm
  397  Note:                   BS check 9120 - 9118:ZE94.2941,SD163.832,HD err=
-0.003785, VD err= 0.083036
  398  Note:                   BS Circle check : angular err= 0.0000
  399  Note:                   BS check 9120 - 9118:ZE94.2940,SD163.832,HD err=
-0.003722, VD err= 0.083828
  400  Note:                   BS Circle check : angular err= 0.0000
  401  Occupy Pt:              Occupy Point: 9120
Northing: 1145666.788597USft        Easting: 622036.904268USft
Elevation: 237.326526USft    Description: PT23
  402  Note:                   HR:5.03 (5.03 + 0.0 Offset)
  403  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 5.03USft
  404  Backsight:              Occupy Point: 9120
Backsight Point: 9118               Backsight Azimuth: 331.37101      Backsight
Circle: 0.0000
  405  Note:                   Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset),
Prism Const.:0.0mm
  406  Note:                   BS check 9120 - 9118:ZE94.2939,SD163.834,HD err=
-0.001666, VD err= -0.005537
  407  Note:                   BS Circle check : angular err= 0.0000
  408  Side Shot:              Occupy Point: 9120
Foresight Point: 9121               Angle Right: 0.0000               Zenith
Angle: 94.2939        Slope Distance: 163.834USft     Description: CHK9118
  409  Note:                   Foresight Target:My Prism, HR:5.62 (5.62 + 0.0
Offset), Prism Const.:0.0mm
  410  Note:                   HR:5.62 (5.62 + 0.0 Offset)
  411  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 5.62USft
  412  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0001
  413  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0002
  414  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 41.3137
  415  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 270.0850
  416  Multiple Distances:     Set: 1
Slope Distance: 482.256USft
  417  Repeat Foresight:       Occupy Point: 9120
Foresight Point: 9122               Angle Right: 41.3137              Zenith
Angle: 270.0850       Slope Distance: 482.256USft     Height of Rod: 5.62USft
Description: PT21
  418  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 221.3133
  419  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 89.5105
  420  Multiple Distances:     Set: 1
Slope Distance: 482.254USft
  421  Repeat Foresight:       Occupy Point: 9120
Foresight Point: 9122               Angle Right: 221.3133             Zenith
Angle: 89.5105        Slope Distance: 482.254USft     Height of Rod: 5.62USft
Description: PT21
  422  Note:                   Horizontal Angle Error: 0.0003
  423  Note:                   Zenith Angle Error: 0.0005
  424  Note:                   Slope Distance Error: 0.002
  425  Note:                   Horizontal Angle Error compares to the average:
0.0000
  426  Note:                   Zenith Angle Error compares to the average:
0.0000
  427  Note:                   Slope Distance Error compares to the average: 0.0
  428  Side Shot:              Occupy Point: 9120
```

```
Foresight Point: 9122               Angle Right: 221.31335            Zenith
Angle: 89.51075       Slope Distance: 482.255USft     Description: PT21
  429  Note:                    Foresight Target:My Prism, HR:5.5 (5.5 + 0.0
Offset), Prism Const.:0.0mm
  430  Occupy Pt:               Occupy Point: 21
Northing: 1145197.2227USft            Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
  431  Note:                    HR:5.5 (5.5 + 0.0 Offset)
  432  Line of Sight (HI/HR):   Height of Instrument: 5.31USft
Height of Rod: 5.5USft
  433  Backsight:               Occupy Point: 21
Backsight Point: 23                   Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
  434  Note:                    Fixed HR at Backsight:5.5 (5.5 + 0.0 Offset),
Prism Const.:0.0mm
  435  Note:                    BS check 21 - 23:ZE90.0509,SD482.236,HD err= -
0.021119, VD err= -0.008425
  436  Note:                    BS Circle check : angular err= 0.0000
  437  Note:                    BS check 21 - 23:ZE90.0509,SD482.244,HD err= -
0.013119, VD err= -0.008437
  438  Note:                    BS Circle check : angular err= 0.0000
  439  Side Shot:               Occupy Point: 21
Foresight Point: 9123                 Angle Right: 0.0000               Zenith
Angle: 90.0508        Slope Distance: 482.24USft      Description: CHK23
  440  Note:                    Date: 09-09-2004  Time: 10:11:08
  441  Note:                    Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
  442  Note:                    HR:5.05 (5.05 + 0.0 Offset)
  443  Line of Sight (HI/HR):   Height of Instrument: 5.31USft
Height of Rod: 5.05USft
  444  Repeat Directional:      Backsight Direct
Set: 1                                Angle: 0.0000
  445  Repeat Directional:      Backsight Reverse
Set: 1                                Angle: 180.0000
  446  Repeat Directional:      Foresight Reverse
Set: 1                                Angle: 337.0643
  447  Repeat Directional:      Zenith Reverse
Set: 1                                Zenith: 270.0412
  448  Multiple Distances:      Set: 1
Slope Distance: 371.606USft
  449  Repeat Foresight:        Occupy Point: 21
Foresight Point: 9124                 Angle Right: 337.0643             Zenith
Angle: 270.0412       Slope Distance: 371.606USft     Height of Rod: 5.05USft
Description: NS
  450  Repeat Directional:      Foresight Direct
Set: 1                                Angle: 157.0641
  451  Repeat Directional:      Zenith Direct
Set: 1                                Zenith: 89.5552
  452  Multiple Distances:      Set: 1
Slope Distance: 371.62USft
  453  Repeat Foresight:        Occupy Point: 21
Foresight Point: 9124                 Angle Right: 157.0641             Zenith
Angle: 89.5552        Slope Distance: 371.62USft      Height of Rod: 5.05USft
Description: NS
  454  Note:                    Horizontal Angle Error: 0.0002
  455  Note:                    Zenith Angle Error: 0.0004
  456  Note:                    Slope Distance Error: 0.014
  457  Note:                    Horizontal Angle Error compares to the average:
0.0000
  458  Note:                    Zenith Angle Error compares to the average:
0.0000
  459  Note:                    Slope Distance Error compares to the average: 0.0
  460  Side Shot:               Occupy Point: 21
Foresight Point: 9124                 Angle Right: 157.0642             Zenith
Angle: 89.5550        Slope Distance: 371.613USft     Description: NS
  461  Note:                    Foresight Target:My Prism, HR:5.29 (5.29 + 0.0
Offset), Prism Const.:0.0mm
```

```
  462  Occupy Pt:              Occupy Point: 9124
Northing: 1144830.984658USft         Easting: 621990.454828USft
Elevation: 238.893408USft    Description: NS
  463  Note:                   HR:5.29 (5.29 + 0.0 Offset)
  464  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 5.29USft
  465  Backsight:              Occupy Point: 9124
Backsight Point: 21                  Backsight Azimuth: 350.143663     Backsight
Circle: 0.0000
  466  Note:                   Fixed HR at Backsight:5.29 (5.29 + 0.0 Offset),
Prism Const.:0.0mm
  467  Note:                   BS check 9124 - 21:ZE90.0546,SD371.6,HD err= -
0.01325, VD err= -0.022935
  468  Note:                   BS Circle check : angular err= 0.0000
  469  Note:                   BS check 9124 - 21:ZE90.0543,SD371.61,HD err= -
0.003241, VD err= -0.017546
  470  Note:                   BS Circle check : angular err= 0.0000
  471  Side Shot:              Occupy Point: 9124
Foresight Point: 9125                Angle Right: 0.0000               Zenith
Angle: 90.0543        Slope Distance: 371.606USft     Description: CHK21
  472  Note:                   Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
  473  Note:                   HR:4.9 (4.9 + 0.0 Offset)
  474  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 4.9USft
  475  Store Point:            Point Name: 9126
Northing: 1144772.00677USft          Easting: 621738.029225USft
Elevation: 247.509811USft    Description: PT9019/B-6009
  476  Cut Sheet:              Elevation: 247.509811USft
Design Grade: 0.0
  477  Design Point/Location:  Point Name: 9019
Northing: 1144772.0USft              Easting: 621738.0USft
Elevation: 0.0USft           Description: B-6009
  478  Stakeout Deltas:        Delta Northing: -0.00677USft
Delta Easting: -0.029225USft         Delta Elevation: -247.509811USft
  479  Stakeout:               Occupy Point: 9124
Foresight Point: 9126                Angle Right: 266.3620             Zenith
Angle: 88.0929        Slope Distance: 259.358USft     Description: PT9019/B-6009
  480  Occupy Pt:              Occupy Point: 9124
Northing: 1144830.984658USft         Easting: 621990.454828USft
Elevation: 238.893408USft    Description: NS
  481  Backsight:              Occupy Point: 9124
Backsight Point: 21                  Backsight Azimuth: 350.143663     Backsight
Circle: 0.0000
  482  Note:                   Fixed HR at Backsight:5.29 (5.29 + 0.0 Offset),
Prism Const.:0.0mm
  483  Note:                   BS check 9124 - 21:ZE90.0542,SD371.606,HD err= -
0.007238, VD err= -0.015738
  484  Note:                   BS Circle check : angular err= 0.0000
  485  Note:                   Foresight Target:My Prism, HR:5.29 (5.29 + 0.0
Offset), Prism Const.:0.0mm
  486  Note:                   HR:5.29 (5.29 + 0.0 Offset)
  487  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 5.29USft
  488  Note:                   Date: 09-09-2004  Time: 10:33:11
  489  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
  490  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0004
  491  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 6.3016
  492  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 274.0525
  493  Multiple Distances:     Set: 1
Slope Distance: 486.9USft
  494  Repeat Foresight:       Occupy Point: 9124
Foresight Point: 9127                Angle Right: 6.3016               Zenith
```

```
Angle: 274.0525       Slope Distance: 486.9USft       Height of Rod: 5.29USft
Description: NS
  495  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 186.3013
  496  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 85.5442
  497  Multiple Distances:     Set: 1
Slope Distance: 486.894USft
  498  Repeat Foresight:       Occupy Point: 9124
Foresight Point: 9127               Angle Right: 186.3013             Zenith
Angle: 85.5442        Slope Distance: 486.894USft     Height of Rod: 5.29USft
Description: NS
  499  Note:                   Horizontal Angle Error: 0.0001
  500  Note:                   Zenith Angle Error: 0.0007
  501  Note:                   Slope Distance Error: 0.006
  502  Note:                   Horizontal Angle Error compares to the average:
0.0000
  503  Note:                   Zenith Angle Error compares to the average:
0.0000
  504  Note:                   Slope Distance Error compares to the average: 0.0
  505  Side Shot:              Occupy Point: 9124
Foresight Point: 9127               Angle Right: 186.30125            Zenith
Angle: 85.54385       Slope Distance: 486.897USft     Description: NS
  506  Note:                   Foresight Target:My Prism, HR:5.2 (5.2 + 0.0
Offset), Prism Const.:0.0mm
  507  Occupy Pt:              Occupy Point: 9127
Northing: 1144346.109793USft        Easting: 622018.013656USft
Elevation: 273.50465USft     Description: NS
  508  Note:                   HR:5.2 (5.2 + 0.0 Offset)
  509  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 5.2USft
  510  Backsight:              Occupy Point: 9127
Backsight Point: 9124               Backsight Azimuth: 356.444913     Backsight
Circle: 0.0000
  511  Note:                   Fixed HR at Backsight:5.2 (5.2 + 0.0 Offset),
Prism Const.:0.0mm
  512  Note:                   BS check 9127 - 9124:ZE94.0442,SD486.898,HD err=
0.007638, VD err= -0.017066
  513  Note:                   BS Circle check : angular err= 0.0000
  514  Note:                   BS check 9127 - 9124:ZE94.0441,SD486.898,HD err=
0.007806, VD err= -0.014712
  515  Note:                   BS Circle check : angular err= 0.0000
  516  Side Shot:              Occupy Point: 9127
Foresight Point: 9128               Angle Right: 0.0000               Zenith
Angle: 94.0441        Slope Distance: 486.902USft     Description: CHK9124
  517  Note:                   Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
  518  Note:                   HR:5.08 (5.08 + 0.0 Offset)
  519  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 5.08USft
  520  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
  521  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0004
  522  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 95.3535
  523  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 272.3407
  524  Multiple Distances:     Set: 1
Slope Distance: 196.292USft
  525  Repeat Foresight:       Occupy Point: 9127
Foresight Point: 9129               Angle Right: 95.3535              Zenith
Angle: 272.3407       Slope Distance: 196.292USft     Height of Rod: 5.08USft
Description: NS
  526  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 275.3533
  527  Repeat Directional:     Zenith Direct
```

```
Set: 1                              Zenith: 87.2545
  528  Multiple Distances:     Set: 1
Slope Distance: 196.288USft
  529  Repeat Foresight:       Occupy Point: 9127
Foresight Point: 9129               Angle Right: 275.3533             Zenith
Angle: 87.2545        Slope Distance: 196.288USft     Height of Rod: 5.08USft
Description: NS
  530  Note:                   Horizontal Angle Error: 0.0002
  531  Note:                   Zenith Angle Error: 0.0008
  532  Note:                   Slope Distance Error: 0.004
  533  Note:                   Horizontal Angle Error compares to the average:
0.0000
  534  Note:                   Zenith Angle Error compares to the average:
0.0000
  535  Note:                   Slope Distance Error compares to the average: 0.0
  536  Side Shot:              Occupy Point: 9127
Foresight Point: 9129               Angle Right: 275.3532             Zenith
Angle: 87.2549        Slope Distance: 196.29USft      Description: NS
  537  Note:                   Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
  538  Occupy Pt:              Occupy Point: 16
Northing: 1143915.652USft           Easting: 622548.9921USft
Elevation: 227.7379USft      Description: #4RS
  539  Note:                   HR:5.14 (5.14 + 0.0 Offset)
  540  Line of Sight (HI/HR):  Height of Instrument: 5.23USft
Height of Rod: 5.14USft
  541  Backsight:              Occupy Point: 16
Backsight Point: 18                 Backsight Azimuth: 353.05361      Backsight
Circle: 0.0000
  542  Note:                   Fixed HR at Backsight:5.14 (5.14 + 0.0 Offset),
Prism Const.:0.0mm
  543  Note:                   BS check 16 - 18:ZE90.0943,SD712.426,HD err= -
0.018236, VD err= 0.003656
  544  Note:                   BS Circle check : angular err= 0.0000
  545  Note:                   BS check 16 - 18:ZE90.0943,SD712.434,HD err= -
0.010236, VD err= 0.003634
  546  Note:                   BS Circle check : angular err= 0.0000
  547  Note:                   Date: 09-09-2004  Time: 11:07:01
  548  Note:                   Foresight Target:My Prism, HR:5.06 (5.06 + 0.0
Offset), Prism Const.:0.0mm
  549  Occupy Pt:              Occupy Point: 9129
Northing: 1144354.1134USft          Easting: 621822.084448USft
Elevation: 282.425327USft    Description: NS
  550  Note:                   HR:5.06 (5.06 + 0.0 Offset)
  551  Line of Sight (HI/HR):  Height of Instrument: 5.12USft
Height of Rod: 5.06USft
  552  Backsight:              Occupy Point: 9129
Backsight Point: 9127               Backsight Azimuth: 92.202113      Backsight
Circle: 0.0000
  553  Note:                   Fixed HR at Backsight:5.06 (5.06 + 0.0 Offset),
Prism Const.:0.0mm
  554  Note:                   BS check 9129 - 9127:ZE92.3742,SD196.302,HD err=
0.002882, VD err= -0.02114
  555  Note:                   BS Circle check : angular err= 0.0000
  556  Note:                   Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
  557  Occupy Pt:              Occupy Point: 9129
Northing: 1144354.1134USft          Easting: 621822.084448USft
Elevation: 282.425327USft    Description: NS
  558  Note:                   HR:5.05 (5.05 + 0.0 Offset)
  559  Line of Sight (HI/HR):  Height of Instrument: 5.12USft
Height of Rod: 5.05USft
  560  Backsight:              Occupy Point: 9129
Backsight Point: 9127               Backsight Azimuth: 92.202113      Backsight
Circle: 0.0000
  561  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
```

```
  562  Note:                    BS check 9129 - 9127:ZE92.3742,SD196.3,HD err=
0.000884, VD err= -0.011048
  563  Note:                    BS Circle check : angular err= 0.0000
  564  Note:                    BS check 9129 - 9127:ZE92.3733,SD196.302,HD err=
0.003275, VD err= -0.002584
  565  Note:                    BS Circle check : angular err= 0.0000
  566  Side Shot:               Occupy Point: 9129
Foresight Point: 9130                Angle Right: 0.0000               Zenith
Angle: 92.3736        Slope Distance: 196.302USft     Description: CHK9127
  567  Note:                    Date: 09-10-2004  Time: 03:54:51
  568  Occupy Pt:               Occupy Point: 9129
Northing: 1144354.1134USft           Easting: 621822.084448USft
Elevation: 282.425327USft    Description: NS
  569  Backsight:               Occupy Point: 9129
Backsight Point: 9127                Backsight Azimuth: 92.202113      Backsight
Circle: 0.0000
  570  Note:                    Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
  571  Note:                    BS check 9129 - 9127:ZE92.3738,SD196.3,HD err=
0.001059, VD err= -0.007245
  572  Note:                    BS Circle check : angular err= 0.0000
  573  Note:                    Foresight Target:My Prism, HR:5.06 (5.06 + 0.0
Offset), Prism Const.:0.0mm
  574  Note:                    HR:5.06 (5.06 + 0.0 Offset)
  575  Line of Sight (HI/HR):   Height of Instrument: 5.12USft
Height of Rod: 5.06USft
  576  Repeat Directional:      Backsight Direct
Set: 1                               Angle: 0.0000
  577  Repeat Directional:      Backsight Reverse
Set: 1                               Angle: 180.0000
  578  Repeat Directional:      Foresight Reverse
Set: 1                               Angle: 19.2922
  579  Repeat Directional:      Zenith Reverse
Set: 1                               Zenith: 268.0802
  580  Multiple Distances:      Set: 1
Slope Distance: 417.69USft
  581  Repeat Foresight:        Occupy Point: 9129
Foresight Point: 9131                Angle Right: 19.2922              Zenith
Angle: 268.0802       Slope Distance: 417.69USft      Height of Rod: 5.06USft
Description: NS
  582  Repeat Directional:      Foresight Direct
Set: 1                               Angle: 199.2921
  583  Repeat Directional:      Zenith Direct
Set: 1                               Zenith: 91.5201
  584  Multiple Distances:      Set: 1
Slope Distance: 417.692USft
  585  Repeat Foresight:        Occupy Point: 9129
Foresight Point: 9131                Angle Right: 199.2921             Zenith
Angle: 91.5201        Slope Distance: 417.692USft     Height of Rod: 5.06USft
Description: NS
  586  Note:                    Horizontal Angle Error: 0.0001
  587  Note:                    Zenith Angle Error: 0.0003
  588  Note:                    Slope Distance Error: 0.002
  589  Note:                    Horizontal Angle Error compares to the average:
0.0000
  590  Note:                    Zenith Angle Error compares to the average:
0.0000
  591  Note:                    Slope Distance Error compares to the average: 0.0
  592  Side Shot:               Occupy Point: 9129
Foresight Point: 9131                Angle Right: 199.29215            Zenith
Angle: 91.51595       Slope Distance: 417.691USft     Description: NS
  593  Note:                    Foresight Target:My Prism, HR:4.83 (4.83 + 0.0
Offset), Prism Const.:0.0mm
  594  Occupy Pt:               Occupy Point: 9131
Northing: 1144509.340942USft         Easting: 621434.547233USft
Elevation: 268.880591USft    Description: NS
  595  Note:                    HR:4.83 (4.83 + 0.0 Offset)
```

```
  596  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 4.83USft
  597  Backsight:              Occupy Point: 9131
Backsight Point: 9129              Backsight Azimuth: 111.494263     Backsight
Circle: 0.0000
  598  Note:                   Fixed HR at Backsight:4.83 (4.83 + 0.0 Offset),
Prism Const.:0.0mm
  599  Note:                   BS check 9131 - 9129:ZE88.1228,SD417.672,HD err=
-0.001698, VD err= 0.007988
  600  Note:                   BS Circle check : angular err= 0.0000
  601  Side Shot:              Occupy Point: 9131
Foresight Point: 9132              Angle Right: 0.0000               Zenith
Angle: 88.1227        Slope Distance: 417.672USft     Description: CHK9129
  602  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
  603  Note:                   HR:8.5 (8.5 + 0.0 Offset)
  604  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 8.5USft
  605  Note:                   Foresight Target:My Prism, HR:8.45 (8.45 + 0.0
Offset), Prism Const.:0.0mm
  606  Note:                   HR:8.45 (8.45 + 0.0 Offset)
  607  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 8.45USft
  608  Store Point:            Point Name: 9133
Northing: 1144580.014802USft       Easting: 621270.967737USft
Elevation: 243.970225USft    Description: PT9022/B-6012
  609  Cut Sheet:              Elevation: 243.970225USft
Design Grade: 0.0
  610  Design Point/Location:  Point Name: 9022
Northing: 1144580.0USft            Easting: 621271.0USft
Elevation: 0.0USft           Description: B-6012
  611  Stakeout Deltas:        Delta Northing: -0.014802USft
Delta Easting: 0.032263USft        Delta Elevation: -243.970225USft
  612  Stakeout:               Occupy Point: 9131
Foresight Point: 9133              Angle Right: 181.3217             Zenith
Angle: 96.5807        Slope Distance: 179.52USft      Description: PT9022/B-6012
  613  Note:                   Date: 09-10-2004  Time: 04:19:37
  614  Occupy Pt:              Occupy Point: 9131
Northing: 1144509.340942USft       Easting: 621434.547233USft
Elevation: 268.880591USft    Description: NS
  615  Backsight:              Occupy Point: 9131
Backsight Point: 9129              Backsight Azimuth: 111.494263     Backsight
Circle: 0.0000
  616  Note:                   Fixed HR at Backsight:4.83 (4.83 + 0.0 Offset),
Prism Const.:0.0mm
  617  Note:                   BS check 9131 - 9129:ZE88.1225,SD417.672,HD err=
-0.001888, VD err= 0.01406
  618  Note:                   BS Circle check : angular err= 0.0000
  619  Note:                   BS check 9131 - 9129:ZE88.1226,SD417.672,HD err=
-0.001825, VD err= 0.012036
  620  Note:                   BS Circle check : angular err= 0.0000
  621  Occupy Pt:              Occupy Point: 9131
Northing: 1144509.340942USft       Easting: 621434.547233USft
Elevation: 268.880591USft    Description: NS
  622  Backsight:              Occupy Point: 9131
Backsight Point: 9129              Backsight Azimuth: 111.494263     Backsight
Circle: 0.0000
  623  Note:                   Fixed HR at Backsight:4.83 (4.83 + 0.0 Offset),
Prism Const.:0.0mm
  624  Note:                   BS check 9131 - 9129:ZE88.1223,SD417.674,HD err=
-0.000016, VD err= 0.018171
  625  Note:                   BS Circle check : angular err= 0.0000
  626  Note:                   BS check 9131 - 9129:ZE88.1227,SD417.672,HD err=
-0.001761, VD err= 0.010012
  627  Note:                   BS Circle check : angular err= 0.0000
  628  Occupy Pt:              Occupy Point: 9131
Northing: 1144509.340942USft       Easting: 621434.547233USft
```

Elevation: 268.880591USft Description: NS
  629 Backsight: Occupy Point: 9131
Backsight Point: 9129 Backsight Azimuth: 111.494263 Backsight
Circle: 0.0000
  630 Note: Fixed HR at Backsight:4.83 (4.83 + 0.0 Offset),
Prism Const.:0.0mm
  631 Note: BS check 9131 - 9129:ZE88.1228,SD417.674,HD err=
0.000301, VD err= 0.008051
  632 Note: BS Circle check : angular err= 0.0000
  633 Note: Foresight Target:My Prism, HR:5.02 (5.02 + 0.0
Offset), Prism Const.:0.0mm
  634 Note: HR:5.02 (5.02 + 0.0 Offset)
  635 Line of Sight (HI/HR): Height of Instrument: 5.32USft
Height of Rod: 5.02USft
  636 Note: Date: 09-10-2004 Time: 04:37:54
  637 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
  638 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0003
  639 Repeat Directional: Foresight Reverse
Set: 1 Angle: 279.1136
  640 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 270.1731
  641 Multiple Distances: Set: 1
Slope Distance: 435.192USft
  642 Repeat Foresight: Occupy Point: 9131
Foresight Point: 9134 Angle Right: 279.1136 Zenith
Angle: 270.1731 Slope Distance: 435.192USft Height of Rod: 5.02USft
Description: NS
  643 Repeat Directional: Foresight Direct
Set: 1 Angle: 99.1141
  644 Repeat Directional: Zenith Direct
Set: 1 Zenith: 89.4233
  645 Multiple Distances: Set: 1
Slope Distance: 435.196USft
  646 Repeat Foresight: Occupy Point: 9131
Foresight Point: 9134 Angle Right: 99.1141 Zenith
Angle: 89.4233 Slope Distance: 435.196USft Height of Rod: 5.02USft
Description: NS
  647 Note: Horizontal Angle Error: 0.0008
  648 Note: Zenith Angle Error: 0.0004
  649 Note: Slope Distance Error: 0.004
  650 Note: Horizontal Angle Error compares to the average:
0.0000
  651 Note: Zenith Angle Error compares to the average:
0.0000
  652 Note: Slope Distance Error compares to the average: 0.0
  653 Side Shot: Occupy Point: 9131
Foresight Point: 9134 Angle Right: 99.1137 Zenith
Angle: 89.4231 Slope Distance: 435.194USft Description: NS
  654 Note: Foresight Target:My Prism, HR:4.92 (4.92 + 0.0
Offset), Prism Const.:0.0mm
  655 Occupy Pt: Occupy Point: 9134
Northing: 1144136.398256USft Easting: 621210.26466USft
Elevation: 271.393846USft Description: NS
  656 Note: HR:4.92 (4.92 + 0.0 Offset)
  657 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 4.92USft
  658 Backsight: Occupy Point: 9134
Backsight Point: 9131 Backsight Azimuth: 31.011963 Backsight
Circle: 0.0000
  659 Note: Fixed HR at Backsight:4.92 (4.92 + 0.0 Offset),
Prism Const.:0.0mm
  660 Note: BS check 9134 - 9131:ZE90.2223,SD435.2,HD err=
0.002403, VD err= -0.030333
  661 Note: BS Circle check : angular err= 0.0000
  662 Note: BS check 9134 - 9131:ZE90.2218,SD435.202,HD err=

```
0.004472, VD err= -0.019797
  663  Note:                    BS Circle check : angular err= 0.0000
  664  Note:                    Foresight Target:My Prism, HR:4.91 (4.91 + 0.0
Offset), Prism Const.:0.0mm
  665  Occupy Pt:               Occupy Point: 9134
Northing: 1144136.398256USft          Easting: 621210.26466USft
Elevation: 271.393846USft    Description: NS
  666  Note:                    HR:4.91 (4.91 + 0.0 Offset)
  667  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 4.91USft
  668  Backsight:               Occupy Point: 9134
Backsight Point: 9131                 Backsight Azimuth: 31.011963      Backsight
Circle: 0.0000
  669  Note:                    Fixed HR at Backsight:4.91 (4.91 + 0.0 Offset),
Prism Const.:0.0mm
  670  Note:                    BS check 9134 - 9131:ZE90.2216,SD435.2,HD err=
0.002499, VD err= -0.005564
  671  Note:                    BS Circle check : angular err= 0.0000
  672  Side Shot:               Occupy Point: 9134
Foresight Point: 9135                 Angle Right: 0.0000               Zenith
Angle: 90.2216        Slope Distance: 435.204USft     Description: CHK9131
  673  Note:                    Date: 09-10-2004  Time: 04:59:58
  674  Store Point:             Point Name: 9136
Northing: 1143892.967228USft          Easting: 621058.980121USft
Elevation: 263.422471USft    Description: PT9020/B-6010
  675  Cut Sheet:               Elevation: 263.422471USft
Design Grade: 0.0
  676  Design Point/Location:  Point Name: 9020
Northing: 1143893.0USft               Easting: 621059.0USft
Elevation: 0.0USft           Description: B-6010
  677  Stakeout Deltas:         Delta Northing: 0.032772USft
Delta Easting: 0.019879USft           Delta Elevation: -263.422471USft
  678  Stakeout:                Occupy Point: 9134
Foresight Point: 9136                 Angle Right: 180.5015             Zenith
Angle: 91.3911        Slope Distance: 286.73USft      Description: PT9020/B-6010
  679  Occupy Pt:               Occupy Point: 9134
Northing: 1144136.398256USft          Easting: 621210.26466USft
Elevation: 271.393846USft    Description: NS
  680  Backsight:               Occupy Point: 9134
Backsight Point: 9131                 Backsight Azimuth: 31.011963      Backsight
Circle: 0.0000
  681  Note:                    Fixed HR at Backsight:4.91 (4.91 + 0.0 Offset),
Prism Const.:0.0mm
  682  Note:                    BS check 9134 - 9131:ZE90.2219,SD435.2,HD err=
0.002458, VD err= -0.011894
  683  Note:                    BS Circle check : angular err= 0.0000
  684  Note:                    BS check 9134 - 9131:ZE90.2216,SD435.198,HD err=
0.000499, VD err= -0.005551
  685  Note:                    BS Circle check : angular err= 0.0000
  686  Note:                    Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
  687  Note:                    HR:5.17 (5.17 + 0.0 Offset)
  688  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.17USft
  689  Note:                    Date: 09-10-2004  Time: 05:17:56
  690  Repeat Directional:      Backsight Direct
Set: 1                                Angle: 0.0000
  691  Repeat Directional:      Backsight Reverse
Set: 1                                Angle: 179.5959
  692  Repeat Directional:      Foresight Reverse
Set: 1                                Angle: 46.0425
  693  Repeat Directional:      Zenith Reverse
Set: 1                                Zenith: 269.2301
  694  Multiple Distances:      Set: 1
Slope Distance: 667.552USft
  695  Repeat Foresight:        Occupy Point: 9134
Foresight Point: 9137                 Angle Right: 46.0425              Zenith
```

Angle: 269.2301 Slope Distance: 667.552USft Height of Rod: 5.17USft
Description: NS
696 Repeat Directional: Foresight Direct
Set: 1 Angle: 226.0426
697 Repeat Directional: Zenith Direct
Set: 1 Zenith: 90.3707
698 Multiple Distances: Set: 1
Slope Distance: 667.552USft
699 Repeat Foresight: Occupy Point: 9134
Foresight Point: 9137 Angle Right: 226.0426 Zenith
Angle: 90.3707 Slope Distance: 667.552USft Height of Rod: 5.17USft
Description: NS
700 Note: Horizontal Angle Error: 0.0000
701 Note: Zenith Angle Error: 0.0008
702 Note: Slope Distance Error: 0.0
703 Note: Horizontal Angle Error compares to the average:
0.0000
704 Note: Zenith Angle Error compares to the average:
0.0000
705 Note: Slope Distance Error compares to the average: 0.0
706 Side Shot: Occupy Point: 9134
Foresight Point: 9137 Angle Right: 226.0426 Zenith
Angle: 90.3703 Slope Distance: 667.552USft Description: NS
707 Note: Foresight Target:My Prism, HR:4.78 (4.78 + 0.0
Offset), Prism Const.:0.0mm
708 Occupy Pt: Occupy Point: 9137
Northing: 1143987.330517USft Easting: 620559.60905USft
Elevation: 264.239505USft Description: NS
709 Note: HR:4.78 (4.78 + 0.0 Offset)
710 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 4.78USft
711 Backsight: Occupy Point: 9137
Backsight Point: 9134 Backsight Azimuth: 77.054563 Backsight
Circle: 0.0000
712 Note: Fixed HR at Backsight:4.78 (4.78 + 0.0 Offset),
Prism Const.:0.0mm
713 Note: BS check 9137 - 9134:ZE89.2604,SD667.55,HD err=
0.004248, VD err= -0.045191
714 Note: BS Circle check : angular err= 0.0000
715 Note: BS check 9137 - 9134:ZE89.2600,SD667.552,HD err=
0.00612, VD err= -0.032227
716 Note: BS Circle check : angular err= 0.0000
717 Note: Foresight Target:My Prism, HR:4.77 (4.77 + 0.0
Offset), Prism Const.:0.0mm
718 Occupy Pt: Occupy Point: 9137
Northing: 1143987.330517USft Easting: 620559.60905USft
Elevation: 264.239505USft Description: NS
719 Note: HR:4.77 (4.77 + 0.0 Offset)
720 Line of Sight (HI/HR): Height of Instrument: 5.31USft
Height of Rod: 4.77USft
721 Backsight: Occupy Point: 9137
Backsight Point: 9134 Backsight Azimuth: 77.054563 Backsight
Circle: 0.0000
722 Note: Fixed HR at Backsight:4.77 (4.77 + 0.0 Offset),
Prism Const.:0.0mm
723 Note: BS check 9137 - 9134:ZE89.2601,SD667.554,HD err=
0.008152, VD err= -0.015443
724 Note: BS Circle check : angular err= 0.0000
725 Side Shot: Occupy Point: 9137
Foresight Point: 9138 Angle Right: 0.0000 Zenith
Angle: 89.2600 Slope Distance: 667.552USft Description: CHK9134
726 Note: Date: 09-10-2004 Time: 06:01:50
727 Note: Foresight Target:My Prism, HR:5.39 (5.39 + 0.0
Offset), Prism Const.:0.0mm
728 Occupy Pt: Occupy Point: 9137
Northing: 1143987.330517USft Easting: 620559.60905USft
Elevation: 264.239505USft Description: NS

729 Note: HR:5.39 (5.39 + 0.0 Offset)
730 Line of Sight (HI/HR): Height of Instrument: 5.31USft
Height of Rod: 5.39USft
731 Backsight: Occupy Point: 9137
Backsight Point: 9134 Backsight Azimuth: 77.054563 Backsight
Circle: 0.0000
732 Note: Fixed HR at Backsight:4.77 (4.77 + 0.0 Offset),
Prism Const.:0.0mm
733 Note: BS check 9137 - 9134:ZE89.2601,SD667.554,HD err=
0.008152, VD err= -0.015443
734 Note: BS Circle check : angular err= 0.0000
735 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
736 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0000
737 Repeat Directional: Foresight Reverse
Set: 1 Angle: 44.5540
738 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 269.5750
739 Multiple Distances: Set: 1
Slope Distance: 202.678USft
740 Repeat Foresight: Occupy Point: 9137
Foresight Point: 9139 Angle Right: 44.5540 Zenith
Angle: 269.5750 Slope Distance: 202.678USft Height of Rod: 5.39USft
Description: NS
741 Repeat Directional: Foresight Direct
Set: 1 Angle: 224.5543
742 Repeat Directional: Zenith Direct
Set: 1 Zenith: 90.0214
743 Multiple Distances: Set: 1
Slope Distance: 202.672USft
744 Repeat Foresight: Occupy Point: 9137
Foresight Point: 9139 Angle Right: 224.5543 Zenith
Angle: 90.0214 Slope Distance: 202.672USft Height of Rod: 5.39USft
Description: NS
745 Note: Horizontal Angle Error: 0.0003
746 Note: Zenith Angle Error: 0.0004
747 Note: Slope Distance Error: 0.006
748 Note: Horizontal Angle Error compares to the average:
0.0000
749 Note: Zenith Angle Error compares to the average:
0.0000
750 Note: Slope Distance Error compares to the average: 0.0
751 Side Shot: Occupy Point: 9137
Foresight Point: 9139 Angle Right: 224.55415 Zenith
Angle: 90.0212 Slope Distance: 202.675USft Description: NS
752 Note: Foresight Target:My Prism, HR:5.41 (5.41 + 0.0
Offset), Prism Const.:0.0mm
753 Occupy Pt: Occupy Point: 9139
Northing: 1144094.804475USft Easting: 620387.77632USft
Elevation: 264.029802USft Description: NS
754 Note: HR:5.41 (5.41 + 0.0 Offset)
755 Line of Sight (HI/HR): Height of Instrument: 5.26USft
Height of Rod: 5.41USft
756 Backsight: Occupy Point: 9139
Backsight Point: 9137 Backsight Azimuth: 122.012713 Backsight
Circle: 0.0000
757 Note: Fixed HR at Backsight:5.41 (5.41 + 0.0 Offset),
Prism Const.:0.0mm
758 Note: BS check 9139 - 9137:ZE89.5412,SD202.664,HD err=
-0.011247, VD err= -0.017778
759 Note: BS Circle check : angular err= 0.0000
760 Note: BS check 9139 - 9137:ZE89.5410,SD202.662,HD err=
-0.01325, VD err= -0.015816
761 Note: BS Circle check : angular err= 0.0000
762 Note: BS check 9139 - 9137:ZE89.5359,SD202.67,HD err= -
0.005269, VD err= -0.004994

763 Note: BS Circle check : angular err= 0.0000
764 Side Shot: Occupy Point: 9139
Foresight Point: 9140 Angle Right: 0.0000 Zenith
Angle: 89.5400 Slope Distance: 202.67USft Description: CHK9137
765 Note: Date: 09-10-2004 Time: 06:23:05
766 Store Point: Point Name: 9141
Northing: 1144245.38945USft Easting: 620455.164386USft
Elevation: 213.297323USft Description: PT9021/B-6011
767 Cut Sheet: Elevation: 213.297323USft
Design Grade: 0.0
768 Design Point/Location: Point Name: 9021
Northing: 1144244.0USft Easting: 620454.0USft
Elevation: 0.0USft Description: B-6011
769 Stakeout Deltas: Delta Northing: -1.38945USft
Delta Easting: -1.164386USft Delta Elevation: -213.297323USft
770 Stakeout: Occupy Point: 9139
Foresight Point: 9141 Angle Right: 262.0505 Zenith
Angle: 107.0245 Slope Distance: 172.556USft Description: PT9021/B-6011
771 Note: Date: 09-10-2004 Time: 06:38:40
772 Store Point: Point Name: 9142
Northing: 1143718.027091USft Easting: 619874.036274USft
Elevation: 241.900997USft Description: PT9015/B-6005
773 Cut Sheet: Elevation: 241.900997USft
Design Grade: 0.0
774 Design Point/Location: Point Name: 9015
Northing: 1143718.0USft Easting: 619874.0USft
Elevation: 0.0USft Description: B-6005
775 Stakeout Deltas: Delta Northing: -0.027091USft
Delta Easting: -0.036274USft Delta Elevation: -241.900997USft
776 Stakeout: Occupy Point: 9139
Foresight Point: 9142 Angle Right: 111.4310 Zenith
Angle: 91.5833 Slope Distance: 637.474USft Description: PT9015/B-6005
777 Note: Foresight Target:My Prism, HR:5.02 (5.02 + 0.0
Offset), Prism Const.:0.0mm
778 Occupy Pt: Occupy Point: 9139
Northing: 1144094.804475USft Easting: 620387.77632USft
Elevation: 264.029802USft Description: NS
779 Note: HR:5.02 (5.02 + 0.0 Offset)
780 Line of Sight (HI/HR): Height of Instrument: 5.26USft
Height of Rod: 5.02USft
781 Backsight: Occupy Point: 9139
Backsight Point: 9137 Backsight Azimuth: 122.012713 Backsight
Circle: 0.0000
782 Note: Fixed HR at Backsight:5.41 (5.41 + 0.0 Offset),
Prism Const.:0.0mm
783 Note: BS check 9139 - 9137:ZE89.5413,SD202.662,HD err=
-0.013245, VD err= -0.018764
784 Note: BS Circle check : angular err= 0.0000
785 Note: BS check 9139 - 9137:ZE89.5411,SD202.664,HD err=
-0.011249, VD err= -0.016795
786 Note: BS Circle check : angular err= 0.0000
787 Note: Date: 09-10-2004 Time: 06:59:47
788 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
789 Repeat Directional: Backsight Reverse
Set: 1 Angle: 179.5959
790 Repeat Directional: Foresight Reverse
Set: 1 Angle: 311.5736
791 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 268.3728
792 Multiple Distances: Set: 1
Slope Distance: 723.24USft
793 Repeat Foresight: Occupy Point: 9139
Foresight Point: 9143 Angle Right: 311.5736 Zenith
Angle: 268.3728 Slope Distance: 723.24USft Height of Rod: 5.02USft
Description: NS
794 Repeat Directional: Foresight Direct

Set: 1 Angle: 131.5739
795 Repeat Directional: Zenith Direct
Set: 1 Zenith: 91.2241
796 Multiple Distances: Set: 1
Slope Distance: 723.238USft
797 Repeat Foresight: Occupy Point: 9139
Foresight Point: 9143 Angle Right: 131.5739 Zenith
Angle: 91.2241 Slope Distance: 723.238USft Height of Rod: 5.02USft
Description: NS
798 Note: Horizontal Angle Error: 0.0002
799 Note: Zenith Angle Error: 0.0009
800 Note: Slope Distance Error: 0.002
801 Note: Horizontal Angle Error compares to the average:
0.0000
802 Note: Zenith Angle Error compares to the average:
0.0000
803 Note: Slope Distance Error compares to the average: 0.0
804 Side Shot: Occupy Point: 9139
Foresight Point: 9143 Angle Right: 131.5738 Zenith
Angle: 91.22365 Slope Distance: 723.239USft Description: NS
805 Note: Data Collector Serial Number: FS29A13023
806 Note: Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
807 Note: Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
808 Note: Date: 09-10-2004 Time: 08:17:00
809 Note: Foresight Target:My Prism, HR:5.19 (5.19 + 0.0
Offset), Prism Const.:0.0mm
810 Occupy Pt: Occupy Point: 9143
Northing: 1143895.325459USft Easting: 619692.808126USft
Elevation: 246.892193USft Description: NS
811 Note: HR:5.19 (5.19 + 0.0 Offset)
812 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 5.19USft
813 Backsight: Occupy Point: 9143
Backsight Point: 9139 Backsight Azimuth: 73.590513 Backsight
Circle: 0.0000
814 Note: Fixed HR at Backsight:5.19 (5.19 + 0.0 Offset),
Prism Const.:0.0mm
815 Note: BS check 9143 - 9139:ZE88.3919,SD723.232,HD err=
0.002619, VD err= -0.065035
816 Note: BS Circle check : angular err= 0.0000
817 Note: BS check 9143 - 9139:ZE88.3915,SD723.228,HD err=
-0.001709, VD err= -0.051107
818 Note: BS Circle check : angular err= 0.0000
819 Note: Foresight Target:My Prism, HR:5.2 (5.2 + 0.0
Offset), Prism Const.:0.0mm
820 Occupy Pt: Occupy Point: 9143
Northing: 1143895.325459USft Easting: 619692.808126USft
Elevation: 246.892193USft Description: NS
821 Note: HR:5.2 (5.2 + 0.0 Offset)
822 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 5.2USft
823 Backsight: Occupy Point: 9143
Backsight Point: 9139 Backsight Azimuth: 73.590513 Backsight
Circle: 0.0000
824 Note: Fixed HR at Backsight:5.2 (5.2 + 0.0 Offset),
Prism Const.:0.0mm
825 Note: BS check 9143 - 9139:ZE88.3916,SD723.224,HD err=
-0.005625, VD err= -0.064707
826 Note: BS Circle check : angular err= 0.0000
827 Note: Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
828 Occupy Pt: Occupy Point: 9143
Northing: 1143895.325459USft Easting: 619692.808126USft
Elevation: 246.892193USft Description: NS
829 Note: HR:5.17 (5.17 + 0.0 Offset)

```
  830  Line of Sight (HI/HR):  Height of Instrument: 5.29USft
Height of Rod: 5.17USft
  831  Backsight:              Occupy Point: 9143
Backsight Point: 9139               Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
  832  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
  833  Note:                   BS check 9143 - 9139:ZE88.3915,SD723.224,HD err=
-0.005708, VD err= -0.031201
  834  Note:                   BS Circle check : angular err= 0.0000
  835  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft         Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
  836  Note:                   HR:5.17 (5.17 + 0.0 Offset)
  837  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.17USft
  838  Backsight:              Occupy Point: 9143
Backsight Point: 9139               Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
  839  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
  840  Note:                   BS check 9143 - 9139:ZE88.3914,SD723.226,HD err=
-0.003791, VD err= -0.017649
  841  Note:                   BS Circle check : angular err= 0.0000
  842  Side Shot:              Occupy Point: 9143
Foresight Point: 9144               Angle Right: 0.0000               Zenith
Angle: 88.3916        Slope Distance: 723.222USft     Description: CHK9139
  843  Note:                   Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
  844  Note:                   HR:4.9 (4.9 + 0.0 Offset)
  845  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 4.9USft
  846  Store Point:            Point Name: 9145
Northing: 1144135.013262USft         Easting: 619625.995216USft
Elevation: 247.704762USft    Description: PT9012/B-6002
  847  Cut Sheet:              Elevation: 247.704762USft
Design Grade: 0.0
  848  Design Point/Location:  Point Name: 9012
Northing: 1144135.0USft              Easting: 619626.0USft
Elevation: 0.0USft           Description: B-6002
  849  Stakeout Deltas:        Delta Northing: -0.013262USft
Delta Easting: 0.004784USft          Delta Elevation: -247.704762USft
  850  Stakeout:               Occupy Point: 9143
Foresight Point: 9145               Angle Right: 270.2622             Zenith
Angle: 89.5418        Slope Distance: 248.826USft     Description: PT9012/B-6002
  851  Note:                   Date: 09-10-2004  Time: 08:43:01
  852  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft         Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
  853  Backsight:              Occupy Point: 9143
Backsight Point: 9139               Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
  854  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
  855  Note:                   BS check 9143 - 9139:ZE88.3914,SD723.234,HD err=
0.004207, VD err= -0.017461
  856  Note:                   BS Circle check : angular err= 0.0000
  857  Note:                   Date: 09-10-2004  Time: 09:06:21
  858  Store Point:            Point Name: 9146
Northing: 1143711.990177USft         Easting: 619468.988633USft
Elevation: 230.508684USft    Description: PT9014/B-6004
  859  Cut Sheet:              Elevation: 230.508684USft
Design Grade: 0.0
  860  Design Point/Location:  Point Name: 9014
Northing: 1143712.0USft              Easting: 619469.0USft
Elevation: 0.0USft           Description: B-6004
  861  Stakeout Deltas:        Delta Northing: 0.009823USft
```

Delta Easting: 0.011367USft Delta Elevation: -230.508684USft
862 Stakeout: Occupy Point: 9143
Foresight Point: 9146 Angle Right: 156.4137 Zenith
Angle: 93.1912 Slope Distance: 289.808USft Description: PT9014/B-6004
863 Note: Data Collector Serial Number: FS29A13023
864 Note: Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
865 Note: Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
866 Note: Date: 09-10-2004 Time: 09:39:31
867 Note: Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
868 Occupy Pt: Occupy Point: 9143
Northing: 1143895.325459USft Easting: 619692.808126USft
Elevation: 246.892193USft Description: NS
869 Note: HR:5.17 (5.17 + 0.0 Offset)
870 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.17USft
871 Backsight: Occupy Point: 9143
Backsight Point: 9139 Backsight Azimuth: 73.590513 Backsight
Circle: 0.0000
872 Note: Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
873 Note: BS check 9143 - 9139:ZE88.3915,SD723.222,HD err=
-0.007707, VD err= -0.021248
874 Note: BS Circle check : angular err= 0.0000
875 Note: Foresight Target:My Prism, HR:5.16 (5.16 + 0.0
Offset), Prism Const.:0.0mm
876 Occupy Pt: Occupy Point: 9143
Northing: 1143895.325459USft Easting: 619692.808126USft
Elevation: 246.892193USft Description: NS
877 Note: HR:5.16 (5.16 + 0.0 Offset)
878 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.16USft
879 Backsight: Occupy Point: 9143
Backsight Point: 9139 Backsight Azimuth: 73.590513 Backsight
Circle: 0.0000
880 Note: Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
881 Note: BS check 9143 - 9139:ZE88.3917,SD723.234,HD err=
0.004454, VD err= -0.017977
882 Note: BS Circle check : angular err= 0.0000
883 Note: Foresight Target:My Prism, HR:4.95 (4.95 + 0.0
Offset), Prism Const.:0.0mm
884 Note: HR:4.95 (4.95 + 0.0 Offset)
885 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 4.95USft
886 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
887 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0000
888 Repeat Directional: Foresight Reverse
Set: 1 Angle: 325.0719
889 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 268.4146
890 Multiple Distances: Set: 1
Slope Distance: 602.564USft
891 Repeat Foresight: Occupy Point: 9143
Foresight Point: 9147 Angle Right: 325.0719 Zenith
Angle: 268.4146 Slope Distance: 602.564USft Height of Rod: 4.95USft
Description: NS
892 Repeat Directional: Foresight Direct
Set: 1 Angle: 145.0716
893 Repeat Directional: Zenith Direct
Set: 1 Zenith: 91.1824
894 Multiple Distances: Set: 1
Slope Distance: 602.556USft

```
  895  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 9147                Angle Right: 145.0716             Zenith
Angle: 91.1824        Slope Distance: 602.556USft     Height of Rod: 4.95USft
Description: NS
  896  Note:                   Horizontal Angle Error: 0.0003
  897  Note:                   Zenith Angle Error: 0.0010
  898  Note:                   Slope Distance Error: 0.008
  899  Note:                   Horizontal Angle Error compares to the average:
0.0000
  900  Note:                   Zenith Angle Error compares to the average:
0.0000
  901  Note:                   Slope Distance Error compares to the average: 0.0
  902  Side Shot:              Occupy Point: 9143
Foresight Point: 9147                Angle Right: 145.07175            Zenith
Angle: 91.1819        Slope Distance: 602.56USft      Description: NS
  903  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft         Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
  904  Backsight:              Occupy Point: 9143
Backsight Point: 9139                Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
  905  Note:                   Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
  906  Note:                   BS check 9143 - 9139:ZE88.3916,SD723.226,HD err=
-0.003626, VD err= -0.01466
  907  Note:                   BS Circle check : angular err= 0.0000
  908  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft         Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
  909  Backsight:              Occupy Point: 9143
Backsight Point: 9139                Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
  910  Note:                   Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
  911  Note:                   BS check 9143 - 9139:ZE88.3912,SD723.238,HD err=
0.008041, VD err= -0.000356
  912  Note:                   BS Circle check : angular err= 0.0000
  913  Note:                   Date: 09-10-2004  Time: 09:59:35
  914  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
  915  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0001
  916  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 22.2734
  917  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 266.2520
  918  Multiple Distances:     Set: 1
Slope Distance: 270.7USft
  919  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 9148                Angle Right: 22.2734              Zenith
Angle: 266.2520       Slope Distance: 270.7USft       Height of Rod: 4.95USft
Description: NS
  920  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 202.2732
  921  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 93.3435
  922  Multiple Distances:     Set: 1
Slope Distance: 270.698USft
  923  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 9148                Angle Right: 202.2732             Zenith
Angle: 93.3435        Slope Distance: 270.698USft     Height of Rod: 4.95USft
Description: NS
  924  Note:                   Horizontal Angle Error: 0.0001
  925  Note:                   Zenith Angle Error: 0.0005
  926  Note:                   Slope Distance Error: 0.002
  927  Note:                   Horizontal Angle Error compares to the average:
0.0000
```

```
  928  Note:                    Zenith Angle Error compares to the average:
0.0000
  929  Note:                    Slope Distance Error compares to the average: 0.0
  930  Side Shot:               Occupy Point: 9143
Foresight Point: 9148                Angle Right: 202.27325            Zenith
Angle: 93.34375       Slope Distance: 270.699USft     Description: NS
  931  Note:                    Foresight Target:My Prism, HR:5.11 (5.11 + 0.0
Offset), Prism Const.:0.0mm
  932  Occupy Pt:               Occupy Point: 9148
Northing: 1143925.646371USft         Easting: 619424.343336USft
Elevation: 230.352922USft    Description: NS
  933  Note:                    HR:5.11 (5.11 + 0.0 Offset)
  934  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 5.11USft
  935  Backsight:               Occupy Point: 9148
Backsight Point: 9143                Backsight Azimuth: 96.263763      Backsight
Circle: 0.0000
  936  Note:                    Fixed HR at Backsight:5.11 (5.11 + 0.0 Offset),
Prism Const.:0.0mm
  937  Note:                    BS check 9148 - 9143:ZE86.2954,SD270.688,HD err=
0.011017, VD err= -0.006305
  938  Note:                    BS Circle check : angular err= 0.0000
  939  Side Shot:               Occupy Point: 9148
Foresight Point: 9149                Angle Right: 0.0000               Zenith
Angle: 86.2953        Slope Distance: 270.686USft     Description: CHK9143
  940  Note:                    Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
  941  Note:                    HR:4.9 (4.9 + 0.0 Offset)
  942  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 4.9USft
  943  Store Point:             Point Name: 9150
Northing: 1143924.951423USft         Easting: 619422.899131USft
Elevation: 229.816502USft    Description: PT9013/B-6003
  944  Cut Sheet:               Elevation: 229.816502USft
Design Grade: 0.0
  945  Design Point/Location:  Point Name: 9013
Northing: 1143925.0USft              Easting: 619423.0USft
Elevation: 0.0USft           Description: B-6003
  946  Stakeout Deltas:         Delta Northing: 0.048577USft
Delta Easting: 0.100869USft          Delta Elevation: -229.816502USft
  947  Stakeout:                Occupy Point: 9148
Foresight Point: 9150                Angle Right: 147.5134             Zenith
Angle: 114.5821       Slope Distance: 1.768USft       Description: PT9013/B-6003
  948  Store Point:             Point Name: 9151
Northing: 1144089.080827USft         Easting: 619279.916229USft
Elevation: 253.611825USft    Description: PT9011/B-6001
  949  Cut Sheet:               Elevation: 253.611825USft
Design Grade: 0.0
  950  Design Point/Location:  Point Name: 9011
Northing: 1144089.1USft              Easting: 619279.9USft
Elevation: 0.0USft           Description: B-6001
  951  Stakeout Deltas:         Delta Northing: 0.019173USft
Delta Easting: -0.016229USft         Delta Elevation: -253.611825USft
  952  Stakeout:                Occupy Point: 9148
Foresight Point: 9151                Angle Right: 222.0521             Zenith
Angle: 83.5803        Slope Distance: 219.32USft      Description: PT9011/B-6001
  953  Note:                    Foresight Target:My Prism, HR:5.11 (5.11 + 0.0
Offset), Prism Const.:0.0mm
  954  Note:                    HR:5.11 (5.11 + 0.0 Offset)
  955  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 5.11USft
  956  Side Shot:               Occupy Point: 9148
Foresight Point: 9152                Angle Right: 359.5957             Zenith
Angle: 86.2954        Slope Distance: 270.698USft     Description: CHK9143
  957  Note:                    Date: 09-10-2004  Time: 10:23:07
  958  Deleted Point:           Point Name: 9152
  959  Note:                    Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
```

Offset), Prism Const.:0.0mm
960 Note: HR:4.9 (4.9 + 0.0 Offset)
961 Line of Sight (HI/HR): Height of Instrument: 5.11USft
Height of Rod: 4.9USft
962 Off Center Shot: Angle Right: 222.2338
Zenith Angle: 83.5536 Slope Distance: 223.49USft
963 Off Center Shot: Left/Right Offset: 1.0USft
Description: Left / Right Offset
964 Side Shot: Occupy Point: 9148
Foresight Point: 9152 Angle Right: 222.390613 Zenith
Angle: 83.553622 Slope Distance: 223.492237USft Description: B-1193
965 Note: Foresight Target:My Prism, HR:5.11 (5.11 + 0.0
Offset), Prism Const.:0.0mm
966 Note: HR:5.11 (5.11 + 0.0 Offset)
967 Line of Sight (HI/HR): Height of Instrument: 5.11USft
Height of Rod: 5.11USft
968 Side Shot: Occupy Point: 9148
Foresight Point: 9153 Angle Right: 359.5957 Zenith
Angle: 86.2957 Slope Distance: 270.684USft Description: CHK9143
969 Note: Date: 09-10-2004 Time: 11:00:36
970 Note: Date: 09-10-2004 Time: 11:15:39
971 Note: Data Collector Serial Number: FS29A13023
972 Note: Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
973 Note: Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
974 Note: Date: 09-11-2004 Time: 03:33:20
975 Note: Foresight Target:My Prism, HR:5.42 (5.42 + 0.0
Offset), Prism Const.:0.0mm
976 Occupy Pt: Occupy Point: 9147
Northing: 1143427.873958USft Easting: 619312.835435USft
Elevation: 233.516223USft Description: NS
977 Note: HR:5.42 (5.42 + 0.0 Offset)
978 Line of Sight (HI/HR): Height of Instrument: 5.27USft
Height of Rod: 5.42USft
979 Backsight: Occupy Point: 9147
Backsight Point: 9143 Backsight Azimuth: 39.062263 Backsight
Circle: 0.0000
980 Note: Fixed HR at Backsight:5.42 (5.42 + 0.0 Offset),
Prism Const.:0.0mm
981 Note: BS check 9147 - 9143:ZE88.4306,SD602.562,HD err=
0.007605, VD err= -0.048202
982 Note: BS Circle check : angular err= 0.0000
983 Occupy Pt: Occupy Point: 9147
Northing: 1143427.873958USft Easting: 619312.835435USft
Elevation: 233.516223USft Description: NS
984 Note: HR:5.42 (5.42 + 0.0 Offset)
985 Line of Sight (HI/HR): Height of Instrument: 5.26USft
Height of Rod: 5.42USft
986 Backsight: Occupy Point: 9147
Backsight Point: 9143 Backsight Azimuth: 39.062263 Backsight
Circle: 0.0000
987 Note: Fixed HR at Backsight:5.42 (5.42 + 0.0 Offset),
Prism Const.:0.0mm
988 Note: BS check 9147 - 9143:ZE88.4305,SD602.562,HD err=
0.007539, VD err= -0.055281
989 Note: BS Circle check : angular err= 0.0000
990 Occupy Pt: Occupy Point: 9147
Northing: 1143427.873958USft Easting: 619312.835435USft
Elevation: 233.516223USft Description: NS
991 Note: HR:5.42 (5.42 + 0.0 Offset)
992 Line of Sight (HI/HR): Height of Instrument: 5.27USft
Height of Rod: 5.42USft
993 Backsight: Occupy Point: 9147
Backsight Point: 9143 Backsight Azimuth: 39.062263 Backsight
Circle: 0.0000
994 Note: Fixed HR at Backsight:5.42 (5.42 + 0.0 Offset),

```
Prism Const.:0.0mm
  995  Note:                    BS check 9147 - 9143:ZE88.4301,SD602.566,HD err=
0.011277, VD err= -0.033509
  996  Note:                    BS Circle check : angular err= 0.0000
  997  Note:                    Foresight Target:My Prism, HR:5.4 (5.4 + 0.0
Offset), Prism Const.:0.0mm
  998  Occupy Pt:               Occupy Point: 9147
Northing: 1143427.873958USft          Easting: 619312.835435USft
Elevation: 233.516223USft    Description: NS
  999  Note:                    HR:5.4 (5.4 + 0.0 Offset)
 1000  Line of Sight (HI/HR):   Height of Instrument: 5.27USft
Height of Rod: 5.4USft
 1001  Backsight:               Occupy Point: 9147
Backsight Point: 9143                 Backsight Azimuth: 39.062263      Backsight
Circle: 0.0000
 1002  Note:                    Fixed HR at Backsight:5.4 (5.4 + 0.0 Offset),
Prism Const.:0.0mm
 1003  Note:                    BS check 9147 - 9143:ZE88.4302,SD602.56,HD err=
0.005344, VD err= -0.016564
 1004  Note:                    BS Circle check : angular err= 0.0000
 1005  Side Shot:               Occupy Point: 9147
Foresight Point: 9154                 Angle Right: 0.0000               Zenith
Angle: 88.4301        Slope Distance: 602.564USft     Description: CHK9143
 1006  Note:                    Date: 09-11-2004  Time: 03:49:36
 1007  Occupy Pt:               Occupy Point: 9147
Northing: 1143427.873958USft          Easting: 619312.835435USft
Elevation: 233.516223USft    Description: NS
 1008  Backsight:               Occupy Point: 9147
Backsight Point: 9143                 Backsight Azimuth: 39.062263      Backsight
Circle: 0.0000
 1009  Note:                    Fixed HR at Backsight:5.4 (5.4 + 0.0 Offset),
Prism Const.:0.0mm
 1010  Note:                    BS check 9147 - 9143:ZE88.4258,SD602.562,HD err=
0.007082, VD err= -0.004837
 1011  Note:                    BS Circle check : angular err= 0.0000
 1012  Note:                    Foresight Target:My Prism, HR:4.84 (4.84 + 0.0
Offset), Prism Const.:0.0mm
 1013  Occupy Pt:               Occupy Point: 9147
Northing: 1143427.873958USft          Easting: 619312.835435USft
Elevation: 233.516223USft    Description: NS
 1014  Note:                    HR:4.84 (4.84 + 0.0 Offset)
 1015  Line of Sight (HI/HR):   Height of Instrument: 5.27USft
Height of Rod: 4.84USft
 1016  Backsight:               Occupy Point: 9147
Backsight Point: 9143                 Backsight Azimuth: 39.062263      Backsight
Circle: 0.0000
 1017  Note:                    Fixed HR at Backsight:5.4 (5.4 + 0.0 Offset),
Prism Const.:0.0mm
 1018  Note:                    BS check 9147 - 9143:ZE88.4301,SD602.56,HD err=
0.005278, VD err= -0.013644
 1019  Note:                    BS Circle check : angular err= 0.0000
 1020  Note:                    Date: 09-11-2004  Time: 04:24:30
 1021  Repeat Directional:      Backsight Direct
Set: 1                                Angle: 0.0000
 1022  Repeat Directional:      Backsight Reverse
Set: 1                                Angle: 179.5958
 1023  Repeat Directional:      Foresight Reverse
Set: 1                                Angle: 43.4142
 1024  Repeat Directional:      Zenith Reverse
Set: 1                                Zenith: 267.5235
 1025  Multiple Distances:      Set: 1
Slope Distance: 324.224USft
 1026  Repeat Foresight:        Occupy Point: 9147
Foresight Point: 9155                 Angle Right: 43.4142              Zenith
Angle: 267.5235       Slope Distance: 324.224USft     Height of Rod: 4.84USft
Description: NS
 1027  Repeat Directional:      Foresight Direct
```

```
Set: 1                              Angle: 223.4146
 1028  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 92.0736
 1029  Multiple Distances:     Set: 1
Slope Distance: 324.222USft
 1030  Repeat Foresight:       Occupy Point: 9147
Foresight Point: 9155                Angle Right: 223.4146             Zenith
Angle: 92.0736        Slope Distance: 324.222USft     Height of Rod: 4.84USft
Description: NS
 1031  Note:                   Horizontal Angle Error: 0.0002
 1032  Note:                   Zenith Angle Error: 0.0011
 1033  Note:                   Slope Distance Error: 0.002
 1034  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1035  Note:                   Zenith Angle Error compares to the average:
0.0000
 1036  Note:                   Slope Distance Error compares to the average: 0.0
 1037  Side Shot:              Occupy Point: 9147
Foresight Point: 9155                Angle Right: 223.4145             Zenith
Angle: 92.07305       Slope Distance: 324.223USft     Description: NS
 1038  Store Point:            Point Name: 9156
Northing: 1143166.152589USft         Easting: 619317.900562USft
Elevation: 221.544209USft    Description: PT9025/B-6015
 1039  Cut Sheet:              Elevation: 221.544209USft
Design Grade: 0.0
 1040  Design Point/Location:  Point Name: 9025
Northing: 1143166.2USft              Easting: 619317.9USft
Elevation: 0.0USft           Description: B-6015
 1041  Stakeout Deltas:        Delta Northing: 0.047411USft
Delta Easting: -0.000562USft         Delta Elevation: -221.544209USft
 1042  Stakeout:               Occupy Point: 9147
Foresight Point: 9156                Angle Right: 139.4706             Zenith
Angle: 92.4245        Slope Distance: 262.064USft     Description: PT9025/B-6015
 1043  Note:                   Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
 1044  Note:                   HR:4.9 (4.9 + 0.0 Offset)
 1045  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 4.9USft
 1046  Occupy Pt:              Occupy Point: 9147
Northing: 1143427.873958USft         Easting: 619312.835435USft
Elevation: 233.516223USft    Description: NS
 1047  Backsight:              Occupy Point: 9147
Backsight Point: 9143                Backsight Azimuth: 39.062263      Backsight
Circle: 0.0000
 1048  Note:                   Fixed HR at Backsight:5.4 (5.4 + 0.0 Offset),
Prism Const.:0.0mm
 1049  Note:                   BS check 9147 - 9143:ZE88.4259,SD602.562,HD err=
0.007147, VD err= -0.007758
 1050  Note:                   BS Circle check : angular err= 0.0000
 1051  Note:                   Date: 09-11-2004  Time: 04:43:54
 1052  Note:                   Foresight Target:My Prism, HR:5.16 (5.16 + 0.0
Offset), Prism Const.:0.0mm
 1053  Note:                   HR:5.16 (5.16 + 0.0 Offset)
 1054  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 5.16USft
 1055  Occupy Pt:              Occupy Point: 9147
Northing: 1143427.873958USft         Easting: 619312.835435USft
Elevation: 233.516223USft    Description: NS
 1056  Backsight:              Occupy Point: 9147
Backsight Point: 9143                Backsight Azimuth: 39.062263      Backsight
Circle: 0.0000
 1057  Note:                   Fixed HR at Backsight:5.4 (5.4 + 0.0 Offset),
Prism Const.:0.0mm
 1058  Note:                   BS check 9147 - 9143:ZE88.4303,SD602.566,HD err=
0.011408, VD err= -0.019351
 1059  Note:                   BS Circle check : angular err= 0.0000
 1060  Note:                   BS check 9147 - 9143:ZE88.4304,SD602.56,HD err=
```

```
0.005474, VD err= -0.022406
 1061  Note:                    BS Circle check : angular err= 0.0000
 1062  Note:                    BS check 9147 - 9143:ZE88.4303,SD602.564,HD err=
0.009408, VD err= -0.019395
 1063  Note:                    BS Circle check : angular err= 0.0000
 1064  Note:                    BS check 9147 - 9143:ZE88.4300,SD602.562,HD err=
0.007212, VD err= -0.010678
 1065  Note:                    BS Circle check : angular err= 0.0000
 1066  Note:                    RD,BD 1:0.0000
 1067  Note:                    RD,BV 1:180.0000
 1068  Note:                    RD,FV 1:180.0000
 1069  Note:                    RD,ZV 1:
 1070  Note:                    MD,SD 1:
 1071  Note:                    RF,OP9147,FP,AR180.0000,ZE,SD,HR5.16,--
 1072  Note:                    RD,FD 1:0.0000
 1073  Note:                    RD,ZD 1:
 1074  Note:                    MD,SD 1:
 1075  Note:                    RF,OP9147,FP,AR0.0000,ZE,SD,HR5.16,--
 1076  Note:                    Horizontal Angle Error: 0.0000
 1077  Note:                    Zenith Angle Error: 0.0000
 1078  Repeat Directional:      Backsight Direct
Set: 1                              Angle: 0.0000
 1079  Repeat Directional:      Backsight Reverse
Set: 1                              Angle: 179.5956
 1080  Repeat Directional:      Foresight Reverse
Set: 1                              Angle: 278.4204
 1081  Repeat Directional:      Zenith Reverse
Set: 1                              Zenith: 271.5334
 1082  Multiple Distances:      Set: 1
Slope Distance: 409.908USft
 1083  Repeat Foresight:        Occupy Point: 9147
Foresight Point: 9157               Angle Right: 278.4204              Zenith
Angle: 271.5334       Slope Distance: 409.908USft     Height of Rod: 5.16USft
Description: NS
 1084  Repeat Directional:      Foresight Direct
Set: 1                              Angle: 98.4206
 1085  Repeat Directional:      Zenith Direct
Set: 1                              Zenith: 88.0637
 1086  Multiple Distances:      Set: 1
Slope Distance: 409.91USft
 1087  Repeat Foresight:        Occupy Point: 9147
Foresight Point: 9157               Angle Right: 98.4206               Zenith
Angle: 88.0637        Slope Distance: 409.91USft      Height of Rod: 5.16USft
Description: NS
 1088  Note:                    Horizontal Angle Error: 0.0002
 1089  Note:                    Zenith Angle Error: 0.0011
 1090  Note:                    Slope Distance Error: 0.002
 1091  Note:                    Horizontal Angle Error compares to the average:
0.0000
 1092  Note:                    Zenith Angle Error compares to the average:
0.0000
 1093  Note:                    Slope Distance Error compares to the average: 0.0
 1094  Side Shot:               Occupy Point: 9147
Foresight Point: 9157               Angle Right: 98.4207               Zenith
Angle: 88.06315       Slope Distance: 409.909USft     Description: NS
 1095  Note:                    Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
 1096  Occupy Pt:               Occupy Point: 9157
Northing: 1143124.337374USft        Easting: 619587.986162USft
Elevation: 247.154264USft    Description: NS
 1097  Note:                    HR:5.14 (5.14 + 0.0 Offset)
 1098  Line of Sight (HI/HR):   Height of Instrument: 5.29USft
Height of Rod: 5.14USft
 1099  Backsight:               Occupy Point: 9157
Backsight Point: 9147               Backsight Azimuth: 317.482963     Backsight
Circle: 0.0000
 1100  Note:                    Fixed HR at Backsight:5.14 (5.14 + 0.0 Offset),
```

Prism Const.:0.0mm
 1101 Note: BS check 9157 - 9147:ZE91.5607,SD409.928,HD err=
0.008473, VD err= -0.055452
 1102 Note: BS Circle check : angular err= 0.0000
 1103 Note: BS check 9157 - 9147:ZE91.5558,SD409.924,HD err=
0.005079, VD err= -0.037441
 1104 Note: BS Circle check : angular err= 0.0000
 1105 Occupy Pt: Occupy Point: 9157
Northing: 1143124.337374USft   Easting: 619587.986162USft
Elevation: 247.154264USft   Description: NS
 1106 Note: HR:5.14 (5.14 + 0.0 Offset)
 1107 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.14USft
 1108 Backsight: Occupy Point: 9157
Backsight Point: 9147   Backsight Azimuth: 317.482963   Backsight
Circle: 0.0000
 1109 Note: Fixed HR at Backsight:5.14 (5.14 + 0.0 Offset),
Prism Const.:0.0mm
 1110 Note: BS check 9157 - 9147:ZE91.5558,SD409.92,HD err=
0.001081, VD err= -0.027306
 1111 Note: BS Circle check : angular err= 0.0000
 1112 Note: Foresight Target:My Prism, HR:5.13 (5.13 + 0.0
Offset), Prism Const.:0.0mm
 1113 Occupy Pt: Occupy Point: 9157
Northing: 1143124.337374USft   Easting: 619587.986162USft
Elevation: 247.154264USft   Description: NS
 1114 Note: HR:5.13 (5.13 + 0.0 Offset)
 1115 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.13USft
 1116 Backsight: Occupy Point: 9157
Backsight Point: 9147   Backsight Azimuth: 317.482963   Backsight
Circle: 0.0000
 1117 Note: Fixed HR at Backsight:5.13 (5.13 + 0.0 Offset),
Prism Const.:0.0mm
 1118 Note: BS check 9157 - 9147:ZE91.5600,SD409.922,HD err=
0.002946, VD err= -0.021346
 1119 Note: BS Circle check : angular err= 0.0000
 1120 Note: BS check 9157 - 9147:ZE91.5559,SD409.922,HD err=
0.003013, VD err= -0.01936
 1121 Note: BS Circle check : angular err= 0.0000
 1122 Note: BS check 9157 - 9147:ZE91.5559,SD409.926,HD err=
0.007011, VD err= -0.019495
 1123 Note: BS Circle check : angular err= 0.0000
 1124 Side Shot: Occupy Point: 9157
Foresight Point: 9158   Angle Right: 0.0000   Zenith
Angle: 91.5559   Slope Distance: 409.924USft   Description: CHK9147
 1125 Note: Date: 09-11-2004 Time: 05:11:44
 1126 Note: Foresight Target:My Prism, HR:5.39 (5.39 + 0.0
Offset), Prism Const.:0.0mm
 1127 Occupy Pt: Occupy Point: 9157
Northing: 1143124.337374USft   Easting: 619587.986162USft
Elevation: 247.154264USft   Description: NS
 1128 Note: HR:5.39 (5.39 + 0.0 Offset)
 1129 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.39USft
 1130 Backsight: Occupy Point: 9157
Backsight Point: 9147   Backsight Azimuth: 317.482963   Backsight
Circle: 0.0000
 1131 Note: Fixed HR at Backsight:5.13 (5.13 + 0.0 Offset),
Prism Const.:0.0mm
 1132 Note: BS check 9157 - 9147:ZE91.5558,SD409.928,HD err=
0.009077, VD err= -0.017576
 1133 Note: BS Circle check : angular err= 0.0000
 1134 Note: Foresight Target:My Prism, HR:5.02 (5.02 + 0.0
Offset), Prism Const.:0.0mm
 1135 Note: HR:5.02 (5.02 + 0.0 Offset)
 1136 Line of Sight (HI/HR): Height of Instrument: 5.3USft

```
Height of Rod: 5.02USft
 1137  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0001
 1138  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 179.5956
 1139  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 341.3434
 1140  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 270.2833
 1141  Multiple Distances:     Set: 1
Slope Distance: 367.096USft
 1142  Repeat Foresight:       Occupy Point: 9157
Foresight Point: 9159                Angle Right: 341.3434             Zenith
Angle: 270.2833       Slope Distance: 367.096USft     Height of Rod: 5.02USft
Description: NS
 1143  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 161.3437
 1144  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 89.3138
 1145  Multiple Distances:     Set: 1
Slope Distance: 367.094USft
 1146  Repeat Foresight:       Occupy Point: 9157
Foresight Point: 9159                Angle Right: 161.3437             Zenith
Angle: 89.3138        Slope Distance: 367.094USft     Height of Rod: 5.02USft
Description: NS
 1147  Note:                   Horizontal Angle Error: 0.0002
 1148  Note:                   Zenith Angle Error: 0.0011
 1149  Note:                   Slope Distance Error: 0.002
 1150  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1151  Note:                   Zenith Angle Error compares to the average:
0.0000
 1152  Note:                   Slope Distance Error compares to the average: 0.0
 1153  Side Shot:              Occupy Point: 9157
Foresight Point: 9159                Angle Right: 161.3437             Zenith
Angle: 89.31325       Slope Distance: 367.095USft     Description: NS
 1154  Note:                   Foresight Target:My Prism, HR:5.27 (5.27 + 0.0
Offset), Prism Const.:0.0mm
 1155  Occupy Pt:              Occupy Point: 9159
Northing: 1142944.217992USft         Easting: 619907.840055USft
Elevation: 250.473113USft    Description: NS
 1156  Note:                   HR:5.27 (5.27 + 0.0 Offset)
 1157  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 5.27USft
 1158  Backsight:              Occupy Point: 9159
Backsight Point: 9157                Backsight Azimuth: 299.230663     Backsight
Circle: 0.0000
 1159  Note:                   Fixed HR at Backsight:5.27 (5.27 + 0.0 Offset),
Prism Const.:0.0mm
 1160  Note:                   BS check 9159 - 9157:ZE90.2938,SD367.098,HD err=
0.00194, VD err= -0.005492
 1161  Note:                   BS Circle check : angular err= 0.0000
 1162  Note:                   Date: 09-11-2004  Time: 05:54:35
 1163  Side Shot:              Occupy Point: 9159
Foresight Point: 9160                Angle Right: 0.0000               Zenith
Angle: 90.2936        Slope Distance: 367.096USft     Description: CHK9157
 1164  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 1165  Note:                   HR:8.5 (8.5 + 0.0 Offset)
 1166  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 8.5USft
 1167  Off Center Shot:        Angle Right: 178.5438
Zenith Angle: 93.1140                Slope Distance: 448.864USft
 1168  Off Center Shot:        Left/Right Offset: 0.9USft
Description: Left / Right Offset
 1169  Side Shot:              Occupy Point: 9159
Foresight Point: 9161                Angle Right: 179.013222           Zenith
```

```
Angle: 93.113998      Slope Distance: 448.864902USft  Description: PT9017/B-6007
 1170  Note:                  Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
 1171  Note:                  HR:4.9 (4.9 + 0.0 Offset)
 1172  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 4.9USft
 1173  Note:                  Date: 09-11-2004  Time: 06:11:06
 1174  Off Center Shot:       Angle Right: 132.5917
Zenith Angle: 90.2220               Slope Distance: 413.816USft
 1175  Off Center Shot:       Left/Right Offset: -0.52USft
Description: Left / Right Offset
 1176  Side Shot:             Occupy Point: 9159
Foresight Point: 9162               Angle Right: 132.54578            Zenith
Angle: 90.2220        Slope Distance: 413.816327USft  Description: PT9016/B-6006
 1177  Note:                  Date: 09-11-2004  Time: 06:30:31
 1178  Occupy Pt:             Occupy Point: 9159
Northing: 1142944.217992USft        Easting: 619907.840055USft
Elevation: 250.473113USft    Description: NS
 1179  Backsight:             Occupy Point: 9159
Backsight Point: 9157               Backsight Azimuth: 299.230663     Backsight
Circle: 0.0000
 1180  Note:                  Fixed HR at Backsight:5.27 (5.27 + 0.0 Offset),
Prism Const.:0.0mm
 1181  Note:                  BS check 9159 - 9157:ZE90.2946,SD367.094,HD err=
-0.002183, VD err= -0.019695
 1182  Note:                  BS Circle check : angular err= 0.0000
 1183  Note:                  Foresight Target:My Prism, HR:5.09 (5.09 + 0.0
Offset), Prism Const.:0.0mm
 1184  Note:                  HR:5.09 (5.09 + 0.0 Offset)
 1185  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 5.09USft
 1186  Repeat Directional:    Backsight Direct
Set: 1                              Angle: 0.0000
 1187  Repeat Directional:    Backsight Reverse
Set: 1                              Angle: 179.5958
 1188  Repeat Directional:    Foresight Reverse
Set: 1                              Angle: 322.1550
 1189  Repeat Directional:    Zenith Reverse
Set: 1                              Zenith: 269.5730
 1190  Multiple Distances:    Set: 1
Slope Distance: 408.196USft
 1191  Repeat Foresight:      Occupy Point: 9159
Foresight Point: 9163               Angle Right: 322.1550             Zenith
Angle: 269.5730       Slope Distance: 408.196USft     Height of Rod: 5.09USft
Description: NS
 1192  Repeat Directional:    Foresight Direct
Set: 1                              Angle: 142.1549
 1193  Repeat Directional:    Zenith Direct
Set: 1                              Zenith: 90.0230
 1194  Multiple Distances:    Set: 1
Slope Distance: 408.204USft
 1195  Repeat Foresight:      Occupy Point: 9159
Foresight Point: 9163               Angle Right: 142.1549             Zenith
Angle: 90.0230        Slope Distance: 408.204USft     Height of Rod: 5.09USft
Description: NS
 1196  Note:                  Horizontal Angle Error: 0.0003
 1197  Note:                  Zenith Angle Error: 0.0000
 1198  Note:                  Slope Distance Error: 0.008
 1199  Note:                  Horizontal Angle Error compares to the average:
0.0000
 1200  Note:                  Zenith Angle Error compares to the average:
0.0000
 1201  Note:                  Slope Distance Error compares to the average: 0.0
 1202  Side Shot:             Occupy Point: 9159
Foresight Point: 9163               Angle Right: 142.15505            Zenith
Angle: 90.0230        Slope Distance: 408.2USft       Description: NS
 1203  Note:                  Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
```

Offset), Prism Const.:0.0mm
 1204 Note: Date: 09-11-2004 Time: 06:54:30
 1205 Occupy Pt: Occupy Point: 9157
Northing: 1143124.337374USft   Easting: 619587.986162USft
Elevation: 247.154264USft   Description: NS
 1206 Note: HR:5.1 (5.1 + 0.0 Offset)
 1207 Line of Sight (HI/HR): Height of Instrument: 5.09USft
Height of Rod: 5.1USft
 1208 Backsight: Occupy Point: 9157
Backsight Point: 9159   Backsight Azimuth: 119.230663   Backsight
Circle: 0.0000
 1209 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
 1210 Note: BS check 9157 - 9159:ZE89.5748,SD408.192,HD err=
41.109495, VD err= -3.067625
 1211 Note: BS Circle check : angular err= 0.0000
 1212 Occupy Pt: Occupy Point: 9163
Northing: 1143003.502267USft   Easting: 620311.711973USft
Elevation: 250.196261USft   Description: NS
 1213 Backsight: Occupy Point: 9163
Backsight Point: 9159   Backsight Azimuth: 261.385713   Backsight
Circle: 0.0000
 1214 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
 1215 Note: BS check 9163 - 9159:ZE89.5748,SD408.192,HD err=
-0.007976, VD err= -0.025627
 1216 Note: BS Circle check : angular err= 0.0000
 1217 Note: Foresight Target:My Prism, HR:5.09 (5.09 + 0.0
Offset), Prism Const.:0.0mm
 1218 Occupy Pt: Occupy Point: 9163
Northing: 1143003.502267USft   Easting: 620311.711973USft
Elevation: 250.196261USft   Description: NS
 1219 Note: HR:5.09 (5.09 + 0.0 Offset)
 1220 Line of Sight (HI/HR): Height of Instrument: 5.09USft
Height of Rod: 5.09USft
 1221 Backsight: Occupy Point: 9163
Backsight Point: 9159   Backsight Azimuth: 261.385713   Backsight
Circle: 0.0000
 1222 Note: Fixed HR at Backsight:5.09 (5.09 + 0.0 Offset),
Prism Const.:0.0mm
 1223 Note: BS check 9163 - 9159:ZE89.5748,SD408.186,HD err=
-0.013976, VD err= -0.015631
 1224 Note: BS Circle check : angular err= 0.0000
 1225 Note: BS check 9163 - 9159:ZE89.5745,SD408.19,HD err= -
0.009979, VD err= -0.009692
 1226 Note: BS Circle check : angular err= 0.0000
 1227 Side Shot: Occupy Point: 9163
Foresight Point: 9164   Angle Right: 0.0000   Zenith
Angle: 89.5746   Slope Distance: 408.186USft   Description: CHK9159
 1228 Occupy Pt: Occupy Point: 9163
Northing: 1143003.502267USft   Easting: 620311.711973USft
Elevation: 250.196261USft   Description: NS
 1229 Backsight: Occupy Point: 9163
Backsight Point: 9159   Backsight Azimuth: 261.385713   Backsight
Circle: 0.0000
 1230 Note: Fixed HR at Backsight:5.09 (5.09 + 0.0 Offset),
Prism Const.:0.0mm
 1231 Note: BS check 9163 - 9159:ZE89.5736,SD408.19,HD err= -
0.009992, VD err= 0.008119
 1232 Note: BS Circle check : angular err= 0.0000
 1233 Occupy Pt: Occupy Point: 9163
Northing: 1143003.502267USft   Easting: 620311.711973USft
Elevation: 250.196261USft   Description: NS
 1234 Backsight: Occupy Point: 9163
Backsight Point: 9159   Backsight Azimuth: 261.385713   Backsight
Circle: 0.0000
 1235 Note: Fixed HR at Backsight:5.09 (5.09 + 0.0 Offset),

```
Prism Const.:0.0mm
 1236  Note:                    BS check 9163 - 9159:ZE89.5742,SD408.19,HD err= -
0.009983, VD err= -0.003755
 1237  Note:                    BS Circle check : angular err= 0.0000
 1238  Note:                    Foresight Target:My Prism, HR:5.3 (5.3 + 0.0
Offset), Prism Const.:0.0mm
 1239  Note:                    HR:5.3 (5.3 + 0.0 Offset)
 1240  Line of Sight (HI/HR):  Height of Instrument: 5.09USft
Height of Rod: 5.3USft
 1241  Note:                    Date: 09-11-2004  Time: 07:09:35
 1242  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 1243  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0004
 1244  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 47.1801
 1245  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 265.4042
 1246  Multiple Distances:     Set: 1
Slope Distance: 374.98USft
 1247  Repeat Foresight:       Occupy Point: 9163
Foresight Point: 9165               Angle Right: 47.1801              Zenith
Angle: 265.4042       Slope Distance: 374.98USft      Height of Rod: 5.3USft
Description: NS
 1248  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 227.1802
 1249  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 94.1921
 1250  Multiple Distances:     Set: 1
Slope Distance: 374.98USft
 1251  Repeat Foresight:       Occupy Point: 9163
Foresight Point: 9165               Angle Right: 227.1802             Zenith
Angle: 94.1921        Slope Distance: 374.98USft      Height of Rod: 5.3USft
Description: NS
 1252  Note:                    Horizontal Angle Error: 0.0005
 1253  Note:                    Zenith Angle Error: 0.0003
 1254  Note:                    Slope Distance Error: 0.0
 1255  Note:                    Horizontal Angle Error compares to the average:
0.0000
 1256  Note:                    Zenith Angle Error compares to the average:
0.0000
 1257  Note:                    Slope Distance Error compares to the average: 0.0
 1258  Side Shot:               Occupy Point: 9163
Foresight Point: 9165               Angle Right: 227.17595            Zenith
Angle: 94.19195       Slope Distance: 374.98USft      Description: NS
 1259  Note:                    Foresight Target:My Prism, HR:5.25 (5.25 + 0.0
Offset), Prism Const.:0.0mm
 1260  Occupy Pt:               Occupy Point: 9165
Northing: 1142768.449229USft        Easting: 620602.50651USft
Elevation: 221.72662USft     Description: NS
 1261  Note:                    HR:5.25 (5.25 + 0.0 Offset)
 1262  Line of Sight (HI/HR):  Height of Instrument: 5.19USft
Height of Rod: 5.25USft
 1263  Backsight:               Occupy Point: 9165
Backsight Point: 9163               Backsight Azimuth: 308.565663     Backsight
Circle: 0.0000
 1264  Note:                    Fixed HR at Backsight:5.25 (5.25 + 0.0 Offset),
Prism Const.:0.0mm
 1265  Note:                    BS check 9165 - 9163:ZE85.3833,SD374.988,HD err=
-0.009563, VD err= -0.038268
 1266  Note:                    BS Circle check : angular err= 0.0000
 1267  Note:                    BS check 9165 - 9163:ZE85.3835,SD374.986,HD err=
-0.011281, VD err= -0.042045
 1268  Note:                    BS Circle check : angular err= 0.0000
 1269  Note:                    BS check 9165 - 9163:ZE85.3836,SD374.986,HD err=
-0.011143, VD err= -0.043858
 1270  Note:                    BS Circle check : angular err= 0.0000
```

```
 1271  Note:                    BS check 9165 - 9163:ZE85.3836,SD374.99,HD err= -
0.007154, VD err= -0.043554
 1272  Note:                    BS Circle check : angular err= 0.0000
 1273  Note:                    BS check 9165 - 9163:ZE85.3836,SD374.982,HD err=
-0.015131, VD err= -0.044162
 1274  Note:                    BS Circle check : angular err= 0.0000
 1275  Note:                    BS check 9165 - 9163:ZE85.3837,SD374.998,HD err=
0.000961, VD err= -0.044759
 1276  Note:                    BS Circle check : angular err= 0.0000
 1277  Occupy Pt:               Occupy Point: 9165
Northing: 1142768.449229USft          Easting: 620602.50651USft
Elevation: 221.72662USft     Description: NS
 1278  Note:                    HR:5.25 (5.25 + 0.0 Offset)
 1279  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 5.25USft
 1280  Backsight:               Occupy Point: 9165
Backsight Point: 9163                 Backsight Azimuth: 308.565663     Backsight
Circle: 0.0000
 1281  Note:                    Fixed HR at Backsight:5.25 (5.25 + 0.0 Offset),
Prism Const.:0.0mm
 1282  Note:                    BS check 9165 - 9163:ZE85.3837,SD374.992,HD err=
-0.005022, VD err= -0.035215
 1283  Note:                    BS Circle check : angular err= 0.0000
 1284  Note:                    Foresight Target:My Prism, HR:5.24 (5.24 + 0.0
Offset), Prism Const.:0.0mm
 1285  Occupy Pt:               Occupy Point: 9165
Northing: 1142768.449229USft          Easting: 620602.50651USft
Elevation: 221.72662USft     Description: NS
 1286  Note:                    HR:5.24 (5.24 + 0.0 Offset)
 1287  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 5.24USft
 1288  Backsight:               Occupy Point: 9165
Backsight Point: 9163                 Backsight Azimuth: 308.565663     Backsight
Circle: 0.0000
 1289  Note:                    Fixed HR at Backsight:5.24 (5.24 + 0.0 Offset),
Prism Const.:0.0mm
 1290  Note:                    BS check 9165 - 9163:ZE85.3837,SD374.984,HD err=
-0.012999, VD err= -0.025822
 1291  Note:                    BS Circle check : angular err= 0.0000
 1292  Note:                    BS check 9165 - 9163:ZE85.3828,SD374.988,HD err=
-0.010254, VD err= -0.009204
 1293  Note:                    BS Circle check : angular err= 0.0000
 1294  Side Shot:               Occupy Point: 9165
Foresight Point: 9166                 Angle Right: 0.0001               Zenith
Angle: 85.3828        Slope Distance: 374.992USft     Description: CHK9163
 1295  Note:                    Foresight Target:My Prism, HR:5.4 (5.4 + 0.0
Offset), Prism Const.:0.0mm
 1296  Occupy Pt:               Occupy Point: 9165
Northing: 1142768.449229USft          Easting: 620602.50651USft
Elevation: 221.72662USft     Description: NS
 1297  Note:                    HR:5.4 (5.4 + 0.0 Offset)
 1298  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 5.4USft
 1299  Backsight:               Occupy Point: 9165
Backsight Point: 9163                 Backsight Azimuth: 308.565663     Backsight
Circle: 0.0000
 1300  Note:                    Fixed HR at Backsight:5.24 (5.24 + 0.0 Offset),
Prism Const.:0.0mm
 1301  Note:                    BS check 9165 - 9163:ZE85.3827,SD374.99,HD err= -
0.008398, VD err= -0.007239
 1302  Note:                    BS Circle check : angular err= 0.0000
 1303  Occupy Pt:               Occupy Point: 9165
Northing: 1142768.449229USft          Easting: 620602.50651USft
Elevation: 221.72662USft     Description: NS
 1304  Backsight:               Occupy Point: 9165
Backsight Point: 9163                 Backsight Azimuth: 308.565663     Backsight
Circle: 0.0000
```

```
 1305  Note:                   Fixed HR at Backsight:5.24 (5.24 + 0.0 Offset),
Prism Const.:0.0mm
 1306  Note:                   BS check 9165 - 9163:ZE85.3826,SD374.992,HD err=
-0.006542, VD err= -0.005274
 1307  Note:                   BS Circle check : angular err= 0.0000
 1308  Note:                   RD,BD 1:359.5959
 1309  Note:                   RD,BV 1:180.0000
 1310  Note:                   RD,FV 1:180.0000
 1311  Note:                   RD,ZV 1:
 1312  Note:                   MD,SD 1:
 1313  Note:                   RF,OP9165,FP,AR180.0000,ZE,SD,HR5.4,--
 1314  Note:                   RD,FD 1:0.0000
 1315  Note:                   RD,ZD 1:
 1316  Note:                   MD,SD 1:
 1317  Note:                   RF,OP9165,FP,AR0.0000,ZE,SD,HR5.4,--
 1318  Note:                   Horizontal Angle Error: 0.0000
 1319  Note:                   Zenith Angle Error: 0.0000
 1320  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 1321  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 179.5959
 1322  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 336.1549
 1323  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.4356
 1324  Multiple Distances:     Set: 1
Slope Distance: 686.81USft
 1325  Repeat Foresight:       Occupy Point: 9165
Foresight Point: 9167               Angle Right: 336.1549             Zenith
Angle: 269.4356       Slope Distance: 686.81USft      Height of Rod: 5.4USft
Description: NS
 1326  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 156.1547
 1327  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 90.1612
 1328  Multiple Distances:     Set: 1
Slope Distance: 686.816USft
 1329  Repeat Foresight:       Occupy Point: 9165
Foresight Point: 9167               Angle Right: 156.1547             Zenith
Angle: 90.1612        Slope Distance: 686.816USft     Height of Rod: 5.4USft
Description: NS
 1330  Note:                   Horizontal Angle Error: 0.0003
 1331  Note:                   Zenith Angle Error: 0.0008
 1332  Note:                   Slope Distance Error: 0.006
 1333  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1334  Note:                   Zenith Angle Error compares to the average:
0.0000
 1335  Note:                   Slope Distance Error compares to the average: 0.0
 1336  Side Shot:              Occupy Point: 9165
Foresight Point: 9167               Angle Right: 156.15485            Zenith
Angle: 90.1608        Slope Distance: 686.813USft     Description: NS
 1337  Note:                   Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
 1338  Occupy Pt:              Occupy Point: 9167
Northing: 1142588.23127USft         Easting: 621265.24567USft
Elevation: 218.303421USft    Description: NS
 1339  Note:                   HR:5.17 (5.17 + 0.0 Offset)
 1340  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.17USft
 1341  Backsight:              Occupy Point: 9167
Backsight Point: 9165               Backsight Azimuth: 285.124513     Backsight
Circle: 0.0000
 1342  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 1343  Note:                   BS check 9167 - 9165:ZE89.4356,SD686.806,HD err=
-0.006938, VD err= -0.173352
```

```
 1344  Note:                   BS Circle check : angular err= 0.0000
 1345  Note:                   BS check 9167 - 9165:ZE89.4356,SD686.81,HD err= -
0.002938, VD err= -0.173333
 1346  Note:                   BS Circle check : angular err= 0.0000
 1347  Note:                   BS check 9167 - 9165:ZE89.4354,SD686.806,HD err=
-0.006969, VD err= -0.166692
 1348  Note:                   BS Circle check : angular err= 0.0000
 1349  Note:                   Date: 09-11-2004  Time: 08:21:15
 1350  Occupy Pt:              Occupy Point: 9167
Northing: 1142588.23127USft          Easting: 621265.24567USft
Elevation: 218.303421USft    Description: NS
 1351  Backsight:              Occupy Point: 9167
Backsight Point: 9165                Backsight Azimuth: 285.124513     Backsight
Circle: 0.0000
 1352  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 1353  Note:                   BS check 9167 - 9165:ZE89.4353,SD686.812,HD err=
-0.000984, VD err= -0.163334
 1354  Note:                   BS Circle check : angular err= 0.0000
 1355  Occupy Pt:              Occupy Point: 9163
Northing: 1143003.502267USft         Easting: 620311.711973USft
Elevation: 250.196261USft    Description: NS
 1356  Backsight:              Occupy Point: 9163
Backsight Point: 9165                Backsight Azimuth: 128.565663     Backsight
Circle: 0.0000
 1357  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 1358  Note:                   BS check 9163 - 9165:ZE89.4352,SD686.804,HD err=
312.88282, VD err= 31.732798
 1359  Note:                   BS Circle check : angular err= 0.0000
 1360  Store Point:            Point Name: 9167
Northing: 1142588.23127USft          Easting: 621265.24567USft
Elevation: 218.466421USft    Description: NS
 1361  Occupy Pt:              Occupy Point: 9167
Northing: 1142588.23127USft          Easting: 621265.24567USft
Elevation: 218.466421USft    Description: NS
 1362  Backsight:              Occupy Point: 9167
Backsight Point: 9165                Backsight Azimuth: 285.124513     Backsight
Circle: 0.0000
 1363  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 1364  Note:                   BS check 9167 - 9165:ZE89.4349,SD686.812,HD err=
-0.001047, VD err= 0.012985
 1365  Note:                   BS Circle check : angular err= 0.0000
 1366  Side Shot:              Occupy Point: 9167
Foresight Point: 9168                Angle Right: 0.0000               Zenith
Angle: 89.4349        Slope Distance: 686.804USft     Description: CHK9165
 1367  Note:                   Foresight Target:My Prism, HR:5.29 (5.29 + 0.0
Offset), Prism Const.:0.0mm
 1368  Occupy Pt:              Occupy Point: 9167
Northing: 1142588.23127USft          Easting: 621265.24567USft
Elevation: 218.466421USft    Description: NS
 1369  Note:                   HR:5.29 (5.29 + 0.0 Offset)
 1370  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.29USft
 1371  Backsight:              Occupy Point: 9167
Backsight Point: 9165                Backsight Azimuth: 285.124513     Backsight
Circle: 0.0000
 1372  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 1373  Note:                   BS check 9167 - 9165:ZE89.4347,SD686.8,HD err= -
0.013078, VD err= 0.019588
 1374  Note:                   BS Circle check : angular err= 0.0000
 1375  Note:                   BS check 9167 - 9165:ZE89.4346,SD686.798,HD err=
-0.015094, VD err= 0.022908
 1376  Note:                   BS Circle check : angular err= 0.0000
 1377  Note:                   BS check 9167 - 9165:ZE89.4344,SD686.816,HD err=
```

```
0.002874, VD err= 0.029652
 1378  Note:                   BS Circle check : angular err= 0.0000
 1379  Note:                   BS check 9167 - 9165:ZE89.4345,SD686.804,HD err=
-0.00911, VD err= 0.026266
 1380  Note:                   BS Circle check : angular err= 0.0001
 1381  Note:                   BS check 9167 - 9165:ZE89.4345,SD686.81,HD err= -
0.00311, VD err= 0.026294
 1382  Note:                   BS Circle check : angular err= 0.0000
 1383  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 1384  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0000
 1385  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 340.2255
 1386  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 270.0239
 1387  Multiple Distances:     Set: 1
Slope Distance: 635.52USft
 1388  Repeat Foresight:       Occupy Point: 9167
Foresight Point: 9169               Angle Right: 340.2255             Zenith
Angle: 270.0239       Slope Distance: 635.52USft      Height of Rod: 5.29USft
Description: NS
 1389  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 160.2252
 1390  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 89.5735
 1391  Multiple Distances:     Set: 1
Slope Distance: 635.522USft
 1392  Repeat Foresight:       Occupy Point: 9167
Foresight Point: 9169               Angle Right: 160.2252             Zenith
Angle: 89.5735        Slope Distance: 635.522USft     Height of Rod: 5.29USft
Description: NS
 1393  Note:                   Horizontal Angle Error: 0.0003
 1394  Note:                   Zenith Angle Error: 0.0014
 1395  Note:                   Slope Distance Error: 0.002
 1396  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1397  Note:                   Zenith Angle Error compares to the average:
0.0000
 1398  Note:                   Slope Distance Error compares to the average: 0.0
 1399  Side Shot:              Occupy Point: 9167
Foresight Point: 9169               Angle Right: 160.22535            Zenith
Angle: 89.5728        Slope Distance: 635.521USft     Description: NS
 1400  Store Point:            Point Name: 9169
Northing: 1142637.053462USft        Easting: 621898.888405USft
Elevation: 218.854747USft    Description: PT11
 1401  Note:                   Foresight Target:My Prism, HR:5.25 (5.25 + 0.0
Offset), Prism Const.:0.0mm
 1402  Occupy Pt:              Occupy Point: 9169
Northing: 1142637.053462USft        Easting: 621898.888405USft
Elevation: 218.854747USft    Description: PT11
 1403  Note:                   HR:5.25 (5.25 + 0.0 Offset)
 1404  Line of Sight (HI/HR):  Height of Instrument: 5.45USft
Height of Rod: 5.25USft
 1405  Backsight:              Occupy Point: 9169
Backsight Point: 9167               Backsight Azimuth: 265.353863     Backsight
Circle: 0.0000
 1406  Note:                   Fixed HR at Backsight:5.25 (5.25 + 0.0 Offset),
Prism Const.:0.0mm
 1407  Note:                   BS check 9169 - 9167:ZE90.0336,SD635.52,HD err= -
0.001176, VD err= -0.077189
 1408  Note:                   BS Circle check : angular err= 0.0000
 1409  Note:                   BS check 9169 - 9167:ZE90.0332,SD635.51,HD err= -
0.011163, VD err= -0.064854
 1410  Note:                   BS Circle check : angular err= 0.0000
 1411  Occupy Pt:              Occupy Point: 9169
Northing: 1142637.053462USft        Easting: 621898.888405USft
```

```
Elevation: 218.854747USft    Description: PT11
 1412  Note:                  HR:5.25 (5.25 + 0.0 Offset)
 1413  Line of Sight (HI/HR):  Height of Instrument: 5.46USft
Height of Rod: 5.25USft
 1414  Backsight:             Occupy Point: 9169
Backsight Point: 9167              Backsight Azimuth: 265.353863     Backsight
Circle: 0.0000
 1415  Note:                  Fixed HR at Backsight:5.25 (5.25 + 0.0 Offset),
Prism Const.:0.0mm
 1416  Note:                  BS check 9169 - 9167:ZE90.0330,SD635.516,HD err=
-0.005157, VD err= -0.048698
 1417  Note:                  BS Circle check : angular err= 0.0000
 1418  Note:                  Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
 1419  Occupy Pt:             Occupy Point: 9169
Northing: 1142637.053462USft         Easting: 621898.888405USft
Elevation: 218.854747USft    Description: PT11
 1420  Note:                  HR:5.22 (5.22 + 0.0 Offset)
 1421  Line of Sight (HI/HR):  Height of Instrument: 5.46USft
Height of Rod: 5.22USft
 1422  Backsight:             Occupy Point: 9169
Backsight Point: 9167              Backsight Azimuth: 265.353863     Backsight
Circle: 0.0000
 1423  Note:                  Fixed HR at Backsight:5.22 (5.22 + 0.0 Offset),
Prism Const.:0.0mm
 1424  Note:                  BS check 9169 - 9167:ZE90.0328,SD635.52,HD err= -
0.001151, VD err= -0.01254
 1425  Note:                  BS Circle check : angular err= 0.0000
 1426  Note:                  Date: 09-11-2004  Time: 08:43:33
 1427  Side Shot:             Occupy Point: 9169
Foresight Point: 9170              Angle Right: 0.0000               Zenith
Angle: 90.0328        Slope Distance: 635.514USft     Description: CHK9167
 1428  Repeat Directional:    Backsight Direct
Set: 1                             Angle: 0.0000
 1429  Repeat Directional:    Backsight Reverse
Set: 1                             Angle: 180.0003
 1430  Repeat Directional:    Foresight Reverse
Set: 1                             Angle: 283.1954
 1431  Repeat Directional:    Zenith Reverse
Set: 1                             Zenith: 270.1840
 1432  Multiple Distances:    Set: 1
Slope Distance: 632.274USft
 1433  Repeat Foresight:      Occupy Point: 9169
Foresight Point: 9171              Angle Right: 283.1954             Zenith
Angle: 270.1840       Slope Distance: 632.274USft     Height of Rod: 5.22USft
Description: PT14
 1434  Repeat Directional:    Foresight Direct
Set: 1                             Angle: 103.1957
 1435  Repeat Directional:    Zenith Direct
Set: 1                             Zenith: 89.4143
 1436  Multiple Distances:    Set: 1
Slope Distance: 632.268USft
 1437  Repeat Foresight:      Occupy Point: 9169
Foresight Point: 9171              Angle Right: 103.1957             Zenith
Angle: 89.4143        Slope Distance: 632.268USft     Height of Rod: 5.22USft
Description: PT14
 1438  Note:                  Horizontal Angle Error: 0.0006
 1439  Note:                  Zenith Angle Error: 0.0023
 1440  Note:                  Slope Distance Error: 0.006
 1441  Note:                  Horizontal Angle Error compares to the average:
0.0000
 1442  Note:                  Zenith Angle Error compares to the average:
0.0000
 1443  Note:                  Slope Distance Error compares to the average: 0.0
 1444  Side Shot:             Occupy Point: 9169
Foresight Point: 9171              Angle Right: 103.1954             Zenith
Angle: 89.41315       Slope Distance: 632.271USft     Description: PT14
```

```
 1445  Note:                    Foresight Target:My Prism, HR:4.95 (4.95 + 0.0
Offset), Prism Const.:0.0mm
 1446  Occupy Pt:               Occupy Point: 9127
Northing: 1144346.109793USft          Easting: 622018.013656USft
Elevation: 273.50465USft     Description: NS
 1447  Note:                    HR:4.95 (4.95 + 0.0 Offset)
 1448  Line of Sight (HI/HR):   Height of Instrument: 5.25USft
Height of Rod: 4.95USft
 1449  Backsight:               Occupy Point: 9127
Backsight Point: 9124                 Backsight Azimuth: 356.444913     Backsight
Circle: 0.0000
 1450  Note:                    Fixed HR at Backsight:4.95 (4.95 + 0.0 Offset),
Prism Const.:0.0mm
 1451  Note:                    BS check 9127 - 9124:ZE94.0654,SD486.9,HD err= -
0.012627, VD err= -0.028006
 1452  Note:                    BS Circle check : angular err= 0.0000
 1453  Note:                    BS check 9127 - 9124:ZE94.0645,SD486.898,HD err=
-0.013098, VD err= -0.006672
 1454  Note:                    BS Circle check : angular err= 0.0000
 1455  Side Shot:               Occupy Point: 9127
Foresight Point: 9172                 Angle Right: 0.0000               Zenith
Angle: 94.0647        Slope Distance: 486.898USft     Description: CHK9124
 1456  Note:                    Date: 09-11-2004  Time: 09:24:33
 1457  Note:                    Foresight Target:My Prism, HR:12.0 (12.0 + 0.0
Offset), Prism Const.:0.0mm
 1458  Note:                    HR:12.0 (12.0 + 0.0 Offset)
 1459  Line of Sight (HI/HR):   Height of Instrument: 5.25USft
Height of Rod: 12.0USft
 1460  Store Point:             Point Name: 9173
Northing: 1143998.965411USft          Easting: 621728.971629USft
Elevation: 271.012174USft    Description: PT9026/ER1103-4
 1461  Cut Sheet:               Elevation: 271.012174USft
Design Grade: 0.0
 1462  Design Point/Location:   Point Name: 9026
Northing: 1143999.0USft               Easting: 621729.0USft
Elevation: 0.0USft           Description: ER-1103-1104
 1463  Stakeout Deltas:         Delta Northing: 0.034589USft
Delta Easting: 0.028371USft           Delta Elevation: -271.012174USft
 1464  Stakeout:                Occupy Point: 9127
Foresight Point: 9173                 Angle Right: 223.0205             Zenith
Angle: 89.2736        Slope Distance: 451.744USft     Description:
PT9026/ER1103-4
 1465  Note:                    Foresight Target:My Prism, HR:4.95 (4.95 + 0.0
Offset), Prism Const.:0.0mm
 1466  Note:                    HR:4.95 (4.95 + 0.0 Offset)
 1467  Line of Sight (HI/HR):   Height of Instrument: 5.25USft
Height of Rod: 4.95USft
 1468  Side Shot:               Occupy Point: 9127
Foresight Point: 9174                 Angle Right: 0.0002               Zenith
Angle: 94.0647        Slope Distance: 486.898USft     Description: CHK9124
 1469  Note:                    Foresight Target:My Prism, HR:5.23 (5.23 + 0.0
Offset), Prism Const.:0.0mm
 1470  Occupy Pt:               Occupy Point: 9155
Northing: 1143387.277878USft          Easting: 618991.388764USft
Elevation: 221.923332USft    Description: NS
 1471  Note:                    HR:5.23 (5.23 + 0.0 Offset)
 1472  Line of Sight (HI/HR):   Height of Instrument: 4.87USft
Height of Rod: 5.23USft
 1473  Backsight:               Occupy Point: 9155
Backsight Point: 9147                 Backsight Azimuth: 82.480763      Backsight
Circle: 0.0000
 1474  Note:                    Fixed HR at Backsight:5.23 (5.23 + 0.0 Offset),
Prism Const.:0.0mm
 1475  Note:                    BS check 9155 - 9147:ZE87.5325,SD324.22,HD err=
0.000225, VD err= -0.01729
 1476  Note:                    BS Circle check : angular err= 0.0000
 1477  Note:                    BS check 9155 - 9147:ZE87.5328,SD324.222,HD err=
```

0.002398, VD err= -0.021929
 1478 Note: BS Circle check : angular err= 0.0000
 1479 Note: BS check 9155 - 9147:ZE87.5321,SD324.224,HD err=
0.003991, VD err= -0.01086
 1480 Note: BS Circle check : angular err= 0.0000
 1481 Side Shot: Occupy Point: 9155
Foresight Point: 9175   Angle Right: 0.0000   Zenith
Angle: 87.5321   Slope Distance: 324.224USft   Description: CHK9147
 1482 Note: Date: 09-11-2004 Time: 09:57:32
 1483 Note: Foresight Target:My Prism, HR:4.9 (4.9 + 0.0
Offset), Prism Const.:0.0mm
 1484 Occupy Pt: Occupy Point: 9155
Northing: 1143387.277878USft   Easting: 618991.388764USft
Elevation: 221.923332USft   Description: NS
 1485 Note: HR:4.9 (4.9 + 0.0 Offset)
 1486 Line of Sight (HI/HR): Height of Instrument: 4.87USft
Height of Rod: 4.9USft
 1487 Backsight: Occupy Point: 9155
Backsight Point: 9147   Backsight Azimuth: 82.480763   Backsight
Circle: 0.0000
 1488 Note: Fixed HR at Backsight:5.23 (5.23 + 0.0 Offset),
Prism Const.:0.0mm
 1489 Note: BS check 9155 - 9147:ZE87.5320,SD324.222,HD err=
0.001935, VD err= -0.009362
 1490 Note: BS Circle check : angular err= 0.0000
 1491 Repeat Directional: Backsight Direct
Set: 1   Angle: 0.0000
 1492 Repeat Directional: Backsight Reverse
Set: 1   Angle: 179.5957
 1493 Repeat Directional: Foresight Reverse
Set: 1   Angle: 316.2714
 1494 Repeat Directional: Zenith Reverse
Set: 1   Zenith: 269.0950
 1495 Multiple Distances: Set: 1
Slope Distance: 578.208USft
 1496 Repeat Foresight: Occupy Point: 9155
Foresight Point: 9176   Angle Right: 316.2714   Zenith
Angle: 269.0950   Slope Distance: 578.208USft   Height of Rod: 4.9USft
Description: NS
 1497 Repeat Directional: Foresight Direct
Set: 1   Angle: 136.2715
 1498 Repeat Directional: Zenith Direct
Set: 1   Zenith: 90.5017
 1499 Multiple Distances: Set: 1
Slope Distance: 578.22USft
 1500 Repeat Foresight: Occupy Point: 9155
Foresight Point: 9176   Angle Right: 136.2715   Zenith
Angle: 90.5017   Slope Distance: 578.22USft   Height of Rod: 4.9USft
Description: NS
 1501 Note: Horizontal Angle Error: 0.0002
 1502 Note: Zenith Angle Error: 0.0007
 1503 Note: Slope Distance Error: 0.012
 1504 Note: Horizontal Angle Error compares to the average:
0.0000
 1505 Note: Zenith Angle Error compares to the average:
0.0000
 1506 Note: Slope Distance Error compares to the average: 0.0
 1507 Side Shot: Occupy Point: 9155
Foresight Point: 9176   Angle Right: 136.2716   Zenith
Angle: 90.50135   Slope Distance: 578.214USft   Description: NS
 1508 Note: Foresight Target:My Prism, HR:4.96 (4.96 + 0.0
Offset), Prism Const.:0.0mm
 1509 Occupy Pt: Occupy Point: 9176
Northing: 1142939.602904USft   Easting: 618625.537442USft
Elevation: 213.446007USft   Description: NS
 1510 Note: HR:4.96 (4.96 + 0.0 Offset)
 1511 Line of Sight (HI/HR): Height of Instrument: 5.21USft

Height of Rod: 4.96USft
 1512 Backsight: Occupy Point: 9176
Backsight Point: 9155 Backsight Azimuth: 39.152363 Backsight
Circle: 0.0000
 1513 Note: Fixed HR at Backsight:4.96 (4.96 + 0.0 Offset),
Prism Const.:0.0mm
 1514 Note: Date: 09-11-2004 Time: 10:22:54
 1515 Note: BS check 9176 - 9155:ZE89.1127,SD578.208,HD err=
-0.001952, VD err= -0.061783
 1516 Note: BS Circle check : angular err= 0.0000
 1517 Note: BS check 9176 - 9155:ZE89.1117,SD578.212,HD err=
0.001651, VD err= -0.033697
 1518 Note: BS Circle check : angular err= 0.0000
 1519 Note: Foresight Target:My Prism, HR:4.94 (4.94 + 0.0
Offset), Prism Const.:0.0mm
 1520 Occupy Pt: Occupy Point: 9176
Northing: 1142939.602904USft Easting: 618625.537442USft
Elevation: 213.446007USft Description: NS
 1521 Note: HR:4.94 (4.94 + 0.0 Offset)
 1522 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 4.94USft
 1523 Backsight: Occupy Point: 9176
Backsight Point: 9155 Backsight Azimuth: 39.152363 Backsight
Circle: 0.0000
 1524 Note: Fixed HR at Backsight:4.94 (4.94 + 0.0 Offset),
Prism Const.:0.0mm
 1525 Note: BS check 9176 - 9155:ZE89.1117,SD578.208,HD err=
-0.002349, VD err= -0.013754
 1526 Note: BS Circle check : angular err= 0.0000
 1527 Side Shot: Occupy Point: 9176
Foresight Point: 9177 Angle Right: 0.0000 Zenith
Angle: 89.1118 Slope Distance: 578.206USft Description: CHK9155
 1528 Note: Date: 09-11-2004 Time: 10:40:23
 1529 Store Point: Point Name: 9178
Northing: 1143166.202357USft Easting: 618284.598455USft
Elevation: 209.4289USft Description: PT9024/B-6014
 1530 Cut Sheet: Elevation: 209.4289USft
Design Grade: 0.0
 1531 Design Point/Location: Point Name: 9024
Northing: 1143166.2USft Easting: 618284.6USft
Elevation: 0.0USft Description: B-6014
 1532 Stakeout Deltas: Delta Northing: -0.002357USft
Delta Easting: 0.001545USft Delta Elevation: -209.4289USft
 1533 Stakeout: Occupy Point: 9176
Foresight Point: 9178 Angle Right: 264.2110 Zenith
Angle: 90.3600 Slope Distance: 409.396USft Description: PT9024/B-6014
 1534 Note: Date: 09-11-2004 Time: 10:55:27
 1535 Note: Foresight Target:My Prism, HR:5.0 (5.0 + 0.0
Offset), Prism Const.:0.0mm
 1536 Occupy Pt: Occupy Point: 9176
Northing: 1142939.602904USft Easting: 618625.537442USft
Elevation: 213.446007USft Description: NS
 1537 Note: HR:5.0 (5.0 + 0.0 Offset)
 1538 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 5.0USft
 1539 Backsight: Occupy Point: 9176
Backsight Point: 9155 Backsight Azimuth: 39.152363 Backsight
Circle: 0.0000
 1540 Note: Fixed HR at Backsight:4.94 (4.94 + 0.0 Offset),
Prism Const.:0.0mm
 1541 Note: BS check 9176 - 9155:ZE89.1127,SD578.206,HD err=
-0.003952, VD err= -0.041812
 1542 Note: BS Circle check : angular err= 0.0000
 1543 Note: BS check 9176 - 9155:ZE89.1121,SD578.21,HD err= -
0.00019, VD err= -0.024937
 1544 Note: BS Circle check : angular err= 0.0000
 1545 Repeat Directional: Backsight Direct

Set: 1 Angle: 0.0000
1546 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0001
1547 Repeat Directional: Foresight Reverse
Set: 1 Angle: 28.5404
1548 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 269.0050
1549 Multiple Distances: Set: 1
Slope Distance: 256.354USft
1550 Repeat Foresight: Occupy Point: 9176
Foresight Point: 9179 Angle Right: 28.5404 Zenith
Angle: 269.0050 Slope Distance: 256.354USft Height of Rod: 5.0USft
Description: NS
1551 Repeat Directional: Foresight Direct
Set: 1 Angle: 208.5404
1552 Repeat Directional: Zenith Direct
Set: 1 Zenith: 90.5928
1553 Multiple Distances: Set: 1
Slope Distance: 256.356USft
1554 Repeat Foresight: Occupy Point: 9176
Foresight Point: 9179 Angle Right: 208.5404 Zenith
Angle: 90.5928 Slope Distance: 256.356USft Height of Rod: 5.0USft
Description: NS
1555 Note: Horizontal Angle Error: 0.0001
1556 Note: Zenith Angle Error: 0.0018
1557 Note: Slope Distance Error: 0.002
1558 Note: Horizontal Angle Error compares to the average:
0.0000
1559 Note: Zenith Angle Error compares to the average:
0.0000
1560 Note: Slope Distance Error compares to the average: 0.0
1561 Side Shot: Occupy Point: 9176
Foresight Point: 9179 Angle Right: 208.54035 Zenith
Angle: 90.5919 Slope Distance: 256.355USft Description: NS
1562 Note: Foresight Target:My Prism, HR:4.89 (4.89 + 0.0
Offset), Prism Const.:0.0mm
1563 Occupy Pt: Occupy Point: 9179
Northing: 1142844.238719USft Easting: 618387.621502USft
Elevation: 209.232944USft Description: NS
1564 Note: HR:4.89 (4.89 + 0.0 Offset)
1565 Line of Sight (HI/HR): Height of Instrument: 5.24USft
Height of Rod: 4.89USft
1566 Backsight: Occupy Point: 9179
Backsight Point: 9176 Backsight Azimuth: 68.092713 Backsight
Circle: 0.0000
1567 Note: Fixed HR at Backsight:4.89 (4.89 + 0.0 Offset),
Prism Const.:0.0mm
1568 Note: BS check 9179 - 9176:ZE89.0807,SD256.35,HD err=
0.003965, VD err= 0.005689
1569 Note: BS Circle check : angular err= 0.0000
1570 Side Shot: Occupy Point: 9179
Foresight Point: 9180 Angle Right: 0.0000 Zenith
Angle: 89.0807 Slope Distance: 256.352USft Description: CHK9176
1571 Note: Date: 09-12-2004 Time: 03:46:52
1572 Note: Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
1573 Occupy Pt: Occupy Point: 9179
Northing: 1142844.238719USft Easting: 618387.621502USft
Elevation: 209.232944USft Description: NS
1574 Note: HR:5.22 (5.22 + 0.0 Offset)
1575 Line of Sight (HI/HR): Height of Instrument: 5.24USft
Height of Rod: 5.22USft
1576 Backsight: Occupy Point: 9179
Backsight Point: 9176 Backsight Azimuth: 68.092713 Backsight
Circle: 0.0000
1577 Note: Fixed HR at Backsight:4.89 (4.89 + 0.0 Offset),
Prism Const.:0.0mm

```
 1578  Note:                    BS check 9179 - 9176:ZE89.0805,SD256.346,HD err=
-0.000072, VD err= 0.008114
 1579  Note:                    BS Circle check : angular err= 0.0000
 1580  Repeat Directional:      Backsight Direct
Set: 1                              Angle: 0.0000
 1581  Repeat Directional:      Backsight Reverse
Set: 1                              Angle: 180.0001
 1582  Repeat Directional:      Foresight Reverse
Set: 1                              Angle: 29.3355
 1583  Repeat Directional:      Zenith Reverse
Set: 1                              Zenith: 273.3412
 1584  Multiple Distances:      Set: 1
Slope Distance: 425.196USft
 1585  Repeat Foresight:        Occupy Point: 9179
Foresight Point: 9181               Angle Right: 29.3355              Zenith
Angle: 273.3412       Slope Distance: 425.196USft     Height of Rod: 5.22USft
Description: NS
 1586  Repeat Directional:      Foresight Direct
Set: 1                              Angle: 209.3400
 1587  Repeat Directional:      Zenith Direct
Set: 1                              Zenith: 86.2556
 1588  Multiple Distances:      Set: 1
Slope Distance: 425.202USft
 1589  Repeat Foresight:        Occupy Point: 9179
Foresight Point: 9181               Angle Right: 209.3400             Zenith
Angle: 86.2556        Slope Distance: 425.202USft     Height of Rod: 5.22USft
Description: NS
 1590  Note:                    Horizontal Angle Error: 0.0006
 1591  Note:                    Zenith Angle Error: 0.0008
 1592  Note:                    Slope Distance Error: 0.006
 1593  Note:                    Horizontal Angle Error compares to the average:
0.0000
 1594  Note:                    Zenith Angle Error compares to the average:
0.0000
 1595  Note:                    Slope Distance Error compares to the average: 0.0
 1596  Side Shot:               Occupy Point: 9179
Foresight Point: 9181               Angle Right: 209.3357             Zenith
Angle: 86.2552        Slope Distance: 425.199USft     Description: NS
 1597  Note:                    Foresight Target:My Prism, HR:4.87 (4.87 + 0.0
Offset), Prism Const.:0.0mm
 1598  Occupy Pt:               Occupy Point: 9181
Northing: 1142901.270549USft        Easting: 617967.096826USft
Elevation: 235.720982USft    Description: NS
 1599  Note:                    HR:4.87 (4.87 + 0.0 Offset)
 1600  Line of Sight (HI/HR):   Height of Instrument: 5.25USft
Height of Rod: 4.87USft
 1601  Backsight:               Occupy Point: 9181
Backsight Point: 9179               Backsight Azimuth: 97.432413      Backsight
Circle: 0.0000
 1602  Note:                    Fixed HR at Backsight:4.87 (4.87 + 0.0 Offset),
Prism Const.:0.0mm
 1603  Note:                    BS check 9181 - 9179:ZE93.3726,SD425.228,HD err=
0.003339, VD err= -0.009191
 1604  Note:                    BS Circle check : angular err= 0.0000
 1605  Side Shot:               Occupy Point: 9181
Foresight Point: 9182               Angle Right: 0.0000               Zenith
Angle: 93.3727        Slope Distance: 425.228USft     Description: CHK9179
 1606  Note:                    Foresight Target:My Prism, HR:5.3 (5.3 + 0.0
Offset), Prism Const.:0.0mm
 1607  Note:                    HR:5.3 (5.3 + 0.0 Offset)
 1608  Line of Sight (HI/HR):   Height of Instrument: 5.25USft
Height of Rod: 5.3USft
 1609  Repeat Directional:      Backsight Direct
Set: 1                              Angle: 0.0000
 1610  Repeat Directional:      Backsight Reverse
Set: 1                              Angle: 180.0001
 1611  Repeat Directional:      Foresight Reverse
```

Set: 1 Angle: 0.4946
1612 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 271.0028
1613 Multiple Distances: Set: 1
Slope Distance: 499.8USft
1614 Repeat Foresight: Occupy Point: 9181
Foresight Point: 9183 Angle Right: 0.4946 Zenith
Angle: 271.0028 Slope Distance: 499.8USft Height of Rod: 5.3USft
Description: NS
1615 Repeat Directional: Foresight Direct
Set: 1 Angle: 180.4949
1616 Repeat Directional: Zenith Direct
Set: 1 Zenith: 88.5938
1617 Multiple Distances: Set: 1
Slope Distance: 499.804USft
1618 Repeat Foresight: Occupy Point: 9181
Foresight Point: 9183 Angle Right: 180.4949 Zenith
Angle: 88.5938 Slope Distance: 499.804USft Height of Rod: 5.3USft
Description: NS
1619 Note: Horizontal Angle Error: 0.0004
1620 Note: Zenith Angle Error: 0.0006
1621 Note: Slope Distance Error: 0.004
1622 Note: Horizontal Angle Error compares to the average:
0.0000
1623 Note: Zenith Angle Error compares to the average:
0.0000
1624 Note: Slope Distance Error compares to the average: 0.0
1625 Side Shot: Occupy Point: 9181
Foresight Point: 9183 Angle Right: 180.4947 Zenith
Angle: 88.5935 Slope Distance: 499.802USft Description: NS
1626 Note: Date: 09-12-2004 Time: 04:15:25
1627 Note: Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
1628 Occupy Pt: Occupy Point: 9183
Northing: 1142975.592517USft Easting: 617472.929711USft
Elevation: 244.454298USft Description: NS
1629 Note: HR:5.14 (5.14 + 0.0 Offset)
1630 Line of Sight (HI/HR): Height of Instrument: 5.25USft
Height of Rod: 5.14USft
1631 Backsight: Occupy Point: 9183
Backsight Point: 9181 Backsight Azimuth: 98.331113 Backsight
Circle: 0.0000
1632 Note: Fixed HR at Backsight:5.14 (5.14 + 0.0 Offset),
Prism Const.:0.0mm
1633 Note: BS check 9183 - 9181:ZE91.0117,SD499.798,HD err=
-0.00623, VD err= -0.065911
1634 Note: BS Circle check : angular err= 0.0000
1635 Note: BS check 9183 - 9181:ZE91.0119,SD499.796,HD err=
-0.008316, VD err= -0.07072
1636 Note: BS Circle check : angular err= 0.0000
1637 Occupy Pt: Occupy Point: 9183
Northing: 1142975.592517USft Easting: 617472.929711USft
Elevation: 244.454298USft Description: NS
1638 Backsight: Occupy Point: 9183
Backsight Point: 9181 Backsight Azimuth: 98.331113 Backsight
Circle: 0.0000
1639 Note: Fixed HR at Backsight:0.0 (0.0 + 0.0 Offset),
Prism Const.:0.0mm
1640 Note: BS check 9183 - 9181:ZE91.0119,SD499.8,HD err= -
0.004316, VD err= 5.069208
1641 Note: BS Circle check : angular err= 0.0000
1642 Note: Foresight Target:My Prism, HR:5.07 (5.07 + 0.0
Offset), Prism Const.:0.0mm
1643 Occupy Pt: Occupy Point: 9183
Northing: 1142975.592517USft Easting: 617472.929711USft
Elevation: 244.454298USft Description: NS
1644 Note: HR:5.07 (5.07 + 0.0 Offset)

```
 1645  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.07USft
 1646  Backsight:              Occupy Point: 9183
Backsight Point: 9181               Backsight Azimuth: 98.331113      Backsight
Circle: 0.0000
 1647  Note:                   Fixed HR at Backsight:5.07 (5.07 + 0.0 Offset),
Prism Const.:0.0mm
 1648  Note:                   BS check 9183 - 9181:ZE91.0114,SD499.802,HD err=
-0.002101, VD err= 0.011286
 1649  Note:                   BS Circle check : angular err= 0.0000
 1650  Note:                   Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
 1651  Occupy Pt:              Occupy Point: 9183
Northing: 1142975.592517USft        Easting: 617472.929711USft
Elevation: 244.454298USft    Description: NS
 1652  Note:                   HR:5.08 (5.08 + 0.0 Offset)
 1653  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.08USft
 1654  Backsight:              Occupy Point: 9183
Backsight Point: 9181               Backsight Azimuth: 98.331113      Backsight
Circle: 0.0000
 1655  Note:                   Fixed HR at Backsight:5.08 (5.08 + 0.0 Offset),
Prism Const.:0.0mm
 1656  Note:                   BS check 9183 - 9181:ZE91.0119,SD499.8,HD err= -
0.004316, VD err= -0.010792
 1657  Note:                   BS Circle check : angular err= 0.0000
 1658  Note:                   BS check 9183 - 9181:ZE91.0119,SD499.798,HD err=
-0.006316, VD err= -0.010756
 1659  Note:                   BS Circle check : angular err= 0.0000
 1660  Side Shot:              Occupy Point: 9183
Foresight Point: 9184               Angle Right: 0.0000               Zenith
Angle: 91.0119        Slope Distance: 499.8USft       Description: CHK9181
 1661  Store Point:            Point Name: 9185
Northing: 1143164.660811USft        Easting: 617237.521844USft
Elevation: 250.973794USft    Description: PT9023/B-6013
 1662  Cut Sheet:              Elevation: 250.973794USft
Design Grade: 0.0
 1663  Design Point/Location:  Point Name: 9023
Northing: 1143166.2USft             Easting: 617237.0USft
Elevation: 0.0USft           Description: B-6013
 1664  Stakeout Deltas:        Delta Northing: 1.539189USft
Delta Easting: -0.521844USft        Delta Elevation: -250.973794USft
 1665  Stakeout:               Occupy Point: 9183
Foresight Point: 9185               Angle Right: 210.1300             Zenith
Angle: 88.4743        Slope Distance: 302.0USft       Description: PT9023/B-6013
 1666  Occupy Pt:              Occupy Point: 9183
Northing: 1142975.592517USft        Easting: 617472.929711USft
Elevation: 244.454298USft    Description: NS
 1667  Backsight:              Occupy Point: 9183
Backsight Point: 9181               Backsight Azimuth: 98.331113      Backsight
Circle: 0.0000
 1668  Note:                   Fixed HR at Backsight:5.08 (5.08 + 0.0 Offset),
Prism Const.:0.0mm
 1669  Note:                   Date: 09-12-2004  Time: 04:37:28
 1670  Note:                   BS check 9183 - 9181:ZE91.0115,SD499.804,HD err=
-0.000144, VD err= -0.001172
 1671  Note:                   BS Circle check : angular err= 0.0000
 1672  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 1673  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 179.5956
 1674  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 179.5956
 1675  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 268.5846
 1676  Multiple Distances:     Set: 1
Slope Distance: 499.8USft
```

```
 1677  Repeat Foresight:       Occupy Point: 9183
Foresight Point: 9186                Angle Right: 179.5956             Zenith
Angle: 268.5846       Slope Distance: 499.8USft       Height of Rod: 5.08USft
Description: NS
 1678  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 359.5959
 1679  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 91.0119
 1680  Multiple Distances:     Set: 1
Slope Distance: 499.798USft
 1681  Repeat Foresight:       Occupy Point: 9183
Foresight Point: 9186                Angle Right: 359.5959             Zenith
Angle: 91.0119        Slope Distance: 499.798USft     Height of Rod: 5.08USft
Description: NS
 1682  Note:                   Horizontal Angle Error: 0.0001
 1683  Note:                   Zenith Angle Error: 0.0005
 1684  Note:                   Slope Distance Error: 0.002
 1685  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1686  Note:                   Zenith Angle Error compares to the average:
0.0000
 1687  Note:                   Slope Distance Error compares to the average: 0.0
 1688  Side Shot:              Occupy Point: 9183
Foresight Point: 9186                Angle Right: 359.59595            Zenith
Angle: 91.01165       Slope Distance: 499.799USft     Description: NS
 1689  Note:                   Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
 1690  Occupy Pt:              Occupy Point: 9186
Northing: 1142901.272522USft         Easting: 617967.091856USft
Elevation: 235.716265USft    Description: NS
 1691  Note:                   HR:5.14 (5.14 + 0.0 Offset)
 1692  Line of Sight (HI/HR):  Height of Instrument: 5.38USft
Height of Rod: 5.14USft
 1693  Backsight:              Occupy Point: 9186
Backsight Point: 9183                Backsight Azimuth: 278.331063     Backsight
Circle: 0.0000
 1694  Note:                   Fixed HR at Backsight:5.14 (5.14 + 0.0 Offset),
Prism Const.:0.0mm
 1695  Note:                   BS check 9186 - 9183:ZE89.0131,SD499.8,HD err=
0.008069, VD err= 0.00421
 1696  Note:                   BS Circle check : angular err= 0.0000
 1697  Side Shot:              Occupy Point: 9186
Foresight Point: 9187                Angle Right: 0.0000               Zenith
Angle: 89.0131        Slope Distance: 499.796USft     Description: CHK9183
 1698  Note:                   Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 1699  Note:                   HR:5.15 (5.15 + 0.0 Offset)
 1700  Line of Sight (HI/HR):  Height of Instrument: 5.38USft
Height of Rod: 5.15USft
 1701  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 1702  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 179.5958
 1703  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 359.1007
 1704  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 266.2346
 1705  Multiple Distances:     Set: 1
Slope Distance: 425.226USft
 1706  Repeat Foresight:       Occupy Point: 9186
Foresight Point: 9188                Angle Right: 359.1007             Zenith
Angle: 266.2346       Slope Distance: 425.226USft     Height of Rod: 5.15USft
Description: NS
 1707  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 179.1007
 1708  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 93.3614
```

```
 1709  Multiple Distances:     Set: 1
Slope Distance: 425.226USft
 1710  Repeat Foresight:       Occupy Point: 9186
Foresight Point: 9188               Angle Right: 179.1007             Zenith
Angle: 93.3614        Slope Distance: 425.226USft     Height of Rod: 5.15USft
Description: NS
 1711  Note:                   Horizontal Angle Error: 0.0002
 1712  Note:                   Zenith Angle Error: 0.0000
 1713  Note:                   Slope Distance Error: 0.0
 1714  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1715  Note:                   Zenith Angle Error compares to the average:
0.0000
 1716  Note:                   Slope Distance Error compares to the average: 0.0
 1717  Side Shot:              Occupy Point: 9186
Foresight Point: 9188               Angle Right: 179.1008             Zenith
Angle: 93.3614        Slope Distance: 425.226USft     Description: NS
 1718  Note:                   Foresight Target:My Prism, HR:5.06 (5.06 + 0.0
Offset), Prism Const.:0.0mm
 1719  Occupy Pt:              Occupy Point: 9188
Northing: 1142844.250467USft        Easting: 618387.628654USft
Elevation: 209.217299USft    Description: NS
 1720  Note:                   HR:5.06 (5.06 + 0.0 Offset)
 1721  Line of Sight (HI/HR):  Height of Instrument: 5.07USft
Height of Rod: 5.06USft
 1722  Backsight:              Occupy Point: 9188
Backsight Point: 9186               Backsight Azimuth: 277.431863     Backsight
Circle: 0.0000
 1723  Note:                   Fixed HR at Backsight:5.06 (5.06 + 0.0 Offset),
Prism Const.:0.0mm
 1724  Note:                   BS check 9188 - 9186:ZE86.2556,SD425.198,HD err=
-0.011184, VD err= -0.02922
 1725  Note:                   BS Circle check : angular err= 0.0000
 1726  Note:                   BS check 9188 - 9186:ZE86.2556,SD425.202,HD err=
-0.007192, VD err= -0.028971
 1727  Note:                   BS Circle check : angular err= 0.0000
 1728  Note:                   BS check 9188 - 9186:ZE86.2556,SD425.202,HD err=
-0.007192, VD err= -0.028971
 1729  Note:                   BS Circle check : angular err= 0.0000
 1730  Note:                   BS check 9188 - 9186:ZE86.2554,SD425.204,HD err=
-0.005452, VD err= -0.024731
 1731  Note:                   BS Circle check : angular err= 0.0000
 1732  Note:                   Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
 1733  Occupy Pt:              Occupy Point: 9188
Northing: 1142844.250467USft        Easting: 618387.628654USft
Elevation: 209.217299USft    Description: NS
 1734  Note:                   HR:5.05 (5.05 + 0.0 Offset)
 1735  Line of Sight (HI/HR):  Height of Instrument: 5.08USft
Height of Rod: 5.05USft
 1736  Backsight:              Occupy Point: 9188
Backsight Point: 9186               Backsight Azimuth: 277.431863     Backsight
Circle: 0.0000
 1737  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 1738  Note:                   BS check 9188 - 9186:ZE86.2555,SD425.202,HD err=
-0.00732, VD err= -0.006913
 1739  Note:                   BS Circle check : angular err= 0.0000
 1740  Side Shot:              Occupy Point: 9188
Foresight Point: 9189               Angle Right: 0.0000               Zenith
Angle: 86.2555        Slope Distance: 425.204USft     Description: CHK9186
 1741  Note:                   Foresight Target:My Prism, HR:4.92 (4.92 + 0.0
Offset), Prism Const.:0.0mm
 1742  Note:                   HR:4.92 (4.92 + 0.0 Offset)
 1743  Line of Sight (HI/HR):  Height of Instrument: 5.08USft
Height of Rod: 4.92USft
 1744  Repeat Directional:     Backsight Direct
```

Set: 1 Angle: 0.0000
1745 Repeat Directional: Backsight Reverse
Set: 1 Angle: 179.5958
1746 Repeat Directional: Foresight Reverse
Set: 1 Angle: 330.2554
1747 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 270.5447
1748 Multiple Distances: Set: 1
Slope Distance: 256.35USft
1749 Repeat Foresight: Occupy Point: 9188
Foresight Point: 9190 Angle Right: 330.2554 Zenith
Angle: 270.5447 Slope Distance: 256.35USft Height of Rod: 4.92USft
Description: NS
1750 Repeat Directional: Foresight Direct
Set: 1 Angle: 150.2556
1751 Repeat Directional: Zenith Direct
Set: 1 Zenith: 89.0529
1752 Multiple Distances: Set: 1
Slope Distance: 256.35USft
1753 Repeat Foresight: Occupy Point: 9188
Foresight Point: 9190 Angle Right: 150.2556 Zenith
Angle: 89.0529 Slope Distance: 256.35USft Height of Rod: 4.92USft
Description: NS
1754 Note: Horizontal Angle Error: 0.0000
1755 Note: Zenith Angle Error: 0.0016
1756 Note: Slope Distance Error: 0.0
1757 Note: Horizontal Angle Error compares to the average:
0.0000
1758 Note: Zenith Angle Error compares to the average:
0.0000
1759 Note: Slope Distance Error compares to the average: 0.0
1760 Side Shot: Occupy Point: 9188
Foresight Point: 9190 Angle Right: 150.2556 Zenith
Angle: 89.0521 Slope Distance: 256.35USft Description: NS
1761 Note: Foresight Target:My Prism, HR:5.03 (5.03 + 0.0
Offset), Prism Const.:0.0mm
1762 Occupy Pt: Occupy Point: 9190
Northing: 1142939.629356USft Easting: 618625.539528USft
Elevation: 213.452334USft Description: NS
1763 Note: HR:5.03 (5.03 + 0.0 Offset)
1764 Line of Sight (HI/HR): Height of Instrument: 5.06USft
Height of Rod: 5.03USft
1765 Backsight: Occupy Point: 9190
Backsight Point: 9188 Backsight Azimuth: 248.091463 Backsight
Circle: 0.0000
1766 Note: Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset),
Prism Const.:0.0mm
1767 Note: BS check 9190 - 9188:ZE90.5654,SD256.352,HD err=
-0.000722, VD err= 0.022208
1768 Note: BS Circle check : angular err= 0.0000
1769 Note: BS check 9190 - 9188:ZE90.5706,SD256.356,HD err=
0.00303, VD err= 0.00723
1770 Note: BS Circle check : angular err= 0.0000
1771 Note: Date: 09-12-2004 Time: 05:18:16
1772 Side Shot: Occupy Point: 9190
Foresight Point: 9191 Angle Right: 0.0000 Zenith
Angle: 90.5707 Slope Distance: 256.354USft Description: CHK9188
1773 Note: Foresight Target:My Prism, HR:4.95 (4.95 + 0.0
Offset), Prism Const.:0.0mm
1774 Note: HR:4.95 (4.95 + 0.0 Offset)
1775 Line of Sight (HI/HR): Height of Instrument: 5.06USft
Height of Rod: 4.95USft
1776 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
1777 Repeat Directional: Backsight Reverse
Set: 1 Angle: 179.5958
1778 Repeat Directional: Foresight Reverse

Set: 1 Angle: 331.0537
1779 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 270.4939
1780 Multiple Distances: Set: 1
Slope Distance: 578.208USft
1781 Repeat Foresight: Occupy Point: 9190
Foresight Point: 9192 Angle Right: 331.0537 Zenith
Angle: 270.4939 Slope Distance: 578.208USft Height of Rod: 4.95USft
Description: NS
1782 Repeat Directional: Foresight Direct
Set: 1 Angle: 151.0540
1783 Repeat Directional: Zenith Direct
Set: 1 Zenith: 89.1034
1784 Multiple Distances: Set: 1
Slope Distance: 578.208USft
1785 Repeat Foresight: Occupy Point: 9190
Foresight Point: 9192 Angle Right: 151.0540 Zenith
Angle: 89.1034 Slope Distance: 578.208USft Height of Rod: 4.95USft
Description: NS
1786 Note: Horizontal Angle Error: 0.0001
1787 Note: Zenith Angle Error: 0.0013
1788 Note: Slope Distance Error: 0.0
1789 Note: Horizontal Angle Error compares to the average:
0.0000
1790 Note: Zenith Angle Error compares to the average:
0.0000
1791 Note: Slope Distance Error compares to the average: 0.0
1792 Side Shot: Occupy Point: 9190
Foresight Point: 9192 Angle Right: 151.05395 Zenith
Angle: 89.10275 Slope Distance: 578.208USft Description: NS
1793 Note: Foresight Target:My Prism, HR:4.99 (4.99 + 0.0
Offset), Prism Const.:0.0mm
1794 Occupy Pt: Occupy Point: 9192
Northing: 1143387.353295USft Easting: 618991.32408USft
Elevation: 221.894651USft Description: NS
1795 Note: HR:4.99 (4.99 + 0.0 Offset)
1796 Line of Sight (HI/HR): Height of Instrument: 4.98USft
Height of Rod: 4.99USft
1797 Backsight: Occupy Point: 9192
Backsight Point: 9190 Backsight Azimuth: 219.145413 Backsight
Circle: 0.0000
1798 Note: Fixed HR at Backsight:4.99 (4.99 + 0.0 Offset),
Prism Const.:0.0mm
1799 Note: BS check 9192 - 9190:ZE90.5020,SD578.208,HD err=
-0.001934, VD err= -0.033139
1800 Note: BS Circle check : angular err= 0.0000
1801 Note: BS check 9192 - 9190:ZE90.5021,SD578.208,HD err=
-0.001975, VD err= -0.035942
1802 Note: BS Circle check : angular err= 0.0000
1803 Note: Foresight Target:My Prism, HR:4.98 (4.98 + 0.0
Offset), Prism Const.:0.0mm
1804 Occupy Pt: Occupy Point: 9192
Northing: 1143387.353295USft Easting: 618991.32408USft
Elevation: 221.894651USft Description: NS
1805 Note: HR:4.98 (4.98 + 0.0 Offset)
1806 Line of Sight (HI/HR): Height of Instrument: 4.99USft
Height of Rod: 4.98USft
1807 Backsight: Occupy Point: 9192
Backsight Point: 9190 Backsight Azimuth: 219.145413 Backsight
Circle: 0.0000
1808 Note: Fixed HR at Backsight:4.98 (4.98 + 0.0 Offset),
Prism Const.:0.0mm
1809 Note: BS check 9192 - 9190:ZE90.5023,SD578.208,HD err=
-0.002057, VD err= -0.021548
1810 Note: BS Circle check : angular err= 0.0000
1811 Side Shot: Occupy Point: 9192
Foresight Point: 9193 Angle Right: 0.0000 Zenith

Angle: 90.5023 Slope Distance: 578.208USft Description: CHK9190
1812 Note: Foresight Target:My Prism, HR:5.35 (5.35 + 0.0 Offset), Prism Const.:0.0mm
1813 Note: HR:5.35 (5.35 + 0.0 Offset)
1814 Line of Sight (HI/HR): Height of Instrument: 4.99USft Height of Rod: 5.35USft
1815 Repeat Directional: Backsight Direct Set: 1 Angle: 0.0000
1816 Repeat Directional: Backsight Reverse Set: 1 Angle: 179.5959
1817 Repeat Directional: Foresight Reverse Set: 1 Angle: 43.3225
1818 Repeat Directional: Zenith Reverse Set: 1 Zenith: 272.0704
1819 Multiple Distances: Set: 1 Slope Distance: 324.224USft
1820 Repeat Foresight: Occupy Point: 9192 Foresight Point: 9194 Angle Right: 43.3225 Zenith Angle: 272.0704 Slope Distance: 324.224USft Height of Rod: 5.35USft Description: NS
1821 Repeat Directional: Foresight Direct Set: 1 Angle: 223.3228
1822 Repeat Directional: Zenith Direct Set: 1 Zenith: 87.5309
1823 Multiple Distances: Set: 1 Slope Distance: 324.228USft
1824 Repeat Foresight: Occupy Point: 9192 Foresight Point: 9194 Angle Right: 223.3228 Zenith Angle: 87.5309 Slope Distance: 324.228USft Height of Rod: 5.35USft Description: NS
1825 Note: Horizontal Angle Error: 0.0002
1826 Note: Zenith Angle Error: 0.0013
1827 Note: Slope Distance Error: 0.004
1828 Note: Horizontal Angle Error compares to the average: 0.0000
1829 Note: Zenith Angle Error compares to the average: 0.0000
1830 Note: Slope Distance Error compares to the average: 0.0
1831 Side Shot: Occupy Point: 9192 Foresight Point: 9194 Angle Right: 223.3227 Zenith Angle: 87.53025 Slope Distance: 324.226USft Description: NS
1832 Note: Foresight Target:My Prism, HR:4.59 (4.59 + 0.0 Offset), Prism Const.:0.0mm
1833 Occupy Pt: Occupy Point: 9194 Northing: 1143428.022457USft Easting: 619312.766469USft Elevation: 233.505817USft Description: NS
1834 Note: HR:4.59 (4.59 + 0.0 Offset)
1835 Line of Sight (HI/HR): Height of Instrument: 5.37USft Height of Rod: 4.59USft
1836 Backsight: Occupy Point: 9194 Backsight Point: 9192 Backsight Azimuth: 262.472113 Backsight Circle: 0.0000
1837 Note: Fixed HR at Backsight:4.59 (4.59 + 0.0 Offset), Prism Const.:0.0mm
1838 Note: BS check 9194 - 9192:ZE92.1134,SD324.232,HD err= -0.010343, VD err= -0.01455
1839 Note: BS Circle check : angular err= 0.0000
1840 Side Shot: Occupy Point: 9194 Foresight Point: 9195 Angle Right: 0.0000 Zenith Angle: 92.1133 Slope Distance: 324.232USft Description: CHK9192
1841 Note: Foresight Target:My Prism, HR:5.34 (5.34 + 0.0 Offset), Prism Const.:0.0mm
1842 Note: HR:5.34 (5.34 + 0.0 Offset)
1843 Line of Sight (HI/HR): Height of Instrument: 5.37USft Height of Rod: 5.34USft
1844 Occupy Pt: Occupy Point: 9194 Northing: 1143428.022457USft Easting: 619312.766469USft

```
Elevation: 233.505817USft    Description: NS
 1845  Backsight:              Occupy Point: 9194
Backsight Point: 9192               Backsight Azimuth: 262.472113     Backsight
Circle: 0.0000
 1846  Note:                   Fixed HR at Backsight:4.59 (4.59 + 0.0 Offset),
Prism Const.:0.0mm
 1847  Note:                   BS check 9194 - 9192:ZE92.1134,SD324.234,HD err=
-0.008344, VD err= -0.014627
 1848  Note:                   BS Circle check : angular err= 0.0000
 1849  Note:                   RD,BD 1:0.0001
 1850  Note:                   RD,BV 1:180.0000
 1851  Note:                   RD,FV 1:180.0000
 1852  Note:                   RD,ZV 1:
 1853  Note:                   MD,SD 1:
 1854  Note:                   RF,OP9194,FP,AR180.0000,ZE,SD,HR5.34,--
 1855  Note:                   RD,FD 1:0.0000
 1856  Note:                   RD,ZD 1:
 1857  Note:                   MD,SD 1:
 1858  Note:                   RF,OP9194,FP,AR0.0000,ZE,SD,HR5.34,--
 1859  Note:                   Horizontal Angle Error: 0.0000
 1860  Note:                   Zenith Angle Error: 0.0000
 1861  Note:                   Date: 09-12-2004  Time: 05:53:39
 1862  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 1863  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0000
 1864  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 55.0019
 1865  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 271.5421
 1866  Multiple Distances:     Set: 1
Slope Distance: 409.908USft
 1867  Repeat Foresight:       Occupy Point: 9194
Foresight Point: 9196               Angle Right: 55.0019              Zenith
Angle: 271.5421       Slope Distance: 409.908USft     Height of Rod: 5.34USft
Description: NS
 1868  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 235.0021
 1869  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 88.0549
 1870  Multiple Distances:     Set: 1
Slope Distance: 409.914USft
 1871  Repeat Foresight:       Occupy Point: 9194
Foresight Point: 9196               Angle Right: 235.0021             Zenith
Angle: 88.0549        Slope Distance: 409.914USft     Height of Rod: 5.34USft
Description: NS
 1872  Note:                   Horizontal Angle Error: 0.0002
 1873  Note:                   Zenith Angle Error: 0.0010
 1874  Note:                   Slope Distance Error: 0.006
 1875  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1876  Note:                   Zenith Angle Error compares to the average:
0.0000
 1877  Note:                   Slope Distance Error compares to the average: 0.0
 1878  Side Shot:              Occupy Point: 9194
Foresight Point: 9196               Angle Right: 235.0020             Zenith
Angle: 88.0544        Slope Distance: 409.911USft     Description: NS
 1879  Store Point:            Point Name: 11
Northing: 1142637.0645USft          Easting: 621899.1089USft
Elevation: 218.904USft       Description: #4RS
 1880  Store Point:            Point Name: 14
Northing: 1143261.7065USft          Easting: 621997.1521USft
Elevation: 222.513USft       Description: #4RS
 1881  Note:                   Date: 09-12-2004  Time: 06:20:50
 1882  Note:                   Date: 09-15-2004  Time: 05:57:48
 1883  Note:                   Date: 09-15-2004  Time: 06:20:39
 1884  Note:                   Data Collector Serial Number: FS29A13023
```

```
 1885  Note:                    Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 1886  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1887  Note:                    Date: 03-19-2007  Time: 08:19:42
 1888  Note:                    Data Collector Serial Number: FS29A13023
 1889  Note:                    Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 1890  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1891  Note:                    Date: 03-19-2007  Time: 08:28:49
 1892  Note:                    Data Collector Serial Number: FS29A13023
 1893  Note:                    Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 1894  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1895  Note:                    Date: 03-19-2007  Time: 10:30:20
 1896  Note:                    Data Collector Serial Number: FS29A13023
 1897  Note:                    Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 1898  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1899  Note:                    Date: 03-19-2007  Time: 11:04:45
 1900  Note:                    Data Collector Serial Number: FS29A13023
 1901  Note:                    Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 1902  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1903  Note:                    Date: 03-19-2007  Time: 11:11:41
 1904  Note:                    Data Collector Serial Number: FS29A13023
 1905  Note:                    Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 1906  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1907  Note:                    Date: 03-19-2007  Time: 11:18:28
 1908  Note:                    Date: 03-19-2007  Time: 11:33:39
 1909  Store Point:             Point Name: 138
Northing: 1141751.738USft             Easting: 621609.113USft
Elevation: 222.427USft         Description: NS
 1910  Store Point:             Point Name: 139
Northing: 1141590.457USft             Easting: 621869.605USft
Elevation: 222.95USft          Description: NS
 1911  Store Point:             Point Name: 146
Northing: 1143007.533USft             Easting: 621001.779USft
Elevation: 221.616USft         Description: NS
 1912  Store Point:             Point Name: 172
Northing: 1144830.997USft             Easting: 621990.458USft
Elevation: 238.886USft         Description: NS
 1913  Store Point:             Point Name: 174
Northing: 1144346.12USft              Easting: 622018.031USft
Elevation: 273.506USft         Description: NS
 1914  Store Point:             Point Name: 178
Northing: 1144354.112USft             Easting: 621822.116USft
Elevation: 282.445USft         Description: NS
 1915  Store Point:             Point Name: 180
Northing: 1144184.012USft             Easting: 621523.241USft
Elevation: 276.493USft         Description: NS
 1916  Store Point:             Point Name: 183
Northing: 1144136.094USft             Easting: 621271.785USft
Elevation: 271.894USft         Description: NS
 1917  Store Point:             Point Name: 184
Northing: 1144064.615USft             Easting: 620895.169USft
Elevation: 265.813USft         Description: NS
 1918  Store Point:             Point Name: 190
Northing: 1144011.645USft             Easting: 620527.581USft
Elevation: 265.239USft         Description: NS
 1919  Note:                    Date: 03-19-2007  Time: 11:48:43
```

```
 1920  Note:                    Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 1921  Occupy Pt:               Occupy Point: 139
Northing: 1141590.457USft             Easting: 621869.605USft
Elevation: 222.95USft        Description: NS
 1922  Note:                    HR:5.15 (5.15 + 0.0 Offset)
 1923  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 5.15USft
 1924  Backsight:               Occupy Point: 139
Backsight Point: 9                    Backsight Azimuth: 11.401267      Backsight
Circle: 0.0000
 1925  Note:                    Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 1926  Note:                    BS check 139 - 9:ZE90.3025,SD452.884,HD err= -
0.02051, VD err= -0.346597
 1927  Note:                    BS Circle check : angular err= 0.0000
 1928  Occupy Pt:               Occupy Point: 139
Northing: 1141590.457USft             Easting: 621869.605USft
Elevation: 222.95USft        Description: NS
 1929  Backsight:               Occupy Point: 139
Backsight Point: 10                   Backsight Azimuth: 61.503217      Backsight
Circle: 0.0000
 1930  Note:                    Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 1931  Store Point:             Point Name: 9
Northing: 1142033.9818USft            Easting: 621961.2139USft
Elevation: 218.933USft       Description: PKNS
 1932  Occupy Pt:               Occupy Point: 139
Northing: 1141590.457USft             Easting: 621869.605USft
Elevation: 222.95USft        Description: NS
 1933  Backsight:               Occupy Point: 139
Backsight Point: 9                    Backsight Azimuth: 11.401267      Backsight
Circle: 0.0000
 1934  Note:                    Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 1935  Note:                    BS check 139 - 9:ZE90.3025,SD452.876,HD err= -
0.02851, VD err= 0.000074
 1936  Note:                    BS Circle check : angular err= 0.0000
 1937  Side Shot:               Occupy Point: 139
Foresight Point: 220                  Angle Right: 0.0000               Zenith
Angle: 90.3026        Slope Distance: 452.882USft     Description: CHK9
 1938  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1939  Note:                    HR:4.97 (4.97 + 0.0 Offset)
 1940  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 4.97USft
 1941  Side Shot:               Occupy Point: 139
Foresight Point: 221                  Angle Right: 188.3900             Zenith
Angle: 90.2254        Slope Distance: 460.97USft      Description: B-3032
 1942  Side Shot:               Occupy Point: 139
Foresight Point: 222                  Angle Right: 181.4540             Zenith
Angle: 90.1909        Slope Distance: 332.672USft     Description: C-3005
 1943  Side Shot:               Occupy Point: 139
Foresight Point: 223                  Angle Right: 208.0852             Zenith
Angle: 90.1218        Slope Distance: 241.114USft     Description: B-3033
 1944  Note:                    Date: 03-19-2007  Time: 12:03:47
 1945  Side Shot:               Occupy Point: 139
Foresight Point: 224                  Angle Right: 220.2633             Zenith
Angle: 89.5411        Slope Distance: 78.906USft      Description: C-3004
 1946  Side Shot:               Occupy Point: 139
Foresight Point: 225                  Angle Right: 155.0153             Zenith
Angle: 89.3249        Slope Distance: 195.954USft     Description: B-3034
 1947  Note:                    Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 1948  Note:                    HR:5.15 (5.15 + 0.0 Offset)
 1949  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 5.15USft
```

```
 1950  Side Shot:              Occupy Point: 139
Foresight Point: 226                 Angle Right: 359.5958             Zenith
Angle: 90.3024        Slope Distance: 452.878USft     Description: CHK9
 1951  Occupy Pt:              Occupy Point: 138
Northing: 1141751.738USft            Easting: 621609.113USft
Elevation: 222.427USft       Description: NS
 1952  Note:                   HR:5.15 (5.15 + 0.0 Offset)
 1953  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.15USft
 1954  Backsight:              Occupy Point: 138
Backsight Point: 9                   Backsight Azimuth: 51.170371      Backsight
Circle: 0.0000
 1955  Note:                   Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 1956  Note:                   BS check 138 - 9:ZE90.2729,SD451.25,HD err= -
0.025549, VD err= -0.013515
 1957  Note:                   BS Circle check : angular err= 0.0000
 1958  Side Shot:              Occupy Point: 138
Foresight Point: 227                 Angle Right: 0.0000               Zenith
Angle: 90.2729        Slope Distance: 451.25USft      Description: CHK9
 1959  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 1960  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 1961  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 4.97USft
 1962  Side Shot:              Occupy Point: 138
Foresight Point: 228                 Angle Right: 53.5519              Zenith
Angle: 90.1224        Slope Distance: 197.472USft     Description: B-3030ALT
 1963  Side Shot:              Occupy Point: 138
Foresight Point: 229                 Angle Right: 32.4607              Zenith
Angle: 90.2329        Slope Distance: 193.558USft     Description: C-3003
 1964  Side Shot:              Occupy Point: 138
Foresight Point: 230                 Angle Right: 5.0231               Zenith
Angle: 90.3754        Slope Distance: 234.054USft     Description: B-3029
 1965  Side Shot:              Occupy Point: 138
Foresight Point: 231                 Angle Right: 282.0145             Zenith
Angle: 90.4541        Slope Distance: 146.892USft     Description: B-3038
 1966  Note:                   Date: 03-19-2007  Time: 12:25:21
 1967  Side Shot:              Occupy Point: 138
Foresight Point: 232                 Angle Right: 248.4132             Zenith
Angle: 90.3824        Slope Distance: 231.312USft     Description: B-3028ALT
 1968  Side Shot:              Occupy Point: 138
Foresight Point: 233                 Angle Right: 277.3117             Zenith
Angle: 90.3727        Slope Distance: 358.852USft     Description: B-3027ALT
 1969  Note:                   Date: 03-19-2007  Time: 12:43:40
 1970  Occupy Pt:              Occupy Point: 138
Northing: 1141751.738USft            Easting: 621609.113USft
Elevation: 222.427USft       Description: NS
 1971  Backsight:              Occupy Point: 138
Backsight Point: 9                   Backsight Azimuth: 51.170371      Backsight
Circle: 0.0000
 1972  Note:                   Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 1973  Note:                   BS check 138 - 9:ZE90.2738,SD451.25,HD err= -
0.025707, VD err= -0.033204
 1974  Note:                   BS Circle check : angular err= 0.0000
 1975  Note:                   BS check 138 - 9:ZE90.2736,SD451.25,HD err= -
0.025672, VD err= -0.028828
 1976  Note:                   BS Circle check : angular err= 0.0000
 1977  Note:                   Foresight Target:My Prism, HR:5.16 (5.16 + 0.0
Offset), Prism Const.:0.0mm
 1978  Occupy Pt:              Occupy Point: 138
Northing: 1141751.738USft            Easting: 621609.113USft
Elevation: 222.427USft       Description: NS
 1979  Note:                   HR:5.16 (5.16 + 0.0 Offset)
 1980  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.16USft
```

```
 1981  Backsight:              Occupy Point: 138
Backsight Point: 9                    Backsight Azimuth: 51.170371      Backsight
Circle: 0.0000
 1982  Note:                   Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 1983  Note:                   BS check 138 - 9:ZE90.2735,SD451.244,HD err= -
0.031654, VD err= -0.026592
 1984  Note:                   BS Circle check : angular err= 0.0000
 1985  Repeat Directional:     Backsight Direct
Set: 1                                Angle: 0.0000
 1986  Repeat Directional:     Backsight Reverse
Set: 1                                Angle: 180.0005
 1987  Repeat Directional:     Foresight Reverse
Set: 1                                Angle: 39.0302
 1988  Repeat Directional:     Zenith Reverse
Set: 1                                Zenith: 269.5715
 1989  Multiple Distances:     Set: 1
Slope Distance: 924.502USft
 1990  Repeat Foresight:       Occupy Point: 138
Foresight Point: 234                  Angle Right: 39.0302              Zenith
Angle: 269.5715       Slope Distance: 924.502USft     Height of Rod: 5.16USft
Description: NS
 1991  Repeat Directional:     Foresight Direct
Set: 1                                Angle: 219.0300
 1992  Repeat Directional:     Zenith Direct
Set: 1                                Zenith: 90.0254
 1993  Multiple Distances:     Set: 1
Slope Distance: 924.518USft
 1994  Repeat Foresight:       Occupy Point: 138
Foresight Point: 234                  Angle Right: 219.0300             Zenith
Angle: 90.0254        Slope Distance: 924.518USft     Height of Rod: 5.16USft
Description: NS
 1995  Note:                   Horizontal Angle Error: 0.0003
 1996  Note:                   Zenith Angle Error: 0.0009
 1997  Note:                   Slope Distance Error: 0.016
 1998  Note:                   Horizontal Angle Error compares to the average:
0.0000
 1999  Note:                   Zenith Angle Error compares to the average:
0.0000
 2000  Note:                   Slope Distance Error compares to the average: 0.0
 2001  Side Shot:              Occupy Point: 138
Foresight Point: 234                  Angle Right: 219.02585            Zenith
Angle: 90.02495       Slope Distance: 924.51USft      Description: NS
 2002  Occupy Pt:              Occupy Point: 234
Northing: 1141757.126471USft          Easting: 620684.619016USft
Elevation: 221.757275USft    Description: NS
 2003  Note:                   HR:5.16 (5.16 + 0.0 Offset)
 2004  Line of Sight (HI/HR):  Height of Instrument: 0.0USft
Height of Rod: 5.16USft
 2005  Backsight:              Occupy Point: 234
Backsight Point: 138                  Backsight Azimuth: 90.200221      Backsight
Circle: 0.0000
 2006  Note:                   Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
 2007  Note:                   BS check 234 - 138:ZE89.5815,SD924.502,HD err= -
0.007808, VD err= -5.359103
 2008  Note:                   BS Circle check : angular err= 0.0000
 2009  Occupy Pt:              Occupy Point: 234
Northing: 1141757.126471USft          Easting: 620684.619016USft
Elevation: 221.757275USft    Description: NS
 2010  Note:                   HR:5.16 (5.16 + 0.0 Offset)
 2011  Line of Sight (HI/HR):  Height of Instrument: 5.36USft
Height of Rod: 5.16USft
 2012  Backsight:              Occupy Point: 234
Backsight Point: 138                  Backsight Azimuth: 90.200221      Backsight
Circle: 0.0000
 2013  Note:                   Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
```

Prism Const.:0.0mm
 2014 Note: BS check 234 - 138:ZE89.5815,SD924.504,HD err= -
0.005808, VD err= 0.000898
 2015 Note: BS Circle check : angular err= 0.0000
 2016 Occupy Pt: Occupy Point: 234
Northing: 1141757.126471USft   Easting: 620684.619016USft
Elevation: 221.757275USft   Description: NS
 2017 Note: HR:5.16 (5.16 + 0.0 Offset)
 2018 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 5.16USft
 2019 Backsight: Occupy Point: 234
Backsight Point: 138   Backsight Azimuth: 90.200221   Backsight
Circle: 0.0000
 2020 Note: Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
 2021 Note: BS check 234 - 138:ZE89.5811,SD924.514,HD err=
0.004183, VD err= -0.051168
 2022 Note: BS Circle check : angular err= 0.0000
 2023 Note: BS check 234 - 138:ZE89.5811,SD924.51,HD err=
0.000183, VD err= -0.05117
 2024 Note: BS Circle check : angular err= 0.0000
 2025 Note: Date: 03-19-2007 Time: 13:08:08
 2026 Remote Elevation: Occupy Point: 234
Foresight Elevation: 222.427USft   Zenith Angle: 89.5810   Slope
Distance: 924.5USft   Description: Remote elev
 2027 Store Point: Point Name: 234
Northing: 1141757.126471USft   Easting: 620684.619016USft
Elevation: 221.803969USft   Description: NS
 2028 Occupy Pt: Occupy Point: 234
Northing: 1141757.126471USft   Easting: 620684.619016USft
Elevation: 221.803969USft   Description: NS
 2029 Backsight: Occupy Point: 234
Backsight Point: 138   Backsight Azimuth: 90.200221   Backsight
Circle: 0.0000
 2030 Note: Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
 2031 Note: BS check 234 - 138:ZE89.5809,SD924.51,HD err=
0.000178, VD err= 0.004487
 2032 Note: BS Circle check : angular err= 0.0000
 2033 Side Shot: Occupy Point: 234
Foresight Point: 235   Angle Right: 0.0000   Zenith
Angle: 89.5809   Slope Distance: 924.508USft   Description: CHK138
 2034 Store Point: Point Name: 127
Northing: 1142587.892USft   Easting: 621125.933USft
Elevation: 218.695USft   Description: NS
 2035 Note: Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 2036 Note: HR:8.5 (8.5 + 0.0 Offset)
 2037 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 8.5USft
 2038 Store Point: Point Name: 236
Northing: 1142587.848022USft   Easting: 621125.873256USft
Elevation: 218.689736USft   Description: CHK127
 2039 Cut Sheet: Elevation: 218.689736USft
Design Grade: 218.695
 2040 Design Point/Location: Point Name: 127
Northing: 1142587.892USft   Easting: 621125.933USft
Elevation: 218.695USft   Description: NS
 2041 Stakeout Deltas: Delta Northing: 0.043978USft
Delta Easting: 0.059744USft   Delta Elevation: 0.005264USft
 2042 Stakeout: Occupy Point: 234
Foresight Point: 236   Angle Right: 297.3831   Zenith
Angle: 89.5939   Slope Distance: 940.64USft   Description: CHK127
 2043 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2044 Note: Foresight Target:My Prism, HR:5.04 (5.04 + 0.0
Offset), Prism Const.:0.0mm

2045 Note: HR:5.04 (5.04 + 0.0 Offset)
2046 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 5.04USft
2047 Off Center Shot: Angle Right: 80.1011
Zenith Angle: 89.4724 Slope Distance: 81.63USft
2048 Off Center Shot: Left/Right Offset: -0.4USft
Description: Left / Right Offset
2049 Side Shot: Occupy Point: 234
Foresight Point: 237 Angle Right: 79.532027 Zenith
Angle: 89.472401 Slope Distance: 81.63098USft Description: B-4030
2050 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2051 Note: Date: 03-19-2007 Time: 13:23:12
2052 Note: Foresight Target:My Prism, HR:5.02 (5.02 + 0.0
Offset), Prism Const.:0.0mm
2053 Note: HR:5.02 (5.02 + 0.0 Offset)
2054 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 5.02USft
2055 Side Shot: Occupy Point: 234
Foresight Point: 238 Angle Right: 310.3612 Zenith
Angle: 91.2621 Slope Distance: 36.428USft Description: C-4003
2056 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2057 Note: HR:4.97 (4.97 + 0.0 Offset)
2058 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 4.97USft
2059 Side Shot: Occupy Point: 234
Foresight Point: 239 Angle Right: 277.0507 Zenith
Angle: 90.5322 Slope Distance: 118.728USft Description: B-4029
2060 Side Shot: Occupy Point: 234
Foresight Point: 240 Angle Right: 246.3359 Zenith
Angle: 90.3532 Slope Distance: 246.876USft Description: B-4028
2061 Side Shot: Occupy Point: 234
Foresight Point: 241 Angle Right: 111.4625 Zenith
Angle: 90.3143 Slope Distance: 231.056USft Description: C-4004
2062 Note: Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
2063 Note: HR:8.5 (8.5 + 0.0 Offset)
2064 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 8.5USft
2065 Side Shot: Occupy Point: 234
Foresight Point: 242 Angle Right: 99.4800 Zenith
Angle: 89.5035 Slope Distance: 515.264USft Description: C-4005
2066 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2067 Note: HR:4.97 (4.97 + 0.0 Offset)
2068 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 4.97USft
2069 Side Shot: Occupy Point: 234
Foresight Point: 243 Angle Right: 262.4601 Zenith
Angle: 90.3527 Slope Distance: 426.026USft Description: B-4027
2070 Note: Date: 03-19-2007 Time: 13:38:16
2071 Note: Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
2072 Note: HR:8.5 (8.5 + 0.0 Offset)
2073 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 8.5USft
2074 Side Shot: Occupy Point: 234
Foresight Point: 244 Angle Right: 261.0234 Zenith
Angle: 89.4231 Slope Distance: 579.59USft Description: B-4026
2075 Note: Foresight Target:My Prism, HR:5.16 (5.16 + 0.0
Offset), Prism Const.:0.0mm
2076 Note: HR:5.16 (5.16 + 0.0 Offset)
2077 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 5.16USft
2078 Side Shot: Occupy Point: 234
Foresight Point: 245 Angle Right: 359.5956 Zenith

Angle: 89.5815 Slope Distance: 924.506USft Description: CHK138
2079 Note: Foresight Target:My Prism, HR:5.1 (5.1 + 0.0 Offset), Prism Const.:0.0mm
2080 Occupy Pt: Occupy Point: 127
Northing: 1142587.892USft Easting: 621125.933USft
Elevation: 218.695USft Description: NS
2081 Note: HR:5.1 (5.1 + 0.0 Offset)
2082 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 5.1USft
2083 Backsight: Occupy Point: 127
Backsight Point: 11 Backsight Azimuth: 86.21396 Backsight Circle: 0.0000
2084 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset), Prism Const.:0.0mm
2085 Note: BS check 127 - 11:ZE89.5926,SD774.714,HD err= -0.023971, VD err= -0.001299
2086 Note: BS Circle check : angular err= 0.0000
2087 Side Shot: Occupy Point: 127
Foresight Point: 246 Angle Right: 0.0000 Zenith Angle: 89.5926 Slope Distance: 774.714USft Description: CHK11
2088 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
2089 Note: HR:4.97 (4.97 + 0.0 Offset)
2090 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.97USft
2091 Side Shot: Occupy Point: 127
Foresight Point: 247 Angle Right: 76.4435 Zenith Angle: 90.3209 Slope Distance: 106.404USft Description: B-4009
2092 Off Center Shot: Angle Right: 93.3057
Zenith Angle: 90.2118 Slope Distance: 161.706USft
2093 Off Center Shot: Left/Right Offset: 1.0USft
Description: Left / Right Offset
2094 Side Shot: Occupy Point: 127
Foresight Point: 248 Angle Right: 93.521256 Zenith Angle: 90.211798 Slope Distance: 161.709092USft Description: B-4007
2095 Side Shot: Occupy Point: 127
Foresight Point: 249 Angle Right: 112.0209 Zenith Angle: 90.2420 Slope Distance: 314.094USft Description: B-1139
2096 Off Center Shot: Angle Right: 136.2650
Zenith Angle: 90.1240 Slope Distance: 223.47USft
2097 Off Center Shot: Left/Right Offset: 0.4USft
Description: Left / Right Offset
2098 Side Shot: Occupy Point: 127
Foresight Point: 250 Angle Right: 136.325921 Zenith Angle: 90.1240 Slope Distance: 223.470358USft Description: B-4008
2099 Note: Date: 03-19-2007 Time: 14:30:44
2100 Side Shot: Occupy Point: 127
Foresight Point: 251 Angle Right: 125.2358 Zenith Angle: 90.1016 Slope Distance: 150.788USft Description: B-4004
2101 Off Center Shot: Angle Right: 197.3442
Zenith Angle: 89.5012 Slope Distance: 55.096USft
2102 Off Center Shot: Left/Right Offset: -1.0USft
Description: Left / Right Offset
2103 Side Shot: Occupy Point: 127
Foresight Point: 252 Angle Right: 196.321866 Zenith Angle: 89.50121 Slope Distance: 55.105074USft Description: B-4002
2104 Side Shot: Occupy Point: 127
Foresight Point: 253 Angle Right: 194.3647 Zenith Angle: 89.5036 Slope Distance: 63.274USft Description: B-4002
2105 Off Center Shot: Angle Right: 189.3103
Zenith Angle: 90.0040 Slope Distance: 126.264USft
2106 Off Center Shot: Left/Right Offset: -1.3USft
Description: Left / Right Offset
2107 Side Shot: Occupy Point: 127
Foresight Point: 254 Angle Right: 188.55394 Zenith Angle: 90.0040 Slope Distance: 126.270692USft Description: B-4001
2108 Off Center Shot: Angle Right: 187.1639

Zenith Angle: 89.5831 Slope Distance: 199.17USft
2109 Off Center Shot: Left/Right Offset: -0.6USft
Description: Left / Right Offset
2110 Side Shot: Occupy Point: 127
Foresight Point: 255 Angle Right: 187.061763 Zenith
Angle: 89.5831 Slope Distance: 199.170904USft Description: B-4003
2111 Side Shot: Occupy Point: 127
Foresight Point: 256 Angle Right: 186.5640 Zenith
Angle: 90.0039 Slope Distance: 207.768USft Description: B-4001
2112 Store Point: Point Name: 253
Northing: 1142599.937077USft Easting: 621063.816293USft
Elevation: 219.078013USft Description: C-4002
2113 Store Point: Point Name: 256
Northing: 1142599.871671USft Easting: 620918.510658USft
Elevation: 218.865716USft Description: C-4001
2114 Side Shot: Occupy Point: 127
Foresight Point: 257 Angle Right: 174.4803 Zenith
Angle: 89.4710 Slope Distance: 506.922USft Description: B-4025
2115 Side Shot: Occupy Point: 127
Foresight Point: 258 Angle Right: 156.0044 Zenith
Angle: 90.1029 Slope Distance: 281.816USft Description: B-4036
2116 Note: Date: 03-19-2007 Time: 14:48:47
2117 Note: Date: 03-19-2007 Time: 15:04:20
2118 Note: Data Collector Serial Number: FS29A13023
2119 Note: Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
2120 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2121 Note: Date: 03-19-2007 Time: 15:07:34
2122 Store Point: Point Name: 3
Northing: 1142145.827458USft Easting: 623411.976968USft
Elevation: 217.609USft Description: NS
2123 Store Point: Point Name: 16
Northing: 1143915.652023USft Easting: 622548.992082USft
Elevation: 227.605USft Description: #4RS
2124 Store Point: Point Name: 18
Northing: 1144622.923533USft Easting: 622463.319738USft
Elevation: 225.711USft Description: #4RS
2125 Store Point: Point Name: 25
Northing: 1145943.143416USft Easting: 623027.630253USft
Elevation: 225.046USft Description: #4RS
2126 Store Point: Point Name: 27
Northing: 1146436.112429USft Easting: 623753.940518USft
Elevation: 252.762USft Description: #4RS
2127 Store Point: Point Name: 31
Northing: 1146254.522927USft Easting: 624077.098591USft
Elevation: 234.660538USft Description: #4RS
2128 Store Point: Point Name: 47
Northing: 1146777.088277USft Easting: 624448.979567USft
Elevation: 225.215USft Description: PT8006
2129 Store Point: Point Name: 49
Northing: 1146958.879421USft Easting: 624663.71069USft
Elevation: 224.622USft Description: #4RS
2130 Store Point: Point Name: 55
Northing: 1147209.558027USft Easting: 625062.184205USft
Elevation: 87.000934USft Description: B-1157
2131 Store Point: Point Name: 56
Northing: 1147170.57877USft Easting: 624938.821956USft
Elevation: 86.231014USft Description: B-1163
2132 Store Point: Point Name: 57
Northing: 1147234.910916USft Easting: 624815.030389USft
Elevation: 85.828875USft Description: B-1162
2133 Store Point: Point Name: 58
Northing: 1147390.34155USft Easting: 624936.423073USft
Elevation: 85.225444USft Description: B-1155
2134 Store Point: Point Name: 62
Northing: 1147285.778541USft Easting: 624954.507753USft

Elevation: 88.98274USft Description: B-1159
 2135 Store Point: Point Name: 63
Northing: 1147363.365599USft Easting: 624862.14359USft
Elevation: 86.381431USft Description: B-1161
 2136 Store Point: Point Name: 64
Northing: 1147302.497489USft Easting: 624571.690622USft
Elevation: 85.981395USft Description: B-1156
 2137 Store Point: Point Name: 70
Northing: 1145923.840754USft Easting: 622542.258441USft
Elevation: 229.100961USft Description: NS
 2138 Store Point: Point Name: 85
Northing: 1147644.595972USft Easting: 623507.073409USft
Elevation: 206.028USft Description: #4RS
 2139 Store Point: Point Name: 87
Northing: 1147218.618661USft Easting: 623418.29629USft
Elevation: 243.19USft Description: #4RS
 2140 Store Point: Point Name: 97
Northing: 1147589.674902USft Easting: 623746.040102USft
Elevation: 204.0184USft Description: NS
 2141 Store Point: Point Name: 99
Northing: 1147452.000771USft Easting: 623960.604861USft
Elevation: 203.926094USft Description: B-1166ALT
 2142 Store Point: Point Name: 101
Northing: 1147728.540024USft Easting: 622995.769792USft
Elevation: 198.421424USft Description: NS
 2143 Store Point: Point Name: 103
Northing: 1147554.052416USft Easting: 622478.488412USft
Elevation: 222.662545USft Description: NS
 2144 Store Point: Point Name: 105
Northing: 1147574.31775USft Easting: 622481.274089USft
Elevation: 221.109671USft Description: B-1195
 2145 Store Point: Point Name: 106
Northing: 1147362.788633USft Easting: 622146.81958USft
Elevation: 221.2101USft Description: NS
 2146 Store Point: Point Name: 108
Northing: 1147286.605054USft Easting: 622013.905967USft
Elevation: 217.620871USft Description: B-1196
 2147 Store Point: Point Name: 109
Northing: 1146872.883614USft Easting: 622002.097987USft
Elevation: 246.047636USft Description: B-1197
 2148 Store Point: Point Name: 110
Northing: 1147505.195693USft Easting: 621631.610759USft
Elevation: 199.576907USft Description: B-1194
 2149 Store Point: Point Name: 112
Northing: 1147039.33USft Easting: 624487.08USft
Elevation: 199.576907USft Description: B-1164
 2150 Store Point: Point Name: 114
Northing: 1144716.640015USft Easting: 622232.172309USft
Elevation: 226.778USft Description: B-1185
 2151 Store Point: Point Name: 116
Northing: 1143567.675621USft Easting: 621980.428384USft
Elevation: 219.877718USft Description: B-1126
 2152 Store Point: Point Name: 117
Northing: 1143278.22136USft Easting: 621893.740121USft
Elevation: 221.844871USft Description: B-1129
 2153 Store Point: Point Name: 118
Northing: 1142978.4173USft Easting: 621913.426089USft
Elevation: 222.476419USft Description: B-3016
 2154 Store Point: Point Name: 119
Northing: 1142772.525053USft Easting: 621911.914098USft
Elevation: 220.403592USft Description: B-3012
 2155 Store Point: Point Name: 120
Northing: 1143069.839769USft Easting: 621873.431225USft
Elevation: 223.857157USft Description: B-3022
 2156 Store Point: Point Name: 122
Northing: 1142425.581631USft Easting: 621924.989274USft
Elevation: 217.590576USft Description: B-3006

2157 Store Point: Point Name: 123
Northing: 1142484.482547USft Easting: 621956.580965USft
Elevation: 217.849527USft Description: B-3009
2158 Store Point: Point Name: 124
Northing: 1142599.850226USft Easting: 621727.302231USft
Elevation: 218.29162USft Description: B-3003
2159 Store Point: Point Name: 125
Northing: 1142599.50098USft Easting: 621799.643677USft
Elevation: 218.39872USft Description: B-3001
2160 Store Point: Point Name: 126
Northing: 1142599.968356USft Easting: 621872.487119USft
Elevation: 218.893839USft Description: B-3002
2161 Store Point: Point Name: 129
Northing: 1142719.627575USft Easting: 621076.362654USft
Elevation: 220.984823USft Description: B-4006
2162 Store Point: Point Name: 130
Northing: 1142600.098251USft Easting: 620926.938021USft
Elevation: 218.791247USft Description: B-4003
2163 Store Point: Point Name: 131
Northing: 1142599.968798USft Easting: 620999.866838USft
Elevation: 218.801801USft Description: B-4001
2164 Store Point: Point Name: 132
Northing: 1142600.245889USft Easting: 621072.184713USft
Elevation: 218.953576USft Description: B-4002
2165 Store Point: Point Name: 133
Northing: 1142459.275539USft Easting: 621046.260379USft
Elevation: 218.371166USft Description: B-4004
2166 Store Point: Point Name: 135
Northing: 1142425.34871USft Easting: 621773.01159USft
Elevation: 217.856589USft Description: B-3008
2167 Store Point: Point Name: 136
Northing: 1142441.546597USft Easting: 621675.959493USft
Elevation: 217.868876USft Description: B-3036
2168 Store Point: Point Name: 137
Northing: 1142290.162222USft Easting: 621823.557032USft
Elevation: 216.577562USft Description: B-1140
2169 Store Point: Point Name: 141
Northing: 1141883.043678USft Easting: 621543.125237USft
Elevation: 220.731173USft Description: B-3038
2170 Store Point: Point Name: 143
Northing: 1141158.034451USft Easting: 621709.188875USft
Elevation: 219.961171USft Description: B-3032/ALT
2171 Store Point: Point Name: 148
Northing: 1143092.609445USft Easting: 621247.37948USft
Elevation: 224.554499USft Description: B-4021
2172 Store Point: Point Name: 149
Northing: 1142996.386411USft Easting: 621112.900839USft
Elevation: 221.227006USft Description: B-4016
2173 Store Point: Point Name: 150
Northing: 1143081.303218USft Easting: 621073.521593USft
Elevation: 220.705046USft Description: B-
2174 Store Point: Point Name: 151
Northing: 1143062.3594USft Easting: 620879.811125USft
Elevation: 220.710371USft Description: B-
2175 Store Point: Point Name: 152
Northing: 1142904.783174USft Easting: 620601.811987USft
Elevation: 223.803539USft Description: B-4024
2176 Store Point: Point Name: 154
Northing: 1142776.678995USft Easting: 622024.862312USft
Elevation: 220.565562USft Description: B-
2177 Store Point: Point Name: 156
Northing: 1142718.500412USft Easting: 621876.73514USft
Elevation: 220.77623USft Description: B-3007
2178 Store Point: Point Name: 157
Northing: 1143007.522639USft Easting: 621001.781469USft
Elevation: 221.619192USft Description: CHK146
2179 Store Point: Point Name: 158

Northing: 1142457.032763USft Easting: 620875.983582USft
Elevation: 218.058051USft Description: B-4036
2180 Store Point: Point Name: 161
Northing: 1145876.26896USft Easting: 622195.209771USft
Elevation: 221.478688USft Description: B-1176
2181 Store Point: Point Name: 162
Northing: 1145878.819784USft Easting: 622196.795509USft
Elevation: 221.508149USft Description: B-1176/ALT
2182 Store Point: Point Name: 163
Northing: 1145428.360632USft Easting: 622272.080776USft
Elevation: 240.043652USft Description: B-1146
2183 Store Point: Point Name: 167
Northing: 1144213.143765USft Easting: 622574.006741USft
Elevation: 226.930781USft Description: STAKEB-1112
2184 Store Point: Point Name: 170
Northing: 1143893.238254USft Easting: 622573.846267USft
Elevation: 224.527902USft Description: STKB-1120/ALT
2185 Store Point: Point Name: 194
Northing: 1145469.620154USft Easting: 624087.485354USft
Elevation: 185.226676USft Description: NS
2186 Store Point: Point Name: 197
Northing: 1145546.989539USft Easting: 624715.496972USft
Elevation: 140.158579USft Description: NS
2187 Store Point: Point Name: 200
Northing: 1145585.773873USft Easting: 625441.148416USft
Elevation: 110.204879USft Description: NS
2188 Store Point: Point Name: 203
Northing: 1145494.512061USft Easting: 626284.058583USft
Elevation: 94.586207USft Description: NS
2189 Note: Coordinates imported from 03-19-07.txt as US
Survey Feet
2190 Note: Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
2191 Occupy Pt: Occupy Point: 127
Northing: 1142587.892USft Easting: 621125.933USft
Elevation: 218.695USft Description: NS
2192 Note: HR:5.1 (5.1 + 0.0 Offset)
2193 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 5.1USft
2194 Backsight: Occupy Point: 127
Backsight Point: 11 Backsight Azimuth: 86.21396 Backsight
Circle: 0.0000
2195 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
2196 Note: BS check 127 - 11:ZE89.5927,SD774.72,HD err= -
0.01797, VD err= -0.005054
2197 Note: BS Circle check : angular err= 0.0000
2198 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2199 Note: HR:4.97 (4.97 + 0.0 Offset)
2200 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.97USft
2201 Side Shot: Occupy Point: 127
Foresight Point: 259 Angle Right: 330.4323 Zenith
Angle: 89.5540 Slope Distance: 146.646USft Description: B-4010ALT
2202 Side Shot: Occupy Point: 127
Foresight Point: 260 Angle Right: 325.4441 Zenith
Angle: 89.3958 Slope Distance: 240.238USft Description: B-4018
2203 Side Shot: Occupy Point: 127
Foresight Point: 261 Angle Right: 314.2154 Zenith
Angle: 89.4945 Slope Distance: 419.524USft Description: B-3024
2204 Note: Date: 03-19-2007 Time: 15:26:55
2205 Off Center Shot: Angle Right: 314.2053
Zenith Angle: 89.4416 Slope Distance: 500.962USft
2206 Off Center Shot: Left/Right Offset: -2.0USft
Description: Left / Right Offset
2207 Side Shot: Occupy Point: 127

Foresight Point: 262 Angle Right: 314.070952 Zenith
Angle: 89.441601 Slope Distance: 500.965992USft Description: B-1133
2208 Side Shot: Occupy Point: 127
Foresight Point: 263 Angle Right: 359.0004 Zenith
Angle: 90.0150 Slope Distance: 325.21USft Description: B-1132ALT
2209 Off Center Shot: Angle Right: 26.5237
Zenith Angle: 90.0721 Slope Distance: 325.408USft
2210 Off Center Shot: Left/Right Offset: -1.0USft
Description: Left / Right Offset
2211 Side Shot: Occupy Point: 127
Foresight Point: 264 Angle Right: 26.420314 Zenith
Angle: 90.0721 Slope Distance: 325.409537USft Description: B-3025
2212 Off Center Shot: Angle Right: 50.4527
Zenith Angle: 90.2635 Slope Distance: 407.164USft
2213 Off Center Shot: Left/Right Offset: -1.0USft
Description: Left / Right Offset
2214 Side Shot: Occupy Point: 127
Foresight Point: 265 Angle Right: 50.37004 Zenith
Angle: 90.2635 Slope Distance: 407.165228USft Description: B-3026
2215 Note: Date: 03-19-2007 Time: 15:45:51
2216 Side Shot: Occupy Point: 127
Foresight Point: 266 Angle Right: 359.3005 Zenith
Angle: 90.0522 Slope Distance: 453.034USft Description: REMI-3001WEST
2217 Side Shot: Occupy Point: 127
Foresight Point: 267 Angle Right: 1.0736 Zenith
Angle: 90.0140 Slope Distance: 752.03USft Description: REMI-3001EAST
2218 Side Shot: Occupy Point: 127
Foresight Point: 268 Angle Right: 309.5248 Zenith
Angle: 90.1600 Slope Distance: 40.994USft Description: REMI-4001EAST
2219 Side Shot: Occupy Point: 127
Foresight Point: 269 Angle Right: 191.1758 Zenith
Angle: 89.5453 Slope Distance: 271.452USft Description: REMI-4001WEST
2220 Occupy Pt: Occupy Point: 127
Northing: 1142587.892USft Easting: 621125.933USft
Elevation: 218.695USft Description: NS
2221 Backsight: Occupy Point: 127
Backsight Point: 11 Backsight Azimuth: 86.21396 Backsight
Circle: 0.0000
2222 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
2223 Note: BS check 127 - 11:ZE89.5931,SD774.72,HD err= -
0.017968, VD err= -0.020077
2224 Note: BS Circle check : angular err= 0.0000
2225 Note: Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
2226 Note: HR:8.5 (8.5 + 0.0 Offset)
2227 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 8.5USft
2228 Note: Date: 03-19-2007 Time: 16:21:12
2229 Side Shot: Occupy Point: 127
Foresight Point: 270 Angle Right: 270.2002 Zenith
Angle: 88.3219 Slope Distance: 185.512USft Description: B-4015
2230 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2231 Note: HR:4.97 (4.97 + 0.0 Offset)
2232 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.97USft
2233 Off Center Shot: Angle Right: 250.3621
Zenith Angle: 89.1828 Slope Distance: 275.862USft
2234 Off Center Shot: Left/Right Offset: 2.5USft
Description: Left / Right Offset
2235 Side Shot: Occupy Point: 127
Foresight Point: 271 Angle Right: 251.073036 Zenith
Angle: 89.18281 Slope Distance: 275.873328USft Description: B-4013
2236 Side Shot: Occupy Point: 127
Foresight Point: 272 Angle Right: 237.5331 Zenith
Angle: 89.3900 Slope Distance: 300.76USft Description: B-4014

```
 2237  Off Center Shot:        Angle Right: 219.0123
Zenith Angle: 89.2455                Slope Distance: 218.06USft
 2238  Off Center Shot:        Left/Right Offset: 1.0USft
Description: Left / Right Offset
 2239  Side Shot:              Occupy Point: 127
Foresight Point: 273                 Angle Right: 219.170895           Zenith
Angle: 89.245502      Slope Distance: 218.062293USft  Description: B-4005
 2240  Off Center Shot:        Angle Right: 212.5542
Zenith Angle: 89.4040                Slope Distance: 286.828USft
 2241  Off Center Shot:        Left/Right Offset: 1.0USft
Description: Left / Right Offset
 2242  Side Shot:              Occupy Point: 127
Foresight Point: 274                 Angle Right: 213.074113           Zenith
Angle: 89.404001      Slope Distance: 286.829743USft  Description: B-4035
 2243  Off Center Shot:        Angle Right: 252.1207
Zenith Angle: 89.4527                Slope Distance: 480.322USft
 2244  Off Center Shot:        Left/Right Offset: -0.5USft
Description: Left / Right Offset
 2245  Side Shot:              Occupy Point: 127
Foresight Point: 275                 Angle Right: 252.083228           Zenith
Angle: 89.4527        Slope Distance: 480.32226USft   Description: B-4017
 2246  Note:                   Date: 03-19-2007  Time: 16:36:16
 2247  Note:                   Foresight Target:My Prism, HR:14.0 (14.0 + 0.0
Offset), Prism Const.:0.0mm
 2248  Note:                   HR:14.0 (14.0 + 0.0 Offset)
 2249  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 14.0USft
 2250  Note:                   Foresight Target:My Prism, HR:12.0 (12.0 + 0.0
Offset), Prism Const.:0.0mm
 2251  Note:                   HR:12.0 (12.0 + 0.0 Offset)
 2252  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 12.0USft
 2253  Off Center Shot:        Angle Right: 304.1859
Zenith Angle: 88.0511                Slope Distance: 215.722USft
 2254  Off Center Shot:        Left/Right Offset: 0.5USft
Description: Left / Right Offset
 2255  Side Shot:              Occupy Point: 127
Foresight Point: 276                 Angle Right: 304.265735           Zenith
Angle: 88.051102      Slope Distance: 215.722579USft  Description: B-4011
 2256  Note:                   Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
 2257  Note:                   HR:5.1 (5.1 + 0.0 Offset)
 2258  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 5.1USft
 2259  Side Shot:              Occupy Point: 127
Foresight Point: 277                 Angle Right: 0.0000               Zenith
Angle: 89.5936        Slope Distance: 774.726USft     Description: CHK11
 2260  Note:                   Foresight Target:My Prism, HR:5.12 (5.12 + 0.0
Offset), Prism Const.:0.0mm
 2261  Occupy Pt:              Occupy Point: 146
Northing: 1143007.533USft            Easting: 621001.779USft
Elevation: 221.616USft       Description: NS
 2262  Note:                   HR:5.12 (5.12 + 0.0 Offset)
 2263  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.12USft
 2264  Backsight:              Occupy Point: 146
Backsight Point: 127                 Backsight Azimuth: 163.310748     Backsight
Circle: 0.0000
 2265  Note:                   Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
 2266  Note:                   BS check 146 - 127:ZE90.2444,SD437.61,HD err= -
0.023063, VD err= -0.047417
 2267  Note:                   BS Circle check : angular err= 0.0000
 2268  Note:                   BS check 146 - 127:ZE90.2437,SD437.61,HD err= -
0.022956, VD err= -0.032566
 2269  Note:                   BS Circle check : angular err= 0.0000
 2270  Occupy Pt:              Occupy Point: 146
```

Northing: 1143007.533USft Easting: 621001.779USft
Elevation: 221.616USft Description: NS
2271 Note: HR:5.12 (5.12 + 0.0 Offset)
2272 Line of Sight (HI/HR): Height of Instrument: 5.29USft
Height of Rod: 5.12USft
2273 Backsight: Occupy Point: 146
Backsight Point: 127 Backsight Azimuth: 163.310748 Backsight
Circle: 0.0000
2274 Note: Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
2275 Note: BS check 146 - 127:ZE90.2437,SD437.598,HD err= -
0.034956, VD err= -0.04248
2276 Note: BS Circle check : angular err= 0.0000
2277 Occupy Pt: Occupy Point: 146
Northing: 1143007.533USft Easting: 621001.779USft
Elevation: 221.616USft Description: NS
2278 Note: HR:5.12 (5.12 + 0.0 Offset)
2279 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.12USft
2280 Backsight: Occupy Point: 146
Backsight Point: 127 Backsight Azimuth: 163.310748 Backsight
Circle: 0.0000
2281 Note: Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
2282 Note: BS check 146 - 127:ZE90.2431,SD437.622,HD err= -
0.010866, VD err= -0.019923
2283 Note: BS Circle check : angular err= 0.0000
2284 Side Shot: Occupy Point: 146
Foresight Point: 278 Angle Right: 359.5959 Zenith
Angle: 90.2433 Slope Distance: 437.608USft Description: CHK127
2285 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2286 Note: HR:4.97 (4.97 + 0.0 Offset)
2287 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 4.97USft
2288 Side Shot: Occupy Point: 146
Foresight Point: 279 Angle Right: 294.1711 Zenith
Angle: 89.4937 Slope Distance: 280.848USft Description: B-4020
2289 Note: Date: 03-19-2007 Time: 16:59:13
2290 Side Shot: Occupy Point: 146
Foresight Point: 280 Angle Right: 291.2225 Zenith
Angle: 90.0143 Slope Distance: 370.982USft Description: B-4019
2291 Note: Foresight Target:My Prism, HR:5.12 (5.12 + 0.0
Offset), Prism Const.:0.0mm
2292 Note: HR:5.12 (5.12 + 0.0 Offset)
2293 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.12USft
2294 Side Shot: Occupy Point: 146
Foresight Point: 281 Angle Right: 0.0000 Zenith
Angle: 90.2439 Slope Distance: 437.614USft Description: CHK127
2295 Occupy Pt: Occupy Point: 11
Northing: 1142637.0645USft Easting: 621899.1089USft
Elevation: 218.904USft Description: #4RS
2296 Note: HR:5.12 (5.12 + 0.0 Offset)
2297 Line of Sight (HI/HR): Height of Instrument: 5.35USft
Height of Rod: 5.12USft
2298 Backsight: Occupy Point: 11
Backsight Point: 127 Backsight Azimuth: 266.21396 Backsight
Circle: 0.0000
2299 Note: Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
2300 Note: BS check 11 - 127:ZE90.0202,SD774.768,HD err=
0.029904, VD err= -0.019254
2301 Note: BS Circle check : angular err= 0.0001
2302 Note: BS check 11 - 127:ZE90.0203,SD774.764,HD err=
0.025902, VD err= -0.023008
2303 Note: BS Circle check : angular err= 0.0000

```
 2304  Side Shot:              Occupy Point: 11
Foresight Point: 282                 Angle Right: 0.0000              Zenith
Angle: 90.0203        Slope Distance: 774.748USft     Description: CHK127
 2305  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2306  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2307  Line of Sight (HI/HR):  Height of Instrument: 5.35USft
Height of Rod: 4.97USft
 2308  Side Shot:              Occupy Point: 11
Foresight Point: 283                 Angle Right: 26.0101             Zenith
Angle: 89.5908        Slope Distance: 241.958USft     Description: B-3035
 2309  Side Shot:              Occupy Point: 11
Foresight Point: 284                 Angle Right: 31.5143             Zenith
Angle: 90.0138        Slope Distance: 170.254USft     Description: B-3005
 2310  Off Center Shot:        Angle Right: 50.4012
Zenith Angle: 89.4454                Slope Distance: 221.428USft
 2311  Off Center Shot:        Left/Right Offset: 0.5USft
Description: Left / Right Offset
 2312  Side Shot:              Occupy Point: 11
Foresight Point: 285                 Angle Right: 50.475776           Zenith
Angle: 89.4454        Slope Distance: 221.428565USft  Description: B-3014
 2313  Side Shot:              Occupy Point: 11
Foresight Point: 286                 Angle Right: 73.5522             Zenith
Angle: 89.4041        Slope Distance: 218.652USft     Description: B-3013
 2314  Off Center Shot:        Angle Right: 66.0233
Zenith Angle: 90.0115                Slope Distance: 316.156USft
 2315  Off Center Shot:        Left/Right Offset: 1.0USft
Description: Left / Right Offset
 2316  Side Shot:              Occupy Point: 11
Foresight Point: 287                 Angle Right: 66.132541           Zenith
Angle: 90.0115        Slope Distance: 316.157581USft  Description: B-3039
 2317  Side Shot:              Occupy Point: 11
Foresight Point: 288                 Angle Right: 80.2451             Zenith
Angle: 89.3354        Slope Distance: 328.544USft     Description: B-3015
 2318  Note:                   Date: 03-19-2007  Time: 17:37:24
 2319  Side Shot:              Occupy Point: 11
Foresight Point: 289                 Angle Right: 76.2527             Zenith
Angle: 89.3128        Slope Distance: 440.088USft     Description: B-3037
 2320  Side Shot:              Occupy Point: 11
Foresight Point: 290                 Angle Right: 73.0300             Zenith
Angle: 89.3710        Slope Distance: 424.406USft     Description: B-3017
 2321  Off Center Shot:        Angle Right: 66.2645
Zenith Angle: 89.3438                Slope Distance: 477.366USft
 2322  Off Center Shot:        Left/Right Offset: -1.2USft
Description: Left / Right Offset
 2323  Side Shot:              Occupy Point: 11
Foresight Point: 291                 Angle Right: 66.180648           Zenith
Angle: 89.3438        Slope Distance: 477.367508USft  Description: B-3023
 2324  Off Center Shot:        Angle Right: 85.4628
Zenith Angle: 89.4138                Slope Distance: 541.296USft
 2325  Off Center Shot:        Left/Right Offset: -2.0USft
Description: Left / Right Offset
 2326  Side Shot:              Occupy Point: 11
Foresight Point: 292                 Angle Right: 85.334588           Zenith
Angle: 89.413801      Slope Distance: 541.299695USft  Description: B-1131
 2327  Side Shot:              Occupy Point: 11
Foresight Point: 293                 Angle Right: 110.5038            Zenith
Angle: 89.3021        Slope Distance: 453.462USft     Description: B-3021
 2328  Off Center Shot:        Angle Right: 121.0310
Zenith Angle: 89.3143                Slope Distance: 383.488USft
 2329  Off Center Shot:        Left/Right Offset: -1.0USft
Description: Left / Right Offset
 2330  Side Shot:              Occupy Point: 11
Foresight Point: 294                 Angle Right: 120.541212          Zenith
Angle: 89.314301      Slope Distance: 383.489304USft  Description: B-3020
 2331  Side Shot:              Occupy Point: 11
Foresight Point: 295                 Angle Right: 131.5359            Zenith
```

Angle: 89.3506 Slope Distance: 433.4USft Description: B-3019
2332 Side Shot: Occupy Point: 11
Foresight Point: 296 Angle Right: 158.3802 Zenith
Angle: 89.5235 Slope Distance: 239.044USft Description: B-3018
2333 Side Shot: Occupy Point: 11
Foresight Point: 297 Angle Right: 184.3836 Zenith
Angle: 89.4901 Slope Distance: 125.884USft Description: B-3010ALT
2334 Note: Date: 03-19-2007 Time: 17:52:28
2335 Occupy Pt: Occupy Point: 11
Northing: 1142637.0645USft Easting: 621899.1089USft
Elevation: 218.904USft Description: #4RS
2336 Backsight: Occupy Point: 11
Backsight Point: 127 Backsight Azimuth: 266.21396 Backsight
Circle: 0.0000
2337 Note: Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
2338 Note: BS check 11 - 127:ZE90.0201,SD774.752,HD err=
0.013906, VD err= -0.015489
2339 Note: BS Circle check : angular err= 0.0000
2340 Occupy Pt: Occupy Point: 11
Northing: 1142637.0645USft Easting: 621899.1089USft
Elevation: 218.904USft Description: #4RS
2341 Backsight: Occupy Point: 11
Backsight Point: 127 Backsight Azimuth: 266.21396 Backsight
Circle: 0.0000
2342 Note: Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
2343 Note: BS check 11 - 127:ZE90.0203,SD774.75,HD err=
0.011902, VD err= -0.023
2344 Note: BS Circle check : angular err= 0.0000
2345 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
2346 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0004
2347 Repeat Directional: Foresight Reverse
Set: 1 Angle: 140.0109
2348 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 269.3754
2349 Multiple Distances: Set: 1
Slope Distance: 464.684USft
2350 Repeat Foresight: Occupy Point: 11
Foresight Point: 298 Angle Right: 140.0109 Zenith
Angle: 269.3754 Slope Distance: 464.684USft Height of Rod: 4.97USft
Description: NS
2351 Repeat Directional: Foresight Direct
Set: 1 Angle: 320.0104
2352 Repeat Directional: Zenith Direct
Set: 1 Zenith: 90.2211
2353 Multiple Distances: Set: 1
Slope Distance: 464.684USft
2354 Repeat Foresight: Occupy Point: 11
Foresight Point: 298 Angle Right: 320.0104 Zenith
Angle: 90.2211 Slope Distance: 464.684USft Height of Rod: 4.97USft
Description: NS
2355 Note: Horizontal Angle Error: 0.0001
2356 Note: Zenith Angle Error: 0.0005
2357 Note: Slope Distance Error: 0.0
2358 Note: Horizontal Angle Error compares to the average:
0.0000
2359 Note: Zenith Angle Error compares to the average:
0.0000
2360 Note: Slope Distance Error compares to the average: 0.0
2361 Side Shot: Occupy Point: 11
Foresight Point: 298 Angle Right: 320.01045 Zenith
Angle: 90.22085 Slope Distance: 464.684USft Description: NS
2362 Note: Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm

```
 2363  Occupy Pt:              Occupy Point: 298
Northing: 1142316.492173USft         Easting: 621562.722744USft
Elevation: 216.291107USft    Description: NS
 2364  Note:                   HR:5.22 (5.22 + 0.0 Offset)
 2365  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.22USft
 2366  Backsight:              Occupy Point: 298
Backsight Point: 11                Backsight Azimuth: 46.22441       Backsight
Circle: 0.0000
 2367  Note:                   Fixed HR at Backsight:5.22 (5.22 + 0.0 Offset),
Prism Const.:0.0mm
 2368  Note:                   BS check 298 - 11:ZE89.4040,SD464.668,HD err= -
0.01371, VD err= 0.000311
 2369  Note:                   BS Circle check : angular err= 0.0000
 2370  Note:                   Date: 03-19-2007  Time: 18:14:59
 2371  Side Shot:              Occupy Point: 298
Foresight Point: 299               Angle Right: 0.0001               Zenith
Angle: 89.4039        Slope Distance: 464.66USft      Description: CHK11
 2372  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2373  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2374  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.97USft
 2375  Side Shot:              Occupy Point: 298
Foresight Point: 300               Angle Right: 20.2051              Zenith
Angle: 89.3932        Slope Distance: 331.366USft     Description: B-3004ALT
 2376  Note:                   Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
 2377  Note:                   HR:5.22 (5.22 + 0.0 Offset)
 2378  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.22USft
 2379  Side Shot:              Occupy Point: 298
Foresight Point: 301               Angle Right: 359.5958             Zenith
Angle: 89.4036        Slope Distance: 464.664USft     Description: CHK11
 2380  Note:                   Data Collector Serial Number: FS29A13023
 2381  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 2382  Note:                   Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
 2383  Note:                   Date: 03-19-2007  Time: 19:48:33
 2384  Note:                   Data Collector Serial Number: FS29A13023
 2385  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 2386  Note:                   Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
 2387  Note:                   Date: 03-20-2007  Time: 11:17:08
 2388  Note:                   Foresight Target:My Prism, HR:5.12 (5.12 + 0.0
Offset), Prism Const.:0.0mm
 2389  Occupy Pt:              Occupy Point: 234
Northing: 1141757.126471USft         Easting: 620684.619016USft
Elevation: 221.803969USft    Description: NS
 2390  Note:                   HR:5.12 (5.12 + 0.0 Offset)
 2391  Line of Sight (HI/HR):  Height of Instrument: 5.29USft
Height of Rod: 5.12USft
 2392  Backsight:              Occupy Point: 234
Backsight Point: 138               Backsight Azimuth: 90.200221      Backsight
Circle: 0.0000
 2393  Note:                   Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
 2394  Note:                   BS check 234 - 138:ZE89.5819,SD924.492,HD err= -
0.017799, VD err= -0.000343
 2395  Note:                   BS Circle check : angular err= 0.0000
 2396  Side Shot:              Occupy Point: 234
Foresight Point: 9197              Angle Right: 0.0000               Zenith
Angle: 89.5819        Slope Distance: 924.498USft     Description: CHK138
 2397  Note:                   Foresight Target:My Prism, HR:5.43 (5.43 + 0.0
Offset), Prism Const.:0.0mm
```

```
 2398  Note:                    HR:5.43 (5.43 + 0.0 Offset)
 2399  Line of Sight (HI/HR):  Height of Instrument: 5.29USft
Height of Rod: 5.43USft
 2400  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 2401  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 179.5959
 2402  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 236.0959
 2403  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 270.1950
 2404  Multiple Distances:     Set: 1
Slope Distance: 181.026USft
 2405  Repeat Foresight:       Occupy Point: 234
Foresight Point: 9198               Angle Right: 236.0959             Zenith
Angle: 270.1950       Slope Distance: 181.026USft     Height of Rod: 5.43USft
Description: NS
 2406  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 56.1000
 2407  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 89.4001
 2408  Multiple Distances:     Set: 1
Slope Distance: 181.028USft
 2409  Repeat Foresight:       Occupy Point: 234
Foresight Point: 9198               Angle Right: 56.1000              Zenith
Angle: 89.4001        Slope Distance: 181.028USft     Height of Rod: 5.43USft
Description: NS
 2410  Note:                    Horizontal Angle Error: 0.0000
 2411  Note:                    Zenith Angle Error: 0.0009
 2412  Note:                    Slope Distance Error: 0.002
 2413  Note:                    Horizontal Angle Error compares to the average:
0.0000
 2414  Note:                    Zenith Angle Error compares to the average:
0.0000
 2415  Note:                    Slope Distance Error compares to the average: 0.0
 2416  Side Shot:               Occupy Point: 234
Foresight Point: 9198               Angle Right: 56.1000              Zenith
Angle: 89.40055       Slope Distance: 181.027USft     Description: NS
 2417  Occupy Pt:               Occupy Point: 234
Northing: 1141757.126471USft        Easting: 620684.619016USft
Elevation: 221.803969USft    Description: NS
 2418  Note:                    HR:5.43 (5.43 + 0.0 Offset)
 2419  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 5.43USft
 2420  Backsight:               Occupy Point: 234
Backsight Point: 138                Backsight Azimuth: 90.200221      Backsight
Circle: 0.0000
 2421  Note:                    Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
 2422  Note:                    BS check 234 - 138:ZE89.5824,SD924.5,HD err= -
0.009788, VD err= 0.007251
 2423  Note:                    BS Circle check : angular err= 0.0000
 2424  Note:                    Foresight Target:My Prism, HR:5.42 (5.42 + 0.0
Offset), Prism Const.:0.0mm
 2425  Note:                    HR:5.42 (5.42 + 0.0 Offset)
 2426  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 5.42USft
 2427  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 2428  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 179.5959
 2429  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 350.0913
 2430  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.4256
 2431  Multiple Distances:     Set: 1
Slope Distance: 351.364USft
```

```
 2432  Repeat Foresight:       Occupy Point: 234
Foresight Point: 9199                Angle Right: 350.0913             Zenith
Angle: 269.4256       Slope Distance: 351.364USft     Height of Rod: 5.42USft
Description: NS
 2433  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 170.0910
 2434  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 90.1701
 2435  Multiple Distances:     Set: 1
Slope Distance: 351.364USft
 2436  Repeat Foresight:       Occupy Point: 234
Foresight Point: 9199                Angle Right: 170.0910             Zenith
Angle: 90.1701        Slope Distance: 351.364USft     Height of Rod: 5.42USft
Description: NS
 2437  Note:                   Horizontal Angle Error: 0.0004
 2438  Note:                   Zenith Angle Error: 0.0003
 2439  Note:                   Slope Distance Error: 0.0
 2440  Note:                   Horizontal Angle Error compares to the average:
0.0000
 2441  Note:                   Zenith Angle Error compares to the average:
0.0000
 2442  Note:                   Slope Distance Error compares to the average: 0.0
 2443  Side Shot:              Occupy Point: 234
Foresight Point: 9199                Angle Right: 170.0912             Zenith
Angle: 90.17025       Slope Distance: 351.364USft     Description: NS
 2444  Store Point:            Point Name: 302
Northing: 1141751.738069USft         Easting: 621609.101202USft
Elevation: 222.42666USft     Description: CHK138
 2445  Store Point:            Point Name: 303
Northing: 1141606.172081USft         Easting: 620784.531217USft
Elevation: 222.712308USft    Description: NS
 2446  Store Point:            Point Name: 304
Northing: 1141699.058473USft         Easting: 620338.090901USft
Elevation: 219.962187USft    Description: NS
 2447  Deleted Point:          Point Name: 9199
 2448  Deleted Point:          Point Name: 9198
 2449  Deleted Point:          Point Name: 9197
 2450  Note:                   Foresight Target:My Prism, HR:5.25 (5.25 + 0.0
Offset), Prism Const.:0.0mm
 2451  Occupy Pt:              Occupy Point: 304
Northing: 1141699.058473USft         Easting: 620338.090901USft
Elevation: 219.962187USft    Description: NS
 2452  Note:                   HR:5.25 (5.25 + 0.0 Offset)
 2453  Line of Sight (HI/HR):  Height of Instrument: 5.39USft
Height of Rod: 5.25USft
 2454  Backsight:              Occupy Point: 304
Backsight Point: 234                 Backsight Azimuth: 80.291421      Backsight
Circle: 0.0000
 2455  Note:                   Fixed HR at Backsight:5.25 (5.25 + 0.0 Offset),
Prism Const.:0.0mm
 2456  Note:                   BS check 304 - 234:ZE89.4328,SD351.37,HD err=
0.006254, VD err= -0.011926
 2457  Note:                   BS Circle check : angular err= 0.0000
 2458  Note:                   BS check 304 - 234:ZE89.4326,SD351.376,HD err=
0.012237, VD err= -0.00849
 2459  Note:                   BS Circle check : angular err= 0.0000
 2460  Note:                   BS check 304 - 234:ZE89.4323,SD351.376,HD err=
0.012213, VD err= -0.00338
 2461  Note:                   BS Circle check : angular err= 0.0000
 2462  Side Shot:              Occupy Point: 304
Foresight Point: 9199                Angle Right: 0.0000               Zenith
Angle: 89.4323        Slope Distance: 351.374USft     Description: CHK234
 2463  Store Point:            Point Name: 305
Northing: 1141757.128159USft         Easting: 620684.629088USft
Elevation: 221.800579USft    Description: CHK234
 2464  Deleted Point:          Point Name: 9199
 2465  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
```

Offset), Prism Const.:0.0mm
 2466 Note: HR:4.97 (4.97 + 0.0 Offset)
 2467 Line of Sight (HI/HR): Height of Instrument: 5.39USft
Height of Rod: 4.97USft
 2468 Side Shot: Occupy Point: 304
Foresight Point: 306   Angle Right: 97.2846   Zenith
Angle: 90.0512   Slope Distance: 301.136USft   Description: B-4033
 2469 Note: Foresight Target:My Prism, HR:5.25 (5.25 + 0.0
Offset), Prism Const.:0.0mm
 2470 Note: HR:5.25 (5.25 + 0.0 Offset)
 2471 Line of Sight (HI/HR): Height of Instrument: 5.39USft
Height of Rod: 5.25USft
 2472 Side Shot: Occupy Point: 304
Foresight Point: 307   Angle Right: 0.0001   Zenith
Angle: 89.4324   Slope Distance: 351.376USft   Description: CHK234
 2473 Note: Date: 03-20-2007 Time: 11:45:30
 2474 Occupy Pt: Occupy Point: 303
Northing: 1141606.172081USft   Easting: 620784.531217USft
Elevation: 222.712308USft   Description: NS
 2475 Note: HR:5.25 (5.25 + 0.0 Offset)
 2476 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 5.25USft
 2477 Backsight: Occupy Point: 303
Backsight Point: 234   Backsight Azimuth: 326.300221   Backsight
Circle: 0.0000
 2478 Note: Fixed HR at Backsight:5.25 (5.25 + 0.0 Offset),
Prism Const.:0.0mm
 2479 Note: BS check 303 - 234:ZE90.1626,SD181.016,HD err= -
0.010033, VD err= 0.003038
 2480 Note: BS Circle check : angular err= 0.0000
 2481 Side Shot: Occupy Point: 303
Foresight Point: 308   Angle Right: 0.0000   Zenith
Angle: 90.1626   Slope Distance: 181.014USft   Description: CHK234
 2482 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2483 Note: HR:4.97 (4.97 + 0.0 Offset)
 2484 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 4.97USft
 2485 Off Center Shot: Angle Right: 212.3247
Zenith Angle: 90.1907   Slope Distance: 487.804USft
 2486 Off Center Shot: Left/Right Offset: -2.0USft
Description: Left / Right Offset
 2487 Side Shot: Occupy Point: 303
Foresight Point: 309   Angle Right: 212.18413   Zenith
Angle: 90.190699   Slope Distance: 487.8081USft   Description: B-4032
 2488 Off Center Shot: Angle Right: 212.3203
Zenith Angle: 90.1927   Slope Distance: 482.566USft
 2489 Off Center Shot: Left/Right Offset: -2.0USft
Description: Left / Right Offset
 2490 Side Shot: Occupy Point: 303
Foresight Point: 310   Angle Right: 212.174812   Zenith
Angle: 90.192699   Slope Distance: 482.570144USft Description: B-4032ALT
 2491 Off Center Shot: Angle Right: 212.1804
Zenith Angle: 90.0227   Slope Distance: 230.664USft
 2492 Off Center Shot: Left/Right Offset: -6.0USft
Description: Left / Right Offset
 2493 Side Shot: Occupy Point: 303
Foresight Point: 311   Angle Right: 210.483988   Zenith
Angle: 90.022695   Slope Distance: 230.742022USft Description: B-4034
 2494 Store Point: Point Name: 312
Northing: 1141375.684056USft   Easting: 620795.353619USft
Elevation: 222.787919USft   Description: ER-4001
 2495 Store Point: Point Name: 313
Northing: 1141375.684056USft   Easting: 620795.353619USft
Elevation: 222.787919USft   Description: ER-4002
 2496 Side Shot: Occupy Point: 303
Foresight Point: 314   Angle Right: 170.4709   Zenith

```
Angle: 90.1004        Slope Distance: 280.838USft     Description: B-4031
 2497  Store Point:            Point Name: 315
Northing: 1142180.045221USft         Easting: 620633.446909USft
Elevation: 217.730872USft    Description: ER-4003
 2498  Note:                   Foresight Target:My Prism, HR:5.25 (5.25 + 0.0
Offset), Prism Const.:0.0mm
 2499  Note:                   HR:5.25 (5.25 + 0.0 Offset)
 2500  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.25USft
 2501  Side Shot:              Occupy Point: 303
Foresight Point: 316                 Angle Right: 0.0001               Zenith
Angle: 90.1621        Slope Distance: 181.018USft     Description: CHK234
 2502  Note:                   Foresight Target:My Prism, HR:5.12 (5.12 + 0.0
Offset), Prism Const.:0.0mm
 2503  Occupy Pt:              Occupy Point: 9
Northing: 1142033.9818USft           Easting: 621961.2139USft
Elevation: 218.933USft       Description: PKNS
 2504  Note:                   HR:5.12 (5.12 + 0.0 Offset)
 2505  Line of Sight (HI/HR):  Height of Instrument: 5.34USft
Height of Rod: 5.12USft
 2506  Backsight:              Occupy Point: 9
Backsight Point: 138                 Backsight Azimuth: 231.170371     Backsight
Circle: 0.0000
 2507  Note:                   Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
 2508  Note:                   BS check 9 - 138:ZE89.3509,SD451.244,HD err= -
0.028918, VD err= -0.012179
 2509  Note:                   BS Circle check : angular err= 0.0000
 2510  Note:                   BS check 9 - 138:ZE89.3503,SD451.25,HD err= -
0.023013, VD err= 0.000991
 2511  Note:                   BS Circle check : angular err= 0.0000
 2512  Side Shot:              Occupy Point: 9
Foresight Point: 317                 Angle Right: 0.0000               Zenith
Angle: 89.3503        Slope Distance: 451.244USft     Description: CHK138
 2513  Note:                   Date: 03-20-2007  Time: 12:15:52
 2514  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 2515  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 179.5956
 2516  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 107.3716
 2517  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 270.3415
 2518  Multiple Distances:     Set: 1
Slope Distance: 396.0USft
 2519  Repeat Foresight:       Occupy Point: 9
Foresight Point: 318                 Angle Right: 107.3716             Zenith
Angle: 270.3415       Slope Distance: 396.0USft       Height of Rod: 5.12USft
Description: NS
 2520  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 287.3718
 2521  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 89.2553
 2522  Multiple Distances:     Set: 1
Slope Distance: 396.002USft
 2523  Repeat Foresight:       Occupy Point: 9
Foresight Point: 318                 Angle Right: 287.3718             Zenith
Angle: 89.2553        Slope Distance: 396.002USft     Height of Rod: 5.12USft
Description: NS
 2524  Note:                   Horizontal Angle Error: 0.0002
 2525  Note:                   Zenith Angle Error: 0.0008
 2526  Note:                   Slope Distance Error: 0.002
 2527  Note:                   Horizontal Angle Error compares to the average:
0.0000
 2528  Note:                   Zenith Angle Error compares to the average:
0.0000
 2529  Note:                   Slope Distance Error compares to the average: 0.0
```

```
 2530  Side Shot:              Occupy Point: 9
Foresight Point: 318                 Angle Right: 287.3719             Zenith
Angle: 89.2549        Slope Distance: 396.001USft     Description: NS
 2531  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2532  Off Center Shot:        Angle Right: 161.4130
Zenith Angle: 90.1151                Slope Distance: 533.664USft
 2533  Off Center Shot:        Left/Right Offset: -2.0USft
Description: Left / Right Offset
 2534  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2535  Line of Sight (HI/HR):  Height of Instrument: 5.34USft
Height of Rod: 4.97USft
 2536  Side Shot:              Occupy Point: 9
Foresight Point: 319                 Angle Right: 161.283699           Zenith
Angle: 90.1151        Slope Distance: 533.667748USft  Description: B-1130
 2537  Note:                   Foresight Target:My Prism, HR:5.12 (5.12 + 0.0
Offset), Prism Const.:0.0mm
 2538  Note:                   HR:5.12 (5.12 + 0.0 Offset)
 2539  Line of Sight (HI/HR):  Height of Instrument: 5.34USft
Height of Rod: 5.12USft
 2540  Side Shot:              Occupy Point: 9
Foresight Point: 320                 Angle Right: 359.5959             Zenith
Angle: 89.3509        Slope Distance: 451.246USft     Description: CHK138
 2541  Occupy Pt:              Occupy Point: 318
Northing: 1141664.533836USft         Easting: 622103.725266USft
Elevation: 223.090582USft    Description: NS
 2542  Note:                   HR:5.12 (5.12 + 0.0 Offset)
 2543  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 5.12USft
 2544  Backsight:              Occupy Point: 318
Backsight Point: 138                 Backsight Azimuth: 279.595623     Backsight
Circle: 0.0000
 2545  Note:                   Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
 2546  Note:                   BS check 318 - 138:ZE90.0555,SD502.224,HD err= -
0.017582, VD err= -0.000789
 2547  Note:                   BS Circle check : angular err= 0.0000
 2548  Side Shot:              Occupy Point: 318
Foresight Point: 321                 Angle Right: 0.0000               Zenith
Angle: 90.0556        Slope Distance: 502.222USft     Description: CHK138
 2549  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2550  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2551  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 4.97USft
 2552  Side Shot:              Occupy Point: 318
Foresight Point: 322                 Angle Right: 273.0418             Zenith
Angle: 90.0923        Slope Distance: 272.872USft     Description: CHK138
 2553  Store Point:            Point Name: 322
Northing: 1141398.732377USft         Easting: 622042.014994USft
Elevation: 222.695779USft    Description: B-3031
 2554  Note:                   Data Collector Serial Number: FS29A13023
 2555  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 2556  Note:                   Foresight Target:My Prism, HR:5.22 (5.22 + 0.0
Offset), Prism Const.:0.0mm
 2557  Note:                   Date: 03-20-2007  Time: 12:34:52
 2558  Occupy Pt:              Occupy Point: 14
Northing: 1143261.7065USft           Easting: 621997.1521USft
Elevation: 222.513USft       Description: #4RS
 2559  Note:                   HR:5.22 (5.22 + 0.0 Offset)
 2560  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.22USft
 2561  Backsight:              Occupy Point: 14
Backsight Point: 16                  Backsight Azimuth: 40.093513      Backsight
Circle: 0.0000
 2562  Note:                   Fixed HR at Backsight:0.0 (0.0 + 0.0 Offset),
```

```
Prism Const.:0.0mm
 2563  Note:                  Date: 03-20-2007  Time: 12:55:06
 2564  Occupy Pt:             Occupy Point: 21
Northing: 1145197.2227USft          Easting: 621927.4809USft
Elevation: 238.183USft       Description: #4RS
 2565  Backsight:             Occupy Point: 21
Backsight Point: 23                 Backsight Azimuth: 13.075463      Backsight
Circle: 0.0000
 2566  Note:                  Fixed HR at Backsight:0.0 (0.0 + 0.0 Offset),
Prism Const.:0.0mm
 2567  Occupy Pt:             Occupy Point: 29
Northing: 1146604.7674USft          Easting: 624026.4267USft
Elevation: 236.26USft        Description: PT8000
 2568  Backsight:             Occupy Point: 29
Backsight Point: 47                 Backsight Azimuth: 67.485012      Backsight
Circle: 0.0000
 2569  Note:                  Fixed HR at Backsight:0.0 (0.0 + 0.0 Offset),
Prism Const.:0.0mm
 2570  Occupy Pt:             Occupy Point: 23
Northing: 1145666.8682USft          Easting: 622037.046USft
Elevation: 237.279USft       Description: #4RS
 2571  Backsight:             Occupy Point: 23
Backsight Point: 25                 Backsight Azimuth: 74.245812      Backsight
Circle: 0.0000
 2572  Note:                  Fixed HR at Backsight:0.0 (0.0 + 0.0 Offset),
Prism Const.:0.0mm
 2573  Note:                  Date: 03-20-2007  Time: 13:16:50
 2574  Note:                  Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2575  Occupy Pt:             Occupy Point: 16
Northing: 1143915.652023USft        Easting: 622548.992082USft
Elevation: 227.605USft       Description: #4RS
 2576  Note:                  HR:4.97 (4.97 + 0.0 Offset)
 2577  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 4.97USft
 2578  Backsight:             Occupy Point: 16
Backsight Point: 18                 Backsight Azimuth: 353.053612     Backsight
Circle: 0.0000
 2579  Note:                  Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 2580  Note:                  BS check 16 - 18:ZE90.1036,SD712.41,HD err= -
0.03478, VD err= -0.032652
 2581  Note:                  BS Circle check : angular err= 0.0000
 2582  Note:                  BS check 16 - 18:ZE90.1036,SD712.402,HD err= -
0.04278, VD err= -0.032628
 2583  Note:                  BS Circle check : angular err= 0.0000
 2584  Note:                  BS check 16 - 18:ZE90.1036,SD712.412,HD err= -
0.03278, VD err= -0.032658
 2585  Note:                  BS Circle check : angular err= 0.0000
 2586  Occupy Pt:             Occupy Point: 16
Northing: 1143915.652023USft        Easting: 622548.992082USft
Elevation: 227.605USft       Description: #4RS
 2587  Backsight:             Occupy Point: 16
Backsight Point: 18                 Backsight Azimuth: 353.053612     Backsight
Circle: 0.0000
 2588  Note:                  Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 2589  Note:                  BS check 16 - 18:ZE90.1040,SD712.388,HD err= -
0.056823, VD err= -0.046399
 2590  Note:                  BS Circle check : angular err= 0.0000
 2591  Note:                  BS check 16 - 18:ZE90.1039,SD712.412,HD err= -
0.032812, VD err= -0.04302
 2592  Note:                  BS Circle check : angular err= 0.0000
 2593  Note:                  BS check 16 - 18:ZE90.1038,SD712.402,HD err= -
0.042802, VD err= -0.039535
 2594  Note:                  BS Circle check : angular err= 0.0000
 2595  Side Shot:             Occupy Point: 16
```

Foresight Point: 9197 Angle Right: 0.0000 Zenith
Angle: 90.1038 Slope Distance: 712.416USft Description: CHK18
2596 Store Point: Point Name: 323
Northing: 1144622.89494USft Easting: 622463.323201USft
Elevation: 225.671422USft Description: CHK18
2597 Deleted Point: Point Name: 9197
2598 Side Shot: Occupy Point: 16
Foresight Point: 324 Angle Right: 164.0557 Zenith
Angle: 91.3656 Slope Distance: 24.524USft Description: B-1120ALT
2599 Side Shot: Occupy Point: 16
Foresight Point: 325 Angle Right: 9.1545 Zenith
Angle: 90.0820 Slope Distance: 303.968USft Description: B-1112ALT
2600 Side Shot: Occupy Point: 16
Foresight Point: 326 Angle Right: 31.4338 Zenith
Angle: 92.2316 Slope Distance: 339.326USft Description: B-1112
2601 Note: Date: 03-20-2007 Time: 13:31:54
2602 Side Shot: Occupy Point: 16
Foresight Point: 327 Angle Right: 330.5830 Zenith
Angle: 90.2751 Slope Distance: 366.734USft Description: B-1111
2603 Store Point: Point Name: 328
Northing: 1143261.724534USft Easting: 621997.167379USft
Elevation: 222.469702USft Description: CHK14
2604 Cut Sheet: Elevation: 222.469702USft
Design Grade: 222.513
2605 Design Point/Location: Point Name: 14
Northing: 1143261.7065USft Easting: 621997.1521USft
Elevation: 222.513USft Description: #4RS
2606 Stakeout Deltas: Delta Northing: -0.018034USft
Delta Easting: -0.015279USft Delta Elevation: 0.043298USft
2607 Stakeout: Occupy Point: 16
Foresight Point: 328 Angle Right: 227.0359 Zenith
Angle: 90.2143 Slope Distance: 855.664USft Description: CHK14
2608 Note: Date: 03-20-2007 Time: 13:46:58
2609 Side Shot: Occupy Point: 16
Foresight Point: 329 Angle Right: 165.3900 Zenith
Angle: 91.2949 Slope Distance: 368.166USft Description: B-1128
2610 Side Shot: Occupy Point: 16
Foresight Point: 330 Angle Right: 165.0902 Zenith
Angle: 91.3255 Slope Distance: 368.304USft Description: B-1128ALT
2611 Occupy Pt: Occupy Point: 146
Northing: 1143007.533USft Easting: 621001.779USft
Elevation: 221.616USft Description: NS
2612 Note: HR:4.97 (4.97 + 0.0 Offset)
2613 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 4.97USft
2614 Backsight: Occupy Point: 146
Backsight Point: 127 Backsight Azimuth: 163.310748 Backsight
Circle: 0.0000
2615 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
2616 Note: BS check 146 - 127:ZE90.2548,SD437.614,HD err= -
0.020061, VD err= -0.003225
2617 Note: BS Circle check : angular err= 0.0000
2618 Side Shot: Occupy Point: 146
Foresight Point: 331 Angle Right: 0.0000 Zenith
Angle: 90.2548 Slope Distance: 437.602USft Description: CHK127
2619 Note: Date: 03-20-2007 Time: 15:05:16
2620 Side Shot: Occupy Point: 146
Foresight Point: 332 Angle Right: 203.3419 Zenith
Angle: 90.0636 Slope Distance: 171.89USft Description: B-1136
2621 Off Center Shot: Angle Right: 216.5834
Zenith Angle: 89.5912 Slope Distance: 293.804USft
2622 Off Center Shot: Left/Right Offset: -0.4USft
Description: Left / Right Offset
2623 Side Shot: Occupy Point: 146
Foresight Point: 333 Angle Right: 216.535318 Zenith
Angle: 89.5912 Slope Distance: 293.804272USft Description: B-1134

```
 2624  Side Shot:              Occupy Point: 146
Foresight Point: 334                 Angle Right: 359.5958             Zenith
Angle: 90.2558        Slope Distance: 437.63USft      Description: CHK127
 2625  Note:                   Foresight Target:My Prism, HR:4.84 (4.84 + 0.0
Offset), Prism Const.:0.0mm
 2626  Occupy Pt:              Occupy Point: 9163
Northing: 1143003.502267USft         Easting: 620311.711973USft
Elevation: 250.196261USft    Description: NS
 2627  Note:                   HR:4.84 (4.84 + 0.0 Offset)
 2628  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.84USft
 2629  Backsight:              Occupy Point: 9163
Backsight Point: 9159                Backsight Azimuth: 261.385713     Backsight
Circle: 0.0000
 2630  Note:                   Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 2631  Note:                   BS check 9163 - 9159:ZE90.0008,SD408.21,HD err=
0.010108, VD err= -0.002684
 2632  Note:                   BS Circle check : angular err= 0.0000
 2633  Side Shot:              Occupy Point: 9163
Foresight Point: 335                 Angle Right: 0.0001               Zenith
Angle: 90.0008        Slope Distance: 408.21USft      Description: CHK9159
 2634  Note:                   Date: 03-20-2007  Time: 15:30:36
 2635  Note:                   Foresight Target:My Prism, HR:4.51 (4.51 + 0.0
Offset), Prism Const.:0.0mm
 2636  Occupy Pt:              Occupy Point: 9163
Northing: 1143003.502267USft         Easting: 620311.711973USft
Elevation: 250.196261USft    Description: NS
 2637  Note:                   HR:4.51 (4.51 + 0.0 Offset)
 2638  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.51USft
 2639  Backsight:              Occupy Point: 9163
Backsight Point: 9159                Backsight Azimuth: 261.385713     Backsight
Circle: 0.0000
 2640  Note:                   Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 2641  Note:                   BS check 9163 - 9159:ZE90.0009,SD408.208,HD err=
0.008108, VD err= -0.004663
 2642  Note:                   BS Circle check : angular err= 0.0000
 2643  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 2644  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0002
 2645  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 358.3127
 2646  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 269.4555
 2647  Multiple Distances:     Set: 1
Slope Distance: 433.94USft
 2648  Repeat Foresight:       Occupy Point: 9163
Foresight Point: 336                 Angle Right: 358.3127             Zenith
Angle: 269.4555       Slope Distance: 433.94USft      Height of Rod: 4.51USft
Description: NS
 2649  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 178.3116
 2650  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 90.1401
 2651  Multiple Distances:     Set: 1
Slope Distance: 433.938USft
 2652  Repeat Foresight:       Occupy Point: 9163
Foresight Point: 336                 Angle Right: 178.3116             Zenith
Angle: 90.1401        Slope Distance: 433.938USft     Height of Rod: 4.51USft
Description: NS
 2653  Note:                   Horizontal Angle Error: 0.0009
 2654  Note:                   Zenith Angle Error: 0.0004
 2655  Note:                   Slope Distance Error: 0.002
 2656  Note:                   Horizontal Angle Error compares to the average:
```

```
0.0000
 2657  Note:                   Zenith Angle Error compares to the average:
0.0000
 2658  Note:                   Slope Distance Error compares to the average: 0.0
 2659  Side Shot:              Occupy Point: 9163
Foresight Point: 336                 Angle Right: 178.31205            Zenith
Angle: 90.1403        Slope Distance: 433.939USft     Description: NS
 2660  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2661  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2662  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.97USft
 2663  Side Shot:              Occupy Point: 9163
Foresight Point: 337                 Angle Right: 89.5023              Zenith
Angle: 91.4921        Slope Distance: 67.06USft       Description: B-6006
 2664  Side Shot:              Occupy Point: 9163
Foresight Point: 338                 Angle Right: 280.2601             Zenith
Angle: 95.5225        Slope Distance: 274.39USft      Description: B-6007
 2665  Note:                   Foresight Target:My Prism, HR:4.84 (4.84 + 0.0
Offset), Prism Const.:0.0mm
 2666  Note:                   HR:4.84 (4.84 + 0.0 Offset)
 2667  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.84USft
 2668  Side Shot:              Occupy Point: 9163
Foresight Point: 339                 Angle Right: 359.5955             Zenith
Angle: 90.0013        Slope Distance: 408.206USft     Description: CHK9159
 2669  Note:                   Foresight Target:My Prism, HR:4.75 (4.75 + 0.0
Offset), Prism Const.:0.0mm
 2670  Occupy Pt:              Occupy Point: 336
Northing: 1143077.574404USft         Easting: 620739.27861USft
Elevation: 249.042766USft    Description: NS
 2671  Note:                   HR:4.75 (4.75 + 0.0 Offset)
 2672  Line of Sight (HI/HR):  Height of Instrument: 5.04USft
Height of Rod: 4.75USft
 2673  Backsight:              Occupy Point: 336
Backsight Point: 9163                Backsight Azimuth: 260.101763     Backsight
Circle: 0.0000
 2674  Note:                   Fixed HR at Backsight:4.75 (4.75 + 0.0 Offset),
Prism Const.:0.0mm
 2675  Note:                   BS check 336 - 9163:ZE89.5325,SD433.922,HD err= -
0.014172, VD err= -0.032529
 2676  Note:                   BS Circle check : angular err= 0.0000
 2677  Note:                   BS check 336 - 9163:ZE89.5325,SD433.916,HD err= -
0.020172, VD err= -0.03254
 2678  Note:                   BS Circle check : angular err= 0.0000
 2679  Note:                   BS check 336 - 9163:ZE89.5325,SD433.926,HD err= -
0.010172, VD err= -0.032521
 2680  Note:                   BS Circle check : angular err= 0.0000
 2681  Note:                   BS check 336 - 9163:ZE89.5328,SD433.934,HD err= -
0.00216, VD err= -0.038817
 2682  Note:                   BS Circle check : angular err= 0.0000
 2683  Note:                   BS check 336 - 9163:ZE89.5328,SD433.928,HD err= -
0.00816, VD err= -0.038828
 2684  Note:                   BS Circle check : angular err= 0.0000
 2685  Occupy Pt:              Occupy Point: 336
Northing: 1143077.574404USft         Easting: 620739.27861USft
Elevation: 249.042766USft    Description: NS
 2686  Backsight:              Occupy Point: 336
Backsight Point: 9163                Backsight Azimuth: 260.101763     Backsight
Circle: 0.0000
 2687  Note:                   Fixed HR at Backsight:4.75 (4.75 + 0.0 Offset),
Prism Const.:0.0mm
 2688  Note:                   BS check 336 - 9163:ZE89.5328,SD433.924,HD err= -
0.012159, VD err= -0.038836
 2689  Note:                   BS Circle check : angular err= 0.0000
 2690  Remote Elevation:       Occupy Point: 336
Foresight Elevation: 250.196261USft  Zenith Angle: 89.5325             Slope
```

Distance: 433.92USft Description: Remote elev
 2691 Store Point: Point Name: 336
Northing: 1143077.574404USft Easting: 620739.27861USft
Elevation: 249.075299USft Description: NS
 2692 Occupy Pt: Occupy Point: 336
Northing: 1143077.574404USft Easting: 620739.27861USft
Elevation: 249.075299USft Description: NS
 2693 Backsight: Occupy Point: 336
Backsight Point: 9163 Backsight Azimuth: 260.101763 Backsight
Circle: 0.0000
 2694 Note: Fixed HR at Backsight:4.75 (4.75 + 0.0 Offset),
Prism Const.:0.0mm
 2695 Note: BS check 336 - 9163:ZE89.5319,SD433.928,HD err= -
0.008196, VD err= 0.012638
 2696 Note: BS Circle check : angular err= 0.0000
 2697 Note: BS check 336 - 9163:ZE89.5322,SD433.922,HD err= -
0.014184, VD err= 0.006315
 2698 Note: BS Circle check : angular err= 0.0000
 2699 Side Shot: Occupy Point: 336
Foresight Point: 340 Angle Right: 0.0000 Zenith
Angle: 89.5323 Slope Distance: 433.928USft Description: CHK9163
 2700 Note: Date: 03-20-2007 Time: 15:51:52
 2701 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2702 Note: HR:4.97 (4.97 + 0.0 Offset)
 2703 Line of Sight (HI/HR): Height of Instrument: 5.04USft
Height of Rod: 4.97USft
 2704 Store Point: Point Name: 341
Northing: 1143007.563305USft Easting: 621001.643819USft
Elevation: 221.591955USft Description: CHK146
 2705 Cut Sheet: Elevation: 221.591955USft
Design Grade: 221.616
 2706 Design Point/Location: Point Name: 146
Northing: 1143007.533USft Easting: 621001.779USft
Elevation: 221.616USft Description: NS
 2707 Stakeout Deltas: Delta Northing: -0.030305USft
Delta Easting: 0.135181USft Delta Elevation: 0.024045USft
 2708 Stakeout: Occupy Point: 336
Foresight Point: 341 Angle Right: 204.4610 Zenith
Angle: 95.4738 Slope Distance: 272.94USft Description: CHK146
 2709 Off Center Shot: Angle Right: 120.1146
Zenith Angle: 90.5101 Slope Distance: 530.374USft
 2710 Off Center Shot: Left/Right Offset: -2.0USft
Description: Left / Right Offset
 2711 Side Shot: Occupy Point: 336
Foresight Point: 342 Angle Right: 119.584811 Zenith
Angle: 90.510098 Slope Distance: 530.377771USft Description: B-1123
 2712 Note: Date: 03-20-2007 Time: 16:06:57
 2713 Occupy Pt: Occupy Point: 336
Northing: 1143077.574404USft Easting: 620739.27861USft
Elevation: 249.075299USft Description: NS
 2714 Backsight: Occupy Point: 336
Backsight Point: 9163 Backsight Azimuth: 260.101763 Backsight
Circle: 0.0000
 2715 Note: Fixed HR at Backsight:4.75 (4.75 + 0.0 Offset),
Prism Const.:0.0mm
 2716 Note: BS check 336 - 9163:ZE89.5324,SD433.924,HD err= -
0.012176, VD err= 0.002111
 2717 Note: BS Circle check : angular err= 0.0000
 2718 Occupy Pt: Occupy Point: 336
Northing: 1143077.574404USft Easting: 620739.27861USft
Elevation: 249.075299USft Description: NS
 2719 Backsight: Occupy Point: 336
Backsight Point: 9163 Backsight Azimuth: 260.101763 Backsight
Circle: 0.0000
 2720 Note: Fixed HR at Backsight:4.75 (4.75 + 0.0 Offset),
Prism Const.:0.0mm

```
 2721  Note:                   BS check 336 - 9163:ZE89.5322,SD433.924,HD err= -
0.012184, VD err= 0.006319
 2722  Note:                   BS Circle check : angular err= 0.0000
 2723  Note:                   RD,BD 1:0.0000
 2724  Note:                   RD,BV 1:180.0005
 2725  Note:                   RD,FV 1:180.0000
 2726  Note:                   RD,ZV 1:
 2727  Note:                   MD,SD 1:
 2728  Note:                   RF,OP336,FP,AR180.0000,ZE,SD,HR4.97,--
 2729  Note:                   RD,FD 1:0.0000
 2730  Note:                   RD,ZD 1:
 2731  Note:                   MD,SD 1:
 2732  Note:                   RF,OP336,FP,AR0.0000,ZE,SD,HR4.97,--
 2733  Note:                   Horizontal Angle Error: 0.0000
 2734  Note:                   Zenith Angle Error: 0.0000
 2735  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 2736  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0006
 2737  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 312.2147
 2738  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.1910
 2739  Multiple Distances:     Set: 1
Slope Distance: 445.818USft
 2740  Repeat Foresight:       Occupy Point: 336
Foresight Point: 343                Angle Right: 312.2147             Zenith
Angle: 269.1910       Slope Distance: 445.818USft     Height of Rod: 4.97USft
Description: NS
 2741  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 132.2140
 2742  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 90.4052
 2743  Multiple Distances:     Set: 1
Slope Distance: 445.816USft
 2744  Repeat Foresight:       Occupy Point: 336
Foresight Point: 343                Angle Right: 132.2140             Zenith
Angle: 90.4052        Slope Distance: 445.816USft     Height of Rod: 4.97USft
Description: NS
 2745  Note:                   Horizontal Angle Error: 0.0001
 2746  Note:                   Zenith Angle Error: 0.0002
 2747  Note:                   Slope Distance Error: 0.002
 2748  Note:                   Horizontal Angle Error compares to the average:
0.0000
 2749  Note:                   Zenith Angle Error compares to the average:
0.0000
 2750  Note:                   Slope Distance Error compares to the average: 0.0
 2751  Side Shot:              Occupy Point: 336
Foresight Point: 343                Angle Right: 132.21405            Zenith
Angle: 90.4051        Slope Distance: 445.817USft     Description: NS
 2752  Note:                   Foresight Target:My Prism, HR:4.77 (4.77 + 0.0
Offset), Prism Const.:0.0mm
 2753  Occupy Pt:              Occupy Point: 343
Northing: 1143453.408867USft        Easting: 620979.01428USft
Elevation: 243.847876USft    Description: NS
 2754  Note:                   HR:4.77 (4.77 + 0.0 Offset)
 2755  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.77USft
 2756  Backsight:              Occupy Point: 343
Backsight Point: 336                Backsight Azimuth: 212.315813     Backsight
Circle: 0.0000
 2757  Note:                   Fixed HR at Backsight:4.77 (4.77 + 0.0 Offset),
Prism Const.:0.0mm
 2758  Note:                   BS check 343 - 336:ZE89.2312,SD445.834,HD err=
0.022931, VD err= -0.005
 2759  Note:                   BS Circle check : angular err= 0.0000
 2760  Side Shot:              Occupy Point: 343
```

Foresight Point: 344 Angle Right: 0.0000 Zenith
Angle: 89.2312 Slope Distance: 445.832USft Description: CHK336
2761 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
2762 Occupy Pt: Occupy Point: 343
Northing: 1143453.408867USft Easting: 620979.01428USft
Elevation: 243.847876USft Description: NS
2763 Note: HR:4.97 (4.97 + 0.0 Offset)
2764 Line of Sight (HI/HR): Height of Instrument: 5.22USft
Height of Rod: 4.97USft
2765 Backsight: Occupy Point: 343
Backsight Point: 336 Backsight Azimuth: 212.315813 Backsight
Circle: 0.0000
2766 Note: Fixed HR at Backsight:4.77 (4.77 + 0.0 Offset),
Prism Const.:0.0mm
2767 Note: BS check 343 - 336:ZE89.2312,SD445.834,HD err=
0.022931, VD err= -0.005
2768 Note: BS Circle check : angular err= 0.0000
2769 Side Shot: Occupy Point: 343
Foresight Point: 345 Angle Right: 215.5851 Zenith
Angle: 90.2053 Slope Distance: 475.642USft Description: B-1124
2770 Note: Date: 03-20-2007 Time: 16:28:31
2771 Occupy Pt: Occupy Point: 343
Northing: 1143453.408867USft Easting: 620979.01428USft
Elevation: 243.847876USft Description: NS
2772 Backsight: Occupy Point: 343
Backsight Point: 336 Backsight Azimuth: 212.315813 Backsight
Circle: 0.0000
2773 Note: Fixed HR at Backsight:4.77 (4.77 + 0.0 Offset),
Prism Const.:0.0mm
2774 Note: BS check 343 - 336:ZE89.2308,SD445.824,HD err=
0.012838, VD err= 0.003538
2775 Note: BS Circle check : angular err= 0.0000
2776 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
2777 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0007
2778 Repeat Directional: Foresight Reverse
Set: 1 Angle: 359.3715
2779 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 268.5119
2780 Multiple Distances: Set: 1
Slope Distance: 124.012USft
2781 Repeat Foresight: Occupy Point: 343
Foresight Point: 346 Angle Right: 359.3715 Zenith
Angle: 268.5119 Slope Distance: 124.012USft Height of Rod: 4.97USft
Description: NS
2782 Repeat Directional: Foresight Direct
Set: 1 Angle: 179.3711
2783 Repeat Directional: Zenith Direct
Set: 1 Zenith: 91.0847
2784 Multiple Distances: Set: 1
Slope Distance: 124.0USft
2785 Repeat Foresight: Occupy Point: 343
Foresight Point: 346 Angle Right: 179.3711 Zenith
Angle: 91.0847 Slope Distance: 124.0USft Height of Rod: 4.97USft
Description: NS
2786 Note: Horizontal Angle Error: 0.0003
2787 Note: Zenith Angle Error: 0.0006
2788 Note: Slope Distance Error: 0.012
2789 Note: Horizontal Angle Error compares to the average:
0.0000
2790 Note: Zenith Angle Error compares to the average:
0.0000
2791 Note: Slope Distance Error compares to the average: 0.0
2792 Side Shot: Occupy Point: 343
Foresight Point: 346 Angle Right: 179.37095 Zenith

Angle: 91.0844 Slope Distance: 124.006USft Description: NS
2793 Note: Foresight Target:My Prism, HR:4.77 (4.77 + 0.0 Offset), Prism Const.:0.0mm
2794 Occupy Pt: Occupy Point: 346
Northing: 1143558.376098USft Easting: 621044.993232USft
Elevation: 241.618701USft Description: NS
2795 Note: HR:4.77 (4.77 + 0.0 Offset)
2796 Line of Sight (HI/HR): Height of Instrument: 5.19USft
Height of Rod: 4.77USft
2797 Backsight: Occupy Point: 346
Backsight Point: 336 Backsight Azimuth: 212.265991 Backsight Circle: 0.0000
2798 Note: Fixed HR at Backsight:4.77 (4.77 + 0.0 Offset), Prism Const.:0.0mm
2799 Note: BS check 346 - 336:ZE89.1735,SD569.832,HD err= 0.024026, VD err= -0.005899
2800 Note: BS Circle check : angular err= 0.0000
2801 Side Shot: Occupy Point: 346
Foresight Point: 347 Angle Right: 0.0000 Zenith
Angle: 89.1735 Slope Distance: 569.832USft Description: CHK336
2802 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
2803 Note: HR:4.97 (4.97 + 0.0 Offset)
2804 Line of Sight (HI/HR): Height of Instrument: 5.19USft
Height of Rod: 4.97USft
2805 Side Shot: Occupy Point: 346
Foresight Point: 348 Angle Right: 234.4535 Zenith
Angle: 90.0507 Slope Distance: 583.902USft Description: B-1125
2806 Note: Foresight Target:My Prism, HR:4.77 (4.77 + 0.0 Offset), Prism Const.:0.0mm
2807 Note: HR:4.77 (4.77 + 0.0 Offset)
2808 Line of Sight (HI/HR): Height of Instrument: 5.19USft
Height of Rod: 4.77USft
2809 Side Shot: Occupy Point: 346
Foresight Point: 349 Angle Right: 0.0001 Zenith
Angle: 89.1733 Slope Distance: 569.822USft Description: CHK336
2810 Note: Date: 03-20-2007 Time: 17:20:10
2811 Note: Foresight Target:My Prism, HR:5.1 (5.1 + 0.0 Offset), Prism Const.:0.0mm
2812 Occupy Pt: Occupy Point: 9143
Northing: 1143895.325459USft Easting: 619692.808126USft
Elevation: 246.892193USft Description: NS
2813 Note: HR:5.1 (5.1 + 0.0 Offset)
2814 Line of Sight (HI/HR): Height of Instrument: 5.13USft
Height of Rod: 5.1USft
2815 Backsight: Occupy Point: 9143
Backsight Point: 9139 Backsight Azimuth: 73.590513 Backsight Circle: 0.0000
2816 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset), Prism Const.:0.0mm
2817 Note: BS check 9143 - 9139:ZE88.3851,SD723.276,HD err= 0.044296, VD err= -0.035846
2818 Note: BS Circle check : angular err= 0.0000
2819 Occupy Pt: Occupy Point: 9143
Northing: 1143895.325459USft Easting: 619692.808126USft
Elevation: 246.892193USft Description: NS
2820 Backsight: Occupy Point: 9143
Backsight Point: 9139 Backsight Azimuth: 73.590513 Backsight Circle: 0.0000
2821 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset), Prism Const.:0.0mm
2822 Note: BS check 9143 - 9139:ZE88.3848,SD723.284,HD err= 0.052046, VD err= -0.025141
2823 Note: BS Circle check : angular err= 0.0000
2824 Note: BS check 9143 - 9139:ZE88.3849,SD723.256,HD err= 0.024136, VD err= -0.029307
2825 Note: BS Circle check : angular err= 0.0000

```
 2826  Note:                   BS check 9143 - 9139:ZE88.3848,SD723.272,HD err=
0.040049, VD err= -0.025424
 2827  Note:                   BS Circle check : angular err= 0.0000
 2828  Note:                   BS check 9143 - 9139:ZE88.3847,SD723.242,HD err=
0.009975, VD err= -0.022627
 2829  Note:                   BS Circle check : angular err= 0.0001
 2830  Note:                   BS check 9143 - 9139:ZE88.3845,SD723.284,HD err=
0.051797, VD err= -0.014624
 2831  Note:                   BS Circle check : angular err= 0.0000
 2832  Note:                   BS check 9143 - 9139:ZE88.3845,SD723.276,HD err=
0.0438, VD err= -0.014813
 2833  Note:                   BS Circle check : angular err= 0.0000
 2834  Side Shot:              Occupy Point: 9143
Foresight Point: 350                 Angle Right: 0.0000              Zenith
Angle: 88.3845        Slope Distance: 723.274USft     Description: CHK9139
 2835  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2836  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2837  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.97USft
 2838  Off Center Shot:        Angle Right: 60.1241
Zenith Angle: 91.0029                Slope Distance: 253.414USft
 2839  Off Center Shot:        Left/Right Offset: 1.0USft
Description: Left / Right Offset
 2840  Side Shot:              Occupy Point: 9143
Foresight Point: 351                 Angle Right: 60.261507           Zenith
Angle: 91.002897      Slope Distance: 253.415973USft  Description: B-6005
 2841  Side Shot:              Occupy Point: 9143
Foresight Point: 352                 Angle Right: 157.0605            Zenith
Angle: 93.0819        Slope Distance: 282.488USft     Description: B-6004
 2842  Off Center Shot:        Angle Right: 202.0449
Zenith Angle: 93.3834                Slope Distance: 272.182USft
 2843  Off Center Shot:        Left/Right Offset: 1.0USft
Description: Left / Right Offset
 2844  Side Shot:              Occupy Point: 9143
Foresight Point: 353                 Angle Right: 202.172835          Zenith
Angle: 93.383391      Slope Distance: 272.183837USft  Description: B-6003
 2845  Note:                   Date: 03-20-2007  Time: 17:35:58
 2846  Side Shot:              Occupy Point: 9143
Foresight Point: 354                 Angle Right: 270.3444            Zenith
Angle: 89.4814        Slope Distance: 247.712USft     Description: B-6002
 2847  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft         Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
 2848  Backsight:              Occupy Point: 9143
Backsight Point: 9139                Backsight Azimuth: 73.590513     Backsight
Circle: 0.0000
 2849  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
 2850  Note:                   BS check 9143 - 9139:ZE88.3843,SD723.274,HD err=
0.041634, VD err= -0.007849
 2851  Note:                   BS Circle check : angular err= 0.0000
 2852  Note:                   Foresight Target:My Prism, HR:4.81 (4.81 + 0.0
Offset), Prism Const.:0.0mm
 2853  Note:                   HR:4.81 (4.81 + 0.0 Offset)
 2854  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.81USft
 2855  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 2856  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0011
 2857  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 42.0621
 2858  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 266.1022
 2859  Multiple Distances:     Set: 1
Slope Distance: 191.854USft
```

```
 2860  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 355                 Angle Right: 42.0621              Zenith
Angle: 266.1022       Slope Distance: 191.854USft     Height of Rod: 4.81USft
Description: NS
 2861  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 222.0613
 2862  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 93.4937
 2863  Multiple Distances:     Set: 1
Slope Distance: 191.852USft
 2864  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 355                 Angle Right: 222.0613             Zenith
Angle: 93.4937        Slope Distance: 191.852USft     Height of Rod: 4.81USft
Description: NS
 2865  Note:                   Horizontal Angle Error: 0.0003
 2866  Note:                   Zenith Angle Error: 0.0001
 2867  Note:                   Slope Distance Error: 0.002
 2868  Note:                   Horizontal Angle Error compares to the average:
0.0000
 2869  Note:                   Zenith Angle Error compares to the average:
0.0000
 2870  Note:                   Slope Distance Error compares to the average: 0.0
 2871  Side Shot:              Occupy Point: 9143
Foresight Point: 355                 Angle Right: 222.06115            Zenith
Angle: 93.49375       Slope Distance: 191.853USft     Description: NS
 2872  Note:                   Foresight Target:My Prism, HR:4.95 (4.95 + 0.0
Offset), Prism Const.:0.0mm
 2873  Occupy Pt:              Occupy Point: 355
Northing: 1143979.504742USft         Easting: 619520.885337USft
Elevation: 234.40686USft     Description: NS
 2874  Note:                   HR:4.95 (4.95 + 0.0 Offset)
 2875  Line of Sight (HI/HR):  Height of Instrument: 5.0USft
Height of Rod: 4.95USft
 2876  Backsight:              Occupy Point: 355
Backsight Point: 9143                Backsight Azimuth: 116.051663     Backsight
Circle: 0.0000
 2877  Note:                   Fixed HR at Backsight:4.95 (4.95 + 0.0 Offset),
Prism Const.:0.0mm
 2878  Note:                   BS check 355 - 9143:ZE86.1708,SD191.83,HD err=
0.001853, VD err= -0.007841
 2879  Note:                   BS Circle check : angular err= 0.0000
 2880  Side Shot:              Occupy Point: 355
Foresight Point: 356                 Angle Right: 0.0000               Zenith
Angle: 86.1707        Slope Distance: 191.828USft     Description: CHK9143
 2881  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2882  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2883  Line of Sight (HI/HR):  Height of Instrument: 5.0USft
Height of Rod: 4.97USft
 2884  Side Shot:              Occupy Point: 355
Foresight Point: 357                 Angle Right: 178.3842             Zenith
Angle: 85.4749        Slope Distance: 268.374USft     Description: B-1193
 2885  Note:                   Foresight Target:My Prism, HR:4.95 (4.95 + 0.0
Offset), Prism Const.:0.0mm
 2886  Note:                   HR:4.95 (4.95 + 0.0 Offset)
 2887  Line of Sight (HI/HR):  Height of Instrument: 5.0USft
Height of Rod: 4.95USft
 2888  Side Shot:              Occupy Point: 355
Foresight Point: 358                 Angle Right: 359.5959             Zenith
Angle: 86.1702        Slope Distance: 191.826USft     Description: CHK9143
 2889  Occupy Pt:              Occupy Point: 9139
Northing: 1144094.804475USft         Easting: 620387.77632USft
Elevation: 264.029802USft    Description: NS
 2890  Note:                   HR:4.95 (4.95 + 0.0 Offset)
 2891  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 4.95USft
 2892  Backsight:              Occupy Point: 9139
```

Backsight Point: 9143 Backsight Azimuth: 253.590513 Backsight Circle: 0.0000
2893 Note: Fixed HR at Backsight:4.95 (4.95 + 0.0 Offset), Prism Const.:0.0mm
2894 Note: BS check 9139 - 9143:ZE91.2237,SD723.276,HD err= 0.036947, VD err= -0.012642
2895 Note: BS Circle check : angular err= 0.0000
2896 Note: BS check 9139 - 9143:ZE91.2232,SD723.272,HD err= 0.033369, VD err= 0.004982
2897 Note: BS Circle check : angular err= 0.0000
2898 Side Shot: Occupy Point: 9139
Foresight Point: 359 Angle Right: 0.0000 Zenith Angle: 91.2232 Slope Distance: 723.272USft Description: CHK9143
2899 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
2900 Note: HR:4.97 (4.97 + 0.0 Offset)
2901 Line of Sight (HI/HR): Height of Instrument: 5.18USft Height of Rod: 4.97USft
2902 Note: Date: 03-20-2007 Time: 18:06:22
2903 Side Shot: Occupy Point: 9139
Foresight Point: 360 Angle Right: 182.2006 Zenith Angle: 93.3407 Slope Distance: 17.312USft Description: NS
2904 Note: Foresight Target:My Prism, HR:4.95 (4.95 + 0.0 Offset), Prism Const.:0.0mm
2905 Note: HR:4.95 (4.95 + 0.0 Offset)
2906 Line of Sight (HI/HR): Height of Instrument: 5.18USft Height of Rod: 4.95USft
2907 Side Shot: Occupy Point: 9139
Foresight Point: 361 Angle Right: 359.5959 Zenith Angle: 91.2230 Slope Distance: 723.266USft Description: CHK4193
2908 Store Point: Point Name: 361
Northing: 1143895.314491USft Easting: 619692.782622USft Elevation: 246.90433USft Description: CHK9143
2909 Occupy Pt: Occupy Point: 360
Northing: 1144098.890878USft Easting: 620404.564576USft Elevation: 263.162238USft Description: NS
2910 Note: HR:4.95 (4.95 + 0.0 Offset)
2911 Line of Sight (HI/HR): Height of Instrument: 4.9USft Height of Rod: 4.95USft
2912 Backsight: Occupy Point: 360
Backsight Point: 9143 Backsight Azimuth: 254.022127 Backsight Circle: 0.0000
2913 Note: Fixed HR at Backsight:4.95 (4.95 + 0.0 Offset), Prism Const.:0.0mm
2914 Note: BS check 360 - 9143:ZE91.1512,SD740.492,HD err= 0.020222, VD err= 0.023227
2915 Note: BS Circle check : angular err= 0.0000
2916 Note: BS check 360 - 9143:ZE91.1518,SD740.49,HD err= 0.017751, VD err= 0.001736
2917 Note: BS Circle check : angular err= 0.0000
2918 Side Shot: Occupy Point: 360
Foresight Point: 362 Angle Right: 0.0000 Zenith Angle: 91.1518 Slope Distance: 740.492USft Description: CHK9143
2919 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
2920 Note: HR:4.97 (4.97 + 0.0 Offset)
2921 Line of Sight (HI/HR): Height of Instrument: 4.9USft Height of Rod: 4.97USft
2922 Side Shot: Occupy Point: 360
Foresight Point: 363 Angle Right: 131.4027 Zenith Angle: 111.2828 Slope Distance: 188.176USft Description: B-6011
2923 Note: Data Collector Serial Number: FS29A13023
2924 Note: Activating Total Station: Nikon TOP GUN [Nikon], COM1, 4800 baud, no parity
2925 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
2926 Note: Date: 03-21-2007 Time: 08:22:13

```
 2927  Note:                   Foresight Target:My Prism, HR:5.16 (5.16 + 0.0
Offset), Prism Const.:0.0mm
 2928  Occupy Pt:              Occupy Point: 9137
Northing: 1143987.330517USft         Easting: 620559.60905USft
Elevation: 264.239505USft    Description: NS
 2929  Note:                   HR:5.16 (5.16 + 0.0 Offset)
 2930  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.16USft
 2931  Backsight:              Occupy Point: 9137
Backsight Point: 9139              Backsight Azimuth: 302.012713     Backsight
Circle: 0.0000
 2932  Note:                   Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
 2933  Note:                   BS check 9137 - 9139:ZE90.0450,SD202.676,HD err=
0.000841, VD err= 0.014748
 2934  Note:                   BS Circle check : angular err= 0.0000
 2935  Side Shot:              Occupy Point: 9137
Foresight Point: 364               Angle Right: 0.0000               Zenith
Angle: 90.0452        Slope Distance: 202.674USft     Description: CHK9139
 2936  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2937  Occupy Pt:              Occupy Point: 9137
Northing: 1143987.330517USft         Easting: 620559.60905USft
Elevation: 264.239505USft    Description: NS
 2938  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2939  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 4.97USft
 2940  Backsight:              Occupy Point: 9137
Backsight Point: 9139              Backsight Azimuth: 302.012713     Backsight
Circle: 0.0000
 2941  Note:                   Fixed HR at Backsight:5.16 (5.16 + 0.0 Offset),
Prism Const.:0.0mm
 2942  Note:                   BS check 9137 - 9139:ZE90.0448,SD202.672,HD err=
-0.003156, VD err= 0.016719
 2943  Note:                   BS Circle check : angular err= 0.0000
 2944  Repeat Directional:     Backsight Direct
Set: 1                             Angle: 0.0000
 2945  Repeat Directional:     Backsight Reverse
Set: 1                             Angle: 180.0002
 2946  Repeat Directional:     Foresight Reverse
Set: 1                             Angle: 271.4913
 2947  Repeat Directional:     Zenith Reverse
Set: 1                             Zenith: 268.5317
 2948  Multiple Distances:     Set: 1
Slope Distance: 161.318USft
 2949  Repeat Foresight:       Occupy Point: 9137
Foresight Point: 365               Angle Right: 271.4913             Zenith
Angle: 268.5317       Slope Distance: 161.318USft     Height of Rod: 4.97USft
Description: NS
 2950  Repeat Directional:     Foresight Direct
Set: 1                             Angle: 91.4911
 2951  Repeat Directional:     Zenith Direct
Set: 1                             Zenith: 91.0645
 2952  Multiple Distances:     Set: 1
Slope Distance: 161.316USft
 2953  Repeat Foresight:       Occupy Point: 9137
Foresight Point: 365               Angle Right: 91.4911              Zenith
Angle: 91.0645        Slope Distance: 161.316USft     Height of Rod: 4.97USft
Description: NS
 2954  Note:                   Horizontal Angle Error: 0.0000
 2955  Note:                   Zenith Angle Error: 0.0002
 2956  Note:                   Slope Distance Error: 0.002
 2957  Note:                   Horizontal Angle Error compares to the average:
0.0000
 2958  Note:                   Zenith Angle Error compares to the average:
0.0000
 2959  Note:                   Slope Distance Error compares to the average: 0.0
```

```
 2960  Side Shot:              Occupy Point: 9137
Foresight Point: 365                 Angle Right: 91.4911              Zenith
Angle: 91.0644        Slope Distance: 161.317USft     Description: NS
 2961  Note:                   Foresight Target:My Prism, HR:5.01 (5.01 + 0.0
Offset), Prism Const.:0.0mm
 2962  Occupy Pt:              Occupy Point: 9139
Northing: 1144094.804475USft         Easting: 620387.77632USft
Elevation: 264.029802USft    Description: NS
 2963  Note:                   HR:5.01 (5.01 + 0.0 Offset)
 2964  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.01USft
 2965  Backsight:              Occupy Point: 9139
Backsight Point: 9137                Backsight Azimuth: 122.012713     Backsight
Circle: 0.0000
 2966  Note:                   Fixed HR at Backsight:5.01 (5.01 + 0.0 Offset),
Prism Const.:0.0mm
 2967  Note:                   BS check 9139 - 9137:ZE90.0125,SD202.68,HD err=
0.005024, VD err= -0.003225
 2968  Note:                   BS Circle check : angular err= 0.0000
 2969  Side Shot:              Occupy Point: 9139
Foresight Point: 366                 Angle Right: 0.0000               Zenith
Angle: 90.0123        Slope Distance: 202.678USft     Description: CHK9137
 2970  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2971  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2972  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 4.97USft
 2973  Off Center Shot:        Angle Right: 99.5033
Zenith Angle: 93.1122                Slope Distance: 258.258USft
 2974  Off Center Shot:        Left/Right Offset: -2.0USft
Description: Left / Right Offset
 2975  Side Shot:              Occupy Point: 9139
Foresight Point: 367                 Angle Right: 99.23532             Zenith
Angle: 93.112166      Slope Distance: 258.265744USft  Description: B-1113
 2976  Note:                   Date: 03-21-2007  Time: 08:50:29
 2977  Note:                   Foresight Target:My Prism, HR:5.01 (5.01 + 0.0
Offset), Prism Const.:0.0mm
 2978  Occupy Pt:              Occupy Point: 365
Northing: 1144121.288358USft         Easting: 620649.434805USft
Elevation: 261.388226USft    Description: NS
 2979  Note:                   HR:5.01 (5.01 + 0.0 Offset)
 2980  Line of Sight (HI/HR):  Height of Instrument: 5.26USft
Height of Rod: 5.01USft
 2981  Backsight:              Occupy Point: 365
Backsight Point: 9137                Backsight Azimuth: 213.503813     Backsight
Circle: 0.0000
 2982  Note:                   Fixed HR at Backsight:5.01 (5.01 + 0.0 Offset),
Prism Const.:0.0mm
 2983  Note:                   BS check 365 - 9137:ZE89.0409,SD161.334,HD err=
0.026103, VD err= 0.019655
 2984  Note:                   BS Circle check : angular err= 0.0000
 2985  Side Shot:              Occupy Point: 365
Foresight Point: 368                 Angle Right: 0.0000               Zenith
Angle: 89.0410        Slope Distance: 161.332USft     Description: CHK9137
 2986  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 2987  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 2988  Line of Sight (HI/HR):  Height of Instrument: 5.26USft
Height of Rod: 4.97USft
 2989  Side Shot:              Occupy Point: 365
Foresight Point: 369                 Angle Right: 146.1103             Zenith
Angle: 97.0822        Slope Distance: 297.596USft     Description: B-1142
 2990  Store Point:            Point Name: 369
Northing: 1144416.576945USft         Easting: 620649.579581USft
Elevation: 224.691625USft    Description: B-1142ALT
 2991  Note:                   Foresight Target:My Prism, HR:5.01 (5.01 + 0.0
Offset), Prism Const.:0.0mm
```

```
 2992  Note:                    HR:5.01 (5.01 + 0.0 Offset)
 2993  Line of Sight (HI/HR):  Height of Instrument: 5.26USft
Height of Rod: 5.01USft
 2994  Side Shot:               Occupy Point: 365
Foresight Point: 370                Angle Right: 0.0005               Zenith
Angle: 89.0413        Slope Distance: 161.332USft     Description: CHK9137
 2995  Note:                    Date: 03-21-2007  Time: 09:05:33
 2996  Note:                    Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
 2997  Occupy Pt:               Occupy Point: 9134
Northing: 1144136.398256USft         Easting: 621210.26466USft
Elevation: 271.393846USft    Description: NS
 2998  Note:                    HR:5.05 (5.05 + 0.0 Offset)
 2999  Line of Sight (HI/HR):  Height of Instrument: 5.02USft
Height of Rod: 5.05USft
 3000  Backsight:               Occupy Point: 9134
Backsight Point: 9137               Backsight Azimuth: 257.054563     Backsight
Circle: 0.0000
 3001  Note:                    Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 3002  Note:                    Date: 03-21-2007  Time: 09:42:33
 3003  Note:                    BS check 9134 - 9137:ZE90.3641,SD667.554,HD err=
0.002763, VD err= 0.001175
 3004  Note:                    BS Circle check : angular err= 0.0000
 3005  Side Shot:               Occupy Point: 9134
Foresight Point: 371                Angle Right: 0.0000               Zenith
Angle: 90.3641        Slope Distance: 667.55USft      Description: CHK9137
 3006  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3007  Note:                    HR:4.97 (4.97 + 0.0 Offset)
 3008  Line of Sight (HI/HR):  Height of Instrument: 5.02USft
Height of Rod: 4.97USft
 3009  Side Shot:               Occupy Point: 9134
Foresight Point: 372                Angle Right: 314.4550             Zenith
Angle: 91.3647        Slope Distance: 286.282USft     Description: B-6010
 3010  Occupy Pt:               Occupy Point: 9134
Northing: 1144136.398256USft         Easting: 621210.26466USft
Elevation: 271.393846USft    Description: NS
 3011  Backsight:               Occupy Point: 9134
Backsight Point: 9137               Backsight Azimuth: 257.054563     Backsight
Circle: 0.0000
 3012  Note:                    Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 3013  Note:                    BS check 9134 - 9137:ZE90.3637,SD667.554,HD err=
0.002901, VD err= 0.01412
 3014  Note:                    BS Circle check : angular err= 0.0000
 3015  Note:                    BS check 9134 - 9137:ZE90.3637,SD667.552,HD err=
0.000902, VD err= 0.014141
 3016  Note:                    BS Circle check : angular err= 0.0000
 3017  Note:                    BS check 9134 - 9137:ZE90.3635,SD667.55,HD err= -
0.001029, VD err= 0.020635
 3018  Note:                    BS Circle check : angular err= 0.0000
 3019  Note:                    BS check 9134 - 9137:ZE90.3633,SD667.552,HD err=
0.001039, VD err= 0.027086
 3020  Note:                    BS Circle check : angular err= 0.0000
 3021  Note:                    BS check 9134 - 9137:ZE90.3633,SD667.556,HD err=
0.005039, VD err= 0.027043
 3022  Note:                    BS Circle check : angular err= 0.0000
 3023  Note:                    BS check 9134 - 9137:ZE90.3633,SD667.552,HD err=
0.001039, VD err= 0.027086
 3024  Note:                    BS Circle check : angular err= 0.0000
 3025  Note:                    BS check 9134 - 9137:ZE90.3633,SD667.552,HD err=
0.001039, VD err= 0.027086
 3026  Note:                    BS Circle check : angular err= 0.0000
 3027  Note:                    BS check 9134 - 9137:ZE90.3643,SD667.552,HD err=
0.000694, VD err= -0.005276
 3028  Note:                    BS Circle check : angular err= 0.0000
```

```
 3029  Note:                   Foresight Target:My Prism, HR:4.95 (4.95 + 0.0
Offset), Prism Const.:0.0mm
 3030  Note:                   HR:4.95 (4.95 + 0.0 Offset)
 3031  Line of Sight (HI/HR):  Height of Instrument: 5.02USft
Height of Rod: 4.95USft
 3032  Note:                   Date: 03-21-2007  Time: 09:57:37
 3033  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3034  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0002
 3035  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 314.0333
 3036  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 270.1228
 3037  Multiple Distances:     Set: 1
Slope Distance: 264.202USft
 3038  Repeat Foresight:       Occupy Point: 9134
Foresight Point: 373                Angle Right: 314.0333             Zenith
Angle: 270.1228       Slope Distance: 264.202USft     Height of Rod: 4.95USft
Description: NS
 3039  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 134.0332
 3040  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 89.4735
 3041  Multiple Distances:     Set: 1
Slope Distance: 264.2USft
 3042  Repeat Foresight:       Occupy Point: 9134
Foresight Point: 373                Angle Right: 134.0332             Zenith
Angle: 89.4735        Slope Distance: 264.2USft       Height of Rod: 4.95USft
Description: NS
 3043  Note:                   Horizontal Angle Error: 0.0001
 3044  Note:                   Zenith Angle Error: 0.0003
 3045  Note:                   Slope Distance Error: 0.002
 3046  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3047  Note:                   Zenith Angle Error compares to the average:
0.0000
 3048  Note:                   Slope Distance Error compares to the average: 0.0
 3049  Side Shot:              Occupy Point: 9134
Foresight Point: 373                Angle Right: 134.03315            Zenith
Angle: 89.47335       Slope Distance: 264.201USft     Description: NS
 3050  Note:                   Foresight Target:My Prism, HR:4.96 (4.96 + 0.0
Offset), Prism Const.:0.0mm
 3051  Occupy Pt:              Occupy Point: 373
Northing: 1144362.492868USft        Easting: 621346.948531USft
Elevation: 272.420023USft    Description: NS
 3052  Note:                   HR:4.96 (4.96 + 0.0 Offset)
 3053  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.96USft
 3054  Backsight:              Occupy Point: 373
Backsight Point: 9134               Backsight Azimuth: 211.091713     Backsight
Circle: 0.0000
 3055  Note:                   Fixed HR at Backsight:4.96 (4.96 + 0.0 Offset),
Prism Const.:0.0mm
 3056  Note:                   BS check 373 - 9134:ZE90.1642,SD264.202,HD err= -
0.000387, VD err= 0.002733
 3057  Note:                   BS Circle check : angular err= 0.0000
 3058  Side Shot:              Occupy Point: 373
Foresight Point: 374                Angle Right: 0.0000               Zenith
Angle: 90.1642        Slope Distance: 264.202USft     Description: CHK9134
 3059  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3060  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3061  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.97USft
 3062  Side Shot:              Occupy Point: 373
Foresight Point: 375                Angle Right: 136.2701             Zenith
```

Angle: 94.3539 Slope Distance: 63.18USft Description: C-1102
3063 Side Shot: Occupy Point: 373
Foresight Point: 376 Angle Right: 125.1715 Zenith
Angle: 97.3933 Slope Distance: 215.136USft Description: B-6011
3064 Store Point: Point Name: 363
Northing: 1144256.663403USft Easting: 620480.540843USft
Elevation: 194.203602USft Description: B-6012
3065 Note: Foresight Target:My Prism, HR:4.6 (4.6 + 0.0 Offset), Prism Const.:0.0mm
3066 Note: Foresight Target:My Prism, HR:4.96 (4.96 + 0.0 Offset), Prism Const.:0.0mm
3067 Note: Date: 03-21-2007 Time: 10:25:16
3068 Note: HR:4.96 (4.96 + 0.0 Offset)
3069 Line of Sight (HI/HR): Height of Instrument: 5.22USft
Height of Rod: 4.96USft
3070 Side Shot: Occupy Point: 373
Foresight Point: 377 Angle Right: 359.5957 Zenith
Angle: 90.1640 Slope Distance: 264.2USft Description: CHK9134
3071 Note: Foresight Target:My Prism, HR:5.09 (5.09 + 0.0 Offset), Prism Const.:0.0mm
3072 Occupy Pt: Occupy Point: 172
Northing: 1144830.997USft Easting: 621990.458USft
Elevation: 238.886USft Description: NS
3073 Note: HR:5.09 (5.09 + 0.0 Offset)
3074 Line of Sight (HI/HR): Height of Instrument: 5.22USft
Height of Rod: 5.09USft
3075 Backsight: Occupy Point: 172
Backsight Point: 21 Backsight Azimuth: 350.143373 Backsight Circle: 0.0000
3076 Note: Fixed HR at Backsight:5.09 (5.09 + 0.0 Offset), Prism Const.:0.0mm
3077 Note: BS check 172 - 21:ZE90.0724,SD371.612,HD err= 0.010038, VD err= 0.033079
3078 Note: BS Circle check : angular err= 0.0000
3079 Note: BS check 172 - 21:ZE90.0729,SD371.608,HD err= 0.006018, VD err= 0.024079
3080 Note: BS Circle check : angular err= 0.0000
3081 Side Shot: Occupy Point: 172
Foresight Point: 378 Angle Right: 0.0000 Zenith
Angle: 90.0730 Slope Distance: 371.604USft Description: CHK21
3082 Note: Date: 03-21-2007 Time: 11:19:01
3083 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
3084 Note: HR:4.97 (4.97 + 0.0 Offset)
3085 Line of Sight (HI/HR): Height of Instrument: 5.22USft
Height of Rod: 4.97USft
3086 Side Shot: Occupy Point: 172
Foresight Point: 379 Angle Right: 266.2702 Zenith
Angle: 88.2439 Slope Distance: 249.06USft Description: B-6009
3087 Side Shot: Occupy Point: 172
Foresight Point: 380 Angle Right: 24.1932 Zenith
Angle: 90.4816 Slope Distance: 186.632USft Description: C-1103
3088 Note: Foresight Target:My Prism, HR:5.09 (5.09 + 0.0 Offset), Prism Const.:0.0mm
3089 Note: HR:5.09 (5.09 + 0.0 Offset)
3090 Line of Sight (HI/HR): Height of Instrument: 5.22USft
Height of Rod: 5.09USft
3091 Side Shot: Occupy Point: 172
Foresight Point: 381 Angle Right: 0.0003 Zenith
Angle: 90.0727 Slope Distance: 371.612USft Description: CHK21
3092 Occupy Pt: Occupy Point: 23
Northing: 1145666.8682USft Easting: 622037.046USft
Elevation: 237.279USft Description: #4RS
3093 Note: HR:5.09 (5.09 + 0.0 Offset)
3094 Line of Sight (HI/HR): Height of Instrument: 5.09USft
Height of Rod: 5.09USft
3095 Backsight: Occupy Point: 23

Backsight Point: 21 Backsight Azimuth: 193.075463 Backsight Circle: 0.0000
3096 Note: Fixed HR at Backsight:5.09 (5.09 + 0.0 Offset), Prism Const.:0.0mm
3097 Note: BS check 23 - 21:ZE89.5330,SD482.27,HD err= 0.01256, VD err= 0.007863
3098 Note: BS Circle check : angular err= 0.0000
3099 Side Shot: Occupy Point: 23
Foresight Point: 382 Angle Right: 0.0000 Zenith Angle: 89.5330 Slope Distance: 482.276USft Description: CHK21
3100 Note: Date: 03-21-2007 Time: 11:44:52
3101 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
3102 Note: HR:4.97 (4.97 + 0.0 Offset)
3103 Line of Sight (HI/HR): Height of Instrument: 5.09USft Height of Rod: 4.97USft
3104 Side Shot: Occupy Point: 23
Foresight Point: 383 Angle Right: 276.0606 Zenith Angle: 89.4614 Slope Distance: 677.108USft Description: B-6008
3105 Note: Foresight Target:My Prism, HR:5.09 (5.09 + 0.0 Offset), Prism Const.:0.0mm
3106 Note: HR:5.09 (5.09 + 0.0 Offset)
3107 Line of Sight (HI/HR): Height of Instrument: 5.09USft Height of Rod: 5.09USft
3108 Side Shot: Occupy Point: 23
Foresight Point: 384 Angle Right: 359.5957 Zenith Angle: 89.5336 Slope Distance: 482.272USft Description: CHK21
3109 Note: Foresight Target:My Prism, HR:6.0 (6.0 + 0.0 Offset), Prism Const.:0.0mm
3110 Occupy Pt: Occupy Point: 103
Northing: 1147554.052416USft Easting: 622478.488412USft Elevation: 222.662545USft Description: NS
3111 Note: HR:6.0 (6.0 + 0.0 Offset)
3112 Line of Sight (HI/HR): Height of Instrument: 5.14USft Height of Rod: 6.0USft
3113 Backsight: Occupy Point: 103
Backsight Point: 105 Backsight Azimuth: 7.493662 Backsight Circle: 0.0000
3114 Note: Fixed HR at Backsight:6.0 (6.0 + 0.0 Offset), Prism Const.:0.0mm
3115 Note: BS check 103 - 105:ZE90.0533,SD382.902,HD err= 362.445603, VD err= 0.074706
3116 Note: BS Circle check : angular err= 0.0000
3117 Occupy Pt: Occupy Point: 103
Northing: 1147554.052416USft Easting: 622478.488412USft Elevation: 222.662545USft Description: NS
3118 Backsight: Occupy Point: 103
Backsight Point: 106 Backsight Azimuth: 240.014512 Backsight Circle: 0.0000
3119 Note: Fixed HR at Backsight:6.0 (6.0 + 0.0 Offset), Prism Const.:0.0mm
3120 Note: BS check 103 - 106:ZE90.0536,SD382.886,HD err= 0.019917, VD err= -0.031266
3121 Note: BS Circle check : angular err= 0.0001
3122 Note: BS check 103 - 106:ZE90.0523,SD382.868,HD err= 0.001955, VD err= -0.007106
3123 Note: BS Circle check : angular err= 0.0001
3124 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
3125 Note: HR:4.97 (4.97 + 0.0 Offset)
3126 Line of Sight (HI/HR): Height of Instrument: 5.14USft Height of Rod: 4.97USft
3127 Side Shot: Occupy Point: 103
Foresight Point: 385 Angle Right: 119.3533 Zenith Angle: 96.0759 Slope Distance: 20.912USft Description: B-1195
3128 Note: Foresight Target:My Prism, HR:6.0 (6.0 + 0.0 Offset), Prism Const.:0.0mm

```
 3129  Note:                   Date: 03-21-2007  Time: 12:56:53
 3130  Note:                   HR:6.0 (6.0 + 0.0 Offset)
 3131  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 6.0USft
 3132  Side Shot:              Occupy Point: 103
Foresight Point: 386                Angle Right: 0.0003               Zenith
Angle: 90.0539        Slope Distance: 382.892USft     Description: CHK106
 3133  Note:                   Foresight Target:My Prism, HR:5.45 (5.45 + 0.0
Offset), Prism Const.:0.0mm
 3134  Occupy Pt:              Occupy Point: 106
Northing: 1147362.788633USft        Easting: 622146.81958USft
Elevation: 221.2101USft      Description: NS
 3135  Note:                   HR:5.45 (5.45 + 0.0 Offset)
 3136  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.45USft
 3137  Backsight:              Occupy Point: 106
Backsight Point: 103                Backsight Azimuth: 60.014512      Backsight
Circle: 0.0000
 3138  Note:                   Fixed HR at Backsight:5.45 (5.45 + 0.0 Offset),
Prism Const.:0.0mm
 3139  Note:                   BS check 106 - 103:ZE89.4441,SD382.88,HD err=
0.010624, VD err= 0.023447
 3140  Note:                   BS Circle check : angular err= 0.0000
 3141  Side Shot:              Occupy Point: 106
Foresight Point: 387                Angle Right: 0.0000               Zenith
Angle: 89.4442        Slope Distance: 382.882USft     Description: CHK103
 3142  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3143  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3144  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.97USft
 3145  Side Shot:              Occupy Point: 106
Foresight Point: 388                Angle Right: 179.2823             Zenith
Angle: 91.3015        Slope Distance: 150.126USft     Description: B-119
 3146  Side Shot:              Occupy Point: 106
Foresight Point: 389                Angle Right: 225.1942             Zenith
Angle: 92.2148        Slope Distance: 536.262USft     Description: B-1194
 3147  Store Point:            Point Name: 388
Northing: 1147286.625274USft        Easting: 622017.508215USft
Elevation: 217.519346USft    Description: B-1196
 3148  Side Shot:              Occupy Point: 106
Foresight Point: 390                Angle Right: 136.1807             Zenith
Angle: 87.1658        Slope Distance: 509.142USft     Description: B-1197
 3149  Occupy Pt:              Occupy Point: 106
Northing: 1147362.788633USft        Easting: 622146.81958USft
Elevation: 221.2101USft      Description: NS
 3150  Backsight:              Occupy Point: 106
Backsight Point: 103                Backsight Azimuth: 60.014512      Backsight
Circle: 0.0000
 3151  Note:                   Fixed HR at Backsight:5.45 (5.45 + 0.0 Offset),
Prism Const.:0.0mm
 3152  Note:                   BS check 106 - 103:ZE89.4436,SD382.886,HD err=
0.016583, VD err= 0.032755
 3153  Note:                   BS Circle check : angular err= 0.0000
 3154  Note:                   BS check 106 - 103:ZE89.4437,SD382.884,HD err=
0.014591, VD err= 0.03089
 3155  Note:                   BS Circle check : angular err= 0.0000
 3156  Note:                   Date: 03-21-2007  Time: 13:21:06
 3157  Note:                   BS check 106 - 103:ZE89.4444,SD382.878,HD err=
0.008649, VD err= 0.01787
 3158  Note:                   BS Circle check : angular err= 0.0000
 3159  Occupy Pt:              Occupy Point: 106
Northing: 1147362.788633USft        Easting: 622146.81958USft
Elevation: 221.2101USft      Description: NS
 3160  Backsight:              Occupy Point: 106
Backsight Point: 103                Backsight Azimuth: 60.014512      Backsight
Circle: 0.0000
```

```
 3161  Note:                    Fixed HR at Backsight:5.45 (5.45 + 0.0 Offset),
Prism Const.:0.0mm
 3162  Note:                    BS check 106 - 103:ZE89.4448,SD382.884,HD err=
0.014682, VD err= 0.010471
 3163  Note:                    BS Circle check : angular err= 0.0000
 3164  Note:                    Foresight Target:My Prism, HR:5.02 (5.02 + 0.0
Offset), Prism Const.:0.0mm
 3165  Note:                    HR:5.02 (5.02 + 0.0 Offset)
 3166  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.02USft
 3167  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3168  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0005
 3169  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 300.0242
 3170  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 272.5302
 3171  Multiple Distances:     Set: 1
Slope Distance: 630.87USft
 3172  Repeat Foresight:       Occupy Point: 106
Foresight Point: 391                Angle Right: 300.0242             Zenith
Angle: 272.5302       Slope Distance: 630.87USft      Height of Rod: 5.02USft
Description: NS
 3173  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 120.0237
 3174  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 87.0708
 3175  Multiple Distances:     Set: 1
Slope Distance: 630.866USft
 3176  Repeat Foresight:       Occupy Point: 106
Foresight Point: 391                Angle Right: 120.0237             Zenith
Angle: 87.0708        Slope Distance: 630.866USft     Height of Rod: 5.02USft
Description: NS
 3177  Note:                    Horizontal Angle Error: 0.0000
 3178  Note:                    Zenith Angle Error: 0.0010
 3179  Note:                    Slope Distance Error: 0.004
 3180  Note:                    Horizontal Angle Error compares to the average:
0.0000
 3181  Note:                    Zenith Angle Error compares to the average:
0.0000
 3182  Note:                    Slope Distance Error compares to the average: 0.0
 3183  Side Shot:               Occupy Point: 106
Foresight Point: 391                Angle Right: 120.0237             Zenith
Angle: 87.0703        Slope Distance: 630.868USft     Description: NS
 3184  Note:                    Foresight Target:My Prism, HR:4.84 (4.84 + 0.0
Offset), Prism Const.:0.0mm
 3185  Occupy Pt:               Occupy Point: 391
Northing: 1146732.719339USft        Easting: 622146.018893USft
Elevation: 253.135125USft    Description: NS
 3186  Note:                    HR:4.84 (4.84 + 0.0 Offset)
 3187  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 4.84USft
 3188  Backsight:               Occupy Point: 391
Backsight Point: 106                Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 3189  Note:                    Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 3190  Note:                    BS check 391 - 106:ZE92.5541,SD630.896,HD err=
0.00254, VD err= -0.082385
 3191  Note:                    BS Circle check : angular err= 0.0000
 3192  Note:                    BS check 391 - 106:ZE92.5534,SD630.896,HD err=
0.003633, VD err= -0.061002
 3193  Note:                    BS Circle check : angular err= 0.0000
 3194  Note:                    BS check 391 - 106:ZE92.5534,SD630.9,HD err=
0.007628, VD err= -0.061207
 3195  Note:                    BS Circle check : angular err= 0.0000
```

```
 3196  Note:                   Foresight Target:My Prism, HR:4.87 (4.87 + 0.0
Offset), Prism Const.:0.0mm
 3197  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft         Easting: 622146.018893USft
Elevation: 253.135125USft    Description: NS
 3198  Note:                   HR:4.87 (4.87 + 0.0 Offset)
 3199  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 4.87USft
 3200  Backsight:              Occupy Point: 391
Backsight Point: 106               Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 3201  Note:                   Fixed HR at Backsight:4.87 (4.87 + 0.0 Offset),
Prism Const.:0.0mm
 3202  Note:                   BS check 391 - 106:ZE92.5534,SD630.902,HD err=
0.009625, VD err= -0.091309
 3203  Note:                   BS Circle check : angular err= 0.0000
 3204  Note:                   Foresight Target:My Prism, HR:4.84 (4.84 + 0.0
Offset), Prism Const.:0.0mm
 3205  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft         Easting: 622146.018893USft
Elevation: 253.135125USft    Description: NS
 3206  Note:                   HR:4.84 (4.84 + 0.0 Offset)
 3207  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 4.84USft
 3208  Backsight:              Occupy Point: 391
Backsight Point: 106               Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 3209  Note:                   Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 3210  Note:                   BS check 391 - 106:ZE92.5532,SD630.9,HD err=
0.00794, VD err= -0.055097
 3211  Note:                   BS Circle check : angular err= 0.0000
 3212  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft         Easting: 622146.018893USft
Elevation: 253.135125USft    Description: NS
 3213  Backsight:              Occupy Point: 391
Backsight Point: 106               Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 3214  Note:                   Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 3215  Note:                   BS check 391 - 106:ZE92.5531,SD630.904,HD err=
0.012091, VD err= -0.052247
 3216  Note:                   BS Circle check : angular err= 0.0000
 3217  Note:                   Date: 03-21-2007  Time: 13:45:34
 3218  Remote Elevation:       Occupy Point: 391
Foresight Elevation: 221.2101USft    Zenith Angle: 92.5531             Slope
Distance: 630.902USft  Description: Remote elev
 3219  Store Point:            Point Name: 391
Northing: 1146732.719339USft         Easting: 622146.018893USft
Elevation: 253.187269USft    Description: NS
 3220  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft         Easting: 622146.018893USft
Elevation: 253.187269USft    Description: NS
 3221  Backsight:              Occupy Point: 391
Backsight Point: 106               Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 3222  Note:                   Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 3223  Note:                   BS check 391 - 106:ZE92.5528,SD630.902,HD err=
0.010562, VD err= 0.009164
 3224  Note:                   BS Circle check : angular err= 0.0000
 3225  Side Shot:              Occupy Point: 391
Foresight Point: 392               Angle Right: 0.0000               Zenith
Angle: 92.5528        Slope Distance: 630.9USft       Description: CHK106
 3226  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3227  Note:                   HR:4.97 (4.97 + 0.0 Offset)
```

```
 3228  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 4.97USft
 3229  Side Shot:              Occupy Point: 391
Foresight Point: 393                Angle Right: 84.0558              Zenith
Angle: 90.4409        Slope Distance: 201.184USft     Description: C-1111
 3230  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft        Easting: 622146.018893USft
Elevation: 253.187269USft    Description: NS
 3231  Backsight:              Occupy Point: 391
Backsight Point: 106                Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 3232  Note:                   Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 3233  Note:                   BS check 391 - 106:ZE92.5539,SD630.892,HD err= -
0.001142, VD err= -0.023927
 3234  Note:                   BS Circle check : angular err= 0.0000
 3235  Note:                   BS check 391 - 106:ZE92.5539,SD630.894,HD err=
0.000855, VD err= -0.024029
 3236  Note:                   BS Circle check : angular err= 0.0001
 3237  Note:                   BS check 391 - 106:ZE92.5537,SD630.892,HD err= -
0.00083, VD err= -0.017818
 3238  Note:                   BS Circle check : angular err= 0.0001
 3239  Note:                   Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
 3240  Note:                   HR:5.1 (5.1 + 0.0 Offset)
 3241  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 5.1USft
 3242  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3243  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0005
 3244  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 290.1515
 3245  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 268.3713
 3246  Multiple Distances:     Set: 1
Slope Distance: 274.292USft
 3247  Repeat Foresight:       Occupy Point: 391
Foresight Point: 394                Angle Right: 290.1515             Zenith
Angle: 268.3713       Slope Distance: 274.292USft     Height of Rod: 5.1USft
Description: NS
 3248  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 110.1512
 3249  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 91.2244
 3250  Multiple Distances:     Set: 1
Slope Distance: 274.288USft
 3251  Repeat Foresight:       Occupy Point: 391
Foresight Point: 394                Angle Right: 110.1512             Zenith
Angle: 91.2244        Slope Distance: 274.288USft     Height of Rod: 5.1USft
Description: NS
 3252  Note:                   Horizontal Angle Error: 0.0002
 3253  Note:                   Zenith Angle Error: 0.0003
 3254  Note:                   Slope Distance Error: 0.004
 3255  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3256  Note:                   Zenith Angle Error compares to the average:
0.0000
 3257  Note:                   Slope Distance Error compares to the average: 0.0
 3258  Side Shot:              Occupy Point: 391
Foresight Point: 394                Angle Right: 110.1511             Zenith
Angle: 91.22455       Slope Distance: 274.29USft      Description: NS
 3259  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft        Easting: 622146.018893USft
Elevation: 253.187269USft    Description: NS
 3260  Backsight:              Occupy Point: 391
Backsight Point: 106                Backsight Azimuth: 0.042212       Backsight
```

```
Circle: 0.0000
 3261  Note:                    Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 3262  Note:                    BS check 391 - 106:ZE92.5536,SD630.898,HD err=
0.005318, VD err= -0.015069
 3263  Note:                    BS Circle check : angular err= 0.0000
 3264  Occupy Pt:               Occupy Point: 391
Northing: 1146732.719339USft          Easting: 622146.018893USft
Elevation: 253.187269USft    Description: NS
 3265  Backsight:               Occupy Point: 391
Backsight Point: 106                  Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 3266  Note:                    Fixed HR at Backsight:4.84 (4.84 + 0.0 Offset),
Prism Const.:0.0mm
 3267  Note:                    BS check 391 - 106:ZE92.5536,SD630.894,HD err=
0.001324, VD err= -0.014865
 3268  Note:                    BS Circle check : angular err= 0.0000
 3269  Note:                    Foresight Target:My Prism, HR:5.12 (5.12 + 0.0
Offset), Prism Const.:0.0mm
 3270  Note:                    HR:5.12 (5.12 + 0.0 Offset)
 3271  Line of Sight (HI/HR):   Height of Instrument: 5.06USft
Height of Rod: 5.12USft
 3272  Repeat Directional:      Backsight Direct
Set: 1                                Angle: 0.0000
 3273  Repeat Directional:      Backsight Reverse
Set: 1                                Angle: 180.0004
 3274  Repeat Directional:      Foresight Reverse
Set: 1                                Angle: 77.0412
 3275  Repeat Directional:      Zenith Reverse
Set: 1                                Zenith: 270.1917
 3276  Multiple Distances:      Set: 1
Slope Distance: 291.404USft
 3277  Repeat Foresight:        Occupy Point: 391
Foresight Point: 395                  Angle Right: 77.0412              Zenith
Angle: 270.1917       Slope Distance: 291.404USft     Height of Rod: 5.12USft
Description: NS
 3278  Repeat Directional:      Foresight Direct
Set: 1                                Angle: 257.0405
 3279  Repeat Directional:      Zenith Direct
Set: 1                                Zenith: 89.4050
 3280  Multiple Distances:      Set: 1
Slope Distance: 291.4USft
 3281  Repeat Foresight:        Occupy Point: 391
Foresight Point: 395                  Angle Right: 257.0405             Zenith
Angle: 89.4050        Slope Distance: 291.4USft       Height of Rod: 5.12USft
Description: NS
 3282  Note:                    Horizontal Angle Error: 0.0003
 3283  Note:                    Zenith Angle Error: 0.0007
 3284  Note:                    Slope Distance Error: 0.004
 3285  Note:                    Horizontal Angle Error compares to the average:
0.0000
 3286  Note:                    Zenith Angle Error compares to the average:
0.0000
 3287  Note:                    Slope Distance Error compares to the average: 0.0
 3288  Side Shot:               Occupy Point: 391
Foresight Point: 395                  Angle Right: 257.04065            Zenith
Angle: 89.40465       Slope Distance: 291.402USft     Description: NS
 3289  Note:                    Date: 03-21-2007  Time: 14:00:38
 3290  Note:                    Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
 3291  Occupy Pt:               Occupy Point: 395
Northing: 1146667.869504USft          Easting: 621861.929174USft
Elevation: 254.756876USft    Description: NS
 3292  Note:                    HR:5.08 (5.08 + 0.0 Offset)
 3293  Line of Sight (HI/HR):   Height of Instrument: 5.23USft
Height of Rod: 5.08USft
 3294  Backsight:               Occupy Point: 395
```

Backsight Point: 391 Backsight Azimuth: 77.082862 Backsight Circle: 0.0000
3295 Note: Fixed HR at Backsight:5.08 (5.08 + 0.0 Offset), Prism Const.:0.0mm
3296 Note: BS check 395 - 391:ZE90.2054,SD291.39,HD err= -0.012828, VD err= -0.051907
3297 Note: BS Circle check : angular err= 0.0000
3298 Occupy Pt: Occupy Point: 395
Northing: 1146667.869504USft Easting: 621861.929174USft
Elevation: 254.756876USft Description: NS
3299 Note: HR:5.08 (5.08 + 0.0 Offset)
3300 Line of Sight (HI/HR): Height of Instrument: 5.2USft
Height of Rod: 5.08USft
3301 Backsight: Occupy Point: 395
Backsight Point: 391 Backsight Azimuth: 77.082862 Backsight Circle: 0.0000
3302 Note: Fixed HR at Backsight:5.08 (5.08 + 0.0 Offset), Prism Const.:0.0mm
3303 Note: BS check 395 - 391:ZE90.2055,SD291.38,HD err= -0.022837, VD err= -0.083259
3304 Note: BS Circle check : angular err= 0.0000
3305 Note: BS check 395 - 391:ZE90.2046,SD291.392,HD err= -0.01076, VD err= -0.070617
3306 Note: BS Circle check : angular err= 0.0000
3307 Note: Foresight Target:My Prism, HR:5.03 (5.03 + 0.0 Offset), Prism Const.:0.0mm
3308 Occupy Pt: Occupy Point: 395
Northing: 1146667.869504USft Easting: 621861.929174USft
Elevation: 254.756876USft Description: NS
3309 Note: HR:5.03 (5.03 + 0.0 Offset)
3310 Line of Sight (HI/HR): Height of Instrument: 5.2USft
Height of Rod: 5.03USft
3311 Backsight: Occupy Point: 395
Backsight Point: 391 Backsight Azimuth: 77.082862 Backsight Circle: 0.0000
3312 Note: Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset), Prism Const.:0.0mm
3313 Note: BS check 395 - 391:ZE90.2044,SD291.39,HD err= -0.012743, VD err= -0.01778
3314 Note: BS Circle check : angular err= 0.0000
3315 Side Shot: Occupy Point: 395
Foresight Point: 396 Angle Right: 0.0000 Zenith Angle: 90.2044 Slope Distance: 291.388USft Description: CHK391
3316 Note: Foresight Target:My Prism, HR:4.88 (4.88 + 0.0 Offset), Prism Const.:0.0mm
3317 Note: HR:4.88 (4.88 + 0.0 Offset)
3318 Line of Sight (HI/HR): Height of Instrument: 5.2USft
Height of Rod: 4.88USft
3319 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
3320 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0005
3321 Repeat Directional: Foresight Reverse
Set: 1 Angle: 349.3916
3322 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 267.4226
3323 Multiple Distances: Set: 1
Slope Distance: 206.418USft
3324 Repeat Foresight: Occupy Point: 395
Foresight Point: 397 Angle Right: 349.3916 Zenith Angle: 267.4226 Slope Distance: 206.418USft Height of Rod: 4.88USft Description: NS
3325 Repeat Directional: Foresight Direct
Set: 1 Angle: 169.3916
3326 Repeat Directional: Zenith Direct
Set: 1 Zenith: 92.1727
3327 Multiple Distances: Set: 1

```
Slope Distance: 206.42USft
 3328  Repeat Foresight:       Occupy Point: 395
Foresight Point: 397                 Angle Right: 169.3916             Zenith
Angle: 92.1727        Slope Distance: 206.42USft      Height of Rod: 4.88USft
Description: NS
 3329  Note:                   Horizontal Angle Error: 0.0005
 3330  Note:                   Zenith Angle Error: 0.0007
 3331  Note:                   Slope Distance Error: 0.002
 3332  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3333  Note:                   Zenith Angle Error compares to the average:
0.0000
 3334  Note:                   Slope Distance Error compares to the average: 0.0
 3335  Side Shot:              Occupy Point: 395
Foresight Point: 397                 Angle Right: 169.39135            Zenith
Angle: 92.17305       Slope Distance: 206.419USft     Description: NS
 3336  Note:                   Date: 03-21-2007  Time: 14:21:05
 3337  Occupy Pt:              Occupy Point: 395
Northing: 1146667.869504USft         Easting: 621861.929174USft
Elevation: 254.756876USft    Description: NS
 3338  Backsight:              Occupy Point: 395
Backsight Point: 391                 Backsight Azimuth: 77.082862      Backsight
Circle: 0.0000
 3339  Note:                   Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset),
Prism Const.:0.0mm
 3340  Note:                   BS check 395 - 391:ZE90.2047,SD291.386,HD err= -
0.016768, VD err= -0.021994
 3341  Note:                   BS Circle check : angular err= 0.0000
 3342  Note:                   BS check 395 - 391:ZE90.2042,SD291.39,HD err= -
0.012726, VD err= -0.014955
 3343  Note:                   BS Circle check : angular err= 0.0000
 3344  Note:                   Foresight Target:My Prism, HR:5.19 (5.19 + 0.0
Offset), Prism Const.:0.0mm
 3345  Note:                   HR:5.19 (5.19 + 0.0 Offset)
 3346  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 5.19USft
 3347  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 359.5959
 3348  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0006
 3349  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 292.4728
 3350  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 268.3449
 3351  Multiple Distances:     Set: 1
Slope Distance: 245.292USft
 3352  Repeat Foresight:       Occupy Point: 395
Foresight Point: 398                 Angle Right: 292.4728             Zenith
Angle: 268.3449       Slope Distance: 245.292USft     Height of Rod: 5.19USft
Description: NS
 3353  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 112.4720
 3354  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 91.2515
 3355  Multiple Distances:     Set: 1
Slope Distance: 245.29USft
 3356  Repeat Foresight:       Occupy Point: 395
Foresight Point: 398                 Angle Right: 112.4720             Zenith
Angle: 91.2515        Slope Distance: 245.29USft      Height of Rod: 5.19USft
Description: NS
 3357  Note:                   Horizontal Angle Error: 0.0001
 3358  Note:                   Zenith Angle Error: 0.0004
 3359  Note:                   Slope Distance Error: 0.002
 3360  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3361  Note:                   Zenith Angle Error compares to the average:
0.0000
```

```
 3362  Note:                   Slope Distance Error compares to the average: 0.0
 3363  Side Shot:              Occupy Point: 395
Foresight Point: 398                 Angle Right: 112.47215            Zenith
Angle: 91.2513        Slope Distance: 245.291USft     Description: NS
 3364  Note:                   Foresight Target:My Prism, HR:5.04 (5.04 + 0.0
Offset), Prism Const.:0.0mm
 3365  Occupy Pt:              Occupy Point: 397
Northing: 1146586.601019USft         Easting: 621672.360978USft
Elevation: 246.822409USft    Description: NS
 3366  Note:                   HR:5.04 (5.04 + 0.0 Offset)
 3367  Line of Sight (HI/HR):  Height of Instrument: 5.01USft
Height of Rod: 5.04USft
 3368  Backsight:              Occupy Point: 397
Backsight Point: 395                 Backsight Azimuth: 66.474212      Backsight
Circle: 0.0000
 3369  Note:                   Fixed HR at Backsight:5.04 (5.04 + 0.0 Offset),
Prism Const.:0.0mm
 3370  Note:                   BS check 397 - 395:ZE87.4733,SD206.398,HD err= -
0.009062, VD err= -0.014302
 3371  Note:                   BS Circle check : angular err= 0.0000
 3372  Side Shot:              Occupy Point: 397
Foresight Point: 399                 Angle Right: 0.0000               Zenith
Angle: 87.4733        Slope Distance: 206.4USft       Description: CHK395
 3373  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3374  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3375  Line of Sight (HI/HR):  Height of Instrument: 5.01USft
Height of Rod: 4.97USft
 3376  Side Shot:              Occupy Point: 397
Foresight Point: 400                 Angle Right: 182.4410             Zenith
Angle: 95.1645        Slope Distance: 111.466USft     Description: B-5004
 3377  Side Shot:              Occupy Point: 397
Foresight Point: 401                 Angle Right: 139.1357             Zenith
Angle: 94.5133        Slope Distance: 223.37USft      Description: B-5003
 3378  Note:                   Date: 03-21-2007  Time: 14:41:50
 3379  Note:                   Foresight Target:My Prism, HR:5.06 (5.06 + 0.0
Offset), Prism Const.:0.0mm
 3380  Note:                   HR:5.06 (5.06 + 0.0 Offset)
 3381  Line of Sight (HI/HR):  Height of Instrument: 5.01USft
Height of Rod: 5.06USft
 3382  Side Shot:              Occupy Point: 397
Foresight Point: 402                 Angle Right: 359.5959             Zenith
Angle: 87.4734        Slope Distance: 206.396USft     Description: CHK395
 3383  Note:                   Foresight Target:My Prism, HR:5.04 (5.04 + 0.0
Offset), Prism Const.:0.0mm
 3384  Occupy Pt:              Occupy Point: 398
Northing: 1146426.32783USft          Easting: 621819.64051USft
Elevation: 248.687097USft    Description: NS
 3385  Note:                   HR:5.04 (5.04 + 0.0 Offset)
 3386  Line of Sight (HI/HR):  Height of Instrument: 5.17USft
Height of Rod: 5.04USft
 3387  Backsight:              Occupy Point: 398
Backsight Point: 395                 Backsight Azimuth: 9.555012       Backsight
Circle: 0.0000
 3388  Note:                   Fixed HR at Backsight:5.04 (5.04 + 0.0 Offset),
Prism Const.:0.0mm
 3389  Note:                   BS check 398 - 395:ZE88.3649,SD245.276,HD err= -
0.011442, VD err= -0.005402
 3390  Note:                   BS Circle check : angular err= 0.0000
 3391  Side Shot:              Occupy Point: 398
Foresight Point: 403                 Angle Right: 0.0000               Zenith
Angle: 88.3649        Slope Distance: 245.28USft      Description: CHK395
 3392  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3393  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3394  Line of Sight (HI/HR):  Height of Instrument: 5.17USft
Height of Rod: 4.97USft
```

```
 3395  Store Point:            Point Name: 404
Northing: 1146592.87236USft          Easting: 621862.892906USft
Elevation: 255.895877USft    Description: CHK9103
 3396  Cut Sheet:              Elevation: 255.895877USft
Design Grade: 256.034741
 3397  Design Point/Location:  Point Name: 9103
Northing: 1146592.723232USft         Easting: 621862.908365USft
Elevation: 256.034741USft    Description: #4RF/TR-7
 3398  Stakeout Deltas:        Delta Northing: -0.149128USft
Delta Easting: 0.015459USft          Delta Elevation: 0.138864USft
 3399  Stakeout:               Occupy Point: 398
Foresight Point: 404                 Angle Right: 4.3740              Zenith
Angle: 87.4003        Slope Distance: 172.212USft     Description: CHK9103
 3400  Side Shot:              Occupy Point: 398
Foresight Point: 405                 Angle Right: 177.3056            Zenith
Angle: 94.4854        Slope Distance: 87.61USft       Description: B-5002
 3401  Side Shot:              Occupy Point: 398
Foresight Point: 406                 Angle Right: 172.4814            Zenith
Angle: 96.4954        Slope Distance: 251.346USft     Description: B-5001
 3402  Note:                   Date: 03-21-2007  Time: 15:16:11
 3403  Note:                   Foresight Target:My Prism, HR:5.04 (5.04 + 0.0
Offset), Prism Const.:0.0mm
 3404  Note:                   HR:5.04 (5.04 + 0.0 Offset)
 3405  Line of Sight (HI/HR):  Height of Instrument: 5.17USft
Height of Rod: 5.04USft
 3406  Side Shot:              Occupy Point: 398
Foresight Point: 407                 Angle Right: 359.5953            Zenith
Angle: 88.3648        Slope Distance: 245.28USft      Description: CHK359
 3407  Note:                   Foresight Target:My Prism, HR:5.18 (5.18 + 0.0
Offset), Prism Const.:0.0mm
 3408  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft         Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
 3409  Note:                   HR:5.18 (5.18 + 0.0 Offset)
 3410  Line of Sight (HI/HR):  Height of Instrument: 5.15USft
Height of Rod: 5.18USft
 3411  Backsight:              Occupy Point: 9143
Backsight Point: 9139                Backsight Azimuth: 73.590513     Backsight
Circle: 0.0000
 3412  Note:                   Fixed HR at Backsight:5.18 (5.18 + 0.0 Offset),
Prism Const.:0.0mm
 3413  Note:                   BS check 9143 - 9139:ZE88.3837,SD723.272,HD err=
0.039137, VD err= -0.046863
 3414  Note:                   BS Circle check : angular err= 0.0000
 3415  Note:                   BS check 9143 - 9139:ZE88.3832,SD723.282,HD err=
0.048719, VD err= -0.029098
 3416  Note:                   BS Circle check : angular err= 0.0000
 3417  Side Shot:              Occupy Point: 9143
Foresight Point: 408                 Angle Right: 0.0000              Zenith
Angle: 88.3832        Slope Distance: 723.282USft     Description: CHK9139
 3418  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3419  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3420  Line of Sight (HI/HR):  Height of Instrument: 5.15USft
Height of Rod: 4.97USft
 3421  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 3422  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0007
 3423  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 241.5518
 3424  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 269.0812
 3425  Multiple Distances:     Set: 1
Slope Distance: 297.508USft
 3426  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 409                 Angle Right: 241.5518            Zenith
```

```
Angle: 269.0812       Slope Distance: 297.508USft     Height of Rod: 4.97USft
Description: NS
 3427  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 61.5513
 3428  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 90.5146
 3429  Multiple Distances:     Set: 1
Slope Distance: 297.502USft
 3430  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 409                Angle Right: 61.5513              Zenith
Angle: 90.5146        Slope Distance: 297.502USft     Height of Rod: 4.97USft
Description: NS
 3431  Note:                   Horizontal Angle Error: 0.0002
 3432  Note:                   Zenith Angle Error: 0.0002
 3433  Note:                   Slope Distance Error: 0.006
 3434  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3435  Note:                   Zenith Angle Error compares to the average:
0.0000
 3436  Note:                   Slope Distance Error compares to the average: 0.0
 3437  Side Shot:              Occupy Point: 9143
Foresight Point: 409                Angle Right: 61.5512              Zenith
Angle: 90.5147        Slope Distance: 297.505USft     Description: NS
 3438  Note:                   Date: 03-21-2007  Time: 15:47:46
 3439  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft        Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
 3440  Backsight:              Occupy Point: 9143
Backsight Point: 9139               Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
 3441  Note:                   Fixed HR at Backsight:5.18 (5.18 + 0.0 Offset),
Prism Const.:0.0mm
 3442  Note:                   BS check 9143 - 9139:ZE88.3833,SD723.274,HD err=
0.040804, VD err= -0.032794
 3443  Note:                   BS Circle check : angular err= 0.0000
 3444  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft        Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
 3445  Backsight:              Occupy Point: 9143
Backsight Point: 9139               Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
 3446  Note:                   Fixed HR at Backsight:5.18 (5.18 + 0.0 Offset),
Prism Const.:0.0mm
 3447  Note:                   BS check 9143 - 9139:ZE88.3835,SD723.274,HD err=
0.040971, VD err= -0.039805
 3448  Note:                   BS Circle check : angular err= 0.0000
 3449  Note:                   BS check 9143 - 9139:ZE88.3833,SD723.278,HD err=
0.044803, VD err= -0.032699
 3450  Note:                   BS Circle check : angular err= 0.0000
 3451  Occupy Pt:              Occupy Point: 9143
Northing: 1143895.325459USft        Easting: 619692.808126USft
Elevation: 246.892193USft    Description: NS
 3452  Backsight:              Occupy Point: 9143
Backsight Point: 9139               Backsight Azimuth: 73.590513      Backsight
Circle: 0.0000
 3453  Note:                   Fixed HR at Backsight:5.18 (5.18 + 0.0 Offset),
Prism Const.:0.0mm
 3454  Note:                   BS check 9143 - 9139:ZE88.3831,SD723.276,HD err=
0.042638, VD err= -0.025735
 3455  Note:                   BS Circle check : angular err= 0.0000
 3456  Note:                   Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 3457  Note:                   HR:5.15 (5.15 + 0.0 Offset)
 3458  Line of Sight (HI/HR):  Height of Instrument: 5.15USft
Height of Rod: 5.15USft
 3459  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
```

```
 3460  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0007
 3461  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 76.2215
 3462  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 271.0507
 3463  Multiple Distances:     Set: 1
Slope Distance: 373.752USft
 3464  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 410                Angle Right: 76.2215              Zenith
Angle: 271.0507       Slope Distance: 373.752USft     Height of Rod: 5.15USft
Description: NS
 3465  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 256.2213
 3466  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 88.5456
 3467  Multiple Distances:     Set: 1
Slope Distance: 373.758USft
 3468  Repeat Foresight:       Occupy Point: 9143
Foresight Point: 410                Angle Right: 256.2213             Zenith
Angle: 88.5456        Slope Distance: 373.758USft     Height of Rod: 5.15USft
Description: NS
 3469  Note:                   Horizontal Angle Error: 0.0005
 3470  Note:                   Zenith Angle Error: 0.0003
 3471  Note:                   Slope Distance Error: 0.006
 3472  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3473  Note:                   Zenith Angle Error compares to the average:
0.0000
 3474  Note:                   Slope Distance Error compares to the average: 0.0
 3475  Side Shot:              Occupy Point: 9143
Foresight Point: 410                Angle Right: 256.22105            Zenith
Angle: 88.54545       Slope Distance: 373.755USft     Description: NS
 3476  Note:                   Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
 3477  Occupy Pt:              Occupy Point: 410
Northing: 1144220.09809USft         Easting: 619507.969107USft
Elevation: 253.968596USft    Description: NS
 3478  Note:                   HR:5.17 (5.17 + 0.0 Offset)
 3479  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 5.17USft
 3480  Backsight:              Occupy Point: 410
Backsight Point: 9143               Backsight Azimuth: 150.211563     Backsight
Circle: 0.0000
 3481  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 3482  Note:                   BS check 410 - 9143:ZE91.0446,SD373.766,HD err=
0.011665, VD err= -0.004879
 3483  Note:                   BS Circle check : angular err= 0.0000
 3484  Side Shot:              Occupy Point: 410
Foresight Point: 411                Angle Right: 0.0000               Zenith
Angle: 91.0447        Slope Distance: 373.768USft     Description: CHK9143
 3485  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3486  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3487  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.97USft
 3488  Side Shot:              Occupy Point: 410
Foresight Point: 412                Angle Right: 197.4255             Zenith
Angle: 85.4551        Slope Distance: 83.528USft      Description: B-1191
 3489  Note:                   Date: 03-21-2007  Time: 16:09:10
 3490  Occupy Pt:              Occupy Point: 410
Northing: 1144220.09809USft         Easting: 619507.969107USft
Elevation: 253.968596USft    Description: NS
 3491  Backsight:              Occupy Point: 410
Backsight Point: 9143               Backsight Azimuth: 150.211563     Backsight
Circle: 0.0000
```

```
 3492  Note:                    Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 3493  Note:                    BS check 410 - 9143:ZE91.0446,SD373.766,HD err=
0.011665, VD err= -0.004879
 3494  Note:                    BS Circle check : angular err= 0.0000
 3495  Note:                    Foresight Target:My Prism, HR:4.93 (4.93 + 0.0
Offset), Prism Const.:0.0mm
 3496  Note:                    HR:4.93 (4.93 + 0.0 Offset)
 3497  Line of Sight (HI/HR):  Height of Instrument: 5.13USft
Height of Rod: 4.93USft
 3498  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3499  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0009
 3500  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 312.5457
 3501  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 273.1239
 3502  Multiple Distances:     Set: 1
Slope Distance: 349.02USft
 3503  Repeat Foresight:       Occupy Point: 410
Foresight Point: 413                Angle Right: 312.5457             Zenith
Angle: 273.1239       Slope Distance: 349.02USft      Height of Rod: 4.93USft
Description: NS
 3504  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 132.5450
 3505  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 86.4724
 3506  Multiple Distances:     Set: 1
Slope Distance: 349.03USft
 3507  Repeat Foresight:       Occupy Point: 410
Foresight Point: 413                Angle Right: 132.5450             Zenith
Angle: 86.4724        Slope Distance: 349.03USft      Height of Rod: 4.93USft
Description: NS
 3508  Note:                    Horizontal Angle Error: 0.0002
 3509  Note:                    Zenith Angle Error: 0.0003
 3510  Note:                    Slope Distance Error: 0.01
 3511  Note:                    Horizontal Angle Error compares to the average:
0.0000
 3512  Note:                    Zenith Angle Error compares to the average:
0.0000
 3513  Note:                    Slope Distance Error compares to the average: 0.0
 3514  Side Shot:               Occupy Point: 410
Foresight Point: 413                Angle Right: 132.5449             Zenith
Angle: 86.47225       Slope Distance: 349.025USft     Description: NS
 3515  Note:                    Date: 03-21-2007  Time: 16:26:54
 3516  Note:                    Data Collector Serial Number: FS29A13023
 3517  Note:                    Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 3518  Note:                    Foresight Target:My Prism, HR:4.93 (4.93 + 0.0
Offset), Prism Const.:0.0mm
 3519  Note:                    Date: 03-22-2007  Time: 08:08:16
 3520  Note:                    Date: 03-22-2007  Time: 08:08:35
 3521  Note:                    Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 3522  Occupy Pt:               Occupy Point: 413
Northing: 1144300.075487USft        Easting: 619168.793633USft
Elevation: 273.715053USft    Description: NS
 3523  Note:                    HR:5.15 (5.15 + 0.0 Offset)
 3524  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 5.15USft
 3525  Backsight:               Occupy Point: 413
Backsight Point: 410                Backsight Azimuth: 103.160463     Backsight
Circle: 0.0000
 3526  Note:                    Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 3527  Note:                    BS check 413 - 410:ZE93.1418,SD349.036,HD err=
```

0.001417, VD err= -0.01041
 3528 Note: BS Circle check : angular err= 0.0000
 3529 Side Shot: Occupy Point: 413
Foresight Point: 9197   Angle Right: 0.0000   Zenith
Angle: 93.1419   Slope Distance: 349.034USft   Description: CHK410
 3530 Store Point: Point Name: 414
Northing: 1144220.098245USft   Easting: 619507.96845USft
Elevation: 253.95661USft   Description: CHK410
 3531 Deleted Point: Point Name: 9197
 3532 Occupy Pt: Occupy Point: 413
Northing: 1144300.075487USft   Easting: 619168.793633USft
Elevation: 273.715053USft   Description: NS
 3533 Backsight: Occupy Point: 413
Backsight Point: 410   Backsight Azimuth: 103.160463   Backsight
Circle: 0.0000
 3534 Note: Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 3535 Note: BS check 413 - 410:ZE93.1418,SD349.032,HD err= -
0.002576, VD err= -0.010184
 3536 Note: BS Circle check : angular err= 0.0000
 3537 Note: Foresight Target:My Prism, HR:5.13 (5.13 + 0.0
Offset), Prism Const.:0.0mm
 3538 Note: HR:5.13 (5.13 + 0.0 Offset)
 3539 Line of Sight (HI/HR):   Height of Instrument: 5.11USft
Height of Rod: 5.13USft
 3540 Note: Date: 03-22-2007 Time: 08:49:54
 3541 Repeat Directional: Backsight Direct
Set: 1   Angle: 0.0000
 3542 Repeat Directional: Backsight Reverse
Set: 1   Angle: 180.0001
 3543 Repeat Directional: Foresight Reverse
Set: 1   Angle: 356.4707
 3544 Repeat Directional: Zenith Reverse
Set: 1   Zenith: 270.0048
 3545 Multiple Distances: Set: 1
Slope Distance: 318.102USft
 3546 Repeat Foresight: Occupy Point: 413
Foresight Point: 415   Angle Right: 356.4707   Zenith
Angle: 270.0048   Slope Distance: 318.102USft   Height of Rod: 5.13USft
Description: NS
 3547 Repeat Directional: Foresight Direct
Set: 1   Angle: 176.4702
 3548 Repeat Directional: Zenith Direct
Set: 1   Zenith: 89.5915
 3549 Multiple Distances: Set: 1
Slope Distance: 318.106USft
 3550 Repeat Foresight: Occupy Point: 413
Foresight Point: 415   Angle Right: 176.4702   Zenith
Angle: 89.5915   Slope Distance: 318.106USft   Height of Rod: 5.13USft
Description: NS
 3551 Note: Horizontal Angle Error: 0.0004
 3552 Note: Zenith Angle Error: 0.0003
 3553 Note: Slope Distance Error: 0.004
 3554 Note: Horizontal Angle Error compares to the average:
0.0000
 3555 Note: Zenith Angle Error compares to the average:
0.0000
 3556 Note: Slope Distance Error compares to the average: 0.0
 3557 Side Shot: Occupy Point: 413
Foresight Point: 415   Angle Right: 176.4704   Zenith
Angle: 89.59135   Slope Distance: 318.104USft   Description: NS
 3558 Note: Foresight Target:My Prism, HR:5.03 (5.03 + 0.0
Offset), Prism Const.:0.0mm
 3559 Occupy Pt: Occupy Point: 415
Northing: 1144355.600129USft   Easting: 618855.573001USft
Elevation: 273.766765USft   Description: NS
 3560 Note: HR:5.03 (5.03 + 0.0 Offset)

```
 3561  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 5.03USft
 3562  Backsight:              Occupy Point: 415
Backsight Point: 413                Backsight Azimuth: 100.030863     Backsight
Circle: 0.0000
 3563  Note:                   Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset),
Prism Const.:0.0mm
 3564  Note:                   BS check 415 - 413:ZE90.0306,SD318.104,HD err= -
0.000121, VD err= 0.014862
 3565  Note:                   BS Circle check : angular err= 0.0000
 3566  Occupy Pt:              Occupy Point: 415
Northing: 1144355.600129USft        Easting: 618855.573001USft
Elevation: 273.766765USft    Description: NS
 3567  Note:                   HR:5.03 (5.03 + 0.0 Offset)
 3568  Line of Sight (HI/HR):  Height of Instrument: 5.29USft
Height of Rod: 5.03USft
 3569  Backsight:              Occupy Point: 415
Backsight Point: 413                Backsight Azimuth: 100.030863     Backsight
Circle: 0.0000
 3570  Note:                   Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset),
Prism Const.:0.0mm
 3571  Note:                   BS check 415 - 413:ZE90.0306,SD318.104,HD err= -
0.000121, VD err= 0.024862
 3572  Note:                   BS Circle check : angular err= 0.0000
 3573  Occupy Pt:              Occupy Point: 415
Northing: 1144355.600129USft        Easting: 618855.573001USft
Elevation: 273.766765USft    Description: NS
 3574  Note:                   HR:5.03 (5.03 + 0.0 Offset)
 3575  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 5.03USft
 3576  Backsight:              Occupy Point: 415
Backsight Point: 413                Backsight Azimuth: 100.030863     Backsight
Circle: 0.0000
 3577  Note:                   Fixed HR at Backsight:5.03 (5.03 + 0.0 Offset),
Prism Const.:0.0mm
 3578  Note:                   BS check 415 - 413:ZE90.0304,SD318.104,HD err= -
0.000118, VD err= 0.017946
 3579  Note:                   BS Circle check : angular err= 0.0000
 3580  Note:                   Foresight Target:My Prism, HR:5.04 (5.04 + 0.0
Offset), Prism Const.:0.0mm
 3581  Occupy Pt:              Occupy Point: 415
Northing: 1144355.600129USft        Easting: 618855.573001USft
Elevation: 273.766765USft    Description: NS
 3582  Note:                   HR:5.04 (5.04 + 0.0 Offset)
 3583  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 5.04USft
 3584  Backsight:              Occupy Point: 415
Backsight Point: 413                Backsight Azimuth: 100.030863     Backsight
Circle: 0.0000
 3585  Note:                   Fixed HR at Backsight:5.04 (5.04 + 0.0 Offset),
Prism Const.:0.0mm
 3586  Note:                   BS check 415 - 413:ZE90.0306,SD318.106,HD err=
0.001879, VD err= 0.00486
 3587  Note:                   BS Circle check : angular err= 0.0000
 3588  Side Shot:              Occupy Point: 415
Foresight Point: 416                Angle Right: 0.0000               Zenith
Angle: 90.0306        Slope Distance: 318.102USft     Description: CHK413
 3589  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3590  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3591  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 4.97USft
 3592  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3593  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0001
 3594  Repeat Directional:     Foresight Reverse
```

Set: 1 Angle: 248.3019
3595 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 266.2828
3596 Multiple Distances: Set: 1
Slope Distance: 88.498USft
3597 Repeat Foresight: Occupy Point: 415
Foresight Point: 417 Angle Right: 248.3019 Zenith
Angle: 266.2828 Slope Distance: 88.498USft Height of Rod: 4.97USft
Description: NS
3598 Repeat Directional: Foresight Direct
Set: 1 Angle: 68.3021
3599 Repeat Directional: Zenith Direct
Set: 1 Zenith: 93.3142
3600 Multiple Distances: Set: 1
Slope Distance: 88.498USft
3601 Repeat Foresight: Occupy Point: 415
Foresight Point: 417 Angle Right: 68.3021 Zenith
Angle: 93.3142 Slope Distance: 88.498USft Height of Rod: 4.97USft
Description: NS
3602 Note: Horizontal Angle Error: 0.0003
3603 Note: Zenith Angle Error: 0.0010
3604 Note: Slope Distance Error: 0.0
3605 Note: Horizontal Angle Error compares to the average:
0.0000
3606 Note: Zenith Angle Error compares to the average:
0.0000
3607 Note: Slope Distance Error compares to the average: 0.0
3608 Side Shot: Occupy Point: 415
Foresight Point: 417 Angle Right: 68.30195 Zenith
Angle: 93.3137 Slope Distance: 88.498USft Description: NS
3609 Note: Date: 03-22-2007 Time: 09:10:38
3610 Occupy Pt: Occupy Point: 415
Northing: 1144355.600129USft Easting: 618855.573001USft
Elevation: 273.766765USft Description: NS
3611 Backsight: Occupy Point: 415
Backsight Point: 413 Backsight Azimuth: 100.030863 Backsight
Circle: 0.0000
3612 Note: Fixed HR at Backsight:5.04 (5.04 + 0.0 Offset),
Prism Const.:0.0mm
3613 Note: BS check 415 - 413:ZE90.0309,SD318.104,HD err= -
0.000125, VD err= 0.000235
3614 Note: BS Circle check : angular err= 0.0000
3615 Note: Foresight Target:My Prism, HR:4.77 (4.77 + 0.0
Offset), Prism Const.:0.0mm
3616 Note: HR:4.77 (4.77 + 0.0 Offset)
3617 Line of Sight (HI/HR): Height of Instrument: 5.28USft
Height of Rod: 4.77USft
3618 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
3619 Repeat Directional: Backsight Reverse
Set: 1 Angle: 179.5957
3620 Repeat Directional: Foresight Reverse
Set: 1 Angle: 114.0627
3621 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 271.3549
3622 Multiple Distances: Set: 1
Slope Distance: 190.726USft
3623 Repeat Foresight: Occupy Point: 415
Foresight Point: 418 Angle Right: 114.0627 Zenith
Angle: 271.3549 Slope Distance: 190.726USft Height of Rod: 4.77USft
Description: NS
3624 Repeat Directional: Foresight Direct
Set: 1 Angle: 294.0624
3625 Repeat Directional: Zenith Direct
Set: 1 Zenith: 88.2412
3626 Multiple Distances: Set: 1
Slope Distance: 190.73USft

```
 3627  Repeat Foresight:       Occupy Point: 415
Foresight Point: 418                  Angle Right: 294.0624             Zenith
Angle: 88.2412        Slope Distance: 190.73USft      Height of Rod: 4.77USft
Description: NS
 3628  Note:                   Horizontal Angle Error: 0.0006
 3629  Note:                   Zenith Angle Error: 0.0001
 3630  Note:                   Slope Distance Error: 0.004
 3631  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3632  Note:                   Zenith Angle Error compares to the average:
0.0000
 3633  Note:                   Slope Distance Error compares to the average: 0.0
 3634  Side Shot:              Occupy Point: 415
Foresight Point: 418                  Angle Right: 294.0627             Zenith
Angle: 88.24115       Slope Distance: 190.728USft     Description: NS
 3635  Note:                   Foresight Target:My Prism, HR:5.44 (5.44 + 0.0
Offset), Prism Const.:0.0mm
 3636  Occupy Pt:              Occupy Point: 417
Northing: 1144269.025279USft          Easting: 618873.095899USft
Elevation: 268.632552USft    Description: NS
 3637  Note:                   HR:5.44 (5.44 + 0.0 Offset)
 3638  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 5.44USft
 3639  Backsight:              Occupy Point: 417
Backsight Point: 415                  Backsight Azimuth: 348.332813     Backsight
Circle: 0.0000
 3640  Note:                   Fixed HR at Backsight:5.44 (5.44 + 0.0 Offset),
Prism Const.:0.0mm
 3641  Note:                   BS check 417 - 415:ZE86.3132,SD88.49,HD err= -
0.003034, VD err= -0.011424
 3642  Note:                   BS Circle check : angular err= 0.0000
 3643  Side Shot:              Occupy Point: 417
Foresight Point: 419                  Angle Right: 0.0000               Zenith
Angle: 86.3132        Slope Distance: 88.49USft       Description: CHK415
 3644  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3645  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3646  Line of Sight (HI/HR):  Height of Instrument: 5.2USft
Height of Rod: 4.97USft
 3647  Note:                   Date: 03-22-2007  Time: 09:29:45
 3648  Note:                   Foresight Target:My Prism, HR:5.44 (5.44 + 0.0
Offset), Prism Const.:0.0mm
 3649  Occupy Pt:              Occupy Point: 418
Northing: 1144513.361263USft          Easting: 618962.626013USft
Elevation: 279.591574USft    Description: NS
 3650  Note:                   HR:5.44 (5.44 + 0.0 Offset)
 3651  Line of Sight (HI/HR):  Height of Instrument: 5.08USft
Height of Rod: 5.44USft
 3652  Backsight:              Occupy Point: 418
Backsight Point: 415                  Backsight Azimuth: 214.093563     Backsight
Circle: 0.0000
 3653  Note:                   Fixed HR at Backsight:5.44 (5.44 + 0.0 Offset),
Prism Const.:0.0mm
 3654  Note:                   BS check 418 - 415:ZE91.3822,SD190.722,HD err= -
0.010006, VD err= 0.008291
 3655  Note:                   BS Circle check : angular err= 0.0000
 3656  Side Shot:              Occupy Point: 418
Foresight Point: 420                  Angle Right: 0.0000               Zenith
Angle: 91.3821        Slope Distance: 190.722USft     Description: CHK415
 3657  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3658  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3659  Line of Sight (HI/HR):  Height of Instrument: 5.08USft
Height of Rod: 4.97USft
 3660  Off Center Shot:        Angle Right: 293.4234
Zenith Angle: 89.4505                 Slope Distance: 63.976USft
 3661  Off Center Shot:        Left/Right Offset: -1.0USft
```

```
Description: Left / Right Offset
 3662  Side Shot:              Occupy Point: 418
Foresight Point: 421                 Angle Right: 292.485014           Zenith
Angle: 89.450511      Slope Distance: 63.983815USft   Description: B-1189
 3663  Side Shot:              Occupy Point: 418
Foresight Point: 422                 Angle Right: 109.5554             Zenith
Angle: 90.3044        Slope Distance: 245.102USft     Description: B-1186
 3664  Note:                   Date: 03-22-2007  Time: 09:56:44
 3665  Occupy Pt:              Occupy Point: 418
Northing: 1144513.361263USft         Easting: 618962.626013USft
Elevation: 279.591574USft    Description: NS
 3666  Backsight:              Occupy Point: 418
Backsight Point: 415                 Backsight Azimuth: 214.093563     Backsight
Circle: 0.0000
 3667  Note:                   Fixed HR at Backsight:5.44 (5.44 + 0.0 Offset),
Prism Const.:0.0mm
 3668  Note:                   BS check 418 - 415:ZE91.3824,SD190.722,HD err= -
0.010058, VD err= 0.006442
 3669  Note:                   BS Circle check : angular err= 0.0000
 3670  Note:                   Foresight Target:My Prism, HR:4.92 (4.92 + 0.0
Offset), Prism Const.:0.0mm
 3671  Note:                   HR:4.92 (4.92 + 0.0 Offset)
 3672  Line of Sight (HI/HR):  Height of Instrument: 5.08USft
Height of Rod: 4.92USft
 3673  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 3674  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 179.5958
 3675  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 18.2852
 3676  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 269.4318
 3677  Multiple Distances:     Set: 1
Slope Distance: 292.958USft
 3678  Repeat Foresight:       Occupy Point: 418
Foresight Point: 423                 Angle Right: 18.2852              Zenith
Angle: 269.4318       Slope Distance: 292.958USft     Height of Rod: 4.92USft
Description: NS
 3679  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 198.2851
 3680  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 90.1638
 3681  Multiple Distances:     Set: 1
Slope Distance: 292.954USft
 3682  Repeat Foresight:       Occupy Point: 418
Foresight Point: 423                 Angle Right: 198.2851             Zenith
Angle: 90.1638        Slope Distance: 292.954USft     Height of Rod: 4.92USft
Description: NS
 3683  Note:                   Horizontal Angle Error: 0.0003
 3684  Note:                   Zenith Angle Error: 0.0004
 3685  Note:                   Slope Distance Error: 0.004
 3686  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3687  Note:                   Zenith Angle Error compares to the average:
0.0000
 3688  Note:                   Slope Distance Error compares to the average: 0.0
 3689  Side Shot:              Occupy Point: 418
Foresight Point: 423                 Angle Right: 198.28525            Zenith
Angle: 90.1640        Slope Distance: 292.956USft     Description: NS
 3690  Note:                   Foresight Target:My Prism, HR:4.98 (4.98 + 0.0
Offset), Prism Const.:0.0mm
 3691  Occupy Pt:              Occupy Point: 423
Northing: 1144691.12639USft          Easting: 619195.47953USft
Elevation: 278.331289USft    Description: NS
 3692  Note:                   HR:4.98 (4.98 + 0.0 Offset)
 3693  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 4.98USft
```

```
 3694  Backsight:              Occupy Point: 423
Backsight Point: 418                Backsight Azimuth: 232.382813     Backsight
Circle: 0.0000
 3695  Note:                   Fixed HR at Backsight:4.98 (4.98 + 0.0 Offset),
Prism Const.:0.0mm
 3696  Note:                   BS check 423 - 418:ZE89.4644,SD292.956,HD err=
0.001261, VD err= 0.000263
 3697  Note:                   BS Circle check : angular err= 0.0000
 3698  Side Shot:              Occupy Point: 423
Foresight Point: 424                Angle Right: 0.0000               Zenith
Angle: 89.4644        Slope Distance: 292.958USft     Description: CHK418
 3699  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3700  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3701  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 4.97USft
 3702  Side Shot:              Occupy Point: 423
Foresight Point: 425                Angle Right: 200.4756             Zenith
Angle: 90.4043        Slope Distance: 66.906USft      Description: B-1187
 3703  Occupy Pt:              Occupy Point: 423
Northing: 1144691.12639USft         Easting: 619195.47953USft
Elevation: 278.331289USft    Description: NS
 3704  Backsight:              Occupy Point: 423
Backsight Point: 418                Backsight Azimuth: 232.382813     Backsight
Circle: 0.0000
 3705  Note:                   Fixed HR at Backsight:4.98 (4.98 + 0.0 Offset),
Prism Const.:0.0mm
 3706  Note:                   BS check 423 - 418:ZE89.4646,SD292.95,HD err= -
0.004728, VD err= -0.0026
 3707  Note:                   BS Circle check : angular err= 0.0000
 3708  Occupy Pt:              Occupy Point: 423
Northing: 1144691.12639USft         Easting: 619195.47953USft
Elevation: 278.331289USft    Description: NS
 3709  Backsight:              Occupy Point: 423
Backsight Point: 418                Backsight Azimuth: 232.382813     Backsight
Circle: 0.0000
 3710  Note:                   Fixed HR at Backsight:4.98 (4.98 + 0.0 Offset),
Prism Const.:0.0mm
 3711  Note:                   BS check 423 - 418:ZE89.4649,SD292.952,HD err= -
0.002711, VD err= -0.006853
 3712  Note:                   BS Circle check : angular err= 0.0000
 3713  Note:                   Foresight Target:My Prism, HR:5.02 (5.02 + 0.0
Offset), Prism Const.:0.0mm
 3714  Note:                   HR:5.02 (5.02 + 0.0 Offset)
 3715  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 5.02USft
 3716  Note:                   Date: 03-22-2007  Time: 10:33:27
 3717  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3718  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0001
 3719  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 323.2735
 3720  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.4557
 3721  Multiple Distances:     Set: 1
Slope Distance: 237.628USft
 3722  Repeat Foresight:       Occupy Point: 423
Foresight Point: 426                Angle Right: 323.2735             Zenith
Angle: 269.4557       Slope Distance: 237.628USft     Height of Rod: 5.02USft
Description: NS
 3723  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 143.2734
 3724  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 90.1400
 3725  Multiple Distances:     Set: 1
Slope Distance: 237.628USft
```

```
 3726  Repeat Foresight:       Occupy Point: 423
Foresight Point: 426                 Angle Right: 143.2734             Zenith
Angle: 90.1400        Slope Distance: 237.628USft     Height of Rod: 5.02USft
Description: NS
 3727  Note:                   Horizontal Angle Error: 0.0000
 3728  Note:                   Zenith Angle Error: 0.0003
 3729  Note:                   Slope Distance Error: 0.0
 3730  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3731  Note:                   Zenith Angle Error compares to the average:
0.0000
 3732  Note:                   Slope Distance Error compares to the average: 0.0
 3733  Side Shot:              Occupy Point: 423
Foresight Point: 426                 Angle Right: 143.2734             Zenith
Angle: 90.14015       Slope Distance: 237.628USft     Description: NS
 3734  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3735  Occupy Pt:              Occupy Point: 426
Northing: 1144919.431839USft         Easting: 619261.379064USft
Elevation: 277.451839USft    Description: NS
 3736  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3737  Line of Sight (HI/HR):  Height of Instrument: 4.96USft
Height of Rod: 4.97USft
 3738  Backsight:              Occupy Point: 426
Backsight Point: 423                 Backsight Azimuth: 196.060213     Backsight
Circle: 0.0000
 3739  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 3740  Note:                   BS check 426 - 423:ZE89.4709,SD237.636,HD err=
0.008317, VD err= -0.001189
 3741  Note:                   BS Circle check : angular err= 0.0000
 3742  Side Shot:              Occupy Point: 426
Foresight Point: 427                 Angle Right: 0.0000               Zenith
Angle: 89.4706        Slope Distance: 237.64USft      Description: CHK423
 3743  Occupy Pt:              Occupy Point: 426
Northing: 1144919.431839USft         Easting: 619261.379064USft
Elevation: 277.451839USft    Description: NS
 3744  Backsight:              Occupy Point: 426
Backsight Point: 423                 Backsight Azimuth: 196.060213     Backsight
Circle: 0.0000
 3745  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 3746  Note:                   BS check 426 - 423:ZE89.4705,SD237.63,HD err=
0.0023, VD err= 0.003397
 3747  Note:                   BS Circle check : angular err= 0.0000
 3748  Note:                   Foresight Target:My Prism, HR:5.33 (5.33 + 0.0
Offset), Prism Const.:0.0mm
 3749  Note:                   HR:5.33 (5.33 + 0.0 Offset)
 3750  Line of Sight (HI/HR):  Height of Instrument: 4.96USft
Height of Rod: 5.33USft
 3751  Note:                   Foresight Target:My Prism, HR:5.36 (5.36 + 0.0
Offset), Prism Const.:0.0mm
 3752  Occupy Pt:              Occupy Point: 426
Northing: 1144919.431839USft         Easting: 619261.379064USft
Elevation: 277.451839USft    Description: NS
 3753  Note:                   HR:5.36 (5.36 + 0.0 Offset)
 3754  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.36USft
 3755  Backsight:              Occupy Point: 426
Backsight Point: 423                 Backsight Azimuth: 196.060213     Backsight
Circle: 0.0000
 3756  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 3757  Note:                   BS check 426 - 423:ZE89.5116,SD237.634,HD err=
0.007211, VD err= 0.00424
 3758  Note:                   BS Circle check : angular err= 0.0000
 3759  Note:                   Date: 03-22-2007  Time: 11:20:07
```

```
 3760  Note:                   RD,BD 1:0.0000
 3761  Note:                   RD,BV 1:180.0004
 3762  Note:                   RD,FV 1:180.0000
 3763  Note:                   RD,ZV 1:
 3764  Note:                   MD,SD 1:
 3765  Note:                   RF,OP426,FP,AR180.0000,ZE,SD,HR5.36,--
 3766  Note:                   RD,FD 1:0.0000
 3767  Note:                   RD,ZD 1:
 3768  Note:                   MD,SD 1:
 3769  Note:                   RF,OP426,FP,AR0.0000,ZE,SD,HR5.36,--
 3770  Note:                   Horizontal Angle Error: 0.0000
 3771  Note:                   Zenith Angle Error: 0.0000
 3772  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3773  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0003
 3774  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 75.1541
 3775  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 266.5957
 3776  Multiple Distances:     Set: 1
Slope Distance: 228.014USft
 3777  Repeat Foresight:       Occupy Point: 426
Foresight Point: 428                Angle Right: 75.1541              Zenith
Angle: 266.5957       Slope Distance: 228.014USft     Height of Rod: 5.36USft
Description: NS
 3778  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 255.1536
 3779  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 92.5958
 3780  Multiple Distances:     Set: 1
Slope Distance: 228.014USft
 3781  Repeat Foresight:       Occupy Point: 426
Foresight Point: 428                Angle Right: 255.1536             Zenith
Angle: 92.5958        Slope Distance: 228.014USft     Height of Rod: 5.36USft
Description: NS
 3782  Note:                   Horizontal Angle Error: 0.0002
 3783  Note:                   Zenith Angle Error: 0.0005
 3784  Note:                   Slope Distance Error: 0.0
 3785  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3786  Note:                   Zenith Angle Error compares to the average:
0.0000
 3787  Note:                   Slope Distance Error compares to the average: 0.0
 3788  Side Shot:              Occupy Point: 426
Foresight Point: 428                Angle Right: 255.1537             Zenith
Angle: 93.00005       Slope Distance: 228.014USft     Description: NS
 3789  Note:                   Foresight Target:My Prism, HR:5.08 (5.08 + 0.0
Offset), Prism Const.:0.0mm
 3790  Occupy Pt:              Occupy Point: 428
Northing: 1144914.024062USft        Easting: 619489.016325USft
Elevation: 265.407956USft    Description: NS
 3791  Note:                   HR:5.08 (5.08 + 0.0 Offset)
 3792  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.08USft
 3793  Backsight:              Occupy Point: 428
Backsight Point: 426                Backsight Azimuth: 271.213913     Backsight
Circle: 0.0000
 3794  Note:                   Fixed HR at Backsight:5.08 (5.08 + 0.0 Offset),
Prism Const.:0.0mm
 3795  Note:                   BS check 428 - 426:ZE87.0006,SD228.002,HD err= -
0.011608, VD err= 0.012197
 3796  Note:                   BS Circle check : angular err= 0.0000
 3797  Note:                   BS check 428 - 426:ZE87.0003,SD227.998,HD err= -
0.015776, VD err= 0.015299
 3798  Note:                   BS Circle check : angular err= 0.0000
 3799  Note:                   BS check 428 - 426:ZE87.0003,SD228.0,HD err= -
```

```
0.013778, VD err= 0.015404
 3800  Note:                   BS Circle check : angular err= 0.0000
 3801  Note:                   Foresight Target:My Prism, HR:5.07 (5.07 + 0.0
Offset), Prism Const.:0.0mm
 3802  Occupy Pt:              Occupy Point: 428
Northing: 1144914.024062USft         Easting: 619489.016325USft
Elevation: 265.407956USft    Description: NS
 3803  Note:                   HR:5.07 (5.07 + 0.0 Offset)
 3804  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.07USft
 3805  Backsight:              Occupy Point: 428
Backsight Point: 426                 Backsight Azimuth: 271.213913     Backsight
Circle: 0.0000
 3806  Note:                   Fixed HR at Backsight:5.07 (5.07 + 0.0 Offset),
Prism Const.:0.0mm
 3807  Note:                   BS check 428 - 426:ZE87.0004,SD228.002,HD err= -
0.011723, VD err= 0.024405
 3808  Note:                   BS Circle check : angular err= 0.0000
 3809  Note:                   Foresight Target:My Prism, HR:5.09 (5.09 + 0.0
Offset), Prism Const.:0.0mm
 3810  Occupy Pt:              Occupy Point: 428
Northing: 1144914.024062USft         Easting: 619489.016325USft
Elevation: 265.407956USft    Description: NS
 3811  Note:                   HR:5.09 (5.09 + 0.0 Offset)
 3812  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.09USft
 3813  Backsight:              Occupy Point: 428
Backsight Point: 426                 Backsight Azimuth: 271.213913     Backsight
Circle: 0.0000
 3814  Note:                   Fixed HR at Backsight:5.09 (5.09 + 0.0 Offset),
Prism Const.:0.0mm
 3815  Note:                   BS check 428 - 426:ZE87.0004,SD228.002,HD err= -
0.011723, VD err= 0.004405
 3816  Note:                   BS Circle check : angular err= 0.0000
 3817  Side Shot:              Occupy Point: 428
Foresight Point: 429                 Angle Right: 0.0000               Zenith
Angle: 87.0004        Slope Distance: 228.0USft       Description: CHK426
 3818  Note:                   Foresight Target:My Prism, HR:5.28 (5.28 + 0.0
Offset), Prism Const.:0.0mm
 3819  Note:                   HR:5.28 (5.28 + 0.0 Offset)
 3820  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 5.28USft
 3821  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 3822  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0004
 3823  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 352.0022
 3824  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 261.5533
 3825  Multiple Distances:     Set: 1
Slope Distance: 294.854USft
 3826  Repeat Foresight:       Occupy Point: 428
Foresight Point: 430                 Angle Right: 352.0022             Zenith
Angle: 261.5533       Slope Distance: 294.854USft     Height of Rod: 5.28USft
Description: NS
 3827  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 172.0024
 3828  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 98.0429
 3829  Multiple Distances:     Set: 1
Slope Distance: 294.866USft
 3830  Repeat Foresight:       Occupy Point: 428
Foresight Point: 430                 Angle Right: 172.0024             Zenith
Angle: 98.0429        Slope Distance: 294.866USft     Height of Rod: 5.28USft
Description: NS
 3831  Note:                   Horizontal Angle Error: 0.0006
```

```
 3832  Note:                   Zenith Angle Error: 0.0002
 3833  Note:                   Slope Distance Error: 0.012
 3834  Note:                   Horizontal Angle Error compares to the average:
0.0000
 3835  Note:                   Zenith Angle Error compares to the average:
0.0000
 3836  Note:                   Slope Distance Error compares to the average: 0.0
 3837  Side Shot:              Occupy Point: 428
Foresight Point: 430                Angle Right: 172.0021             Zenith
Angle: 98.0428        Slope Distance: 294.86USft      Description: NS
 3838  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3839  Occupy Pt:              Occupy Point: 430
Northing: 1144947.746985USft        Easting: 619778.998919USft
Elevation: 223.922027USft    Description: NS
 3840  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 3841  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 4.97USft
 3842  Backsight:              Occupy Point: 430
Backsight Point: 428                Backsight Azimuth: 263.220013     Backsight
Circle: 0.0000
 3843  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 3844  Note:                   BS check 430 - 428:ZE81.5752,SD294.82,HD err= -
0.011564, VD err= 0.00625
 3845  Note:                   BS Circle check : angular err= 0.0000
 3846  Side Shot:              Occupy Point: 430
Foresight Point: 431                Angle Right: 0.0000               Zenith
Angle: 81.5752        Slope Distance: 294.82USft      Description: CHK428
 3847  Note:                   Date: 03-22-2007  Time: 11:45:00
 3848  Occupy Pt:              Occupy Point: 430
Northing: 1144947.746985USft        Easting: 619778.998919USft
Elevation: 223.922027USft    Description: NS
 3849  Backsight:              Occupy Point: 430
Backsight Point: 428                Backsight Azimuth: 263.220013     Backsight
Circle: 0.0000
 3850  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 3851  Note:                   BS check 430 - 428:ZE81.5751,SD294.822,HD err= -
0.009783, VD err= 0.007945
 3852  Note:                   BS Circle check : angular err= 0.0000
 3853  Note:                   Foresight Target:My Prism, HR:5.07 (5.07 + 0.0
Offset), Prism Const.:0.0mm
 3854  Note:                   HR:5.07 (5.07 + 0.0 Offset)
 3855  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.07USft
 3856  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 3857  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0003
 3858  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 62.1609
 3859  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 274.0841
 3860  Multiple Distances:     Set: 1
Slope Distance: 537.35USft
 3861  Repeat Foresight:       Occupy Point: 430
Foresight Point: 432                Angle Right: 62.1609              Zenith
Angle: 274.0841       Slope Distance: 537.35USft      Height of Rod: 5.07USft
Description: NS
 3862  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 242.1611
 3863  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 85.5114
 3864  Multiple Distances:     Set: 1
Slope Distance: 537.36USft
 3865  Repeat Foresight:       Occupy Point: 430
```

Foresight Point: 432 Angle Right: 242.1611 Zenith
Angle: 85.5114 Slope Distance: 537.36USft Height of Rod: 5.07USft
Description: NS
3866 Note: Horizontal Angle Error: 0.0005
3867 Note: Zenith Angle Error: 0.0005
3868 Note: Slope Distance Error: 0.01
3869 Note: Horizontal Angle Error compares to the average:
0.0000
3870 Note: Zenith Angle Error compares to the average:
0.0000
3871 Note: Slope Distance Error compares to the average: 0.0
3872 Side Shot: Occupy Point: 430
Foresight Point: 432 Angle Right: 242.16085 Zenith
Angle: 85.51165 Slope Distance: 537.355USft Description: NS
3873 Note: Foresight Target:My Prism, HR:5.18 (5.18 + 0.0
Offset), Prism Const.:0.0mm
3874 Occupy Pt: Occupy Point: 432
Northing: 1144505.339351USft Easting: 620081.516684USft
Elevation: 262.946379USft Description: NS
3875 Note: HR:5.18 (5.18 + 0.0 Offset)
3876 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 5.18USft
3877 Backsight: Occupy Point: 432
Backsight Point: 430 Backsight Azimuth: 325.380863 Backsight
Circle: 0.0000
3878 Note: Fixed HR at Backsight:5.18 (5.18 + 0.0 Offset),
Prism Const.:0.0mm
3879 Note: BS check 432 - 430:ZE94.1048,SD537.364,HD err= -
0.014568, VD err= 0.005856
3880 Note: BS Circle check : angular err= 0.0000
3881 Side Shot: Occupy Point: 432
Foresight Point: 433 Angle Right: 0.0000 Zenith
Angle: 94.1047 Slope Distance: 537.37USft Description: CHK430
3882 Note: Date: 03-22-2007 Time: 12:08:20
3883 Note: Foresight Target:My Prism, HR:5.07 (5.07 + 0.0
Offset), Prism Const.:0.0mm
3884 Note: HR:5.07 (5.07 + 0.0 Offset)
3885 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 5.07USft
3886 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
3887 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0005
3888 Repeat Directional: Foresight Reverse
Set: 1 Angle: 14.5034
3889 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 270.5331
3890 Multiple Distances: Set: 1
Slope Distance: 236.416USft
3891 Repeat Foresight: Occupy Point: 432
Foresight Point: 434 Angle Right: 14.5034 Zenith
Angle: 270.5331 Slope Distance: 236.416USft Height of Rod: 5.07USft
Description: NS
3892 Repeat Directional: Foresight Direct
Set: 1 Angle: 194.5030
3893 Repeat Directional: Zenith Direct
Set: 1 Zenith: 89.0627
3894 Multiple Distances: Set: 1
Slope Distance: 236.416USft
3895 Repeat Foresight: Occupy Point: 432
Foresight Point: 434 Angle Right: 194.5030 Zenith
Angle: 89.0627 Slope Distance: 236.416USft Height of Rod: 5.07USft
Description: NS
3896 Note: Horizontal Angle Error: 0.0001
3897 Note: Zenith Angle Error: 0.0002
3898 Note: Slope Distance Error: 0.0
3899 Note: Horizontal Angle Error compares to the average:

0.0000
 3900 Note: Zenith Angle Error compares to the average:
0.0000
 3901 Note: Slope Distance Error compares to the average: 0.0
 3902 Side Shot: Occupy Point: 432
Foresight Point: 434   Angle Right: 194.50295   Zenith
Angle: 89.0628   Slope Distance: 236.416USft   Description: NS
 3903 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 3904 Note: HR:4.97 (4.97 + 0.0 Offset)
 3905 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 4.97USft
 3906 Side Shot: Occupy Point: 432
Foresight Point: 435   Angle Right: 179.1545   Zenith
Angle: 89.1316   Slope Distance: 180.772USft   Description: C-1101ALT
 3907 Note: Foresight Target:My Prism, HR:5.12 (5.12 + 0.0
Offset), Prism Const.:0.0mm
 3908 Occupy Pt: Occupy Point: 434
Northing: 1144282.542178USft   Easting: 620160.512838USft
Elevation: 266.887752USft   Description: NS
 3909 Note: HR:5.12 (5.12 + 0.0 Offset)
 3910 Line of Sight (HI/HR): Height of Instrument: 5.08USft
Height of Rod: 5.12USft
 3911 Backsight: Occupy Point: 434
Backsight Point: 432   Backsight Azimuth: 340.283813   Backsight
Circle: 0.0000
 3912 Note: Fixed HR at Backsight:5.12 (5.12 + 0.0 Offset),
Prism Const.:0.0mm
 3913 Note: BS check 434 - 432:ZE90.5636,SD236.436,HD err=
0.016619, VD err= 0.008801
 3914 Note: BS Circle check : angular err= 0.0000
 3915 Note: Foresight Target:My Prism, HR:5.13 (5.13 + 0.0
Offset), Prism Const.:0.0mm
 3916 Occupy Pt: Occupy Point: 434
Northing: 1144282.542178USft   Easting: 620160.512838USft
Elevation: 266.887752USft   Description: NS
 3917 Note: HR:5.13 (5.13 + 0.0 Offset)
 3918 Line of Sight (HI/HR): Height of Instrument: 5.08USft
Height of Rod: 5.13USft
 3919 Backsight: Occupy Point: 434
Backsight Point: 432   Backsight Azimuth: 340.283813   Backsight
Circle: 0.0000
 3920 Note: Fixed HR at Backsight:5.13 (5.13 + 0.0 Offset),
Prism Const.:0.0mm
 3921 Note: BS check 434 - 432:ZE90.5636,SD236.432,HD err=
0.01262, VD err= -0.001133
 3922 Note: BS Circle check : angular err= 0.0000
 3923 Side Shot: Occupy Point: 434
Foresight Point: 436   Angle Right: 0.0000   Zenith
Angle: 90.5636   Slope Distance: 236.43USft   Description: CHK432
 3924 Note: Foresight Target:My Prism, HR:5.34 (5.34 + 0.0
Offset), Prism Const.:0.0mm
 3925 Note: HR:5.34 (5.34 + 0.0 Offset)
 3926 Line of Sight (HI/HR): Height of Instrument: 5.08USft
Height of Rod: 5.34USft
 3927 Store Point: Point Name: 437
Northing: 1144094.692929USft   Easting: 620387.796339USft
Elevation: 264.034492USft   Description: CHK9139
 3928 Cut Sheet: Elevation: 264.034492USft
Design Grade: 264.029802
 3929 Design Point/Location: Point Name: 9139
Northing: 1144094.804475USft   Easting: 620387.77632USft
Elevation: 264.029802USft   Description: NS
 3930 Stakeout Deltas: Delta Northing: 0.111546USft
Delta Easting: -0.020019USft   Delta Elevation: -0.00469USft
 3931 Stakeout: Occupy Point: 434
Foresight Point: 437   Angle Right: 149.0547   Zenith

Angle: 90.3014 Slope Distance: 294.876USft Description: CHK9139
3932 Note: Date: 03-22-2007 Time: 12:27:39
3933 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
3934 Occupy Pt: Occupy Point: 11
Northing: 1142637.0645USft Easting: 621899.1089USft
Elevation: 218.904USft Description: #4RS
3935 Note: HR:4.97 (4.97 + 0.0 Offset)
3936 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 4.97USft
3937 Backsight: Occupy Point: 11
Backsight Point: 298 Backsight Azimuth: 226.22441 Backsight Circle: 0.0000
3938 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
3939 Note: BS check 11 - 298:ZE90.2158,SD464.656,HD err= -0.027848, VD err= 0.003833
3940 Note: BS Circle check : angular err= 0.0000
3941 Side Shot: Occupy Point: 11
Foresight Point: 438 Angle Right: 0.0000 Zenith
Angle: 90.2159 Slope Distance: 464.656USft Description: CHK298
3942 Side Shot: Occupy Point: 11
Foresight Point: 439 Angle Right: 354.2446 Zenith
Angle: 90.3138 Slope Distance: 40.354USft Description: C-3002
3943 Side Shot: Occupy Point: 11
Foresight Point: 440 Angle Right: 34.5306 Zenith
Angle: 90.1733 Slope Distance: 174.594USft Description: C-3001
3944 Store Point: Point Name: 441
Northing: 1142316.49368USft Easting: 621562.721059USft
Elevation: 216.299267USft Description: CHK298
3945 Cut Sheet: Elevation: 216.299267USft
Design Grade: 216.291107
3946 Design Point/Location: Point Name: 298
Northing: 1142316.492173USft Easting: 621562.722744USft
Elevation: 216.291107USft Description: NS
3947 Stakeout Deltas: Delta Northing: -0.001506USft
Delta Easting: 0.001685USft Delta Elevation: -0.00816USft
3948 Stakeout: Occupy Point: 11
Foresight Point: 441 Angle Right: 0.0001 Zenith
Angle: 90.2156 Slope Distance: 464.684USft Description: CHK298
3949 Occupy Pt: Occupy Point: 180
Northing: 1144184.012USft Easting: 621523.241USft
Elevation: 276.493USft Description: NS
3950 Note: HR:4.97 (4.97 + 0.0 Offset)
3951 Line of Sight (HI/HR): Height of Instrument: 5.11USft
Height of Rod: 4.97USft
3952 Backsight: Occupy Point: 180
Backsight Point: 178 Backsight Azimuth: 60.211553 Backsight Circle: 0.0000
3953 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
3954 Occupy Pt: Occupy Point: 180
Northing: 1144184.012USft Easting: 621523.241USft
Elevation: 276.493USft Description: NS
3955 Backsight: Occupy Point: 180
Backsight Point: 9129 Backsight Azimuth: 60.210544 Backsight Circle: 0.0000
3956 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
3957 Note: BS check 180 - 9129:ZE89.0142,SD343.954,HD err= 0.041351, VD err= 0.040434
3958 Note: BS Circle check : angular err= 0.0000
3959 Occupy Pt: Occupy Point: 180
Northing: 1144184.012USft Easting: 621523.241USft
Elevation: 276.493USft Description: NS
3960 Backsight: Occupy Point: 180
Backsight Point: 178 Backsight Azimuth: 60.211553 Backsight

Circle: 0.0000
 3961 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 3962 Note: BS check 180 - 178:ZE89.0143,SD343.956,HD err=
0.016651, VD err= 0.019128
 3963 Note: BS Circle check : angular err= 0.0000
 3964 Note: BS check 180 - 178:ZE89.0145,SD343.942,HD err=
0.002709, VD err= 0.015556
 3965 Note: BS Circle check : angular err= 0.0001
 3966 Occupy Pt: Occupy Point: 180
Northing: 1144184.012USft   Easting: 621523.241USft
Elevation: 276.493USft   Description: NS
 3967 Backsight: Occupy Point: 180
Backsight Point: 178   Backsight Azimuth: 60.211553   Backsight
Circle: 0.0000
 3968 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 3969 Note: BS check 180 - 178:ZE89.0147,SD343.972,HD err=
0.032761, VD err= 0.01273
 3970 Note: BS Circle check : angular err= 0.0000
 3971 Note: BS check 180 - 178:ZE89.0147,SD343.974,HD err=
0.034761, VD err= 0.012764
 3972 Note: BS Circle check : angular err= 0.0000
 3973 Note: BS check 180 - 178:ZE89.0148,SD343.954,HD err=
0.014792, VD err= 0.010758
 3974 Note: BS Circle check : angular err= 0.0000
 3975 Side Shot: Occupy Point: 180
Foresight Point: 442   Angle Right: 0.0000   Zenith
Angle: 89.0148   Slope Distance: 343.96USft   Description: CHK178
 3976 Note: Date: 03-22-2007 Time: 13:45:43
 3977 Off Center Shot: Angle Right: 100.1651
Zenith Angle: 92.2034   Slope Distance: 311.81USft
 3978 Off Center Shot: Left/Right Offset: -2.0USft
Description: Left / Right Offset
 3979 Side Shot: Occupy Point: 180
Foresight Point: 443   Angle Right: 99.54469   Zenith
Angle: 92.203383   Slope Distance: 311.816414USft Description: B-1117
 3980 Store Point: Point Name: 444
Northing: 1144354.119359USft   Easting: 621822.128929USft
Elevation: 282.450756USft   Description: CHK178
 3981 Cut Sheet: Elevation: 282.450756USft
Design Grade: 282.445
 3982 Design Point/Location: Point Name: 178
Northing: 1144354.112USft   Easting: 621822.116USft
Elevation: 282.445USft   Description: NS
 3983 Stakeout Deltas: Delta Northing: -0.007359USft
Delta Easting: -0.012929USft   Delta Elevation: -0.005756USft
 3984 Stakeout: Occupy Point: 180
Foresight Point: 444   Angle Right: 0.0000   Zenith
Angle: 89.0151   Slope Distance: 343.954USft   Description: CHK178
 3985 Note: Foresight Target:My Prism, HR:5.27 (5.27 + 0.0
Offset), Prism Const.:0.0mm
 3986 Occupy Pt: Occupy Point: 409
Northing: 1143681.686342USft   Easting: 619899.804434USft
Elevation: 242.590997USft   Description: NS
 3987 Note: HR:5.27 (5.27 + 0.0 Offset)
 3988 Line of Sight (HI/HR): Height of Instrument: 5.32USft
Height of Rod: 5.27USft
 3989 Backsight: Occupy Point: 409
Backsight Point: 9143   Backsight Azimuth: 315.541713   Backsight
Circle: 0.0000
 3990 Note: Fixed HR at Backsight:5.27 (5.27 + 0.0 Offset),
Prism Const.:0.0mm
 3991 Note: BS check 409 - 9143:ZE89.1118,SD297.482,HD err= -
0.019098, VD err= -0.037131
 3992 Note: BS Circle check : angular err= 0.0000
 3993 Note: Foresight Target:My Prism, HR:5.26 (5.26 + 0.0

Offset), Prism Const.:0.0mm
 3994 Occupy Pt: Occupy Point: 409
Northing: 1143681.686342USft   Easting: 619899.804434USft
Elevation: 242.590997USft   Description: NS
 3995 Note: HR:5.26 (5.26 + 0.0 Offset)
 3996 Line of Sight (HI/HR): Height of Instrument: 5.32USft
Height of Rod: 5.26USft
 3997 Backsight: Occupy Point: 409
Backsight Point: 9143   Backsight Azimuth: 315.541713   Backsight
Circle: 0.0000
 3998 Note: Fixed HR at Backsight:5.26 (5.26 + 0.0 Offset),
Prism Const.:0.0mm
 3999 Note: BS check 409 - 9143:ZE89.1120,SD297.494,HD err= -
0.007058, VD err= -0.029845
 4000 Note: BS Circle check : angular err= 0.0000
 4001 Occupy Pt: Occupy Point: 409
Northing: 1143681.686342USft   Easting: 619899.804434USft
Elevation: 242.590997USft   Description: NS
 4002 Note: HR:5.26 (5.26 + 0.0 Offset)
 4003 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 5.26USft
 4004 Backsight: Occupy Point: 409
Backsight Point: 9143   Backsight Azimuth: 315.541713   Backsight
Circle: 0.0000
 4005 Note: Fixed HR at Backsight:5.26 (5.26 + 0.0 Offset),
Prism Const.:0.0mm
 4006 Note: BS check 409 - 9143:ZE89.1120,SD297.47,HD err= -
0.031056, VD err= -0.020185
 4007 Note: BS Circle check : angular err= 0.0000
 4008 Side Shot: Occupy Point: 409
Foresight Point: 445   Angle Right: 0.0000   Zenith
Angle: 89.1120   Slope Distance: 297.476USft   Description: CHK9143
 4009 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4010 Note: HR:4.97 (4.97 + 0.0 Offset)
 4011 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 4.97USft
 4012 Side Shot: Occupy Point: 409
Foresight Point: 446   Angle Right: 152.3756   Zenith
Angle: 90.1639   Slope Distance: 333.79USft   Description: B-1121
 4013 Note: Foresight Target:My Prism, HR:5.26 (5.26 + 0.0
Offset), Prism Const.:0.0mm
 4014 Note: HR:5.26 (5.26 + 0.0 Offset)
 4015 Line of Sight (HI/HR): Height of Instrument: 5.33USft
Height of Rod: 5.26USft
 4016 Side Shot: Occupy Point: 409
Foresight Point: 447   Angle Right: 0.0002   Zenith
Angle: 89.1120   Slope Distance: 297.482USft   Description: CHK9143
 4017 Occupy Pt: Occupy Point: 417
Northing: 1144269.025279USft   Easting: 618873.095899USft
Elevation: 268.632552USft   Description: NS
 4018 Note: HR:5.26 (5.26 + 0.0 Offset)
 4019 Line of Sight (HI/HR): Height of Instrument: 5.19USft
Height of Rod: 5.26USft
 4020 Backsight: Occupy Point: 417
Backsight Point: 415   Backsight Azimuth: 348.332813   Backsight
Circle: 0.0000
 4021 Note: Fixed HR at Backsight:5.26 (5.26 + 0.0 Offset),
Prism Const.:0.0mm
 4022 Note: BS check 417 - 415:ZE86.3820,SD88.478,HD err= -
0.004578, VD err= -0.016853
 4023 Note: BS Circle check : angular err= 0.0000
 4024 Side Shot: Occupy Point: 417
Foresight Point: 448   Angle Right: 0.0000   Zenith
Angle: 86.3818   Slope Distance: 88.478USft   Description: CHK415
 4025 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm

```
 4026  Note:                    HR:4.97 (4.97 + 0.0 Offset)
 4027  Line of Sight (HI/HR):  Height of Instrument: 5.19USft
Height of Rod: 4.97USft
 4028  Side Shot:              Occupy Point: 417
Foresight Point: 449                 Angle Right: 223.2440             Zenith
Angle: 112.5351       Slope Distance: 66.01USft       Description: B-1192
 4029  Note:                    Foresight Target:My Prism, HR:5.27 (5.27 + 0.0
Offset), Prism Const.:0.0mm
 4030  Note:                    HR:5.27 (5.27 + 0.0 Offset)
 4031  Line of Sight (HI/HR):  Height of Instrument: 5.19USft
Height of Rod: 5.27USft
 4032  Note:                    Foresight Target:My Prism, HR:5.26 (5.26 + 0.0
Offset), Prism Const.:0.0mm
 4033  Note:                    HR:5.26 (5.26 + 0.0 Offset)
 4034  Line of Sight (HI/HR):  Height of Instrument: 5.19USft
Height of Rod: 5.26USft
 4035  Side Shot:              Occupy Point: 417
Foresight Point: 450                 Angle Right: 0.0001               Zenith
Angle: 86.3815        Slope Distance: 88.486USft      Description: CHK415
 4036  Note:                    Date: 03-22-2007  Time: 14:38:50
 4037  Note:                    Foresight Target:My Prism, HR:5.13 (5.13 + 0.0
Offset), Prism Const.:0.0mm
 4038  Occupy Pt:               Occupy Point: 85
Northing: 1147644.595972USft         Easting: 623507.073409USft
Elevation: 206.028USft       Description: #4RS
 4039  Note:                    HR:5.13 (5.13 + 0.0 Offset)
 4040  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.13USft
 4041  Backsight:               Occupy Point: 85
Backsight Point: 87                  Backsight Azimuth: 191.462062     Backsight
Circle: 0.0000
 4042  Note:                    Fixed HR at Backsight:5.13 (5.13 + 0.0 Offset),
Prism Const.:0.0mm
 4043  Note:                    BS check 85 - 87:ZE85.0727,SD436.734,HD err=
0.023644, VD err= -0.011065
 4044  Note:                    BS Circle check : angular err= 0.0000
 4045  Side Shot:               Occupy Point: 85
Foresight Point: 451                 Angle Right: 0.0000               Zenith
Angle: 85.0728        Slope Distance: 436.74USft      Description: CHK87
 4046  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4047  Note:                    HR:4.97 (4.97 + 0.0 Offset)
 4048  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 4.97USft
 4049  Side Shot:               Occupy Point: 85
Foresight Point: 452                 Angle Right: 126.2220             Zenith
Angle: 93.5412        Slope Distance: 59.02USft       Description: B-1168
 4050  Note:                    Foresight Target:My Prism, HR:4.58 (4.58 + 0.0
Offset), Prism Const.:0.0mm
 4051  Note:                    HR:4.58 (4.58 + 0.0 Offset)
 4052  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 4.58USft
 4053  Side Shot:               Occupy Point: 85
Foresight Point: 453                 Angle Right: 281.0520             Zenith
Angle: 90.2223        Slope Distance: 493.242USft     Description: B-1166
 4054  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4055  Note:                    HR:4.97 (4.97 + 0.0 Offset)
 4056  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 4.97USft
 4057  Off Center Shot:         Angle Right: 261.4656
Zenith Angle: 91.1411                Slope Distance: 246.748USft
 4058  Off Center Shot:         Left/Right Offset: 1.0USft
Description: Left / Right Offset
 4059  Side Shot:               Occupy Point: 85
Foresight Point: 454                 Angle Right: 262.005212           Zenith
Angle: 91.141096      Slope Distance: 246.750026USft  Description: C-1108
```

```
 4060  Note:                   Date: 03-22-2007  Time: 14:58:12
 4061  Note:                   Foresight Target:My Prism, HR:5.13 (5.13 + 0.0
Offset), Prism Const.:0.0mm
 4062  Note:                   HR:5.13 (5.13 + 0.0 Offset)
 4063  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.13USft
 4064  Side Shot:              Occupy Point: 85
Foresight Point: 455                Angle Right: 0.0001               Zenith
Angle: 85.0725        Slope Distance: 436.742USft     Description: CHK87
 4065  Note:                   Data Collector Serial Number: FS29A13023
 4066  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 4067  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4068  Note:                   Date: 03-27-2007  Time: 13:07:33
 4069  Occupy Pt:              Occupy Point: 197
Northing: 1145546.989539USft        Easting: 624715.496972USft
Elevation: 140.158579USft    Description: NS
 4070  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4071  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.97USft
 4072  Backsight:              Occupy Point: 197
Backsight Point: 200                Backsight Azimuth: 86.562612      Backsight
Circle: 0.0000
 4073  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4074  Note:                   BS check 197 - 200:ZE92.2244,SD727.332,HD err=
0.018009, VD err= 0.013956
 4075  Note:                   BS Circle check : angular err= 0.0000
 4076  Side Shot:              Occupy Point: 197
Foresight Point: 456                Angle Right: 0.0000               Zenith
Angle: 92.2245        Slope Distance: 727.3USft       Description: CHK200
 4077  Side Shot:              Occupy Point: 197
Foresight Point: 457                Angle Right: 24.5046              Zenith
Angle: 93.5311        Slope Distance: 35.174USft      Description: C-1106ALT
 4078  Side Shot:              Occupy Point: 197
Foresight Point: 458                Angle Right: 359.5959             Zenith
Angle: 92.2243        Slope Distance: 727.328USft     Description: CHK200
 4079  Note:                   Date: 03-27-2007  Time: 13:31:41
 4080  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4081  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 4.97USft
 4082  Remote Elevation:       Occupy Point: 70
Foresight Elevation: 225.046USft     Zenith Angle: 90.3124             Slope
Distance: 485.744USft  Description: Remote elev
 4083  Store Point:            Point Name: 70
Northing: 1145923.840754USft        Easting: 622542.258441USft
Elevation: 229.31267USft     Description: NS
 4084  Occupy Pt:              Occupy Point: 70
Northing: 1145923.840754USft        Easting: 622542.258441USft
Elevation: 229.31267USft     Description: NS
 4085  Backsight:              Occupy Point: 70
Backsight Point: 25                 Backsight Azimuth: 87.432141      Backsight
Circle: 0.0000
 4086  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4087  Note:                   BS check 70 - 25:ZE90.3125,SD485.76,HD err= -
0.015767, VD err= -0.002501
 4088  Note:                   BS Circle check : angular err= 0.0000
 4089  Side Shot:              Occupy Point: 70
Foresight Point: 459                Angle Right: 0.0000               Zenith
Angle: 90.3126        Slope Distance: 485.758USft     Description: CHK25
 4090  Side Shot:              Occupy Point: 70
Foresight Point: 460                Angle Right: 59.5023              Zenith
Angle: 89.5336        Slope Distance: 381.61USft      Description: C-1104
 4091  Side Shot:              Occupy Point: 70
Foresight Point: 461                Angle Right: 0.0001               Zenith
```

Angle: 90.3126 Slope Distance: 485.766USft Description: CHK25
4092 Note: Foresight Target:My Prism, HR:4.91 (4.91 + 0.0 Offset), Prism Const.:0.0mm
4093 Occupy Pt: Occupy Point: 194
Northing: 1145469.620154USft Easting: 624087.485354USft
Elevation: 185.226676USft Description: NS
4094 Note: HR:4.91 (4.91 + 0.0 Offset)
4095 Line of Sight (HI/HR): Height of Instrument: 5.32USft
Height of Rod: 4.91USft
4096 Backsight: Occupy Point: 194
Backsight Point: 31 Backsight Azimuth: 359.143062 Backsight Circle: 0.0000
4097 Note: Fixed HR at Backsight:4.91 (4.91 + 0.0 Offset), Prism Const.:0.0mm
4098 Note: BS check 194 - 31:ZE86.2533,SD786.502,HD err= 0.00071, VD err= 0.007086
4099 Note: BS Circle check : angular err= 0.0000
4100 Side Shot: Occupy Point: 194
Foresight Point: 462 Angle Right: 0.0000 Zenith
Angle: 86.2533 Slope Distance: 786.504USft Description: CHK31
4101 Note: Date: 03-27-2007 Time: 14:05:35
4102 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
4103 Note: HR:4.97 (4.97 + 0.0 Offset)
4104 Line of Sight (HI/HR): Height of Instrument: 5.32USft
Height of Rod: 4.97USft
4105 Repeat Directional: Backsight Direct
Set: 1 Angle: 359.5959
4106 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0005
4107 Repeat Directional: Foresight Reverse
Set: 1 Angle: 95.1129
4108 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 274.3902
4109 Multiple Distances: Set: 1
Slope Distance: 87.056USft
4110 Repeat Foresight: Occupy Point: 194
Foresight Point: 463 Angle Right: 95.1129 Zenith
Angle: 274.3902 Slope Distance: 87.056USft Height of Rod: 4.97USft
Description: NS
4111 Repeat Directional: Foresight Direct
Set: 1 Angle: 275.1125
4112 Repeat Directional: Zenith Direct
Set: 1 Zenith: 85.2048
4113 Multiple Distances: Set: 1
Slope Distance: 87.068USft
4114 Repeat Foresight: Occupy Point: 194
Foresight Point: 463 Angle Right: 275.1125 Zenith
Angle: 85.2048 Slope Distance: 87.068USft Height of Rod: 4.97USft
Description: NS
4115 Note: Horizontal Angle Error: 0.0002
4116 Note: Zenith Angle Error: 0.0010
4117 Note: Slope Distance Error: 0.012
4118 Note: Horizontal Angle Error compares to the average: 0.0000
4119 Note: Zenith Angle Error compares to the average: 0.0000
4120 Note: Slope Distance Error compares to the average: 0.0
4121 Side Shot: Occupy Point: 194
Foresight Point: 463 Angle Right: 275.1125 Zenith
Angle: 85.2053 Slope Distance: 87.062USft Description: NS
4122 Occupy Pt: Occupy Point: 463
Northing: 1145476.325959USft Easting: 624000.96965USft
Elevation: 192.637628USft Description: NS
4123 Note: HR:4.97 (4.97 + 0.0 Offset)
4124 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.97USft

```
 4125  Backsight:              Occupy Point: 463
Backsight Point: 31                 Backsight Azimuth: 5.351433       Backsight
Circle: 0.0000
 4126  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4127  Note:                   BS check 463 - 31:ZE86.5624,SD782.986,HD err= -
0.042243, VD err= -0.015794
 4128  Note:                   BS Circle check : angular err= 0.0000
 4129  Note:                   BS check 463 - 31:ZE86.5624,SD783.0,HD err= -
0.028263, VD err= -0.015047
 4130  Note:                   BS Circle check : angular err= 0.0000
 4131  Side Shot:              Occupy Point: 463
Foresight Point: 464                Angle Right: 0.0000               Zenith
Angle: 86.5622        Slope Distance: 783.006USft     Description: CHK31
 4132  Side Shot:              Occupy Point: 463
Foresight Point: 465                Angle Right: 265.5038             Zenith
Angle: 88.2041        Slope Distance: 267.486USft     Description: C-1105
 4133  Note:                   Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 4134  Occupy Pt:              Occupy Point: 47
Northing: 1146777.088277USft        Easting: 624448.979567USft
Elevation: 225.215USft       Description: PT8006
 4135  Note:                   HR:5.15 (5.15 + 0.0 Offset)
 4136  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 5.15USft
 4137  Backsight:              Occupy Point: 47
Backsight Point: 49                 Backsight Azimuth: 49.445562      Backsight
Circle: 0.0000
 4138  Note:                   Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 4139  Note:                   BS check 47 - 49:ZE90.0811,SD281.352,HD err=
0.00182, VD err= 0.01326
 4140  Note:                   BS Circle check : angular err= 0.0000
 4141  Note:                   BS check 47 - 49:ZE90.0811,SD281.344,HD err= -
0.00618, VD err= 0.013279
 4142  Note:                   BS Circle check : angular err= 0.0000
 4143  Side Shot:              Occupy Point: 47
Foresight Point: 466                Angle Right: 0.0001               Zenith
Angle: 90.0811        Slope Distance: 281.35USft      Description: CHK49
 4144  Occupy Pt:              Occupy Point: 47
Northing: 1146777.088277USft        Easting: 624448.979567USft
Elevation: 225.215USft       Description: PT8006
 4145  Backsight:              Occupy Point: 47
Backsight Point: 49                 Backsight Azimuth: 49.445562      Backsight
Circle: 0.0000
 4146  Note:                   Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 4147  Note:                   BS check 47 - 49:ZE90.0808,SD281.35,HD err= -
0.00017, VD err= 0.017357
 4148  Note:                   BS Circle check : angular err= 0.0000
 4149  Note:                   Foresight Target:My Prism, HR:5.5 (5.5 + 0.0
Offset), Prism Const.:0.0mm
 4150  Note:                   HR:5.5 (5.5 + 0.0 Offset)
 4151  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 5.5USft
 4152  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 4153  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0005
 4154  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 137.2707
 4155  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 268.4540
 4156  Multiple Distances:     Set: 1
Slope Distance: 218.652USft
 4157  Repeat Foresight:       Occupy Point: 47
Foresight Point: 467                Angle Right: 137.2707             Zenith
```

```
Angle: 268.4540       Slope Distance: 218.652USft     Height of Rod: 5.5USft
Description: NS
 4158  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 317.2701
 4159  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 91.1415
 4160  Multiple Distances:     Set: 1
Slope Distance: 218.682USft
 4161  Repeat Foresight:       Occupy Point: 47
Foresight Point: 467                Angle Right: 317.2701             Zenith
Angle: 91.1415        Slope Distance: 218.682USft     Height of Rod: 5.5USft
Description: NS
 4162  Note:                   Horizontal Angle Error: 0.0001
 4163  Note:                   Zenith Angle Error: 0.0005
 4164  Note:                   Slope Distance Error: 0.03
 4165  Note:                   Horizontal Angle Error compares to the average:
0.0000
 4166  Note:                   Zenith Angle Error compares to the average:
0.0000
 4167  Note:                   Slope Distance Error compares to the average: 0.0
 4168  Side Shot:              Occupy Point: 47
Foresight Point: 467                Angle Right: 317.27015            Zenith
Angle: 91.14175       Slope Distance: 218.667USft     Description: NS
 4169  Note:                   Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 4170  Occupy Pt:              Occupy Point: 467
Northing: 1146993.980749USft        Easting: 624476.37638USft
Elevation: 220.229849USft    Description: NS
 4171  Note:                   HR:5.15 (5.15 + 0.0 Offset)
 4172  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.15USft
 4173  Backsight:              Occupy Point: 467
Backsight Point: 49                 Backsight Azimuth: 100.364538     Backsight
Circle: 0.0000
 4174  Note:                   Fixed HR at Backsight:5.15 (5.15 + 0.0 Offset),
Prism Const.:0.0mm
 4175  Note:                   Date: 03-27-2007  Time: 14:48:41
 4176  Note:                   BS check 467 - 49:ZE88.4045,SD190.616,HD err= -
0.029104, VD err= 0.01171
 4177  Note:                   BS Circle check : angular err= 0.0000
 4178  Side Shot:              Occupy Point: 467
Foresight Point: 468                Angle Right: 0.0001               Zenith
Angle: 88.4045        Slope Distance: 190.618USft     Description: CHK49
 4179  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4180  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4181  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 4.97USft
 4182  Side Shot:              Occupy Point: 467
Foresight Point: 469                Angle Right: 210.3523             Zenith
Angle: 91.2010        Slope Distance: 364.342USft     Description: C-1107
 4183  Note:                   Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 4184  Note:                   HR:5.15 (5.15 + 0.0 Offset)
 4185  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.15USft
 4186  Side Shot:              Occupy Point: 467
Foresight Point: 470                Angle Right: 0.0004               Zenith
Angle: 88.4047        Slope Distance: 190.618USft     Description: CHK49
 4187  Note:                   Date: 03-27-2007  Time: 15:13:57
 4188  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4189  Occupy Pt:              Occupy Point: 101
Northing: 1147728.540024USft        Easting: 622995.769792USft
Elevation: 198.421424USft    Description: NS
 4190  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4191  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
```

```
Height of Rod: 4.97USft
 4192  Backsight:              Occupy Point: 101
Backsight Point: 87                 Backsight Azimuth: 140.211612     Backsight
Circle: 0.0000
 4193  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4194  Note:                   BS check 101 - 87:ZE86.0909,SD663.716,HD err= -
0.009793, VD err= -0.092511
 4195  Note:                   BS Circle check : angular err= 0.0000
 4196  Note:                   BS check 101 - 87:ZE86.0909,SD663.73,HD err=
0.004175, VD err= -0.091572
 4197  Note:                   BS Circle check : angular err= 0.0000
 4198  Occupy Pt:              Occupy Point: 101
Northing: 1147728.540024USft        Easting: 622995.769792USft
Elevation: 198.421424USft    Description: NS
 4199  Backsight:              Occupy Point: 101
Backsight Point: 87                 Backsight Azimuth: 140.211612     Backsight
Circle: 0.0000
 4200  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4201  Note:                   BS check 101 - 87:ZE86.0907,SD663.744,HD err=
0.017712, VD err= -0.084211
 4202  Note:                   BS Circle check : angular err= 0.0000
 4203  Note:                   BS check 101 - 87:ZE86.0842,SD663.738,HD err=
0.006322, VD err= -0.004348
 4204  Note:                   BS Circle check : angular err= 0.0000
 4205  Side Shot:              Occupy Point: 101
Foresight Point: 471                Angle Right: 0.0000               Zenith
Angle: 86.0845        Slope Distance: 663.742USft     Description: CHK87
 4206  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 4207  Note:                   HR:8.5 (8.5 + 0.0 Offset)
 4208  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 8.5USft
 4209  Side Shot:              Occupy Point: 101
Foresight Point: 472                Angle Right: 340.4732             Zenith
Angle: 85.5352        Slope Distance: 206.306USft     Description: C-1109
 4210  Note:                   Date: 03-27-2007  Time: 15:35:38
 4211  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4212  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4213  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 4.97USft
 4214  Side Shot:              Occupy Point: 101
Foresight Point: 473                Angle Right: 0.0000               Zenith
Angle: 86.0902        Slope Distance: 663.74USft      Description: CHK87
 4215  Occupy Pt:              Occupy Point: 70
Northing: 1145923.840754USft        Easting: 622542.258441USft
Elevation: 229.31267USft     Description: NS
 4216  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4217  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 4.97USft
 4218  Backsight:              Occupy Point: 70
Backsight Point: 23                 Backsight Azimuth: 243.022463     Backsight
Circle: 0.0000
 4219  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4220  Note:                   BS check 70 - 23:ZE89.1324,SD566.856,HD err= -
0.006897, VD err= -0.00261
 4221  Note:                   BS Circle check : angular err= 0.0000
 4222  Side Shot:              Occupy Point: 70
Foresight Point: 474                Angle Right: 0.0000               Zenith
Angle: 89.1322        Slope Distance: 566.856USft     Description: CHK23
 4223  Side Shot:              Occupy Point: 70
Foresight Point: 475                Angle Right: 87.1914              Zenith
Angle: 90.2029        Slope Distance: 635.358USft     Description: B-1174
 4224  Store Point:            Point Name: 476
```

Northing: 1145943.145233USft Easting: 623027.629234USft
Elevation: 225.026182USft Description: CHK25
4225 Cut Sheet: Elevation: 225.026182USft
Design Grade: 225.046
4226 Design Point/Location: Point Name: 25
Northing: 1145943.143416USft Easting: 623027.630253USft
Elevation: 225.046USft Description: #4RS
4227 Stakeout Deltas: Delta Northing: -0.001817USft
Delta Easting: 0.001019USft Delta Elevation: 0.019818USft
4228 Stakeout: Occupy Point: 70
Foresight Point: 476 Angle Right: 204.4056 Zenith
Angle: 90.3219 Slope Distance: 485.776USft Description: CHK25
4229 Note: Date: 03-27-2007 Time: 16:54:33
4230 Note: Data Collector Serial Number: FS29A13023
4231 Note: Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
4232 Note: Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
4233 Note: Foresight Target:My Prism, HR:4.82 (4.82 + 0.0
Offset), Prism Const.:0.0mm
4234 Occupy Pt: Occupy Point: 103
Northing: 1147554.052416USft Easting: 622478.488412USft
Elevation: 222.662545USft Description: NS
4235 Note: HR:4.82 (4.82 + 0.0 Offset)
4236 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.82USft
4237 Backsight: Occupy Point: 103
Backsight Point: 106 Backsight Azimuth: 240.014512 Backsight
Circle: 0.0000
4238 Note: Fixed HR at Backsight:4.82 (4.82 + 0.0 Offset),
Prism Const.:0.0mm
4239 Note: BS check 103 - 106:ZE90.1626,SD382.836,HD err= -
0.033949, VD err= -0.017605
4240 Note: BS Circle check : angular err= 0.0000
4241 Note: BS check 103 - 106:ZE90.1626,SD382.834,HD err= -
0.035949, VD err= -0.017595
4242 Note: BS Circle check : angular err= 0.0000
4243 Side Shot: Occupy Point: 103
Foresight Point: 477 Angle Right: 0.0000 Zenith
Angle: 90.1626 Slope Distance: 382.834USft Description: CHK106
4244 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
4245 Occupy Pt: Occupy Point: 103
Northing: 1147554.052416USft Easting: 622478.488412USft
Elevation: 222.662545USft Description: NS
4246 Note: HR:4.97 (4.97 + 0.0 Offset)
4247 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.97USft
4248 Backsight: Occupy Point: 103
Backsight Point: 106 Backsight Azimuth: 240.014512 Backsight
Circle: 0.0000
4249 Note: Fixed HR at Backsight:4.82 (4.82 + 0.0 Offset),
Prism Const.:0.0mm
4250 Note: BS check 103 - 106:ZE90.1628,SD382.834,HD err= -
0.035967, VD err= -0.021307
4251 Note: BS Circle check : angular err= 0.0000
4252 Note: Date: 04-02-2007 Time: 08:43:23
4253 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
4254 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0000
4255 Repeat Directional: Foresight Reverse
Set: 1 Angle: 41.4145
4256 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 268.5422
4257 Multiple Distances: Set: 1
Slope Distance: 377.08USft

```
 4258  Repeat Foresight:       Occupy Point: 103
Foresight Point: 478                 Angle Right: 41.4145              Zenith
Angle: 268.5422       Slope Distance: 377.08USft      Height of Rod: 4.97USft
Description: NS
 4259  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 221.4144
 4260  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 91.0550
 4261  Multiple Distances:     Set: 1
Slope Distance: 377.126USft
 4262  Repeat Foresight:       Occupy Point: 103
Foresight Point: 478                 Angle Right: 221.4144             Zenith
Angle: 91.0550        Slope Distance: 377.126USft     Height of Rod: 4.97USft
Description: NS
 4263  Note:                   Horizontal Angle Error: 0.0001
 4264  Note:                   Zenith Angle Error: 0.0012
 4265  Note:                   Slope Distance Error: 0.046
 4266  Note:                   Horizontal Angle Error compares to the average:
0.0000
 4267  Note:                   Zenith Angle Error compares to the average:
0.0000
 4268  Note:                   Slope Distance Error compares to the average: 0.0
 4269  Side Shot:              Occupy Point: 103
Foresight Point: 478                 Angle Right: 221.41445            Zenith
Angle: 91.0544        Slope Distance: 377.103USft     Description: NS
 4270  Occupy Pt:              Occupy Point: 103
Northing: 1147554.052416USft         Easting: 622478.488412USft
Elevation: 222.662545USft    Description: NS
 4271  Backsight:              Occupy Point: 103
Backsight Point: 106                 Backsight Azimuth: 240.014512     Backsight
Circle: 0.0000
 4272  Note:                   Fixed HR at Backsight:4.82 (4.82 + 0.0 Offset),
Prism Const.:0.0mm
 4273  Note:                   BS check 103 - 106:ZE90.1630,SD382.834,HD err= -
0.035985, VD err= -0.025019
 4274  Note:                   BS Circle check : angular err= 0.0000
 4275  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 4276  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0003
 4277  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 104.5410
 4278  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 273.1813
 4279  Multiple Distances:     Set: 1
Slope Distance: 303.406USft
 4280  Repeat Foresight:       Occupy Point: 103
Foresight Point: 479                 Angle Right: 104.5410             Zenith
Angle: 273.1813       Slope Distance: 303.406USft     Height of Rod: 4.97USft
Description: NS
 4281  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 284.5410
 4282  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 86.4151
 4283  Multiple Distances:     Set: 1
Slope Distance: 303.408USft
 4284  Repeat Foresight:       Occupy Point: 103
Foresight Point: 479                 Angle Right: 284.5410             Zenith
Angle: 86.4151        Slope Distance: 303.408USft     Height of Rod: 4.97USft
Description: NS
 4285  Note:                   Horizontal Angle Error: 0.0003
 4286  Note:                   Zenith Angle Error: 0.0004
 4287  Note:                   Slope Distance Error: 0.002
 4288  Note:                   Horizontal Angle Error compares to the average:
0.0000
 4289  Note:                   Zenith Angle Error compares to the average:
0.0000
```

```
 4290  Note:                   Slope Distance Error compares to the average: 0.0
 4291  Side Shot:              Occupy Point: 103
Foresight Point: 479                 Angle Right: 284.54085            Zenith
Angle: 86.4149        Slope Distance: 303.407USft     Description: NS
 4292  Note:                   Foresight Target:My Prism, HR:4.93 (4.93 + 0.0
Offset), Prism Const.:0.0mm
 4293  Occupy Pt:              Occupy Point: 479
Northing: 1147261.564473USft         Easting: 622557.234897USft
Elevation: 240.354027USft    Description: NS
 4294  Note:                   HR:4.93 (4.93 + 0.0 Offset)
 4295  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 4.93USft
 4296  Backsight:              Occupy Point: 479
Backsight Point: 103                 Backsight Azimuth: 344.555362     Backsight
Circle: 0.0000
 4297  Note:                   Fixed HR at Backsight:4.93 (4.93 + 0.0 Offset),
Prism Const.:0.0mm
 4298  Note:                   BS check 479 - 103:ZE93.2357,SD303.412,HD err= -
0.024759, VD err= -0.018378
 4299  Note:                   BS Circle check : angular err= 0.0000
 4300  Side Shot:              Occupy Point: 479
Foresight Point: 480                 Angle Right: 0.0000               Zenith
Angle: 93.2357        Slope Distance: 303.414USft     Description: CHK103
 4301  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 4302  Note:                   HR:8.5 (8.5 + 0.0 Offset)
 4303  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 8.5USft
 4304  Side Shot:              Occupy Point: 479
Foresight Point: 481                 Angle Right: 123.5653             Zenith
Angle: 88.2524        Slope Distance: 193.572USft     Description: C-1110
 4305  Note:                   Date: 04-02-2007  Time: 09:12:32
 4306  Side Shot:              Occupy Point: 479
Foresight Point: 482                 Angle Right: 198.5254             Zenith
Angle: 87.2651        Slope Distance: 279.02USft      Description: B-1172
 4307  Note:                   Foresight Target:My Prism, HR:4.93 (4.93 + 0.0
Offset), Prism Const.:0.0mm
 4308  Note:                   HR:4.93 (4.93 + 0.0 Offset)
 4309  Line of Sight (HI/HR):  Height of Instrument: 5.21USft
Height of Rod: 4.93USft
 4310  Side Shot:              Occupy Point: 479
Foresight Point: 483                 Angle Right: 0.0004               Zenith
Angle: 93.2358        Slope Distance: 303.416USft     Description: CHK103
 4311  Occupy Pt:              Occupy Point: 478
Northing: 1147477.434292USft         Easting: 622847.655514USft
Elevation: 215.662378USft    Description: NS
 4312  Note:                   HR:4.93 (4.93 + 0.0 Offset)
 4313  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 4.93USft
 4314  Backsight:              Occupy Point: 478
Backsight Point: 103                 Backsight Azimuth: 281.432962     Backsight
Circle: 0.0000
 4315  Note:                   Fixed HR at Backsight:4.93 (4.93 + 0.0 Offset),
Prism Const.:0.0mm
 4316  Note:                   BS check 478 - 103:ZE88.5914,SD377.042,HD err= -
0.050967, VD err= 0.004196
 4317  Note:                   BS Circle check : angular err= 0.0000
 4318  Side Shot:              Occupy Point: 478
Foresight Point: 484                 Angle Right: 0.0000               Zenith
Angle: 88.5914        Slope Distance: 377.042USft     Description: CHK103
 4319  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4320  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4321  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 4.97USft
 4322  Side Shot:              Occupy Point: 478
Foresight Point: 485                 Angle Right: 195.0450             Zenith
```

Angle: 86.2808 Slope Distance: 119.052USft Description: B-1170
4323 Note: Data Collector Serial Number: FS29A13023
4324 Note: Activating Total Station: Nikon TOP GUN [Nikon], COM1, 4800 baud, no parity
4325 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
4326 Note: Foresight Target:My Prism, HR:5.05 (5.05 + 0.0 Offset), Prism Const.:0.0mm
4327 Occupy Pt: Occupy Point: 9147
Northing: 1143427.873958USft Easting: 619312.835435USft
Elevation: 233.516223USft Description: NS
4328 Note: HR:5.05 (5.05 + 0.0 Offset)
4329 Line of Sight (HI/HR): Height of Instrument: 5.28USft
Height of Rod: 5.05USft
4330 Backsight: Occupy Point: 9147
Backsight Point: 9157 Backsight Azimuth: 137.482963 Backsight Circle: 0.0000
4331 Note: Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset), Prism Const.:0.0mm
4332 Note: BS check 9147 - 9157:ZE88.0724,SD409.924,HD err= 0.018422, VD err= 0.016215
4333 Note: BS Circle check : angular err= 0.0000
4334 Side Shot: Occupy Point: 9147
Foresight Point: 486 Angle Right: 0.0000 Zenith
Angle: 88.0722 Slope Distance: 409.924USft Description: CHK9157
4335 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
4336 Note: HR:4.97 (4.97 + 0.0 Offset)
4337 Line of Sight (HI/HR): Height of Instrument: 5.28USft
Height of Rod: 4.97USft
4338 Side Shot: Occupy Point: 9147
Foresight Point: 487 Angle Right: 41.0541 Zenith
Angle: 92.4131 Slope Distance: 261.948USft Description: B-6015
4339 Note: Foresight Target:My Prism, HR:13.7 (13.7 + 0.0 Offset), Prism Const.:0.0mm
4340 Note: HR:13.7 (13.7 + 0.0 Offset)
4341 Line of Sight (HI/HR): Height of Instrument: 5.28USft
Height of Rod: 13.7USft
4342 Side Shot: Occupy Point: 9147
Foresight Point: 488 Angle Right: 151.2350 Zenith
Angle: 94.1026 Slope Distance: 127.444USft Description: B-1138
4343 Note: Foresight Target:My Prism, HR:5.05 (5.05 + 0.0 Offset), Prism Const.:0.0mm
4344 Note: HR:5.05 (5.05 + 0.0 Offset)
4345 Line of Sight (HI/HR): Height of Instrument: 5.28USft
Height of Rod: 5.05USft
4346 Side Shot: Occupy Point: 9147
Foresight Point: 489 Angle Right: 0.0001 Zenith
Angle: 88.0717 Slope Distance: 409.926USft Description: CHK9157
4347 Note: Date: 04-02-2007 Time: 10:03:48
4348 Note: Date: 04-02-2007 Time: 10:56:49
4349 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
4350 Occupy Pt: Occupy Point: 9176
Northing: 1142939.602904USft Easting: 618625.537442USft
Elevation: 213.446007USft Description: NS
4351 Note: HR:4.97 (4.97 + 0.0 Offset)
4352 Line of Sight (HI/HR): Height of Instrument: 5.16USft
Height of Rod: 4.97USft
4353 Backsight: Occupy Point: 9176
Backsight Point: 9179 Backsight Azimuth: 248.092713 Backsight Circle: 0.0000
4354 Note: Backsight HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
4355 Note: BS check 9176 - 9179:ZE90.5919,SD256.358,HD err= 0.003, VD err= -0.020052
4356 Note: BS Circle check : angular err= 0.0000

```
 4357  Side Shot:              Occupy Point: 9176
Foresight Point: 490                 Angle Right: 0.0000               Zenith
Angle: 90.5919        Slope Distance: 256.354USft     Description: CHK9179
 4358  Side Shot:              Occupy Point: 9176
Foresight Point: 491                 Angle Right: 15.1014              Zenith
Angle: 91.5819        Slope Distance: 260.906USft     Description: B-6018
 4359  Side Shot:              Occupy Point: 9176
Foresight Point: 492                 Angle Right: 55.2611              Zenith
Angle: 90.3200        Slope Distance: 413.084USft     Description: B-6014
 4360  Note:                   Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
 4361  Occupy Pt:              Occupy Point: 9183
Northing: 1142975.592517USft         Easting: 617472.929711USft
Elevation: 244.454298USft    Description: NS
 4362  Note:                   HR:5.14 (5.14 + 0.0 Offset)
 4363  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 5.14USft
 4364  Backsight:              Occupy Point: 9183
Backsight Point: 9181                Backsight Azimuth: 98.331113      Backsight
Circle: 0.0000
 4365  Note:                   Fixed HR at Backsight:5.14 (5.14 + 0.0 Offset),
Prism Const.:0.0mm
 4366  Note:                   BS check 9183 - 9181:ZE91.0050,SD499.818,HD err=
0.014929, VD err= -0.010851
 4367  Note:                   BS Circle check : angular err= 0.0000
 4368  Side Shot:              Occupy Point: 9183
Foresight Point: 493                 Angle Right: 0.0000               Zenith
Angle: 91.0048        Slope Distance: 499.822USft     Description: CHK9181
 4369  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4370  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4371  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 4.97USft
 4372  Side Shot:              Occupy Point: 9183
Foresight Point: 494                 Angle Right: 210.3704             Zenith
Angle: 88.4809        Slope Distance: 307.13USft      Description: B-6013
 4373  Note:                   Foresight Target:My Prism, HR:5.14 (5.14 + 0.0
Offset), Prism Const.:0.0mm
 4374  Note:                   HR:5.14 (5.14 + 0.0 Offset)
 4375  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 5.14USft
 4376  Side Shot:              Occupy Point: 9183
Foresight Point: 495                 Angle Right: 359.5959             Zenith
Angle: 91.0047        Slope Distance: 499.822USft     Description: CHK9181
 4377  Note:                   Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
 4378  Occupy Pt:              Occupy Point: 200
Northing: 1145585.773873USft         Easting: 625441.148416USft
Elevation: 110.204879USft    Description: NS
 4379  Note:                   HR:5.05 (5.05 + 0.0 Offset)
 4380  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.05USft
 4381  Backsight:              Occupy Point: 200
Backsight Point: 197                 Backsight Azimuth: 266.562612     Backsight
Circle: 0.0000
 4382  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 4383  Note:                   BS check 200 - 197:ZE87.3940,SD727.326,HD err=
0.032914, VD err= -0.021544
 4384  Note:                   BS Circle check : angular err= 0.0000
 4385  Note:                   BS check 200 - 197:ZE87.3941,SD727.316,HD err=
0.023066, VD err= -0.025475
 4386  Note:                   BS Circle check : angular err= 0.0000
 4387  Occupy Pt:              Occupy Point: 200
Northing: 1145585.773873USft         Easting: 625441.148416USft
Elevation: 110.204879USft    Description: NS
 4388  Note:                   HR:5.05 (5.05 + 0.0 Offset)
```

```
 4389  Line of Sight (HI/HR):  Height of Instrument: 5.29USft
Height of Rod: 5.05USft
 4390  Backsight:              Occupy Point: 200
Backsight Point: 197                Backsight Azimuth: 266.562612     Backsight
Circle: 0.0000
 4391  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 4392  Note:                   BS check 200 - 197:ZE87.3941,SD727.314,HD err=
0.021068, VD err= -0.035557
 4393  Note:                   BS Circle check : angular err= 0.0000
 4394  Occupy Pt:              Occupy Point: 200
Northing: 1145585.773873USft        Easting: 625441.148416USft
Elevation: 110.204879USft    Description: NS
 4395  Note:                   HR:5.05 (5.05 + 0.0 Offset)
 4396  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.05USft
 4397  Backsight:              Occupy Point: 200
Backsight Point: 197                Backsight Azimuth: 266.562612     Backsight
Circle: 0.0000
 4398  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 4399  Note:                   BS check 200 - 197:ZE87.3941,SD727.316,HD err=
0.023066, VD err= -0.025475
 4400  Note:                   BS Circle check : angular err= 0.0000
 4401  Side Shot:              Occupy Point: 200
Foresight Point: 496                Angle Right: 0.0000               Zenith
Angle: 87.3941        Slope Distance: 727.32USft      Description: CHK197
 4402  Note:                   Date: 04-02-2007  Time: 12:30:21
 4403  Note:                   Foresight Target:My Prism, HR:5.25 (5.25 + 0.0
Offset), Prism Const.:0.0mm
 4404  Note:                   HR:5.25 (5.25 + 0.0 Offset)
 4405  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.25USft
 4406  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0001
 4407  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0006
 4408  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 181.5914
 4409  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 272.2122
 4410  Multiple Distances:     Set: 1
Slope Distance: 753.072USft
 4411  Repeat Foresight:       Occupy Point: 200
Foresight Point: 497                Angle Right: 181.5914             Zenith
Angle: 272.2122       Slope Distance: 753.072USft     Height of Rod: 5.25USft
Description: NS
 4412  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 1.5908
 4413  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 87.3836
 4414  Multiple Distances:     Set: 1
Slope Distance: 753.086USft
 4415  Repeat Foresight:       Occupy Point: 200
Foresight Point: 497                Angle Right: 1.5908               Zenith
Angle: 87.3836        Slope Distance: 753.086USft     Height of Rod: 5.25USft
Description: NS
 4416  Note:                   Horizontal Angle Error: 0.0001
 4417  Note:                   Zenith Angle Error: 0.0002
 4418  Note:                   Slope Distance Error: 0.014
 4419  Note:                   Horizontal Angle Error compares to the average:
0.0000
 4420  Note:                   Zenith Angle Error compares to the average:
0.0000
 4421  Note:                   Slope Distance Error compares to the average: 0.0
 4422  Side Shot:              Occupy Point: 200
Foresight Point: 497                Angle Right: 1.59075              Zenith
```

Angle: 87.3837 Slope Distance: 753.079USft Description: NS
4423 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0 Offset), Prism Const.:0.0mm
4424 Note: HR:4.97 (4.97 + 0.0 Offset)
4425 Line of Sight (HI/HR): Height of Instrument: 5.3USft Height of Rod: 4.97USft
4426 Store Point: Point Name: 498 Northing: 1145494.538601USft Easting: 626284.06167USft Elevation: 94.609212USft Description: CHK203
4427 Cut Sheet: Elevation: 94.609212USft Design Grade: 94.586207
4428 Design Point/Location: Point Name: 203 Northing: 1145494.512061USft Easting: 626284.058583USft Elevation: 94.586207USft Description: NS
4429 Stakeout Deltas: Delta Northing: -0.02654USft Delta Easting: -0.003087USft Delta Elevation: -0.023005USft
4430 Stakeout: Occupy Point: 200 Foresight Point: 498 Angle Right: 189.1413 Zenith Angle: 91.0434 Slope Distance: 847.986USft Description: CHK203
4431 Note: Foresight Target:My Prism, HR:5.45 (5.45 + 0.0 Offset), Prism Const.:0.0mm
4432 Occupy Pt: Occupy Point: 497 Northing: 1145571.670363USft Easting: 624688.838396USft Elevation: 141.217836USft Description: NS
4433 Note: HR:5.45 (5.45 + 0.0 Offset)
4434 Line of Sight (HI/HR): Height of Instrument: 5.22USft Height of Rod: 5.45USft
4435 Backsight: Occupy Point: 497 Backsight Point: 200 Backsight Azimuth: 88.553362 Backsight Circle: 0.0000
4436 Note: Fixed HR at Backsight:5.45 (5.45 + 0.0 Offset), Prism Const.:0.0mm
4437 Note: BS check 497 - 200:ZE92.2102,SD753.09,HD err= 0.014139, VD err= -0.103844
4438 Note: BS Circle check : angular err= 0.0000
4439 Occupy Pt: Occupy Point: 497 Northing: 1145571.670363USft Easting: 624688.838396USft Elevation: 141.217836USft Description: NS
4440 Note: HR:5.45 (5.45 + 0.0 Offset)
4441 Line of Sight (HI/HR): Height of Instrument: 5.27USft Height of Rod: 5.45USft
4442 Backsight: Occupy Point: 497 Backsight Point: 200 Backsight Azimuth: 88.553362 Backsight Circle: 0.0000
4443 Note: Fixed HR at Backsight:5.45 (5.45 + 0.0 Offset), Prism Const.:0.0mm
4444 Note: BS check 497 - 200:ZE92.2059,SD753.088,HD err= 0.01259, VD err= -0.042818
4445 Note: BS Circle check : angular err= 0.0000
4446 Occupy Pt: Occupy Point: 497 Northing: 1145571.670363USft Easting: 624688.838396USft Elevation: 141.217836USft Description: NS
4447 Backsight: Occupy Point: 497 Backsight Point: 200 Backsight Azimuth: 88.553362 Backsight Circle: 0.0000
4448 Note: Fixed HR at Backsight:5.45 (5.45 + 0.0 Offset), Prism Const.:0.0mm
4449 Note: BS check 497 - 200:ZE92.2102,SD753.096,HD err= 0.020134, VD err= -0.05409
4450 Note: BS Circle check : angular err= 0.0000
4451 Note: BS check 497 - 200:ZE92.2102,SD753.092,HD err= 0.016138, VD err= -0.053926
4452 Note: BS Circle check : angular err= 0.0000
4453 Note: BS check 497 - 200:ZE92.2101,SD753.092,HD err= 0.016287, VD err= -0.050278
4454 Note: BS Circle check : angular err= 0.0000
4455 Note: Date: 04-02-2007 Time: 12:47:55

```
 4456  Note:                    Foresight Target:My Prism, HR:5.43 (5.43 + 0.0
Offset), Prism Const.:0.0mm
 4457  Occupy Pt:               Occupy Point: 497
Northing: 1145571.670363USft          Easting: 624688.838396USft
Elevation: 141.217836USft    Description: NS
 4458  Note:                    HR:5.43 (5.43 + 0.0 Offset)
 4459  Line of Sight (HI/HR):   Height of Instrument: 5.27USft
Height of Rod: 5.43USft
 4460  Backsight:               Occupy Point: 497
Backsight Point: 200                Backsight Azimuth: 88.553362      Backsight
Circle: 0.0000
 4461  Note:                    Fixed HR at Backsight:5.43 (5.43 + 0.0 Offset),
Prism Const.:0.0mm
 4462  Note:                    BS check 497 - 200:ZE92.2050,SD753.098,HD err=
0.023928, VD err= 0.009604
 4463  Note:                    BS Circle check : angular err= 0.0000
 4464  Note:                    BS check 497 - 200:ZE92.2049,SD753.102,HD err=
0.028074, VD err= 0.013089
 4465  Note:                    BS Circle check : angular err= 0.0000
 4466  Note:                    BS check 497 - 200:ZE92.2051,SD753.094,HD err=
0.019782, VD err= 0.00612
 4467  Note:                    BS Circle check : angular err= 0.0000
 4468  Side Shot:               Occupy Point: 497
Foresight Point: 499                Angle Right: 0.0000               Zenith
Angle: 92.2050        Slope Distance: 753.1USft       Description: CHK200
 4469  Note:                    Foresight Target:My Prism, HR:4.83 (4.83 + 0.0
Offset), Prism Const.:0.0mm
 4470  Note:                    HR:4.83 (4.83 + 0.0 Offset)
 4471  Line of Sight (HI/HR):   Height of Instrument: 5.27USft
Height of Rod: 4.83USft
 4472  Repeat Directional:      Backsight Direct
Set: 1                              Angle: 0.0000
 4473  Repeat Directional:      Backsight Reverse
Set: 1                              Angle: 180.0008
 4474  Repeat Directional:      Foresight Reverse
Set: 1                              Angle: 319.0512
 4475  Repeat Directional:      Zenith Reverse
Set: 1                              Zenith: 275.1937
 4476  Multiple Distances:      Set: 1
Slope Distance: 645.888USft
 4477  Repeat Foresight:        Occupy Point: 497
Foresight Point: 500                Angle Right: 319.0512             Zenith
Angle: 275.1937       Slope Distance: 645.888USft     Height of Rod: 4.83USft
Description: NS
 4478  Repeat Directional:      Foresight Direct
Set: 1                              Angle: 139.0501
 4479  Repeat Directional:      Zenith Direct
Set: 1                              Zenith: 84.4013
 4480  Multiple Distances:      Set: 1
Slope Distance: 645.904USft
 4481  Repeat Foresight:        Occupy Point: 497
Foresight Point: 500                Angle Right: 139.0501             Zenith
Angle: 84.4013        Slope Distance: 645.904USft     Height of Rod: 4.83USft
Description: NS
 4482  Note:                    Horizontal Angle Error: 0.0003
 4483  Note:                    Zenith Angle Error: 0.0010
 4484  Note:                    Slope Distance Error: 0.016
 4485  Note:                    Horizontal Angle Error compares to the average:
0.0000
 4486  Note:                    Zenith Angle Error compares to the average:
0.0000
 4487  Note:                    Slope Distance Error compares to the average: 0.0
 4488  Side Shot:               Occupy Point: 497
Foresight Point: 500                Angle Right: 139.05025            Zenith
Angle: 84.4018        Slope Distance: 645.896USft     Description: NS
 4489  Note:                    Foresight Target:My Prism, HR:5.19 (5.19 + 0.0
Offset), Prism Const.:0.0mm
```

```
 4490  Occupy Pt:              Occupy Point: 500
Northing: 1145141.432808USft         Easting: 624210.842883USft
Elevation: 201.637659USft    Description: NS
 4491  Note:                   HR:5.19 (5.19 + 0.0 Offset)
 4492  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 5.19USft
 4493  Backsight:              Occupy Point: 500
Backsight Point: 497                 Backsight Azimuth: 48.003612      Backsight
Circle: 0.0000
 4494  Note:                   Fixed HR at Backsight:5.19 (5.19 + 0.0 Offset),
Prism Const.:0.0mm
 4495  Note:                   BS check 500 - 497:ZE95.2144,SD645.954,HD err=
0.022157, VD err= 0.004211
 4496  Note:                   BS Circle check : angular err= 0.0000
 4497  Side Shot:              Occupy Point: 500
Foresight Point: 501                 Angle Right: 0.0000               Zenith
Angle: 95.2143        Slope Distance: 645.948USft     Description: CHK497
 4498  Note:                   Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
 4499  Note:                   HR:5.17 (5.17 + 0.0 Offset)
 4500  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 5.17USft
 4501  Store Point:            Point Name: 502
Northing: 1144987.626431USft         Easting: 624027.79943USft
Elevation: 218.352852USft    Description: CHK33
 4502  Cut Sheet:              Elevation: 218.352852USft
Design Grade: 219.2487
 4503  Design Point/Location:  Point Name: 33
Northing: 1144987.6873USft           Easting: 624027.8281USft
Elevation: 219.2487USft      Description: PT19
 4504  Stakeout Deltas:        Delta Northing: 0.060869USft
Delta Easting: 0.02867USft           Delta Elevation: 0.895848USft
 4505  Stakeout:               Occupy Point: 500
Foresight Point: 502                 Angle Right: 181.5702             Zenith
Angle: 85.5937        Slope Distance: 239.67USft      Description: CHK33
 4506  Note:                   Data Collector Serial Number: FS29A13023
 4507  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 4508  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4509  Note:                   Date: 04-02-2007  Time: 13:28:44
 4510  Note:                   Data Collector Serial Number: FS29A13023
 4511  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 4512  Note:                   Foresight Target:My Prism, HR:5.09 (5.09 + 0.0
Offset), Prism Const.:0.0mm
 4513  Note:                   Date: 04-03-2007  Time: 13:17:38
 4514  Note:                   Data Collector Serial Number: FS29A13023
 4515  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 4516  Note:                   Date: 04-16-2007  Time: 09:08:46
 4517  Note:                   Foresight Target:My Prism, HR:0.0 (0.0 + 0.0
Offset), Prism Const.:0.0mm
 4518  Note:                   Foresight Target:My Prism, HR:5.26 (5.26 + 0.0
Offset), Prism Const.:0.0mm
 4519  Occupy Pt:              Occupy Point: 304
Northing: 1141699.058473USft         Easting: 620338.090901USft
Elevation: 219.962187USft    Description: NS
 4520  Note:                   HR:5.26 (5.26 + 0.0 Offset)
 4521  Line of Sight (HI/HR):  Height of Instrument: 5.43USft
Height of Rod: 5.26USft
 4522  Backsight:              Occupy Point: 304
Backsight Point: 234                 Backsight Azimuth: 80.291421      Backsight
Circle: 0.0000
 4523  Note:                   Fixed HR at Backsight:5.26 (5.26 + 0.0 Offset),
Prism Const.:0.0mm
 4524  Note:                   BS check 304 - 234:ZE89.4333,SD351.374,HD err=
```

0.010295, VD err= 0.009575
 4525 Note: BS Circle check : angular err= 0.0000
 4526 Side Shot: Occupy Point: 304
Foresight Point: 503   Angle Right: 0.0000   Zenith
Angle: 89.4333   Slope Distance: 351.372USft   Description: CHK234
 4527 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4528 Note: HR:4.97 (4.97 + 0.0 Offset)
 4529 Line of Sight (HI/HR): Height of Instrument: 5.43USft
Height of Rod: 4.97USft
 4530 Side Shot: Occupy Point: 304
Foresight Point: 504   Angle Right: 319.1427   Zenith
Angle: 90.0609   Slope Distance: 456.18USft   Description: ER-4003S
 4531 Side Shot: Occupy Point: 304
Foresight Point: 505   Angle Right: 323.0020   Zenith
Angle: 89.5422   Slope Distance: 157.144USft   Description: ER-4003CL
 4532 Side Shot: Occupy Point: 304
Foresight Point: 506   Angle Right: 276.5119   Zenith
Angle: 89.4900   Slope Distance: 97.474USft   Description: ER-4002
 4533 Note: Date: 04-16-2007 Time: 12:31:59
 4534 Side Shot: Occupy Point: 304
Foresight Point: 507   Angle Right: 130.4502   Zenith
Angle: 90.5855   Slope Distance: 144.214USft   Description: ER-4003
 4535 Side Shot: Occupy Point: 304
Foresight Point: 508   Angle Right: 98.5603   Zenith
Angle: 90.0543   Slope Distance: 352.312USft   Description: ER-4002CL
 4536 Store Point: Point Name: 504
Northing: 1142049.899573USft   Easting: 620629.655729USft
Elevation: 219.606099USft   Description: ER-4003
 4537 Side Shot: Occupy Point: 304
Foresight Point: 509   Angle Right: 98.3958   Zenith
Angle: 90.0225   Slope Distance: 801.974USft   Description: ER-4002
 4538 Side Shot: Occupy Point: 304
Foresight Point: 510   Angle Right: 165.1655   Zenith
Angle: 90.4005   Slope Distance: 373.28USft   Description: B-6024
 4539 Note: Foresight Target:My Prism, HR:5.26 (5.26 + 0.0
Offset), Prism Const.:0.0mm
 4540 Note: HR:5.26 (5.26 + 0.0 Offset)
 4541 Line of Sight (HI/HR): Height of Instrument: 5.43USft
Height of Rod: 5.26USft
 4542 Side Shot: Occupy Point: 304
Foresight Point: 511   Angle Right: 359.5958   Zenith
Angle: 89.4333   Slope Distance: 351.368USft   Description: CHK234
 4543 Occupy Pt: Occupy Point: 303
Northing: 1141606.172081USft   Easting: 620784.531217USft
Elevation: 222.712308USft   Description: NS
 4544 Note: HR:5.26 (5.26 + 0.0 Offset)
 4545 Line of Sight (HI/HR): Height of Instrument: 5.32USft
Height of Rod: 5.26USft
 4546 Backsight: Occupy Point: 303
Backsight Point: 234   Backsight Azimuth: 326.300221   Backsight
Circle: 0.0000
 4547 Note: Fixed HR at Backsight:5.26 (5.26 + 0.0 Offset),
Prism Const.:0.0mm
 4548 Note: BS Circle check : angular err= 0.0000
 4549 Note: BS check 303 - 234:ZE90.1808,SD181.022,HD err= -
0.004483, VD err= 0.013494
 4550 Note: BS Circle check : angular err= 0.0000
 4551 Note: BS check 303 - 234:ZE90.1812,SD181.022,HD err= -
0.004502, VD err= 0.009983
 4552 Note: BS Circle check : angular err= 0.0000
 4553 Side Shot: Occupy Point: 303
Foresight Point: 512   Angle Right: 0.0000   Zenith
Angle: 90.1812   Slope Distance: 181.024USft   Description: CHK234
 4554 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4555 Note: HR:4.97 (4.97 + 0.0 Offset)

```
 4556  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 4.97USft
 4557  Side Shot:              Occupy Point: 303
Foresight Point: 513                 Angle Right: 211.4829             Zenith
Angle: 90.1918        Slope Distance: 473.148USft     Description: ER-4001
 4558  Side Shot:              Occupy Point: 303
Foresight Point: 514                 Angle Right: 183.3507             Zenith
Angle: 89.0622        Slope Distance: 26.372USft      Description: ER-4001
 4559  Note:                   Date: 04-16-2007  Time: 12:53:12
 4560  Occupy Pt:              Occupy Point: 303
Northing: 1141606.172081USft         Easting: 620784.531217USft
Elevation: 222.712308USft    Description: NS
 4561  Backsight:              Occupy Point: 303
Backsight Point: 234                 Backsight Azimuth: 326.300221     Backsight
Circle: 0.0000
 4562  Note:                   Fixed HR at Backsight:5.26 (5.26 + 0.0 Offset),
Prism Const.:0.0mm
 4563  Note:                   BS check 303 - 234:ZE90.1813,SD181.022,HD err= -
0.004506, VD err= 0.009106
 4564  Note:                   BS Circle check : angular err= 0.0000
 4565  Side Shot:              Occupy Point: 303
Foresight Point: 515                 Angle Right: 212.3711             Zenith
Angle: 90.2847        Slope Distance: 922.996USft     Description: ER-4001
 4566  Note:                   Date: 04-16-2007  Time: 13:24:50
 4567  Note:                   Foresight Target:My Prism, HR:5.26 (5.26 + 0.0
Offset), Prism Const.:0.0mm
 4568  Note:                   HR:5.26 (5.26 + 0.0 Offset)
 4569  Line of Sight (HI/HR):  Height of Instrument: 5.32USft
Height of Rod: 5.26USft
 4570  Side Shot:              Occupy Point: 303
Foresight Point: 516                 Angle Right: 359.5958             Zenith
Angle: 90.1812        Slope Distance: 181.022USft     Description: CHK234
 4571  Note:                   Foresight Target:My Prism, HR:5.3 (5.3 + 0.0
Offset), Prism Const.:0.0mm
 4572  Occupy Pt:              Occupy Point: 139
Northing: 1141590.457USft            Easting: 621869.605USft
Elevation: 222.95USft        Description: NS
 4573  Note:                   HR:5.3 (5.3 + 0.0 Offset)
 4574  Line of Sight (HI/HR):  Height of Instrument: 5.33USft
Height of Rod: 5.3USft
 4575  Backsight:              Occupy Point: 139
Backsight Point: 9                   Backsight Azimuth: 11.401267      Backsight
Circle: 0.0000
 4576  Note:                   Fixed HR at Backsight:5.3 (5.3 + 0.0 Offset),
Prism Const.:0.0mm
 4577  Note:                   BS check 139 - 9:ZE90.3044,SD452.874,HD err= -
0.030881, VD err= -0.001623
 4578  Note:                   BS Circle check : angular err= 0.0000
 4579  Side Shot:              Occupy Point: 139
Foresight Point: 517                 Angle Right: 0.0001               Zenith
Angle: 90.3045        Slope Distance: 452.878USft     Description: CHK9
 4580  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4581  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4582  Line of Sight (HI/HR):  Height of Instrument: 5.33USft
Height of Rod: 4.97USft
 4583  Side Shot:              Occupy Point: 139
Foresight Point: 518                 Angle Right: 189.3229             Zenith
Angle: 90.2437        Slope Distance: 397.05USft      Description: ER-3002
 4584  Off Center Shot:        Angle Right: 145.4005
Zenith Angle: 90.2719                Slope Distance: 414.414USft
 4585  Off Center Shot:        Left/Right Offset: 4.0USft
Description: Left / Right Offset
 4586  Side Shot:              Occupy Point: 139
Foresight Point: 519                 Angle Right: 146.131591           Zenith
Angle: 90.271892      Slope Distance: 414.433304USft  Description: ER-3002
 4587  Note:                   Date: 04-16-2007  Time: 14:18:39
```

```
 4588  Side Shot:              Occupy Point: 139
Foresight Point: 520                 Angle Right: 149.3313             Zenith
Angle: 89.5811        Slope Distance: 196.524USft     Description: ER-3001
 4589  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 4590  Note:                   HR:8.5 (8.5 + 0.0 Offset)
 4591  Line of Sight (HI/HR):  Height of Instrument: 5.33USft
Height of Rod: 8.5USft
 4592  Side Shot:              Occupy Point: 139
Foresight Point: 521                 Angle Right: 160.3604             Zenith
Angle: 90.0221        Slope Distance: 490.406USft     Description: ER-3001
 4593  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4594  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4595  Line of Sight (HI/HR):  Height of Instrument: 5.33USft
Height of Rod: 4.97USft
 4596  Side Shot:              Occupy Point: 139
Foresight Point: 522                 Angle Right: 16.0756              Zenith
Angle: 90.4950        Slope Distance: 129.366USft     Description: ER-3001
 4597  Note:                   Foresight Target:My Prism, HR:5.3 (5.3 + 0.0
Offset), Prism Const.:0.0mm
 4598  Note:                   HR:5.3 (5.3 + 0.0 Offset)
 4599  Line of Sight (HI/HR):  Height of Instrument: 5.33USft
Height of Rod: 5.3USft
 4600  Side Shot:              Occupy Point: 139
Foresight Point: 523                 Angle Right: 0.0002               Zenith
Angle: 90.3029        Slope Distance: 452.832USft     Description: CHK9
 4601  Occupy Pt:              Occupy Point: 318
Northing: 1141664.533836USft         Easting: 622103.725266USft
Elevation: 223.090582USft    Description: NS
 4602  Note:                   HR:5.3 (5.3 + 0.0 Offset)
 4603  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.3USft
 4604  Backsight:              Occupy Point: 318
Backsight Point: 9                   Backsight Azimuth: 338.542271     Backsight
Circle: 0.0000
 4605  Note:                   Fixed HR at Backsight:5.3 (5.3 + 0.0 Offset),
Prism Const.:0.0mm
 4606  Note:                   BS check 318 - 9:ZE90.3515,SD395.848,HD err= -
0.154233, VD err= 0.018704
 4607  Note:                   BS Circle check : angular err= 0.0000
 4608  Note:                   Date: 04-16-2007  Time: 14:41:46
 4609  Note:                   BS check 318 - 9:ZE90.3511,SD395.846,HD err= -
0.156154, VD err= 0.0264
 4610  Note:                   BS Circle check : angular err= 0.0000
 4611  Side Shot:              Occupy Point: 318
Foresight Point: 524                 Angle Right: 0.0001               Zenith
Angle: 90.3510        Slope Distance: 395.836USft     Description: CHK9
 4612  Note:                   Data Collector Serial Number: FS29A13023
 4613  Note:                   Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 4614  Note:                   Foresight Target:My Prism, HR:5.09 (5.09 + 0.0
Offset), Prism Const.:0.0mm
 4615  Note:                   Date: 04-16-2007  Time: 14:46:27
 4616  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4617  Occupy Pt:              Occupy Point: 318
Northing: 1141664.533836USft         Easting: 622103.725266USft
Elevation: 223.090582USft    Description: NS
 4618  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4619  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.97USft
 4620  Backsight:              Occupy Point: 318
Backsight Point: 9                   Backsight Azimuth: 338.542271     Backsight
Circle: 0.0000
 4621  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
```

```
 4622  Note:                   BS check 318 - 9:ZE90.3838,SD396.002,HD err= -
0.004429, VD err= -0.042587
 4623  Note:                   BS Circle check : angular err= 0.0000
 4624  Note:                   BS check 318 - 9:ZE90.3842,SD395.994,HD err= -
0.012515, VD err= -0.050176
 4625  Note:                   BS Circle check : angular err= 0.0000
 4626  Note:                   BS check 318 - 9:ZE90.3831,SD396.032,HD err=
0.02572, VD err= -0.029485
 4627  Note:                   BS Circle check : angular err= 0.0001
 4628  Note:                   BS check 318 - 9:ZE90.3831,SD395.978,HD err= -
0.028277, VD err= -0.02888
 4629  Note:                   BS Circle check : angular err= 0.0000
 4630  Deleted Point:          Point Name: 524
 4631  Side Shot:              Occupy Point: 318
Foresight Point: 524                 Angle Right: 0.0000              Zenith
Angle: 90.3833        Slope Distance: 396.024USft     Description: CHK9
 4632  Note:                   Foresight Target:My Prism, HR:5.2 (5.2 + 0.0
Offset), Prism Const.:0.0mm
 4633  Note:                   HR:5.2 (5.2 + 0.0 Offset)
 4634  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.2USft
 4635  Side Shot:              Occupy Point: 318
Foresight Point: 525                 Angle Right: 175.4315            Zenith
Angle: 90.1732        Slope Distance: 514.138USft     Description: ER-3002
 4636  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4637  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4638  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.97USft
 4639  Side Shot:              Occupy Point: 318
Foresight Point: 526                 Angle Right: 0.0000              Zenith
Angle: 90.3839        Slope Distance: 396.036USft     Description: CHK9
 4640  Occupy Pt:              Occupy Point: 9
Northing: 1142033.9818USft           Easting: 621961.2139USft
Elevation: 218.933USft       Description: PKNS
 4641  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4642  Line of Sight (HI/HR):  Height of Instrument: 5.31USft
Height of Rod: 4.97USft
 4643  Backsight:              Occupy Point: 9
Backsight Point: 11                  Backsight Azimuth: 354.071362     Backsight
Circle: 0.0000
 4644  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4645  Note:                   BS check 9 - 11:ZE90.0214,SD606.304,HD err=
0.031842, VD err= -0.024886
 4646  Note:                   BS Circle check : angular err= 0.0000
 4647  Note:                   BS check 9 - 11:ZE90.0210,SD606.322,HD err=
0.04985, VD err= -0.013139
 4648  Note:                   BS Circle check : angular err= 0.0001
 4649  Note:                   BS check 9 - 11:ZE90.0209,SD606.306,HD err=
0.033852, VD err= -0.01019
 4650  Note:                   BS Circle check : angular err= 0.0000
 4651  Side Shot:              Occupy Point: 9
Foresight Point: 527                 Angle Right: 0.0000              Zenith
Angle: 90.0210        Slope Distance: 606.302USft     Description: CHK11
 4652  Side Shot:              Occupy Point: 9
Foresight Point: 528                 Angle Right: 292.5205            Zenith
Angle: 90.3435        Slope Distance: 92.116USft      Description: ER-4004
 4653  Side Shot:              Occupy Point: 9
Foresight Point: 529                 Angle Right: 278.4146            Zenith
Angle: 90.0511        Slope Distance: 538.724USft     Description: ER-4004
 4654  Side Shot:              Occupy Point: 9
Foresight Point: 530                 Angle Right: 277.1530            Zenith
Angle: 90.0013        Slope Distance: 987.996USft     Description: ER-4004
 4655  Note:                   Date: 04-16-2007  Time: 15:07:48
 4656  Side Shot:              Occupy Point: 9
Foresight Point: 531                 Angle Right: 359.5958            Zenith
```

Angle: 90.0212 Slope Distance: 606.31USft Description: CHK11
4657 Occupy Pt: Occupy Point: 146
Northing: 1143007.533USft Easting: 621001.779USft
Elevation: 221.616USft Description: NS
4658 Note: HR:4.97 (4.97 + 0.0 Offset)
4659 Line of Sight (HI/HR): Height of Instrument: 5.16USft
Height of Rod: 4.97USft
4660 Backsight: Occupy Point: 146
Backsight Point: 127 Backsight Azimuth: 163.310748 Backsight
Circle: 0.0000
4661 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
4662 Note: BS check 146 - 127:ZE90.2444,SD437.632,HD err= -
0.001063, VD err= -0.037575
4663 Note: BS Circle check : angular err= 0.0000
4664 Note: BS check 146 - 127:ZE90.2443,SD437.65,HD err=
0.016951, VD err= -0.035583
4665 Note: BS Circle check : angular err= 0.0000
4666 Occupy Pt: Occupy Point: 146
Northing: 1143007.533USft Easting: 621001.779USft
Elevation: 221.616USft Description: NS
4667 Note: HR:4.97 (4.97 + 0.0 Offset)
4668 Line of Sight (HI/HR): Height of Instrument: 5.17USft
Height of Rod: 4.97USft
4669 Backsight: Occupy Point: 146
Backsight Point: 127 Backsight Azimuth: 163.310748 Backsight
Circle: 0.0000
4670 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
4671 Note: BS check 146 - 127:ZE90.2443,SD437.666,HD err=
0.032951, VD err= -0.025698
4672 Note: BS Circle check : angular err= 0.0000
4673 Note: BS check 146 - 127:ZE90.2443,SD437.678,HD err=
0.044951, VD err= -0.025784
4674 Note: BS Circle check : angular err= 0.0000
4675 Side Shot: Occupy Point: 146
Foresight Point: 532 Angle Right: 0.0000 Zenith
Angle: 90.2444 Slope Distance: 437.668USft Description: CHK127
4676 Side Shot: Occupy Point: 146
Foresight Point: 533 Angle Right: 293.2358 Zenith
Angle: 89.5050 Slope Distance: 280.608USft Description: B-4020ALT
4677 Side Shot: Occupy Point: 146
Foresight Point: 534 Angle Right: 0.0003 Zenith
Angle: 90.2448 Slope Distance: 437.662USft Description: CHK127
4678 Note: Date: 04-16-2007 Time: 15:50:50
4679 Occupy Pt: Occupy Point: 11
Northing: 1142637.0645USft Easting: 621899.1089USft
Elevation: 218.904USft Description: #4RS
4680 Note: HR:4.97 (4.97 + 0.0 Offset)
4681 Line of Sight (HI/HR): Height of Instrument: 5.36USft
Height of Rod: 4.97USft
4682 Backsight: Occupy Point: 11
Backsight Point: 14 Backsight Azimuth: 8.551312 Backsight
Circle: 0.0000
4683 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
4684 Note: BS check 11 - 14:ZE89.4241,SD632.306,HD err=
0.008411, VD err= -0.033953
4685 Note: BS Circle check : angular err= 0.0000
4686 Note: BS check 11 - 14:ZE89.4233,SD632.324,HD err=
0.026286, VD err= -0.009338
4687 Note: BS Circle check : angular err= 0.0000
4688 Side Shot: Occupy Point: 11
Foresight Point: 535 Angle Right: 0.0001 Zenith
Angle: 89.4233 Slope Distance: 632.324USft Description: CHK14
4689 Side Shot: Occupy Point: 11
Foresight Point: 536 Angle Right: 198.2908 Zenith

Angle: 90.3629 Slope Distance: 44.12USft Description: B-3002ALT
4690 Store Point: Point Name: 537
Northing: 1142033.949357USft Easting: 621961.209847USft
Elevation: 218.92363USft Description: CHK9
4691 Cut Sheet: Elevation: 218.92363USft
Design Grade: 218.933
4692 Design Point/Location: Point Name: 9
Northing: 1142033.9818USft Easting: 621961.2139USft
Elevation: 218.933USft Description: PKNS
4693 Stakeout Deltas: Delta Northing: 0.032443USft
Delta Easting: 0.004053USft Delta Elevation: 0.00937USft
4694 Stakeout: Occupy Point: 11
Foresight Point: 537 Angle Right: 165.1203 Zenith
Angle: 90.0206 Slope Distance: 606.304USft Description: CHK9
4695 Occupy Pt: Occupy Point: 18
Northing: 1144622.923533USft Easting: 622463.319738USft
Elevation: 225.711USft Description: #4RS
4696 Note: HR:4.97 (4.97 + 0.0 Offset)
4697 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.97USft
4698 Backsight: Occupy Point: 18
Backsight Point: 21 Backsight Azimuth: 316.590311 Backsight
Circle: 0.0000
4699 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
4700 Note: BS check 18 - 21:ZE89.0626,SD785.556,HD err=
0.003577, VD err= -0.022031
4701 Note: BS Circle check : angular err= 0.0000
4702 Note: BS check 18 - 21:ZE89.0626,SD785.552,HD err= -
0.000423, VD err= -0.022093
4703 Note: BS Circle check : angular err= 0.0000
4704 Side Shot: Occupy Point: 18
Foresight Point: 538 Angle Right: 0.0000 Zenith
Angle: 89.0626 Slope Distance: 785.574USft Description: CHK21
4705 Note: Foresight Target:My Prism, HR:0.5 (0.5 + 0.0
Offset), Prism Const.:0.0mm
4706 Note: Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
4707 Note: HR:8.5 (8.5 + 0.0 Offset)
4708 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 8.5USft
4709 Side Shot: Occupy Point: 18
Foresight Point: 539 Angle Right: 315.5541 Zenith
Angle: 89.1654 Slope Distance: 221.478USft Description: TP-B-1185
4710 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
4711 Note: HR:4.97 (4.97 + 0.0 Offset)
4712 Line of Sight (HI/HR): Height of Instrument: 5.18USft
Height of Rod: 4.97USft
4713 Store Point: Point Name: 540
Northing: 1143915.644773USft Easting: 622549.020817USft
Elevation: 227.589316USft Description: CHK16
4714 Cut Sheet: Elevation: 227.589316USft
Design Grade: 227.605
4715 Design Point/Location: Point Name: 16
Northing: 1143915.652023USft Easting: 622548.992082USft
Elevation: 227.605USft Description: #4RS
4716 Stakeout Deltas: Delta Northing: 0.00725USft
Delta Easting: -0.028735USft Delta Elevation: 0.015684USft
4717 Stakeout: Occupy Point: 18
Foresight Point: 540 Angle Right: 216.0625 Zenith
Angle: 89.5157 Slope Distance: 712.454USft Description: CHK16
4718 Note: Date: 04-16-2007 Time: 16:30:10
4719 Occupy Pt: Occupy Point: 398
Northing: 1146426.32783USft Easting: 621819.64051USft
Elevation: 248.687097USft Description: NS
4720 Note: HR:4.97 (4.97 + 0.0 Offset)

```
 4721  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 4.97USft
 4722  Backsight:              Occupy Point: 398
Backsight Point: 397                Backsight Azimuth: 317.250921     Backsight
Circle: 0.0000
 4723  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 4724  Note:                   BS check 398 - 397:ZE90.3051,SD217.682,HD err=
0.00662, VD err= 0.001257
 4725  Note:                   BS Circle check : angular err= 0.0001
 4726  Side Shot:              Occupy Point: 398
Foresight Point: 541                Angle Right: 0.0000               Zenith
Angle: 90.3050        Slope Distance: 217.682USft     Description: CHK397
 4727  Side Shot:              Occupy Point: 398
Foresight Point: 542                Angle Right: 350.1636             Zenith
Angle: 91.1814        Slope Distance: 249.778USft     Description: ER-1105
 4728  Side Shot:              Occupy Point: 398
Foresight Point: 543                Angle Right: 351.3624             Zenith
Angle: 91.4857        Slope Distance: 699.102USft     Description: ER-1105
 4729  Side Shot:              Occupy Point: 398
Foresight Point: 544                Angle Right: 177.1429             Zenith
Angle: 96.1957        Slope Distance: 200.814USft     Description: ER-1105
 4730  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 4731  Note:                   HR:8.5 (8.5 + 0.0 Offset)
 4732  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 8.5USft
 4733  Side Shot:              Occupy Point: 398
Foresight Point: 545                Angle Right: 75.1803              Zenith
Angle: 88.0729        Slope Distance: 333.172USft     Description: ER-1106
 4734  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4735  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4736  Line of Sight (HI/HR):  Height of Instrument: 5.06USft
Height of Rod: 4.97USft
 4737  Side Shot:              Occupy Point: 398
Foresight Point: 546                Angle Right: 283.3832             Zenith
Angle: 94.1408        Slope Distance: 119.628USft     Description: NS
 4738  Note:                   Date: 04-16-2007  Time: 16:51:16
 4739  Side Shot:              Occupy Point: 398
Foresight Point: 547                Angle Right: 0.0000               Zenith
Angle: 90.3044        Slope Distance: 217.65USft      Description: CHK397
 4740  Note:                   Date: 04-16-2007  Time: 17:11:38
 4741  Note:                   Date: 04-16-2007  Time: 17:26:42
 4742  Note:                   Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
 4743  Occupy Pt:              Occupy Point: 16
Northing: 1143915.652023USft        Easting: 622548.992082USft
Elevation: 227.605USft       Description: #4RS
 4744  Note:                   HR:5.05 (5.05 + 0.0 Offset)
 4745  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.05USft
 4746  Backsight:              Occupy Point: 16
Backsight Point: 18                 Backsight Azimuth: 353.053612     Backsight
Circle: 0.0000
 4747  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 4748  Note:                   BS check 16 - 18:ZE90.1029,SD712.43,HD err= -
0.014706, VD err= -0.028536
 4749  Note:                   BS Circle check : angular err= 0.0000
 4750  Note:                   BS check 16 - 18:ZE90.1029,SD712.432,HD err= -
0.012706, VD err= -0.028542
 4751  Note:                   BS Circle check : angular err= 0.0000
 4752  Occupy Pt:              Occupy Point: 16
Northing: 1143915.652023USft        Easting: 622548.992082USft
Elevation: 227.605USft       Description: #4RS
 4753  Note:                   HR:5.05 (5.05 + 0.0 Offset)
```

```
 4754  Line of Sight (HI/HR):  Height of Instrument: 5.29USft
Height of Rod: 5.05USft
 4755  Backsight:              Occupy Point: 16
Backsight Point: 18                 Backsight Azimuth: 353.053612     Backsight
Circle: 0.0000
 4756  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 4757  Note:                   BS check 16 - 18:ZE90.1029,SD712.43,HD err= -
0.014706, VD err= -0.038536
 4758  Note:                   BS Circle check : angular err= 0.0000
 4759  Occupy Pt:              Occupy Point: 16
Northing: 1143915.652023USft        Easting: 622548.992082USft
Elevation: 227.605USft       Description: #4RS
 4760  Note:                   HR:5.05 (5.05 + 0.0 Offset)
 4761  Line of Sight (HI/HR):  Height of Instrument: 5.31USft
Height of Rod: 5.05USft
 4762  Backsight:              Occupy Point: 16
Backsight Point: 18                 Backsight Azimuth: 353.053612     Backsight
Circle: 0.0000
 4763  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 4764  Note:                   BS check 16 - 18:ZE90.1029,SD712.438,HD err= -
0.006706, VD err= -0.018561
 4765  Note:                   BS Circle check : angular err= 0.0000
 4766  Side Shot:              Occupy Point: 16
Foresight Point: 548                Angle Right: 0.0000               Zenith
Angle: 90.1029        Slope Distance: 712.438USft     Description: CHK18
 4767  Note:                   Date: 04-17-2007  Time: 09:09:08
 4768  Occupy Pt:              Occupy Point: 16
Northing: 1143915.652023USft        Easting: 622548.992082USft
Elevation: 227.605USft       Description: #4RS
 4769  Backsight:              Occupy Point: 16
Backsight Point: 18                 Backsight Azimuth: 353.053612     Backsight
Circle: 0.0000
 4770  Note:                   Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 4771  Note:                   BS check 16 - 18:ZE90.1033,SD712.426,HD err= -
0.018748, VD err= -0.03234
 4772  Note:                   BS Circle check : angular err= 0.0000
 4773  Note:                   BS check 16 - 18:ZE90.1032,SD712.424,HD err= -
0.020738, VD err= -0.02888
 4774  Note:                   BS Circle check : angular err= 0.0000
 4775  Note:                   BS check 16 - 18:ZE90.1032,SD712.426,HD err= -
0.018738, VD err= -0.028886
 4776  Note:                   BS Circle check : angular err= 0.0000
 4777  Note:                   Foresight Target:My Prism, HR:5.15 (5.15 + 0.0
Offset), Prism Const.:0.0mm
 4778  Note:                   HR:5.15 (5.15 + 0.0 Offset)
 4779  Line of Sight (HI/HR):  Height of Instrument: 5.31USft
Height of Rod: 5.15USft
 4780  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 4781  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0005
 4782  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 338.2707
 4783  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.0522
 4784  Multiple Distances:     Set: 1
Slope Distance: 552.862USft
 4785  Repeat Foresight:       Occupy Point: 16
Foresight Point: 549                Angle Right: 338.2707             Zenith
Angle: 269.0522       Slope Distance: 552.862USft     Height of Rod: 5.15USft
Description: NS
 4786  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 158.2704
 4787  Repeat Directional:     Zenith Direct
```

Set: 1 Zenith: 90.5441
4788 Multiple Distances: Set: 1
Slope Distance: 552.862USft
4789 Repeat Foresight: Occupy Point: 16
Foresight Point: 549 Angle Right: 158.2704 Zenith
Angle: 90.5441 Slope Distance: 552.862USft Height of Rod: 5.15USft
Description: NS
4790 Note: Horizontal Angle Error: 0.0002
4791 Note: Zenith Angle Error: 0.0003
4792 Note: Slope Distance Error: 0.0
4793 Note: Horizontal Angle Error compares to the average:
0.0000
4794 Note: Zenith Angle Error compares to the average:
0.0000
4795 Note: Slope Distance Error compares to the average: 0.0
4796 Side Shot: Occupy Point: 16
Foresight Point: 549 Angle Right: 158.2703 Zenith
Angle: 90.54395 Slope Distance: 552.862USft Description: NS
4797 Note: Foresight Target:My Prism, HR:5.33 (5.33 + 0.0
Offset), Prism Const.:0.0mm
4798 Occupy Pt: Occupy Point: 549
Northing: 1143429.645511USft Easting: 622812.386843USft
Elevation: 218.975161USft Description: NS
4799 Note: HR:5.33 (5.33 + 0.0 Offset)
4800 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 5.33USft
4801 Backsight: Occupy Point: 549
Backsight Point: 16 Backsight Azimuth: 331.323912 Backsight
Circle: 0.0000
4802 Note: Fixed HR at Backsight:5.33 (5.33 + 0.0 Offset),
Prism Const.:0.0mm
4803 Note: BS check 549 - 16:ZE89.0610,SD552.856,HD err= -
0.003906, VD err= -0.002755
4804 Note: BS Circle check : angular err= 0.0000
4805 Side Shot: Occupy Point: 549
Foresight Point: 550 Angle Right: 0.0000 Zenith
Angle: 89.0611 Slope Distance: 552.86USft Description: CHK16
4806 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
4807 Note: Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
4808 Note: HR:8.5 (8.5 + 0.0 Offset)
4809 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 8.5USft
4810 Side Shot: Occupy Point: 549
Foresight Point: 551 Angle Right: 132.2035 Zenith
Angle: 89.3233 Slope Distance: 353.996USft Description: REMI-1101N
4811 Note: Date: 04-17-2007 Time: 09:42:57
4812 Note: Foresight Target:My Prism, HR:11.5 (11.5 + 0.0
Offset), Prism Const.:0.0mm
4813 Note: HR:11.5 (11.5 + 0.0 Offset)
4814 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 11.5USft
4815 Side Shot: Occupy Point: 549
Foresight Point: 552 Angle Right: 166.3337 Zenith
Angle: 89.2558 Slope Distance: 514.938USft Description: REMI-1101S
4816 Note: Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
4817 Note: HR:8.5 (8.5 + 0.0 Offset)
4818 Line of Sight (HI/HR): Height of Instrument: 5.3USft
Height of Rod: 8.5USft
4819 Side Shot: Occupy Point: 549
Foresight Point: 553 Angle Right: 152.4050 Zenith
Angle: 89.4301 Slope Distance: 415.876USft Description: REMI-1101CL
4820 Note: Foresight Target:My Prism, HR:11.5 (11.5 + 0.0
Offset), Prism Const.:0.0mm
4821 Note: HR:11.5 (11.5 + 0.0 Offset)

```
 4822  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 11.5USft
 4823  Side Shot:              Occupy Point: 549
Foresight Point: 554                 Angle Right: 118.1941             Zenith
Angle: 89.4010        Slope Distance: 885.17USft      Description: REMI-1102W
 4824  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 4825  Note:                   HR:8.5 (8.5 + 0.0 Offset)
 4826  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 8.5USft
 4827  Side Shot:              Occupy Point: 549
Foresight Point: 555                 Angle Right: 118.1835             Zenith
Angle: 89.5308        Slope Distance: 1034.498USft    Description: REMI-1102CL
 4828  Side Shot:              Occupy Point: 549
Foresight Point: 556                 Angle Right: 118.1534             Zenith
Angle: 89.5415        Slope Distance: 1183.486USft    Description: REMI-1102E
 4829  Note:                   Foresight Target:My Prism, HR:5.33 (5.33 + 0.0
Offset), Prism Const.:0.0mm
 4830  Note:                   HR:5.33 (5.33 + 0.0 Offset)
 4831  Line of Sight (HI/HR):  Height of Instrument: 5.3USft
Height of Rod: 5.33USft
 4832  Side Shot:              Occupy Point: 549
Foresight Point: 557                 Angle Right: 0.0002               Zenith
Angle: 89.0601        Slope Distance: 552.862USft     Description: CHK16
 4833  Note:                   Date: 04-17-2007  Time: 10:05:49
 4834  Note:                   Foresight Target:My Prism, HR:5.2 (5.2 + 0.0
Offset), Prism Const.:0.0mm
 4835  Occupy Pt:              Occupy Point: 546
Northing: 1146368.601361USft         Easting: 621715.235294USft
Elevation: 239.941722USft    Description: NS
 4836  Note:                   HR:5.2 (5.2 + 0.0 Offset)
 4837  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.2USft
 4838  Backsight:              Occupy Point: 546
Backsight Point: 398                 Backsight Azimuth: 61.034121      Backsight
Circle: 0.0000
 4839  Note:                   Fixed HR at Backsight:5.2 (5.2 + 0.0 Offset),
Prism Const.:0.0mm
 4840  Note:                   BS check 546 - 398:ZE85.4934,SD119.624,HD err=
0.005451, VD err= -0.018699
 4841  Note:                   BS Circle check : angular err= 0.0000
 4842  Side Shot:              Occupy Point: 546
Foresight Point: 558                 Angle Right: 0.0000               Zenith
Angle: 85.4934        Slope Distance: 119.622USft     Description: CHK398
 4843  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4844  Note:                   Foresight Target:My Prism, HR:8.5 (8.5 + 0.0
Offset), Prism Const.:0.0mm
 4845  Note:                   Foresight Target:My Prism, HR:10.5 (10.5 + 0.0
Offset), Prism Const.:0.0mm
 4846  Note:                   HR:10.5 (10.5 + 0.0 Offset)
 4847  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 10.5USft
 4848  Side Shot:              Occupy Point: 546
Foresight Point: 559                 Angle Right: 162.3335             Zenith
Angle: 98.4526        Slope Distance: 459.624USft     Description: ER-1106
 4849  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4850  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4851  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 4.97USft
 4852  Side Shot:              Occupy Point: 546
Foresight Point: 560                 Angle Right: 196.1704             Zenith
Angle: 101.0509       Slope Distance: 13.826USft      Description: ER-1106
 4853  Note:                   Foresight Target:My Prism, HR:5.2 (5.2 + 0.0
Offset), Prism Const.:0.0mm
 4854  Note:                   HR:5.2 (5.2 + 0.0 Offset)
```

```
 4855  Line of Sight (HI/HR):  Height of Instrument: 5.22USft
Height of Rod: 5.2USft
 4856  Side Shot:              Occupy Point: 546
Foresight Point: 561                Angle Right: 0.0000               Zenith
Angle: 85.4931        Slope Distance: 119.62USft      Description: CHK398
 4857  Note:                   Foresight Target:My Prism, HR:4.81 (4.81 + 0.0
Offset), Prism Const.:0.0mm
 4858  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft        Easting: 622146.018893USft
Elevation: 253.187269USft    Description: NS
 4859  Note:                   HR:4.81 (4.81 + 0.0 Offset)
 4860  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 4.81USft
 4861  Backsight:              Occupy Point: 391
Backsight Point: 106                Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 4862  Note:                   Fixed HR at Backsight:4.81 (4.81 + 0.0 Offset),
Prism Const.:0.0mm
 4863  Note:                   BS check 391 - 106:ZE92.5654,SD630.882,HD err= -
0.022887, VD err= -0.04251
 4864  Note:                   BS Circle check : angular err= 0.0000
 4865  Note:                   BS check 391 - 106:ZE92.5653,SD630.878,HD err= -
0.026724, VD err= -0.03925
 4866  Note:                   BS Circle check : angular err= 0.0000
 4867  Side Shot:              Occupy Point: 391
Foresight Point: 562                Angle Right: 0.0000               Zenith
Angle: 92.5653        Slope Distance: 630.876USft     Description: CHK106
 4868  Note:                   Date: 04-17-2007  Time: 10:42:03
 4869  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4870  Occupy Pt:              Occupy Point: 391
Northing: 1146732.719339USft        Easting: 622146.018893USft
Elevation: 253.187269USft    Description: NS
 4871  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4872  Line of Sight (HI/HR):  Height of Instrument: 5.24USft
Height of Rod: 4.97USft
 4873  Backsight:              Occupy Point: 391
Backsight Point: 106                Backsight Azimuth: 0.042212       Backsight
Circle: 0.0000
 4874  Note:                   Fixed HR at Backsight:4.81 (4.81 + 0.0 Offset),
Prism Const.:0.0mm
 4875  Note:                   BS check 391 - 106:ZE92.5648,SD630.878,HD err= -
0.025938, VD err= -0.023977
 4876  Note:                   BS Circle check : angular err= 0.0000
 4877  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 4878  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0001
 4879  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 178.4308
 4880  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 267.0337
 4881  Multiple Distances:     Set: 1
Slope Distance: 135.458USft
 4882  Repeat Foresight:       Occupy Point: 391
Foresight Point: 563                Angle Right: 178.4308             Zenith
Angle: 267.0337       Slope Distance: 135.458USft     Height of Rod: 4.97USft
Description: NS
 4883  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 358.4308
 4884  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 92.5615
 4885  Multiple Distances:     Set: 1
Slope Distance: 135.454USft
 4886  Repeat Foresight:       Occupy Point: 391
Foresight Point: 563                Angle Right: 358.4308             Zenith
Angle: 92.5615        Slope Distance: 135.454USft     Height of Rod: 4.97USft
```

Description: NS
 4887 Note: Horizontal Angle Error: 0.0001
 4888 Note: Zenith Angle Error: 0.0008
 4889 Note: Slope Distance Error: 0.004
 4890 Note: Horizontal Angle Error compares to the average:
0.0000
 4891 Note: Zenith Angle Error compares to the average:
0.0000
 4892 Note: Slope Distance Error compares to the average: 0.0
 4893 Side Shot: Occupy Point: 391
Foresight Point: 563   Angle Right: 358.43075   Zenith
Angle: 92.5619   Slope Distance: 135.456USft   Description: NS
 4894 Note: Foresight Target:My Prism, HR:4.81 (4.81 + 0.0
Offset), Prism Const.:0.0mm
 4895 Occupy Pt: Occupy Point: 563
Northing: 1146867.967132USft   Easting: 622143.165926USft
Elevation: 246.512988USft   Description: NS
 4896 Note: HR:4.81 (4.81 + 0.0 Offset)
 4897 Line of Sight (HI/HR): Height of Instrument: 5.05USft
Height of Rod: 4.81USft
 4898 Backsight: Occupy Point: 563
Backsight Point: 106   Backsight Azimuth: 0.252299   Backsight
Circle: 0.0000
 4899 Note: Fixed HR at Backsight:4.81 (4.81 + 0.0 Offset),
Prism Const.:0.0mm
 4900 Note: BS check 563 - 106:ZE92.5736,SD495.484,HD err= -
0.01205, VD err= -0.043296
 4901 Note: BS Circle check : angular err= 0.0000
 4902 Side Shot: Occupy Point: 563
Foresight Point: 564   Angle Right: 0.0000   Zenith
Angle: 92.5736   Slope Distance: 495.482USft   Description: CHK106
 4903 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4904 Note: HR:4.97 (4.97 + 0.0 Offset)
 4905 Line of Sight (HI/HR): Height of Instrument: 5.05USft
Height of Rod: 4.97USft
 4906 Side Shot: Occupy Point: 563
Foresight Point: 565   Angle Right: 274.5552   Zenith
Angle: 90.3235   Slope Distance: 68.904USft   Description: TP-B-1197
 4907 Note: Foresight Target:My Prism, HR:4.81 (4.81 + 0.0
Offset), Prism Const.:0.0mm
 4908 Note: HR:4.81 (4.81 + 0.0 Offset)
 4909 Line of Sight (HI/HR): Height of Instrument: 5.05USft
Height of Rod: 4.81USft
 4910 Side Shot: Occupy Point: 563
Foresight Point: 566   Angle Right: 359.5959   Zenith
Angle: 92.5741   Slope Distance: 495.484USft   Description: CHK106
 4911 Occupy Pt: Occupy Point: 103
Northing: 1147554.052416USft   Easting: 622478.488412USft
Elevation: 222.662545USft   Description: NS
 4912 Note: HR:4.81 (4.81 + 0.0 Offset)
 4913 Line of Sight (HI/HR): Height of Instrument: 5.25USft
Height of Rod: 4.81USft
 4914 Backsight: Occupy Point: 103
Backsight Point: 106   Backsight Azimuth: 240.014512   Backsight
Circle: 0.0000
 4915 Note: Fixed HR at Backsight:4.81 (4.81 + 0.0 Offset),
Prism Const.:0.0mm
 4916 Note: BS check 103 - 106:ZE90.1724,SD382.87,HD err= -
0.00048, VD err= -0.045426
 4917 Note: BS Circle check : angular err= 0.0000
 4918 Side Shot: Occupy Point: 103
Foresight Point: 567   Angle Right: 0.0000   Zenith
Angle: 90.1724   Slope Distance: 382.87USft   Description: CHK106
 4919 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4920 Note: HR:4.97 (4.97 + 0.0 Offset)

```
 4921  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 4.97USft
 4922  Side Shot:              Occupy Point: 103
Foresight Point: 568                 Angle Right: 69.1339              Zenith
Angle: 94.0830        Slope Distance: 149.466USft     Description: TP-B-1195
 4923  Note:                   Foresight Target:My Prism, HR:4.81 (4.81 + 0.0
Offset), Prism Const.:0.0mm
 4924  Note:                   HR:4.81 (4.81 + 0.0 Offset)
 4925  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 4.81USft
 4926  Side Shot:              Occupy Point: 103
Foresight Point: 569                 Angle Right: 359.5959             Zenith
Angle: 90.1722        Slope Distance: 382.872USft     Description: CHK106
 4927  Note:                   Foresight Target:My Prism, HR:5.41 (5.41 + 0.0
Offset), Prism Const.:0.0mm
 4928  Occupy Pt:              Occupy Point: 106
Northing: 1147362.788633USft         Easting: 622146.81958USft
Elevation: 221.2101USft      Description: NS
 4929  Note:                   HR:5.41 (5.41 + 0.0 Offset)
 4930  Line of Sight (HI/HR):  Height of Instrument: 5.03USft
Height of Rod: 5.41USft
 4931  Backsight:              Occupy Point: 106
Backsight Point: 103                 Backsight Azimuth: 60.014512      Backsight
Circle: 0.0000
 4932  Note:                   Fixed HR at Backsight:5.41 (5.41 + 0.0 Offset),
Prism Const.:0.0mm
 4933  Note:                   Date: 04-17-2007  Time: 11:18:13
 4934  Note:                   BS check 106 - 103:ZE89.4317,SD382.862,HD err= -
0.008102, VD err= 0.029284
 4935  Note:                   BS Circle check : angular err= 0.0000
 4936  Side Shot:              Occupy Point: 106
Foresight Point: 570                 Angle Right: 0.0000               Zenith
Angle: 89.4317        Slope Distance: 382.878USft     Description: CHK103
 4937  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4938  Occupy Pt:              Occupy Point: 106
Northing: 1147362.788633USft         Easting: 622146.81958USft
Elevation: 221.2101USft      Description: NS
 4939  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4940  Line of Sight (HI/HR):  Height of Instrument: 5.03USft
Height of Rod: 4.97USft
 4941  Backsight:              Occupy Point: 106
Backsight Point: 103                 Backsight Azimuth: 60.014512      Backsight
Circle: 0.0000
 4942  Note:                   Fixed HR at Backsight:5.41 (5.41 + 0.0 Offset),
Prism Const.:0.0mm
 4943  Note:                   BS check 106 - 103:ZE89.4314,SD382.87,HD err= -
0.000129, VD err= 0.034891
 4944  Note:                   BS Circle check : angular err= 0.0000
 4945  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 4946  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0005
 4947  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 45.1959
 4948  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 267.3756
 4949  Multiple Distances:     Set: 1
Slope Distance: 458.048USft
 4950  Repeat Foresight:       Occupy Point: 106
Foresight Point: 571                 Angle Right: 45.1959              Zenith
Angle: 267.3756       Slope Distance: 458.048USft     Height of Rod: 4.97USft
Description: NS
 4951  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 225.1953
 4952  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 92.2149
```

```
 4953  Multiple Distances:     Set: 1
Slope Distance: 458.04USft
 4954  Repeat Foresight:       Occupy Point: 106
Foresight Point: 571                Angle Right: 225.1953             Zenith
Angle: 92.2149        Slope Distance: 458.04USft      Height of Rod: 4.97USft
Description: NS
 4955  Note:                   Horizontal Angle Error: 0.0001
 4956  Note:                   Zenith Angle Error: 0.0015
 4957  Note:                   Slope Distance Error: 0.008
 4958  Note:                   Horizontal Angle Error compares to the average:
0.0000
 4959  Note:                   Zenith Angle Error compares to the average:
0.0000
 4960  Note:                   Slope Distance Error compares to the average: 0.0
 4961  Side Shot:              Occupy Point: 106
Foresight Point: 571                Angle Right: 225.19535            Zenith
Angle: 92.21565       Slope Distance: 458.044USft     Description: NS
 4962  Note:                   Foresight Target:My Prism, HR:5.4 (5.4 + 0.0
Offset), Prism Const.:0.0mm
 4963  Occupy Pt:              Occupy Point: 571
Northing: 1147484.018895USft        Easting: 621705.514629USft
Elevation: 202.363222USft    Description: NS
 4964  Note:                   HR:5.4 (5.4 + 0.0 Offset)
 4965  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 5.4USft
 4966  Backsight:              Occupy Point: 571
Backsight Point: 106                Backsight Azimuth: 105.213862     Backsight
Circle: 0.0000
 4967  Note:                   Fixed HR at Backsight:5.4 (5.4 + 0.0 Offset),
Prism Const.:0.0mm
 4968  Note:                   BS check 571 - 106:ZE87.3722,SD458.052,HD err=
0.00418, VD err= -0.06759
 4969  Note:                   BS Circle check : angular err= 0.0000
 4970  Note:                   BS check 571 - 106:ZE87.3715,SD458.06,HD err=
0.011528, VD err= -0.051726
 4971  Note:                   BS Circle check : angular err= 0.0000
 4972  Note:                   BS check 571 - 106:ZE87.3715,SD458.064,HD err=
0.015524, VD err= -0.05156
 4973  Note:                   BS Circle check : angular err= 0.0000
 4974  Side Shot:              Occupy Point: 571
Foresight Point: 572                Angle Right: 0.0000               Zenith
Angle: 87.3715        Slope Distance: 458.066USft     Description: CHK106
 4975  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 4976  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 4977  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 4.97USft
 4978  Side Shot:              Occupy Point: 571
Foresight Point: 573                Angle Right: 264.4021             Zenith
Angle: 89.2745        Slope Distance: 16.826USft      Description: TP-B-1194
 4979  Note:                   Foresight Target:My Prism, HR:5.4 (5.4 + 0.0
Offset), Prism Const.:0.0mm
 4980  Note:                   HR:5.4 (5.4 + 0.0 Offset)
 4981  Line of Sight (HI/HR):  Height of Instrument: 5.18USft
Height of Rod: 5.4USft
 4982  Side Shot:              Occupy Point: 571
Foresight Point: 574                Angle Right: 0.0002               Zenith
Angle: 87.3712        Slope Distance: 458.062USft     Description: CHK106
 4983  Note:                   Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
 4984  Occupy Pt:              Occupy Point: 9129
Northing: 1144354.1134USft          Easting: 621822.084448USft
Elevation: 282.425327USft    Description: NS
 4985  Note:                   HR:5.05 (5.05 + 0.0 Offset)
 4986  Line of Sight (HI/HR):  Height of Instrument: 4.99USft
Height of Rod: 5.05USft
 4987  Backsight:              Occupy Point: 9129
```

Backsight Point: 180 Backsight Azimuth: 240.210544 Backsight Circle: 0.0000
4988 Note: Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset), Prism Const.:0.0mm
4989 Note: BS check 9129 - 180:ZE90.5937,SD343.942,HD err= 0.027094, VD err= -0.091942
4990 Note: BS Circle check : angular err= 0.0000
4991 Occupy Pt: Occupy Point: 178
Northing: 1144354.112USft Easting: 621822.116USft
Elevation: 282.445USft Description: NS
4992 Backsight: Occupy Point: 178
Backsight Point: 180 Backsight Azimuth: 240.211553 Backsight Circle: 0.0000
4993 Note: Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset), Prism Const.:0.0mm
4994 Note: BS check 178 - 180:ZE90.5934,SD343.942,HD err= 0.000452, VD err= -0.067268
4995 Note: BS Circle check : angular err= 0.0000
4996 Note: Foresight Target:My Prism, HR:5.06 (5.06 + 0.0 Offset), Prism Const.:0.0mm
4997 Note: Date: 04-17-2007 Time: 13:21:45
4998 Occupy Pt: Occupy Point: 178
Northing: 1144354.112USft Easting: 621822.116USft
Elevation: 282.445USft Description: NS
4999 Note: HR:5.06 (5.06 + 0.0 Offset)
5000 Line of Sight (HI/HR): Height of Instrument: 4.98USft
Height of Rod: 5.06USft
5001 Backsight: Occupy Point: 178
Backsight Point: 180 Backsight Azimuth: 240.211553 Backsight Circle: 0.0000
5002 Note: Fixed HR at Backsight:5.06 (5.06 + 0.0 Offset), Prism Const.:0.0mm
5003 Note: BS check 178 - 180:ZE90.5929,SD343.946,HD err= 0.004596, VD err= -0.079001
5004 Note: BS Circle check : angular err= 0.0000
5005 Note: Foresight Target:My Prism, HR:5.05 (5.05 + 0.0 Offset), Prism Const.:0.0mm
5006 Occupy Pt: Occupy Point: 178
Northing: 1144354.112USft Easting: 621822.116USft
Elevation: 282.445USft Description: NS
5007 Note: HR:5.05 (5.05 + 0.0 Offset)
5008 Line of Sight (HI/HR): Height of Instrument: 4.99USft
Height of Rod: 5.05USft
5009 Backsight: Occupy Point: 178
Backsight Point: 180 Backsight Azimuth: 240.211553 Backsight Circle: 0.0000
5010 Note: Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset), Prism Const.:0.0mm
5011 Note: BS check 178 - 180:ZE90.5929,SD343.952,HD err= 0.010595, VD err= -0.059105
5012 Note: BS Circle check : angular err= 0.0000
5013 Note: Foresight Target:My Prism, HR:5.06 (5.06 + 0.0 Offset), Prism Const.:0.0mm
5014 Occupy Pt: Occupy Point: 178
Northing: 1144354.112USft Easting: 621822.116USft
Elevation: 282.445USft Description: NS
5015 Note: HR:5.06 (5.06 + 0.0 Offset)
5016 Line of Sight (HI/HR): Height of Instrument: 4.98USft
Height of Rod: 5.06USft
5017 Backsight: Occupy Point: 178
Backsight Point: 180 Backsight Azimuth: 240.211553 Backsight Circle: 0.0000
5018 Note: Fixed HR at Backsight:5.06 (5.06 + 0.0 Offset), Prism Const.:0.0mm
5019 Note: BS check 178 - 180:ZE90.5928,SD343.948,HD err= 0.006624, VD err= -0.077368
5020 Note: BS Circle check : angular err= 0.0000

```
 5021  Note:                   BS check 178 - 180:ZE90.5932,SD343.944,HD err=
0.002509, VD err= -0.083968
 5022  Note:                   BS Circle check : angular err= 0.0000
 5023  Side Shot:              Occupy Point: 178
Foresight Point: 575                Angle Right: 0.0000              Zenith
Angle: 90.5932        Slope Distance: 343.954USft     Description: CHK180
 5024  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5025  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5026  Line of Sight (HI/HR):  Height of Instrument: 4.98USft
Height of Rod: 4.97USft
 5027  Side Shot:              Occupy Point: 178
Foresight Point: 576                Angle Right: 312.4013            Zenith
Angle: 91.3927        Slope Distance: 98.444USft      Description: ER-1103CL
 5028  Side Shot:              Occupy Point: 178
Foresight Point: 577                Angle Right: 326.2115            Zenith
Angle: 91.4249        Slope Distance: 433.198USft     Description: TP-B-1117
 5029  Store Point:            Point Name: 578
Northing: 1144346.116591USft        Easting: 622018.068167USft
Elevation: 273.490389USft    Description: CHK174
 5030  Cut Sheet:              Elevation: 273.490389USft
Design Grade: 273.506
 5031  Design Point/Location:  Point Name: 174
Northing: 1144346.12USft            Easting: 622018.031USft
Elevation: 273.506USft       Description: NS
 5032  Stakeout Deltas:        Delta Northing: 0.003409USft
Delta Easting: -0.037167USft        Delta Elevation: 0.015611USft
 5033  Stakeout:               Occupy Point: 178
Foresight Point: 578                Angle Right: 211.5856            Zenith
Angle: 92.3702        Slope Distance: 196.32USft      Description: CHK174
 5034  Occupy Pt:              Occupy Point: 172
Northing: 1144830.997USft           Easting: 621990.458USft
Elevation: 238.886USft       Description: NS
 5035  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5036  Line of Sight (HI/HR):  Height of Instrument: 5.26USft
Height of Rod: 4.97USft
 5037  Backsight:              Occupy Point: 172
Backsight Point: 21                 Backsight Azimuth: 350.143373    Backsight
Circle: 0.0000
 5038  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 5039  Note:                   BS check 172 - 21:ZE90.0852,SD371.656,HD err=
0.053663, VD err= 0.034423
 5040  Note:                   BS Circle check : angular err= 0.0000
 5041  Note:                   BS check 172 - 21:ZE90.0851,SD371.652,HD err=
0.049667, VD err= 0.036235
 5042  Note:                   BS Circle check : angular err= 0.0000
 5043  Note:                   BS check 172 - 21:ZE90.0849,SD371.646,HD err=
0.043676, VD err= 0.039854
 5044  Note:                   BS Circle check : angular err= 0.0000
 5045  Note:                   Date: 04-17-2007  Time: 13:45:31
 5046  Side Shot:              Occupy Point: 172
Foresight Point: 579                Angle Right: 0.0001              Zenith
Angle: 90.0852        Slope Distance: 371.654USft     Description: CHK21
 5047  Side Shot:              Occupy Point: 172
Foresight Point: 580                Angle Right: 243.2256            Zenith
Angle: 86.4912        Slope Distance: 210.238USft     Description: ER-1103S
 5048  Note:                   Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
 5049  Occupy Pt:              Occupy Point: 183
Northing: 1144136.094USft           Easting: 621271.785USft
Elevation: 271.894USft       Description: NS
 5050  Note:                   HR:5.05 (5.05 + 0.0 Offset)
 5051  Line of Sight (HI/HR):  Height of Instrument: 5.25USft
Height of Rod: 5.05USft
 5052  Backsight:              Occupy Point: 183
Backsight Point: 180                Backsight Azimuth: 79.123942     Backsight
```

Circle: 0.0000
 5053 Note: Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 5054 Note: BS check 183 - 180:ZE89.0115,SD256.044,HD err=
0.025646, VD err= -0.023502
 5055 Note: BS Circle check : angular err= 0.0000
 5056 Note: BS check 183 - 180:ZE89.0115,SD256.046,HD err=
0.027645, VD err= -0.023468
 5057 Note: BS Circle check : angular err= 0.0000
 5058 Side Shot: Occupy Point: 183
Foresight Point: 581   Angle Right: 0.0000   Zenith
Angle: 89.0116   Slope Distance: 256.044USft   Description: CHK180
 5059 Repeat Directional: Backsight Direct
Set: 1   Angle: 0.0000
 5060 Repeat Directional: Backsight Reverse
Set: 1   Angle: 180.0007
 5061 Repeat Directional: Foresight Reverse
Set: 1   Angle: 88.1023
 5062 Repeat Directional: Zenith Reverse
Set: 1   Zenith: 270.2557
 5063 Multiple Distances: Set: 1
Slope Distance: 112.31USft
 5064 Repeat Foresight: Occupy Point: 183
Foresight Point: 582   Angle Right: 88.1023   Zenith
Angle: 270.2557   Slope Distance: 112.31USft   Height of Rod: 5.05USft
Description: NS
 5065 Repeat Directional: Foresight Direct
Set: 1   Angle: 268.1018
 5066 Repeat Directional: Zenith Direct
Set: 1   Zenith: 89.3400
 5067 Multiple Distances: Set: 1
Slope Distance: 112.298USft
 5068 Repeat Foresight: Occupy Point: 183
Foresight Point: 582   Angle Right: 268.1018   Zenith
Angle: 89.3400   Slope Distance: 112.298USft   Height of Rod: 5.05USft
Description: NS
 5069 Note: Horizontal Angle Error: 0.0002
 5070 Note: Zenith Angle Error: 0.0003
 5071 Note: Slope Distance Error: 0.012
 5072 Note: Horizontal Angle Error compares to the average:
0.0000
 5073 Note: Zenith Angle Error compares to the average:
0.0000
 5074 Note: Slope Distance Error compares to the average: 0.0
 5075 Side Shot: Occupy Point: 183
Foresight Point: 582   Angle Right: 268.1017   Zenith
Angle: 89.34015   Slope Distance: 112.304USft   Description: NS
 5076 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5077 Occupy Pt: Occupy Point: 582
Northing: 1144245.68267USft   Easting: 621247.253557USft
Elevation: 272.942541USft   Description: NS
 5078 Note: HR:4.97 (4.97 + 0.0 Offset)
 5079 Line of Sight (HI/HR):   Height of Instrument: 4.94USft
Height of Rod: 4.97USft
 5080 Backsight: Occupy Point: 582
Backsight Point: 183   Backsight Azimuth: 167.225642   Backsight
Circle: 0.0000
 5081 Note: Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 5082 Note: BS check 582 - 183:ZE90.3411,SD112.286,HD err= -
0.020345, VD err= -0.09796
 5083 Note: BS Circle check : angular err= 0.0000
 5084 Occupy Pt: Occupy Point: 582
Northing: 1144245.68267USft   Easting: 621247.253557USft
Elevation: 272.942541USft   Description: NS
 5085 Backsight: Occupy Point: 582

```
Backsight Point: 183                Backsight Azimuth: 167.225642     Backsight
Circle: 0.0000
 5086  Note:                    Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 5087  Note:                    BS check 582 - 183:ZE90.3416,SD112.308,HD err=
0.001627, VD err= -0.100901
 5088  Note:                    BS Circle check : angular err= 0.0000
 5089  Note:                    BS check 582 - 183:ZE90.3415,SD112.292,HD err= -
0.014367, VD err= -0.100197
 5090  Note:                    BS Circle check : angular err= 0.0000
 5091  Note:                    Date: 04-17-2007  Time: 14:24:38
 5092  Side Shot:               Occupy Point: 582
Foresight Point: 583                Angle Right: 0.0000               Zenith
Angle: 90.3418        Slope Distance: 112.296USft     Description: CHK183
 5093  Side Shot:               Occupy Point: 582
Foresight Point: 584                Angle Right: 136.0054             Zenith
Angle: 94.0759        Slope Distance: 121.688USft     Description: TP-B-1108
 5094  Side Shot:               Occupy Point: 582
Foresight Point: 585                Angle Right: 0.0000               Zenith
Angle: 90.3414        Slope Distance: 112.286USft     Description: CHK183
 5095  Note:                    Foresight Target:My Prism, HR:5.05 (5.05 + 0.0
Offset), Prism Const.:0.0mm
 5096  Occupy Pt:               Occupy Point: 183
Northing: 1144136.094USft           Easting: 621271.785USft
Elevation: 271.894USft       Description: NS
 5097  Note:                    HR:5.05 (5.05 + 0.0 Offset)
 5098  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 5.05USft
 5099  Backsight:               Occupy Point: 183
Backsight Point: 581                Backsight Azimuth: 79.123942      Backsight
Circle: 0.0000
 5100  Note:                    Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 5101  Note:                    BS check 183 - 581:ZE89.0141,SD256.038,HD err= -
0.005471, VD err= -0.011131
 5102  Note:                    BS Circle check : angular err= 0.0000
 5103  Note:                    BS check 183 - 581:ZE89.0139,SD256.036,HD err= -
0.007513, VD err= -0.008682
 5104  Note:                    BS Circle check : angular err= 0.0000
 5105  Side Shot:               Occupy Point: 183
Foresight Point: 586                Angle Right: 0.0000               Zenith
Angle: 89.0139        Slope Distance: 256.038USft     Description: CHK581
 5106  Occupy Pt:               Occupy Point: 183
Northing: 1144136.094USft           Easting: 621271.785USft
Elevation: 271.894USft       Description: NS
 5107  Backsight:               Occupy Point: 183
Backsight Point: 581                Backsight Azimuth: 79.123942      Backsight
Circle: 0.0000
 5108  Note:                    Fixed HR at Backsight:5.05 (5.05 + 0.0 Offset),
Prism Const.:0.0mm
 5109  Note:                    BS check 183 - 581:ZE89.0140,SD256.04,HD err= -
0.003492, VD err= -0.009856
 5110  Note:                    BS Circle check : angular err= 0.0000
 5111  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5112  Note:                    HR:4.97 (4.97 + 0.0 Offset)
 5113  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 4.97USft
 5114  Repeat Directional:      Backsight Direct
Set: 1                              Angle: 0.0000
 5115  Repeat Directional:      Backsight Reverse
Set: 1                              Angle: 180.0010
 5116  Repeat Directional:      Foresight Reverse
Set: 1                              Angle: 282.4922
 5117  Repeat Directional:      Zenith Reverse
Set: 1                              Zenith: 267.1855
 5118  Multiple Distances:      Set: 1
```

```
Slope Distance: 327.554USft
 5119  Repeat Foresight:       Occupy Point: 183
Foresight Point: 587                 Angle Right: 282.4922             Zenith
Angle: 267.1855       Slope Distance: 327.554USft     Height of Rod: 4.97USft
Description: NS
 5120  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 102.4913
 5121  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 92.4059
 5122  Multiple Distances:     Set: 1
Slope Distance: 327.562USft
 5123  Repeat Foresight:       Occupy Point: 183
Foresight Point: 587                 Angle Right: 102.4913             Zenith
Angle: 92.4059        Slope Distance: 327.562USft     Height of Rod: 4.97USft
Description: NS
 5124  Note:                   Horizontal Angle Error: 0.0001
 5125  Note:                   Zenith Angle Error: 0.0006
 5126  Note:                   Slope Distance Error: 0.008
 5127  Note:                   Horizontal Angle Error compares to the average:
0.0000
 5128  Note:                   Zenith Angle Error compares to the average:
0.0000
 5129  Note:                   Slope Distance Error compares to the average: 0.0
 5130  Side Shot:              Occupy Point: 183
Foresight Point: 587                 Angle Right: 102.49125            Zenith
Angle: 92.4102        Slope Distance: 327.558USft     Description: NS
 5131  Store Point:            Point Name: 580
Northing: 1144706.503421USft         Easting: 621821.445128USft
Elevation: 250.838528USft    Description: ER-1103N
 5132  Note:                   Foresight Target:My Prism, HR:5.37 (5.37 + 0.0
Offset), Prism Const.:0.0mm
 5133  Occupy Pt:              Occupy Point: 587
Northing: 1143809.100869USft         Easting: 621260.188509USft
Elevation: 256.85591USft     Description: NS
 5134  Note:                   HR:5.37 (5.37 + 0.0 Offset)
 5135  Line of Sight (HI/HR):  Height of Instrument: 5.23USft
Height of Rod: 5.37USft
 5136  Backsight:              Occupy Point: 587
Backsight Point: 183                 Backsight Azimuth: 2.015192       Backsight
Circle: 0.0000
 5137  Note:                   Fixed HR at Backsight:5.37 (5.37 + 0.0 Offset),
Prism Const.:0.0mm
 5138  Note:                   BS check 587 - 183:ZE87.2056,SD327.552,HD err=
0.002727, VD err= -0.027464
 5139  Note:                   BS Circle check : angular err= 0.0000
 5140  Note:                   BS check 587 - 183:ZE87.2104,SD327.546,HD err= -
0.002679, VD err= -0.040432
 5141  Note:                   BS Circle check : angular err= 0.0000
 5142  Side Shot:              Occupy Point: 587
Foresight Point: 588                 Angle Right: 0.0000               Zenith
Angle: 87.2104        Slope Distance: 327.554USft     Description: CHK183
 5143  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5144  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5145  Line of Sight (HI/HR):  Height of Instrument: 5.23USft
Height of Rod: 4.97USft
 5146  Side Shot:              Occupy Point: 587
Foresight Point: 589                 Angle Right: 272.0043             Zenith
Angle: 89.3556        Slope Distance: 173.67USft      Description: ER-1104W
 5147  Note:                   Date: 04-17-2007  Time: 14:50:30
 5148  Side Shot:              Occupy Point: 587
Foresight Point: 590                 Angle Right: 85.0534              Zenith
Angle: 90.0004        Slope Distance: 276.932USft     Description: ER-1104CL
 5149  Side Shot:              Occupy Point: 587
Foresight Point: 591                 Angle Right: 87.5815              Zenith
Angle: 89.4757        Slope Distance: 525.008USft     Description: ER-1103S
 5150  Side Shot:              Occupy Point: 587
```

Foresight Point: 592 Angle Right: 87.0259 Zenith
Angle: 89.5828 Slope Distance: 726.154USft Description: ER-1104E
5151 Side Shot: Occupy Point: 587
Foresight Point: 593 Angle Right: 113.4349 Zenith
Angle: 92.0000 Slope Distance: 472.878USft Description: TP-B-1125
5152 Note: Foresight Target:My Prism, HR:5.37 (5.37 + 0.0
Offset), Prism Const.:0.0mm
5153 Note: HR:5.37 (5.37 + 0.0 Offset)
5154 Line of Sight (HI/HR): Height of Instrument: 5.23USft
Height of Rod: 5.37USft
5155 Side Shot: Occupy Point: 587
Foresight Point: 594 Angle Right: 359.5959 Zenith
Angle: 87.2055 Slope Distance: 327.552USft Description: CHK183
5156 Note: Date: 04-17-2007 Time: 15:05:34
5157 Note: Foresight Target:My Prism, HR:5.07 (5.07 + 0.0
Offset), Prism Const.:0.0mm
5158 Occupy Pt: Occupy Point: 409
Northing: 1143681.686342USft Easting: 619899.804434USft
Elevation: 242.590997USft Description: NS
5159 Note: HR:5.07 (5.07 + 0.0 Offset)
5160 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 5.07USft
5161 Backsight: Occupy Point: 409
Backsight Point: 9143 Backsight Azimuth: 315.541713 Backsight
Circle: 0.0000
5162 Note: Fixed HR at Backsight:5.07 (5.07 + 0.0 Offset),
Prism Const.:0.0mm
5163 Note: BS check 409 - 9143:ZE89.1202,SD297.48,HD err= -
0.020206, VD err= -0.010611
5164 Note: BS Circle check : angular err= 0.0000
5165 Side Shot: Occupy Point: 409
Foresight Point: 595 Angle Right: 0.0000 Zenith
Angle: 89.1202 Slope Distance: 297.474USft Description: CHK9143
5166 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
5167 Note: HR:4.97 (4.97 + 0.0 Offset)
5168 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 4.97USft
5169 Off Center Shot: Angle Right: 144.3545
Zenith Angle: 90.1111 Slope Distance: 509.722USft
5170 Off Center Shot: Left/Right Offset: -3.0USft
Description: Left / Right Offset
5171 Side Shot: Occupy Point: 409
Foresight Point: 596 Angle Right: 144.153102 Zenith
Angle: 90.111099 Slope Distance: 509.730828USft Description: TP-B-1121
5172 Note: Foresight Target:My Prism, HR:5.07 (5.07 + 0.0
Offset), Prism Const.:0.0mm
5173 Note: HR:5.07 (5.07 + 0.0 Offset)
5174 Line of Sight (HI/HR): Height of Instrument: 5.21USft
Height of Rod: 5.07USft
5175 Side Shot: Occupy Point: 409
Foresight Point: 597 Angle Right: 0.0002 Zenith
Angle: 89.1150 Slope Distance: 297.482USft Description: CHK9143
5176 Occupy Pt: Occupy Point: 9147
Northing: 1143427.873958USft Easting: 619312.835435USft
Elevation: 233.516223USft Description: NS
5177 Note: HR:5.07 (5.07 + 0.0 Offset)
5178 Line of Sight (HI/HR): Height of Instrument: 5.14USft
Height of Rod: 5.07USft
5179 Backsight: Occupy Point: 9147
Backsight Point: 9143 Backsight Azimuth: 39.062263 Backsight
Circle: 0.0000
5180 Note: Fixed HR at Backsight:5.07 (5.07 + 0.0 Offset),
Prism Const.:0.0mm
5181 Note: BS check 9147 - 9143:ZE88.4414,SD602.58,HD err=
0.030011, VD err= -0.026405
5182 Note: BS Circle check : angular err= 0.0000

```
 5183  Note:                   BS check 9147 - 9143:ZE88.4413,SD602.578,HD err=
0.027947, VD err= -0.023528
 5184  Note:                   BS Circle check : angular err= 0.0000
 5185  Side Shot:              Occupy Point: 9147
Foresight Point: 598                Angle Right: 0.0000               Zenith
Angle: 88.4415        Slope Distance: 602.582USft     Description: CHK9143
 5186  Note:                   Date: 04-17-2007  Time: 16:10:00
 5187  Occupy Pt:              Occupy Point: 9147
Northing: 1143427.873958USft        Easting: 619312.835435USft
Elevation: 233.516223USft    Description: NS
 5188  Backsight:              Occupy Point: 9147
Backsight Point: 9143               Backsight Azimuth: 39.062263      Backsight
Circle: 0.0000
 5189  Note:                   Fixed HR at Backsight:5.07 (5.07 + 0.0 Offset),
Prism Const.:0.0mm
 5190  Note:                   BS check 9147 - 9143:ZE88.4424,SD602.562,HD err=
0.012658, VD err= -0.056008
 5191  Note:                   BS Circle check : angular err= 0.0000
 5192  Note:                   BS check 9147 - 9143:ZE88.4419,SD602.568,HD err=
0.018335, VD err= -0.041272
 5193  Note:                   BS Circle check : angular err= 0.0000
 5194  Note:                   BS check 9147 - 9143:ZE88.4411,SD602.576,HD err=
0.025819, VD err= -0.017731
 5195  Note:                   BS Circle check : angular err= 0.0000
 5196  Note:                   BS check 9147 - 9143:ZE88.4410,SD602.572,HD err=
0.021755, VD err= -0.014899
 5197  Note:                   BS Circle check : angular err= 0.0000
 5198  Note:                   Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
 5199  Note:                   HR:5.1 (5.1 + 0.0 Offset)
 5200  Line of Sight (HI/HR):  Height of Instrument: 5.14USft
Height of Rod: 5.1USft
 5201  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 5202  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0011
 5203  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 322.4135
 5204  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.3047
 5205  Multiple Distances:     Set: 1
Slope Distance: 464.152USft
 5206  Repeat Foresight:       Occupy Point: 9147
Foresight Point: 599                Angle Right: 322.4135             Zenith
Angle: 269.3047       Slope Distance: 464.152USft     Height of Rod: 5.1USft
Description: NS
 5207  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 142.4122
 5208  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 90.2907
 5209  Multiple Distances:     Set: 1
Slope Distance: 464.156USft
 5210  Repeat Foresight:       Occupy Point: 9147
Foresight Point: 599                Angle Right: 142.4122             Zenith
Angle: 90.2907        Slope Distance: 464.156USft     Height of Rod: 5.1USft
Description: NS
 5211  Note:                   Horizontal Angle Error: 0.0002
 5212  Note:                   Zenith Angle Error: 0.0006
 5213  Note:                   Slope Distance Error: 0.004
 5214  Note:                   Horizontal Angle Error compares to the average:
0.0000
 5215  Note:                   Zenith Angle Error compares to the average:
0.0000
 5216  Note:                   Slope Distance Error compares to the average: 0.0
 5217  Side Shot:              Occupy Point: 9147
Foresight Point: 599                Angle Right: 142.4123             Zenith
Angle: 90.2910        Slope Distance: 464.154USft     Description: NS
```

```
 5218  Note:                    Foresight Target:My Prism, HR:5.2 (5.2 + 0.0
Offset), Prism Const.:0.0mm
 5219  Occupy Pt:               Occupy Point: 599
Northing: 1142963.964672USft          Easting: 619298.288852USft
Elevation: 229.618277USft    Description: NS
 5220  Note:                    HR:5.2 (5.2 + 0.0 Offset)
 5221  Line of Sight (HI/HR):   Height of Instrument: 5.08USft
Height of Rod: 5.2USft
 5222  Backsight:               Occupy Point: 599
Backsight Point: 9147                 Backsight Azimuth: 1.474563       Backsight
Circle: 0.0000
 5223  Note:                    Fixed HR at Backsight:5.2 (5.2 + 0.0 Offset),
Prism Const.:0.0mm
 5224  Note:                    BS check 599 - 9147:ZE89.3026,SD464.174,HD err=
0.019538, VD err= -0.025823
 5225  Note:                    BS Circle check : angular err= 0.0000
 5226  Note:                    BS check 599 - 9147:ZE89.3027,SD464.174,HD err=
0.019557, VD err= -0.028073
 5227  Note:                    BS Circle check : angular err= 0.0000
 5228  Note:                    BS check 599 - 9147:ZE89.3026,SD464.176,HD err=
0.021538, VD err= -0.025806
 5229  Note:                    BS Circle check : angular err= 0.0000
 5230  Note:                    BS check 599 - 9147:ZE89.3025,SD464.17,HD err=
0.015519, VD err= -0.023607
 5231  Note:                    BS Circle check : angular err= 0.0000
 5232  Side Shot:               Occupy Point: 599
Foresight Point: 600                  Angle Right: 0.0000               Zenith
Angle: 89.3025        Slope Distance: 464.178USft     Description: CHK9147
 5233  Note:                    Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5234  Note:                    HR:4.97 (4.97 + 0.0 Offset)
 5235  Line of Sight (HI/HR):   Height of Instrument: 5.08USft
Height of Rod: 4.97USft
 5236  Side Shot:               Occupy Point: 599
Foresight Point: 601                  Angle Right: 140.1314             Zenith
Angle: 91.0743        Slope Distance: 418.688USft     Description: B-6020
 5237  Note:                    Date: 04-17-2007  Time: 16:31:40
 5238  Note:                    Foresight Target:My Prism, HR:5.06 (5.06 + 0.0
Offset), Prism Const.:0.0mm
 5239  Occupy Pt:               Occupy Point: 599
Northing: 1142963.964672USft          Easting: 619298.288852USft
Elevation: 229.618277USft    Description: NS
 5240  Note:                    HR:5.06 (5.06 + 0.0 Offset)
 5241  Line of Sight (HI/HR):   Height of Instrument: 5.08USft
Height of Rod: 5.06USft
 5242  Backsight:               Occupy Point: 599
Backsight Point: 9147                 Backsight Azimuth: 1.474563       Backsight
Circle: 0.0000
 5243  Note:                    Fixed HR at Backsight:5.2 (5.2 + 0.0 Offset),
Prism Const.:0.0mm
 5244  Note:                    BS check 599 - 9147:ZE89.3023,SD464.176,HD err=
0.02148, VD err= -0.019055
 5245  Note:                    BS Circle check : angular err= 0.0000
 5246  Repeat Directional:      Backsight Direct
Set: 1                                Angle: 0.0000
 5247  Repeat Directional:      Backsight Reverse
Set: 1                                Angle: 180.0009
 5248  Repeat Directional:      Foresight Reverse
Set: 1                                Angle: 354.1702
 5249  Repeat Directional:      Zenith Reverse
Set: 1                                Zenith: 268.2603
 5250  Multiple Distances:      Set: 1
Slope Distance: 471.55USft
 5251  Repeat Foresight:        Occupy Point: 599
Foresight Point: 602                  Angle Right: 354.1702             Zenith
Angle: 268.2603       Slope Distance: 471.55USft      Height of Rod: 5.06USft
Description: NS
```

```
 5252  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 174.1651
 5253  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 91.3346
 5254  Multiple Distances:     Set: 1
Slope Distance: 471.552USft
 5255  Repeat Foresight:       Occupy Point: 599
Foresight Point: 602                Angle Right: 174.1651             Zenith
Angle: 91.3346        Slope Distance: 471.552USft     Height of Rod: 5.06USft
Description: NS
 5256  Note:                   Horizontal Angle Error: 0.0002
 5257  Note:                   Zenith Angle Error: 0.0011
 5258  Note:                   Slope Distance Error: 0.002
 5259  Note:                   Horizontal Angle Error compares to the average:
0.0000
 5260  Note:                   Zenith Angle Error compares to the average:
0.0000
 5261  Note:                   Slope Distance Error compares to the average: 0.0
 5262  Side Shot:              Occupy Point: 599
Foresight Point: 602                Angle Right: 174.1652             Zenith
Angle: 91.33515       Slope Distance: 471.551USft     Description: NS
 5263  Note:                   Foresight Target:My Prism, HR:4.89 (4.89 + 0.0
Offset), Prism Const.:0.0mm
 5264  Occupy Pt:              Occupy Point: 602
Northing: 1142493.693826USft        Easting: 619330.537381USft
Elevation: 216.765458USft    Description: NS
 5265  Note:                   HR:4.89 (4.89 + 0.0 Offset)
 5266  Line of Sight (HI/HR):  Height of Instrument: 4.92USft
Height of Rod: 4.89USft
 5267  Backsight:              Occupy Point: 602
Backsight Point: 599                Backsight Azimuth: 356.043763     Backsight
Circle: 0.0000
 5268  Note:                   Fixed HR at Backsight:4.89 (4.89 + 0.0 Offset),
Prism Const.:0.0mm
 5269  Note:                   BS check 602 - 599:ZE88.2705,SD471.542,HD err= -
0.005488, VD err= -0.079363
 5270  Note:                   BS Circle check : angular err= 0.0000
 5271  Occupy Pt:              Occupy Point: 602
Northing: 1142493.693826USft        Easting: 619330.537381USft
Elevation: 216.765458USft    Description: NS
 5272  Note:                   HR:4.89 (4.89 + 0.0 Offset)
 5273  Line of Sight (HI/HR):  Height of Instrument: 4.97USft
Height of Rod: 4.89USft
 5274  Backsight:              Occupy Point: 602
Backsight Point: 599                Backsight Azimuth: 356.043763     Backsight
Circle: 0.0000
 5275  Note:                   Fixed HR at Backsight:4.89 (4.89 + 0.0 Offset),
Prism Const.:0.0mm
 5276  Note:                   BS check 602 - 599:ZE88.2703,SD471.544,HD err= -
0.003613, VD err= -0.024738
 5277  Note:                   BS Circle check : angular err= 0.0000
 5278  Note:                   BS check 602 - 599:ZE88.2703,SD471.544,HD err= -
0.003613, VD err= -0.024738
 5279  Note:                   BS Circle check : angular err= 0.0000
 5280  Side Shot:              Occupy Point: 602
Foresight Point: 603                Angle Right: 0.0000               Zenith
Angle: 88.2703        Slope Distance: 471.546USft     Description: CHK599
 5281  Note:                   Date: 04-17-2007  Time: 16:53:20
 5282  Occupy Pt:              Occupy Point: 602
Northing: 1142493.693826USft        Easting: 619330.537381USft
Elevation: 216.765458USft    Description: NS
 5283  Backsight:              Occupy Point: 602
Backsight Point: 599                Backsight Azimuth: 356.043763     Backsight
Circle: 0.0000
 5284  Note:                   Fixed HR at Backsight:4.89 (4.89 + 0.0 Offset),
Prism Const.:0.0mm
 5285  Note:                   BS check 602 - 599:ZE88.2704,SD471.538,HD err= -
```

```
0.009549, VD err= -0.027186
 5286  Note:                    BS Circle check : angular err= 0.0000
 5287  Note:                    BS check 602 - 599:ZE88.2704,SD471.544,HD err= -
0.003551, VD err= -0.027023
 5288  Note:                    BS Circle check : angular err= 0.0000
 5289  Note:                    Foresight Target:My Prism, HR:5.29 (5.29 + 0.0
Offset), Prism Const.:0.0mm
 5290  Note:                    HR:5.29 (5.29 + 0.0 Offset)
 5291  Line of Sight (HI/HR):  Height of Instrument: 4.97USft
Height of Rod: 5.29USft
 5292  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 5293  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0010
 5294  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 5.1116
 5295  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.3721
 5296  Multiple Distances:     Set: 1
Slope Distance: 320.614USft
 5297  Repeat Foresight:       Occupy Point: 602
Foresight Point: 604                Angle Right: 5.1116               Zenith
Angle: 269.3721       Slope Distance: 320.614USft     Height of Rod: 5.29USft
Description: NS
 5298  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 185.1107
 5299  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 90.2236
 5300  Multiple Distances:     Set: 1
Slope Distance: 320.622USft
 5301  Repeat Foresight:       Occupy Point: 602
Foresight Point: 604                Angle Right: 185.1107             Zenith
Angle: 90.2236        Slope Distance: 320.622USft     Height of Rod: 5.29USft
Description: NS
 5302  Note:                    Horizontal Angle Error: 0.0001
 5303  Note:                    Zenith Angle Error: 0.0003
 5304  Note:                    Slope Distance Error: 0.008
 5305  Note:                    Horizontal Angle Error compares to the average:
0.0000
 5306  Note:                    Zenith Angle Error compares to the average:
0.0000
 5307  Note:                    Slope Distance Error compares to the average: 0.0
 5308  Side Shot:               Occupy Point: 602
Foresight Point: 604                Angle Right: 185.11065            Zenith
Angle: 90.22375       Slope Distance: 320.618USft     Description: NS
 5309  Note:                    Date: 04-17-2007  Time: 17:14:32
 5310  Note:                    Foresight Target:My Prism, HR:5.0 (5.0 + 0.0
Offset), Prism Const.:0.0mm
 5311  Occupy Pt:               Occupy Point: 604
Northing: 1142173.16057USft         Easting: 619323.474712USft
Elevation: 214.335375USft    Description: NS
 5312  Note:                    HR:5.0 (5.0 + 0.0 Offset)
 5313  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.0USft
 5314  Backsight:               Occupy Point: 604
Backsight Point: 602                Backsight Azimuth: 1.154413       Backsight
Circle: 0.0000
 5315  Note:                    Fixed HR at Backsight:5.0 (5.0 + 0.0 Offset),
Prism Const.:0.0mm
 5316  Note:                    BS check 604 - 602:ZE89.3535,SD320.636,HD err=
0.016856, VD err= 0.007222
 5317  Note:                    BS Circle check : angular err= 0.0000
 5318  Note:                    BS check 604 - 602:ZE89.3532,SD320.634,HD err=
0.014823, VD err= 0.011871
 5319  Note:                    BS Circle check : angular err= 0.0000
 5320  Note:                    BS check 604 - 602:ZE89.3533,SD320.636,HD err=
0.016834, VD err= 0.010331
```

```
 5321  Note:                   BS Circle check : angular err= 0.0000
 5322  Side Shot:              Occupy Point: 604
Foresight Point: 605                 Angle Right: 0.0000              Zenith
Angle: 89.3533        Slope Distance: 320.638USft     Description: CHK602
 5323  Occupy Pt:              Occupy Point: 604
Northing: 1142173.16057USft          Easting: 619323.474712USft
Elevation: 214.335375USft    Description: NS
 5324  Backsight:              Occupy Point: 604
Backsight Point: 602                 Backsight Azimuth: 1.154413       Backsight
Circle: 0.0000
 5325  Note:                   Fixed HR at Backsight:5.0 (5.0 + 0.0 Offset),
Prism Const.:0.0mm
 5326  Note:                   BS check 604 - 602:ZE89.3539,SD320.628,HD err=
0.008901, VD err= 0.000947
 5327  Note:                   BS Circle check : angular err= 0.0000
 5328  Note:                   RD,BD 1:0.0000
 5329  Note:                   RD,BV 1:180.0000
 5330  Note:                   RD,FV 1:180.0000
 5331  Note:                   RD,ZV 1:
 5332  Note:                   MD,SD 1:
 5333  Note:                   RF,OP604,FP,AR180.0000,ZE,SD,HR5.0,--
 5334  Note:                   RD,FD 1:0.0000
 5335  Note:                   RD,ZD 1:
 5336  Note:                   MD,SD 1:
 5337  Note:                   RF,OP604,FP,AR0.0000,ZE,SD,HR5.0,--
 5338  Note:                   Horizontal Angle Error: 0.0000
 5339  Note:                   Zenith Angle Error: 0.0000
 5340  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 5341  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0009
 5342  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 345.5401
 5343  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 270.1836
 5344  Multiple Distances:     Set: 1
Slope Distance: 689.05USft
 5345  Repeat Foresight:       Occupy Point: 604
Foresight Point: 606                 Angle Right: 345.5401            Zenith
Angle: 270.1836       Slope Distance: 689.05USft      Height of Rod: 5.0USft
Description: NS
 5346  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 165.5354
 5347  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 89.4124
 5348  Multiple Distances:     Set: 1
Slope Distance: 689.046USft
 5349  Repeat Foresight:       Occupy Point: 604
Foresight Point: 606                 Angle Right: 165.5354            Zenith
Angle: 89.4124        Slope Distance: 689.046USft     Height of Rod: 5.0USft
Description: NS
 5350  Note:                   Horizontal Angle Error: 0.0002
 5351  Note:                   Zenith Angle Error: 0.0000
 5352  Note:                   Slope Distance Error: 0.004
 5353  Note:                   Horizontal Angle Error compares to the average:
0.0000
 5354  Note:                   Zenith Angle Error compares to the average:
0.0000
 5355  Note:                   Slope Distance Error compares to the average: 0.0
 5356  Side Shot:              Occupy Point: 604
Foresight Point: 606                 Angle Right: 165.5353            Zenith
Angle: 89.4124        Slope Distance: 689.048USft     Description: NS
 5357  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5358  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5359  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 4.97USft
```

```
 5360  Side Shot:              Occupy Point: 604
Foresight Point: 607                 Angle Right: 272.0021             Zenith
Angle: 91.1339        Slope Distance: 220.476USft     Description: B-6021
 5361  Note:                   Foresight Target:My Prism, HR:5.0 (5.0 + 0.0
Offset), Prism Const.:0.0mm
 5362  Note:                   HR:5.0 (5.0 + 0.0 Offset)
 5363  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.0USft
 5364  Side Shot:              Occupy Point: 604
Foresight Point: 608                 Angle Right: 359.5958             Zenith
Angle: 89.3533        Slope Distance: 320.636USft     Description: CHK602
 5365  Note:                   Date: 04-17-2007  Time: 17:34:21
 5366  Note:                   Date: 04-17-2007  Time: 17:49:24
 5367  Note:                   Foresight Target:My Prism, HR:5.29 (5.29 + 0.0
Offset), Prism Const.:0.0mm
 5368  Occupy Pt:              Occupy Point: 304
Northing: 1141699.058473USft         Easting: 620338.090901USft
Elevation: 219.962187USft    Description: NS
 5369  Note:                   HR:5.29 (5.29 + 0.0 Offset)
 5370  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 5.29USft
 5371  Backsight:              Occupy Point: 304
Backsight Point: 234                 Backsight Azimuth: 80.291421      Backsight
Circle: 0.0000
 5372  Note:                   Fixed HR at Backsight:5.29 (5.29 + 0.0 Offset),
Prism Const.:0.0mm
 5373  Note:                   BS check 304 - 234:ZE89.4156,SD351.376,HD err=
0.011465, VD err= -0.015176
 5374  Note:                   BS Circle check : angular err= 0.0000
 5375  Note:                   BS check 304 - 234:ZE89.4159,SD351.378,HD err=
0.013492, VD err= -0.020276
 5376  Note:                   BS Circle check : angular err= 0.0000
 5377  Note:                   BS check 304 - 234:ZE89.4158,SD351.376,HD err=
0.011483, VD err= -0.018583
 5378  Note:                   BS Circle check : angular err= 0.0000
 5379  Note:                   BS check 304 - 234:ZE89.4150,SD351.38,HD err=
0.015411, VD err= -0.004934
 5380  Note:                   BS Circle check : angular err= 0.0000
 5381  Side Shot:              Occupy Point: 304
Foresight Point: 609                 Angle Right: 0.0000               Zenith
Angle: 89.4150        Slope Distance: 351.378USft     Description: CHK234
 5382  Note:                   Foresight Target:My Prism, HR:5.34 (5.34 + 0.0
Offset), Prism Const.:0.0mm
 5383  Note:                   HR:5.34 (5.34 + 0.0 Offset)
 5384  Line of Sight (HI/HR):  Height of Instrument: 5.27USft
Height of Rod: 5.34USft
 5385  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 5386  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0002
 5387  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 141.0119
 5388  Repeat Directional:     Zenith Reverse
Set: 1                               Zenith: 269.5723
 5389  Multiple Distances:     Set: 1
Slope Distance: 470.97USft
 5390  Repeat Foresight:       Occupy Point: 304
Foresight Point: 610                 Angle Right: 141.0119             Zenith
Angle: 269.5723       Slope Distance: 470.97USft      Height of Rod: 5.34USft
Description: NS
 5391  Repeat Directional:     Foresight Direct
Set: 1                               Angle: 321.0117
 5392  Repeat Directional:     Zenith Direct
Set: 1                               Zenith: 90.0239
 5393  Multiple Distances:     Set: 1
Slope Distance: 470.97USft
 5394  Repeat Foresight:       Occupy Point: 304
```

Foresight Point: 610 Angle Right: 321.0117 Zenith
Angle: 90.0239 Slope Distance: 470.97USft Height of Rod: 5.34USft
Description: NS
5395 Note: Horizontal Angle Error: 0.0000
5396 Note: Zenith Angle Error: 0.0002
5397 Note: Slope Distance Error: 0.0
5398 Note: Horizontal Angle Error compares to the average:
0.0000
5399 Note: Zenith Angle Error compares to the average:
0.0000
5400 Note: Slope Distance Error compares to the average: 0.0
5401 Side Shot: Occupy Point: 304
Foresight Point: 610 Angle Right: 321.0117 Zenith
Angle: 90.0238 Slope Distance: 470.97USft Description: NS
5402 Note: Date: 04-18-2007 Time: 09:09:28
5403 Note: Foresight Target:My Prism, HR:5.39 (5.39 + 0.0
Offset), Prism Const.:0.0mm
5404 Note: HR:5.39 (5.39 + 0.0 Offset)
5405 Line of Sight (HI/HR): Height of Instrument: 5.27USft
Height of Rod: 5.39USft
5406 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
5407 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0002
5408 Repeat Directional: Foresight Reverse
Set: 1 Angle: 345.2913
5409 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 269.3709
5410 Multiple Distances: Set: 1
Slope Distance: 486.004USft
5411 Repeat Foresight: Occupy Point: 304
Foresight Point: 611 Angle Right: 345.2913 Zenith
Angle: 269.3709 Slope Distance: 486.004USft Height of Rod: 5.39USft
Description: NS
5412 Repeat Directional: Foresight Direct
Set: 1 Angle: 165.2909
5413 Repeat Directional: Zenith Direct
Set: 1 Zenith: 90.2250
5414 Multiple Distances: Set: 1
Slope Distance: 486.004USft
5415 Repeat Foresight: Occupy Point: 304
Foresight Point: 611 Angle Right: 165.2909 Zenith
Angle: 90.2250 Slope Distance: 486.004USft Height of Rod: 5.39USft
Description: NS
5416 Note: Horizontal Angle Error: 0.0002
5417 Note: Zenith Angle Error: 0.0001
5418 Note: Slope Distance Error: 0.0
5419 Note: Horizontal Angle Error compares to the average:
0.0000
5420 Note: Zenith Angle Error compares to the average:
0.0000
5421 Note: Slope Distance Error compares to the average: 0.0
5422 Side Shot: Occupy Point: 304
Foresight Point: 611 Angle Right: 165.2910 Zenith
Angle: 90.22505 Slope Distance: 486.004USft Description: NS
5423 Note: Foresight Target:My Prism, HR:5.38 (5.38 + 0.0
Offset), Prism Const.:0.0mm
5424 Occupy Pt: Occupy Point: 610
Northing: 1142051.746816USft Easting: 620650.218348USft
Elevation: 219.531421USft Description: NS
5425 Note: HR:5.38 (5.38 + 0.0 Offset)
5426 Line of Sight (HI/HR): Height of Instrument: 5.11USft
Height of Rod: 5.38USft
5427 Backsight: Occupy Point: 610
Backsight Point: 304 Backsight Azimuth: 221.303121 Backsight
Circle: 0.0000
5428 Note: Fixed HR at Backsight:5.38 (5.38 + 0.0 Offset),

```
Prism Const.:0.0mm
 5429  Note:                   BS check 610 - 304:ZE89.5458,SD470.97,HD err= -
0.000367, VD err= -0.011201
 5430  Note:                   BS Circle check : angular err= 0.0000
 5431  Occupy Pt:              Occupy Point: 610
Northing: 1142051.746816USft         Easting: 620650.218348USft
Elevation: 219.531421USft    Description: NS
 5432  Backsight:              Occupy Point: 610
Backsight Point: 304                 Backsight Azimuth: 221.303121     Backsight
Circle: 0.0000
 5433  Note:                   Fixed HR at Backsight:5.38 (5.38 + 0.0 Offset),
Prism Const.:0.0mm
 5434  Note:                   BS check 610 - 304:ZE89.5458,SD470.97,HD err= -
0.000367, VD err= -0.011201
 5435  Note:                   BS Circle check : angular err= 0.0000
 5436  Side Shot:              Occupy Point: 610
Foresight Point: 612                 Angle Right: 0.0000               Zenith
Angle: 89.5458        Slope Distance: 470.972USft     Description: CHK304
 5437  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5438  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5439  Line of Sight (HI/HR):  Height of Instrument: 5.11USft
Height of Rod: 4.97USft
 5440  Side Shot:              Occupy Point: 610
Foresight Point: 613                 Angle Right: 64.1947              Zenith
Angle: 90.1840        Slope Distance: 633.964USft     Description: B-6022
 5441  Store Point:            Point Name: 614
Northing: 1142034.030899USft         Easting: 621961.186406USft
Elevation: 218.870523USft    Description: CHK9
 5442  Cut Sheet:              Elevation: 218.870523USft
Design Grade: 218.933
 5443  Design Point/Location:  Point Name: 9
Northing: 1142033.9818USft           Easting: 621961.2139USft
Elevation: 218.933USft       Description: PKNS
 5444  Stakeout Deltas:        Delta Northing: -0.049099USft
Delta Easting: 0.027494USft          Delta Elevation: 0.062477USft
 5445  Stakeout:               Occupy Point: 610
Foresight Point: 614                 Angle Right: 229.1556             Zenith
Angle: 90.0206        Slope Distance: 1311.088USft    Description: CHK9
 5446  Note:                   Date: 04-18-2007  Time: 09:37:31
 5447  Note:                   Foresight Target:My Prism, HR:5.38 (5.38 + 0.0
Offset), Prism Const.:0.0mm
 5448  Occupy Pt:              Occupy Point: 611
Northing: 1141501.181045USft         Easting: 619894.205799USft
Elevation: 216.61302USft     Description: NS
 5449  Note:                   HR:5.38 (5.38 + 0.0 Offset)
 5450  Line of Sight (HI/HR):  Height of Instrument: 5.23USft
Height of Rod: 5.38USft
 5451  Backsight:              Occupy Point: 611
Backsight Point: 304                 Backsight Azimuth: 65.582421      Backsight
Circle: 0.0000
 5452  Note:                   Fixed HR at Backsight:5.38 (5.38 + 0.0 Offset),
Prism Const.:0.0mm
 5453  Note:                   BS check 611 - 304:ZE89.3518,SD486.012,HD err=
0.006183, VD err= -0.007231
 5454  Note:                   BS Circle check : angular err= 0.0000
 5455  Side Shot:              Occupy Point: 611
Foresight Point: 615                 Angle Right: 0.0000               Zenith
Angle: 89.3518        Slope Distance: 486.012USft     Description: CHK304
 5456  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5457  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5458  Line of Sight (HI/HR):  Height of Instrument: 5.23USft
Height of Rod: 4.97USft
 5459  Side Shot:              Occupy Point: 611
Foresight Point: 616                 Angle Right: 113.4023             Zenith
Angle: 90.0503        Slope Distance: 963.46USft      Description: B-6026
```

```
 5460  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 5461  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 180.0003
 5462  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 23.2723
 5463  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 269.5440
 5464  Multiple Distances:     Set: 1
Slope Distance: 320.566USft
 5465  Repeat Foresight:       Occupy Point: 611
Foresight Point: 617                Angle Right: 23.2723              Zenith
Angle: 269.5440       Slope Distance: 320.566USft     Height of Rod: 4.97USft
Description: NS
 5466  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 203.2723
 5467  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 90.0528
 5468  Multiple Distances:     Set: 1
Slope Distance: 320.552USft
 5469  Repeat Foresight:       Occupy Point: 611
Foresight Point: 617                Angle Right: 203.2723             Zenith
Angle: 90.0528        Slope Distance: 320.552USft     Height of Rod: 4.97USft
Description: NS
 5470  Note:                   Horizontal Angle Error: 0.0003
 5471  Note:                   Zenith Angle Error: 0.0008
 5472  Note:                   Slope Distance Error: 0.014
 5473  Note:                   Horizontal Angle Error compares to the average:
0.0000
 5474  Note:                   Zenith Angle Error compares to the average:
0.0000
 5475  Note:                   Slope Distance Error compares to the average: 0.0
 5476  Side Shot:              Occupy Point: 611
Foresight Point: 617                Angle Right: 203.27215            Zenith
Angle: 90.0524        Slope Distance: 320.559USft     Description: NS
 5477  Occupy Pt:              Occupy Point: 203
Northing: 1145494.512061USft        Easting: 626284.058583USft
Elevation: 94.586207USft     Description: NS
 5478  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5479  Line of Sight (HI/HR):  Height of Instrument: 4.97USft
Height of Rod: 4.97USft
 5480  Backsight:              Occupy Point: 203
Backsight Point: 200                Backsight Azimuth: 276.104562     Backsight
Circle: 0.0000
 5481  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 5482  Note:                   BS check 203 - 200:ZE88.5657,SD847.986,HD err=
0.007157, VD err= -0.067055
 5483  Note:                   BS Circle check : angular err= 0.0000
 5484  Note:                   BS check 203 - 200:ZE88.5655,SD847.994,HD err=
0.015005, VD err= -0.058688
 5485  Note:                   BS Circle check : angular err= 0.0000
 5486  Note:                   BS check 203 - 200:ZE88.5703,SD847.986,HD err=
0.007609, VD err= -0.091718
 5487  Note:                   BS Circle check : angular err= 0.0000
 5488  Occupy Pt:              Occupy Point: 203
Northing: 1145494.512061USft        Easting: 626284.058583USft
Elevation: 94.586207USft     Description: NS
 5489  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5490  Line of Sight (HI/HR):  Height of Instrument: 4.98USft
Height of Rod: 4.97USft
 5491  Backsight:              Occupy Point: 203
Backsight Point: 200                Backsight Azimuth: 276.104562     Backsight
Circle: 0.0000
 5492  Note:                   Fixed HR at Backsight:4.97 (4.97 + 0.0 Offset),
Prism Const.:0.0mm
 5493  Note:                   BS check 203 - 200:ZE88.5700,SD847.99,HD err=
```

0.011382, VD err= -0.069313
 5494 Note: BS Circle check : angular err= 0.0000
 5495 Note: BS check 203 - 200:ZE88.5650,SD847.996,HD err=
0.016627, VD err= -0.028098
 5496 Note: BS Circle check : angular err= 0.0004
 5497 Side Shot: Occupy Point: 203
Foresight Point: 618   Angle Right: 0.0000   Zenith
Angle: 88.5650   Slope Distance: 847.992USft   Description: CHK200
 5498 Side Shot: Occupy Point: 203
Foresight Point: 619   Angle Right: 21.3705   Zenith
Angle: 89.4449   Slope Distance: 250.568USft   Description: B-6028
 5499 Side Shot: Occupy Point: 203
Foresight Point: 620   Angle Right: 57.4847   Zenith
Angle: 89.3742   Slope Distance: 316.936USft   Description: B-6027
 5500 Note: Date: 04-18-2007 Time: 10:10:49
 5501 Store Point: Point Name: 621
Northing: 1145585.775297USft   Easting: 625441.135262USft
Elevation: 110.143823USft   Description: CHK200
 5502 Cut Sheet: Elevation: 110.143823USft
Design Grade: 110.204879
 5503 Design Point/Location: Point Name: 200
Northing: 1145585.773873USft   Easting: 625441.148416USft
Elevation: 110.204879USft   Description: NS
 5504 Stakeout Deltas: Delta Northing: -0.001424USft
Delta Easting: 0.013154USft   Delta Elevation: 0.061056USft
 5505 Stakeout: Occupy Point: 203
Foresight Point: 621   Angle Right: 0.0000   Zenith
Angle: 88.5658   Slope Distance: 847.992USft   Description: CHK200
 5506 Note: Foresight Target:My Prism, HR:5.36 (5.36 + 0.0
Offset), Prism Const.:0.0mm
 5507 Occupy Pt: Occupy Point: 606
Northing: 1141501.351592USft   Easting: 619476.595397USft
Elevation: 218.223465USft   Description: NS
 5508 Note: HR:5.36 (5.36 + 0.0 Offset)
 5509 Line of Sight (HI/HR): Height of Instrument: 4.79USft
Height of Rod: 5.36USft
 5510 Backsight: Occupy Point: 606
Backsight Point: 604   Backsight Azimuth: 347.093713   Backsight
Circle: 0.0000
 5511 Note: Fixed HR at Backsight:5.36 (5.36 + 0.0 Offset),
Prism Const.:0.0mm
 5512 Note: BS check 606 - 604:ZE90.1632,SD689.02,HD err= -
0.025883, VD err= 0.004364
 5513 Note: BS Circle check : angular err= 0.0000
 5514 Note: BS check 606 - 604:ZE90.1633,SD689.016,HD err= -
0.029899, VD err= 0.001042
 5515 Note: BS Circle check : angular err= 0.0000
 5516 Note: BS check 606 - 604:ZE90.1632,SD689.018,HD err= -
0.027883, VD err= 0.004373
 5517 Note: BS Circle check : angular err= 0.0000
 5518 Side Shot: Occupy Point: 606
Foresight Point: 622   Angle Right: 0.0000   Zenith
Angle: 90.1632   Slope Distance: 689.02USft   Description: CHK604
 5519 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5520 Note: HR:4.97 (4.97 + 0.0 Offset)
 5521 Line of Sight (HI/HR): Height of Instrument: 4.79USft
Height of Rod: 4.97USft
 5522 Store Point: Point Name: 623
Northing: 1141498.305722USft   Easting: 619573.335359USft
Elevation: 216.277985USft   Description: CHK617
 5523 Cut Sheet: Elevation: 216.277985USft
Design Grade: 216.369487
 5524 Design Point/Location: Point Name: 617
Northing: 1141497.988507USft   Easting: 619573.663092USft
Elevation: 216.369487USft   Description: NS
 5525 Stakeout Deltas: Delta Northing: -0.317215USft

Delta Easting: 0.327733USft Delta Elevation: 0.091502USft
5526 Stakeout: Occupy Point: 606
Foresight Point: 623 Angle Right: 104.3835 Zenith
Angle: 91.0242 Slope Distance: 96.804USft Description: CHK617
5527 Note: Date: 04-18-2007 Time: 10:44:29
5528 Note: Foresight Target:My Prism, HR:5.47 (5.47 + 0.0
Offset), Prism Const.:0.0mm
5529 Note: HR:5.47 (5.47 + 0.0 Offset)
5530 Line of Sight (HI/HR): Height of Instrument: 4.79USft
Height of Rod: 5.47USft
5531 Repeat Directional: Backsight Direct
Set: 1 Angle: 0.0000
5532 Repeat Directional: Backsight Reverse
Set: 1 Angle: 180.0000
5533 Repeat Directional: Foresight Reverse
Set: 1 Angle: 12.2216
5534 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 269.5645
5535 Multiple Distances: Set: 1
Slope Distance: 730.29USft
5536 Repeat Foresight: Occupy Point: 606
Foresight Point: 624 Angle Right: 12.2216 Zenith
Angle: 269.5645 Slope Distance: 730.29USft Height of Rod: 5.47USft
Description: NS
5537 Repeat Directional: Foresight Direct
Set: 1 Angle: 192.2212
5538 Repeat Directional: Zenith Direct
Set: 1 Zenith: 90.0314
5539 Multiple Distances: Set: 1
Slope Distance: 730.294USft
5540 Repeat Foresight: Occupy Point: 606
Foresight Point: 624 Angle Right: 192.2212 Zenith
Angle: 90.0314 Slope Distance: 730.294USft Height of Rod: 5.47USft
Description: NS
5541 Note: Horizontal Angle Error: 0.0004
5542 Note: Zenith Angle Error: 0.0001
5543 Note: Slope Distance Error: 0.004
5544 Note: Horizontal Angle Error compares to the average:
0.0000
5545 Note: Zenith Angle Error compares to the average:
0.0000
5546 Note: Slope Distance Error compares to the average: 0.0
5547 Side Shot: Occupy Point: 606
Foresight Point: 624 Angle Right: 192.2214 Zenith
Angle: 90.03145 Slope Distance: 730.292USft Description: NS
5548 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
5549 Note: HR:4.97 (4.97 + 0.0 Offset)
5550 Line of Sight (HI/HR): Height of Instrument: 4.79USft
Height of Rod: 4.97USft
5551 Note: RD,BD 1:0.0000
5552 Note: RD,BV 1:180.0000
5553 Note: RD,FV 1:180.0000
5554 Note: RD,ZV 1:
5555 Note: MD,SD 1:
5556 Note: RF,OP606,FP,AR180.0000,ZE,SD,HR4.97,--
5557 Note: RD,FD 1:0.0000
5558 Note: RD,ZD 1:
5559 Note: MD,SD 1:
5560 Note: RF,OP606,FP,AR0.0000,ZE,SD,HR4.97,--
5561 Note: Horizontal Angle Error: 0.0000
5562 Note: Zenith Angle Error: 0.0000
5563 Occupy Pt: Occupy Point: 606
Northing: 1141501.351592USft Easting: 619476.595397USft
Elevation: 218.223465USft Description: NS
5564 Backsight: Occupy Point: 606
Backsight Point: 604 Backsight Azimuth: 347.093713 Backsight

Circle: 0.0000
 5565 Note: Fixed HR at Backsight:5.36 (5.36 + 0.0 Offset),
Prism Const.:0.0mm
 5566 Note: BS check 606 - 604:ZE90.1639,SD689.016,HD err= -
0.029996, VD err= -0.019
 5567 Note: BS Circle check : angular err= 0.0000
 5568 Note: BS check 606 - 604:ZE90.1638,SD689.022,HD err= -
0.02398, VD err= -0.015689
 5569 Note: BS Circle check : angular err= 0.0000
 5570 Side Shot: Occupy Point: 606
Foresight Point: 625   Angle Right: 0.0000   Zenith
Angle: 90.2409   Slope Distance: 90.988USft   Description: NS
 5571 Occupy Pt: Occupy Point: 606
Northing: 1141501.351592USft   Easting: 619476.595397USft
Elevation: 218.223465USft   Description: NS
 5572 Backsight: Occupy Point: 606
Backsight Point: 604   Backsight Azimuth: 347.093713   Backsight
Circle: 0.0000
 5573 Note: Fixed HR at Backsight:5.36 (5.36 + 0.0 Offset),
Prism Const.:0.0mm
 5574 Note: BS check 606 - 604:ZE90.1636,SD689.018,HD err= -
0.027947, VD err= -0.008989
 5575 Note: BS Circle check : angular err= 0.0000
 5576 Note: Foresight Target:My Prism, HR:5.36 (5.36 + 0.0
Offset), Prism Const.:0.0mm
 5577 Occupy Pt: Occupy Point: 606
Northing: 1141501.351592USft   Easting: 619476.595397USft
Elevation: 218.223465USft   Description: NS
 5578 Note: HR:5.36 (5.36 + 0.0 Offset)
 5579 Line of Sight (HI/HR): Height of Instrument: 4.79USft
Height of Rod: 5.36USft
 5580 Backsight: Occupy Point: 606
Backsight Point: 604   Backsight Azimuth: 347.093713   Backsight
Circle: 0.0000
 5581 Note: Fixed HR at Backsight:5.36 (5.36 + 0.0 Offset),
Prism Const.:0.0mm
 5582 Note: BS check 606 - 604:ZE90.1636,SD689.02,HD err= -
0.025947, VD err= -0.008998
 5583 Note: BS Circle check : angular err= 0.0000
 5584 Side Shot: Occupy Point: 606
Foresight Point: 626   Angle Right: 0.0000   Zenith
Angle: 90.1636   Slope Distance: 689.016USft   Description: CHK604
 5585 Occupy Pt: Occupy Point: 625
Northing: 1141590.062308USft   Easting: 619456.376189USft
Elevation: 217.404284USft   Description: NS
 5586 Note: HR:5.36 (5.36 + 0.0 Offset)
 5587 Line of Sight (HI/HR): Height of Instrument: 5.05USft
Height of Rod: 5.36USft
 5588 Backsight: Occupy Point: 625
Backsight Point: 604   Backsight Azimuth: 347.093713   Backsight
Circle: 0.0000
 5589 Note: Fixed HR at Backsight:5.36 (5.36 + 0.0 Offset),
Prism Const.:0.0mm
 5590 Note: BS check 625 - 604:ZE90.1551,SD598.05,HD err= -
0.008516, VD err= 0.001563
 5591 Note: BS Circle check : angular err= 0.0000
 5592 Side Shot: Occupy Point: 625
Foresight Point: 627   Angle Right: 0.0000   Zenith
Angle: 90.1552   Slope Distance: 598.052USft   Description: CHK604
 5593 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5594 Note: HR:4.97 (4.97 + 0.0 Offset)
 5595 Line of Sight (HI/HR): Height of Instrument: 5.05USft
Height of Rod: 4.97USft
 5596 Side Shot: Occupy Point: 625
Foresight Point: 628   Angle Right: 275.1645   Zenith
Angle: 92.5950   Slope Distance: 281.328USft   Description: B-6023

```
 5597  Note:                   Date: 04-18-2007  Time: 11:15:35
 5598  Note:                   Foresight Target:My Prism, HR:5.36 (5.36 + 0.0
Offset), Prism Const.:0.0mm
 5599  Occupy Pt:              Occupy Point: 625
Northing: 1141590.062308USft         Easting: 619456.376189USft
Elevation: 217.404284USft    Description: NS
 5600  Note:                   HR:5.36 (5.36 + 0.0 Offset)
 5601  Line of Sight (HI/HR):  Height of Instrument: 5.05USft
Height of Rod: 5.36USft
 5602  Backsight:              Occupy Point: 625
Backsight Point: 604                 Backsight Azimuth: 347.093713     Backsight
Circle: 0.0000
 5603  Note:                   Fixed HR at Backsight:5.36 (5.36 + 0.0 Offset),
Prism Const.:0.0mm
 5604  Note:                   BS check 625 - 604:ZE90.1544,SD598.052,HD err= -
0.006423, VD err= 0.02185
 5605  Note:                   BS Circle check : angular err= 0.0000
 5606  Note:                   BS check 625 - 604:ZE90.1552,SD598.052,HD err= -
0.00653, VD err= -0.001346
 5607  Note:                   BS Circle check : angular err= 0.0000
 5608  Side Shot:              Occupy Point: 625
Foresight Point: 629                 Angle Right: 0.0000               Zenith
Angle: 90.1551        Slope Distance: 598.05USft      Description: CHK604
 5609  Note:                   Foresight Target:My Prism, HR:5.23 (5.23 + 0.0
Offset), Prism Const.:0.0mm
 5610  Occupy Pt:              Occupy Point: 624
Northing: 1140771.084396USft         Easting: 619482.57487USft
Elevation: 216.854827USft    Description: NS
 5611  Note:                   HR:5.23 (5.23 + 0.0 Offset)
 5612  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.23USft
 5613  Backsight:              Occupy Point: 624
Backsight Point: 606                 Backsight Azimuth: 359.315113     Backsight
Circle: 0.0000
 5614  Note:                   Fixed HR at Backsight:5.23 (5.23 + 0.0 Offset),
Prism Const.:0.0mm
 5615  Note:                   BS check 624 - 606:ZE89.5335,SD730.294,HD err=
0.001053, VD err= -0.075521
 5616  Note:                   BS Circle check : angular err= 0.0000
 5617  Occupy Pt:              Occupy Point: 624
Northing: 1140771.084396USft         Easting: 619482.57487USft
Elevation: 216.854827USft    Description: NS
 5618  Backsight:              Occupy Point: 624
Backsight Point: 606                 Backsight Azimuth: 359.315113     Backsight
Circle: 0.0000
 5619  Note:                   Fixed HR at Backsight:5.23 (5.23 + 0.0 Offset),
Prism Const.:0.0mm
 5620  Note:                   BS check 624 - 606:ZE89.5335,SD730.292,HD err= -
0.000947, VD err= -0.075525
 5621  Note:                   BS Circle check : angular err= 0.0000
 5622  Note:                   BS check 624 - 606:ZE89.5330,SD730.296,HD err=
0.003019, VD err= -0.057815
 5623  Note:                   BS Circle check : angular err= 0.0000
 5624  Note:                   BS check 624 - 606:ZE89.5324,SD730.302,HD err=
0.008979, VD err= -0.03656
 5625  Note:                   BS Circle check : angular err= 0.0000
 5626  Side Shot:              Occupy Point: 624
Foresight Point: 630                 Angle Right: 0.0000               Zenith
Angle: 89.5325        Slope Distance: 730.298USft     Description: CHK606
 5627  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5628  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5629  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 4.97USft
 5630  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 5631  Repeat Directional:     Backsight Reverse
```

Set: 1 Angle: 179.5959
5632 Repeat Directional: Foresight Reverse
Set: 1 Angle: 48.5755
5633 Repeat Directional: Zenith Reverse
Set: 1 Zenith: 265.1133
5634 Multiple Distances: Set: 1
Slope Distance: 264.238USft
5635 Repeat Foresight: Occupy Point: 624
Foresight Point: 631 Angle Right: 48.5755 Zenith
Angle: 265.1133 Slope Distance: 264.238USft Height of Rod: 4.97USft
Description: NS
5636 Repeat Directional: Foresight Direct
Set: 1 Angle: 228.5755
5637 Repeat Directional: Zenith Direct
Set: 1 Zenith: 94.4824
5638 Multiple Distances: Set: 1
Slope Distance: 264.25USft
5639 Repeat Foresight: Occupy Point: 624
Foresight Point: 631 Angle Right: 228.5755 Zenith
Angle: 94.4824 Slope Distance: 264.25USft Height of Rod: 4.97USft
Description: NS
5640 Note: Horizontal Angle Error: 0.0001
5641 Note: Zenith Angle Error: 0.0003
5642 Note: Slope Distance Error: 0.012
5643 Note: Horizontal Angle Error compares to the average:
0.0000
5644 Note: Zenith Angle Error compares to the average:
0.0000
5645 Note: Slope Distance Error compares to the average: 0.0
5646 Side Shot: Occupy Point: 624
Foresight Point: 631 Angle Right: 228.57555 Zenith
Angle: 94.48255 Slope Distance: 264.244USft Description: NS
5647 Note: Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
5648 Occupy Pt: Occupy Point: 631
Northing: 1140596.59413USft Easting: 619285.375262USft
Elevation: 194.900906USft Description: NS
5649 Note: HR:5.1 (5.1 + 0.0 Offset)
5650 Line of Sight (HI/HR): Height of Instrument: 5.2USft
Height of Rod: 5.1USft
5651 Backsight: Occupy Point: 631
Backsight Point: 624 Backsight Azimuth: 48.294663 Backsight
Circle: 0.0000
5652 Note: Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
5653 Note: BS check 631 - 624:ZE85.1527,SD264.21,HD err= -
0.00909, VD err= -0.009631
5654 Note: BS Circle check : angular err= 0.0000
5655 Side Shot: Occupy Point: 631
Foresight Point: 632 Angle Right: 0.0000 Zenith
Angle: 85.1527 Slope Distance: 264.208USft Description: CHK624
5656 Note: Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
5657 Note: HR:4.97 (4.97 + 0.0 Offset)
5658 Line of Sight (HI/HR): Height of Instrument: 5.2USft
Height of Rod: 4.97USft
5659 Side Shot: Occupy Point: 631
Foresight Point: 633 Angle Right: 182.1931 Zenith
Angle: 100.1829 Slope Distance: 125.402USft Description: B-6025
5660 Note: Foresight Target:My Prism, HR:5.1 (5.1 + 0.0
Offset), Prism Const.:0.0mm
5661 Occupy Pt: Occupy Point: 631
Northing: 1140596.59413USft Easting: 619285.375262USft
Elevation: 194.900906USft Description: NS
5662 Note: HR:5.1 (5.1 + 0.0 Offset)
5663 Line of Sight (HI/HR): Height of Instrument: 5.2USft
Height of Rod: 5.1USft

```
 5664  Backsight:              Occupy Point: 631
Backsight Point: 624                Backsight Azimuth: 48.294663      Backsight
Circle: 0.0000
 5665  Note:                   Fixed HR at Backsight:5.1 (5.1 + 0.0 Offset),
Prism Const.:0.0mm
 5666  Note:                   BS check 631 - 624:ZE85.1528,SD264.21,HD err= -
0.008985, VD err= -0.010908
 5667  Note:                   BS Circle check : angular err= 0.0000
 5668  Side Shot:              Occupy Point: 631
Foresight Point: 634                Angle Right: 0.0000               Zenith
Angle: 85.1527        Slope Distance: 264.21USft      Description: CHK624
 5669  Note:                   Foresight Target:My Prism, HR:5.55 (5.55 + 0.0
Offset), Prism Const.:0.0mm
 5670  Occupy Pt:              Occupy Point: 9179
Northing: 1142844.238719USft        Easting: 618387.621502USft
Elevation: 209.232944USft    Description: NS
 5671  Note:                   HR:5.55 (5.55 + 0.0 Offset)
 5672  Line of Sight (HI/HR):  Height of Instrument: 4.87USft
Height of Rod: 5.55USft
 5673  Backsight:              Occupy Point: 9179
Backsight Point: 9181               Backsight Azimuth: 277.432413     Backsight
Circle: 0.0000
 5674  Note:                   Fixed HR at Backsight:5.55 (5.55 + 0.0 Offset),
Prism Const.:0.0mm
 5675  Note:                   BS check 9179 - 9181:ZE86.2029,SD425.24,HD err= -
0.001051, VD err= -0.032868
 5676  Note:                   BS Circle check : angular err= 0.0000
 5677  Note:                   BS check 9179 - 9181:ZE86.2029,SD425.244,HD err=
0.00294, VD err= -0.032613
 5678  Note:                   BS Circle check : angular err= 0.0000
 5679  Note:                   Date: 04-18-2007  Time: 12:53:40
 5680  Note:                   BS check 9179 - 9181:ZE86.2026,SD425.242,HD err=
0.00055, VD err= -0.026568
 5681  Note:                   BS Circle check : angular err= 0.0000
 5682  Side Shot:              Occupy Point: 9179
Foresight Point: 635                Angle Right: 0.0000               Zenith
Angle: 86.2025        Slope Distance: 425.242USft     Description: CHK9181
 5683  Note:                   Foresight Target:My Prism, HR:5.37 (5.37 + 0.0
Offset), Prism Const.:0.0mm
 5684  Note:                   HR:5.37 (5.37 + 0.0 Offset)
 5685  Line of Sight (HI/HR):  Height of Instrument: 4.87USft
Height of Rod: 5.37USft
 5686  Repeat Directional:     Backsight Direct
Set: 1                              Angle: 0.0000
 5687  Repeat Directional:     Backsight Reverse
Set: 1                              Angle: 179.5958
 5688  Repeat Directional:     Foresight Reverse
Set: 1                              Angle: 45.2839
 5689  Repeat Directional:     Zenith Reverse
Set: 1                              Zenith: 270.0642
 5690  Multiple Distances:     Set: 1
Slope Distance: 375.422USft
 5691  Repeat Foresight:       Occupy Point: 9179
Foresight Point: 636                Angle Right: 45.2839              Zenith
Angle: 270.0642       Slope Distance: 375.422USft     Height of Rod: 5.37USft
Description: NS
 5692  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 225.2830
 5693  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 89.5319
 5694  Multiple Distances:     Set: 1
Slope Distance: 375.424USft
 5695  Repeat Foresight:       Occupy Point: 9179
Foresight Point: 636                Angle Right: 225.2830             Zenith
Angle: 89.5319        Slope Distance: 375.424USft     Height of Rod: 5.37USft
Description: NS
 5696  Note:                   Horizontal Angle Error: 0.0011
```

```
 5697  Note:                   Zenith Angle Error: 0.0001
 5698  Note:                   Slope Distance Error: 0.002
 5699  Note:                   Horizontal Angle Error compares to the average:
0.0000
 5700  Note:                   Zenith Angle Error compares to the average:
0.0000
 5701  Note:                   Slope Distance Error compares to the average: 0.0
 5702  Side Shot:              Occupy Point: 9179
Foresight Point: 636                 Angle Right: 225.28355            Zenith
Angle: 89.53185       Slope Distance: 375.423USft     Description: NS
 5703  Note:                   Foresight Target:My Prism, HR:5.66 (5.66 + 0.0
Offset), Prism Const.:0.0mm
 5704  Occupy Pt:              Occupy Point: 636
Northing: 1142543.626719USft         Easting: 618612.508853USft
Elevation: 209.463715USft    Description: NS
 5705  Note:                   HR:5.66 (5.66 + 0.0 Offset)
 5706  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 5.66USft
 5707  Backsight:              Occupy Point: 636
Backsight Point: 9179                Backsight Azimuth: 323.115963     Backsight
Circle: 0.0000
 5708  Note:                   Fixed HR at Backsight:5.66 (5.66 + 0.0 Offset),
Prism Const.:0.0mm
 5709  Note:                   BS check 636 - 9179:ZE89.5854,SD375.432,HD err=
0.009692, VD err= -0.0291
 5710  Note:                   BS Circle check : angular err= 0.0000
 5711  Note:                   BS check 636 - 9179:ZE89.5852,SD375.432,HD err=
0.009691, VD err= -0.02546
 5712  Note:                   BS Circle check : angular err= 0.0000
 5713  Occupy Pt:              Occupy Point: 636
Northing: 1142543.626719USft         Easting: 618612.508853USft
Elevation: 209.463715USft    Description: NS
 5714  Backsight:              Occupy Point: 636
Backsight Point: 9179                Backsight Azimuth: 323.115963     Backsight
Circle: 0.0000
 5715  Note:                   Fixed HR at Backsight:5.66 (5.66 + 0.0 Offset),
Prism Const.:0.0mm
 5716  Note:                   BS check 636 - 9179:ZE89.5852,SD375.422,HD err= -
0.000309, VD err= -0.025463
 5717  Note:                   BS Circle check : angular err= 0.0000
 5718  Occupy Pt:              Occupy Point: 636
Northing: 1142543.626719USft         Easting: 618612.508853USft
Elevation: 209.463715USft    Description: NS
 5719  Backsight:              Occupy Point: 636
Backsight Point: 9179                Backsight Azimuth: 323.115963     Backsight
Circle: 0.0000
 5720  Note:                   Fixed HR at Backsight:5.66 (5.66 + 0.0 Offset),
Prism Const.:0.0mm
 5721  Note:                   BS check 636 - 9179:ZE89.5851,SD375.426,HD err=
0.00369, VD err= -0.023641
 5722  Note:                   BS Circle check : angular err= 0.0000
 5723  Side Shot:              Occupy Point: 636
Foresight Point: 637                 Angle Right: 0.0000               Zenith
Angle: 89.5853        Slope Distance: 375.422USft     Description: CHK9179
 5724  Note:                   Date: 04-18-2007  Time: 13:21:16
 5725  Note:                   Foresight Target:My Prism, HR:5.25 (5.25 + 0.0
Offset), Prism Const.:0.0mm
 5726  Note:                   HR:5.25 (5.25 + 0.0 Offset)
 5727  Line of Sight (HI/HR):  Height of Instrument: 5.28USft
Height of Rod: 5.25USft
 5728  Repeat Directional:     Backsight Direct
Set: 1                               Angle: 0.0000
 5729  Repeat Directional:     Backsight Reverse
Set: 1                               Angle: 180.0001
 5730  Repeat Directional:     Foresight Reverse
Set: 1                               Angle: 31.0138
 5731  Repeat Directional:     Zenith Reverse
```

```
Set: 1                              Zenith: 262.2242
 5732  Multiple Distances:     Set: 1
Slope Distance: 237.962USft
 5733  Repeat Foresight:       Occupy Point: 636
Foresight Point: 638                Angle Right: 31.0138              Zenith
Angle: 262.2242       Slope Distance: 237.962USft     Height of Rod: 5.25USft
Description: NS
 5734  Repeat Directional:     Foresight Direct
Set: 1                              Angle: 211.0136
 5735  Repeat Directional:     Zenith Direct
Set: 1                              Zenith: 97.3728
 5736  Multiple Distances:     Set: 1
Slope Distance: 237.958USft
 5737  Repeat Foresight:       Occupy Point: 636
Foresight Point: 638                Angle Right: 211.0136             Zenith
Angle: 97.3728        Slope Distance: 237.958USft     Height of Rod: 5.25USft
Description: NS
 5738  Note:                   Horizontal Angle Error: 0.0001
 5739  Note:                   Zenith Angle Error: 0.0010
 5740  Note:                   Slope Distance Error: 0.004
 5741  Note:                   Horizontal Angle Error compares to the average:
0.0000
 5742  Note:                   Zenith Angle Error compares to the average:
0.0000
 5743  Note:                   Slope Distance Error compares to the average: 0.0
 5744  Side Shot:              Occupy Point: 636
Foresight Point: 638                Angle Right: 211.01365            Zenith
Angle: 97.3723        Slope Distance: 237.96USft      Description: NS
 5745  Note:                   Foresight Target:My Prism, HR:5.39 (5.39 + 0.0
Offset), Prism Const.:0.0mm
 5746  Occupy Pt:              Occupy Point: 638
Northing: 1142308.96609USft         Easting: 618636.234325USft
Elevation: 177.927074USft    Description: NS
 5747  Note:                   HR:5.39 (5.39 + 0.0 Offset)
 5748  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.39USft
 5749  Backsight:              Occupy Point: 638
Backsight Point: 636                Backsight Azimuth: 354.133613     Backsight
Circle: 0.0000
 5750  Note:                   Fixed HR at Backsight:5.39 (5.39 + 0.0 Offset),
Prism Const.:0.0mm
 5751  Note:                   BS check 638 - 636:ZE82.1952,SD237.99,HD err=
0.004405, VD err= -0.007335
 5752  Note:                   BS Circle check : angular err= 0.0000
 5753  Side Shot:              Occupy Point: 638
Foresight Point: 639                Angle Right: 0.0000               Zenith
Angle: 82.1952        Slope Distance: 237.988USft     Description: CHK636
 5754  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5755  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5756  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 4.97USft
 5757  Side Shot:              Occupy Point: 638
Foresight Point: 640                Angle Right: 244.3817             Zenith
Angle: 92.2252        Slope Distance: 341.142USft     Description: B-6019
 5758  Note:                   Foresight Target:My Prism, HR:5.39 (5.39 + 0.0
Offset), Prism Const.:0.0mm
 5759  Occupy Pt:              Occupy Point: 638
Northing: 1142308.96609USft         Easting: 618636.234325USft
Elevation: 177.927074USft    Description: NS
 5760  Note:                   HR:5.39 (5.39 + 0.0 Offset)
 5761  Line of Sight (HI/HR):  Height of Instrument: 5.16USft
Height of Rod: 5.39USft
 5762  Backsight:              Occupy Point: 638
Backsight Point: 636                Backsight Azimuth: 354.133613     Backsight
Circle: 0.0000
 5763  Note:                   Fixed HR at Backsight:5.39 (5.39 + 0.0 Offset),
```

```
Prism Const.:0.0mm
 5764  Note:                   BS check 638 - 636:ZE82.1950,SD237.99,HD err=
0.004097, VD err= -0.005048
 5765  Note:                   BS Circle check : angular err= 0.0001
 5766  Side Shot:              Occupy Point: 638
Foresight Point: 641                Angle Right: 0.0000               Zenith
Angle: 82.1948        Slope Distance: 237.99USft      Description: CHK636
 5767  Store Point:            Point Name: 75
Northing: 1147931.1824USft          Easting: 624175.1245USft
Elevation: 84.891USft        Description: #4RS
 5768  Store Point:            Point Name: 77
Northing: 1148223.3539USft          Easting: 623838.75USft
Elevation: 86.233USft        Description: #4RS
 5769  Note:                   Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
 5770  Occupy Pt:              Occupy Point: 75
Northing: 1147931.1824USft          Easting: 624175.1245USft
Elevation: 84.891USft        Description: #4RS
 5771  Note:                   HR:5.17 (5.17 + 0.0 Offset)
 5772  Line of Sight (HI/HR):  Height of Instrument: 4.95USft
Height of Rod: 5.17USft
 5773  Backsight:              Occupy Point: 75
Backsight Point: 77                 Backsight Azimuth: 310.583811     Backsight
Circle: 0.0000
 5774  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 5775  Note:                   BS check 75 - 77:ZE89.4752,SD445.544,HD err= -
0.005618, VD err= 0.010519
 5776  Note:                   BS Circle check : angular err= 0.0000
 5777  Side Shot:              Occupy Point: 75
Foresight Point: 642                Angle Right: 0.0000               Zenith
Angle: 89.4752        Slope Distance: 445.546USft     Description: CHK77
 5778  Note:                   Date: 04-18-2007  Time: 15:18:26
 5779  Note:                   Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5780  Note:                   HR:4.97 (4.97 + 0.0 Offset)
 5781  Line of Sight (HI/HR):  Height of Instrument: 4.95USft
Height of Rod: 4.97USft
 5782  Off Center Shot:        Angle Right: 221.2022
Zenith Angle: 89.2517               Slope Distance: 346.354USft
 5783  Off Center Shot:        Left/Right Offset: -1.2USft
Description: Left / Right Offset
 5784  Side Shot:              Occupy Point: 75
Foresight Point: 643                Angle Right: 221.082733           Zenith
Angle: 89.251701      Slope Distance: 346.356079USft  Description: B-6030
 5785  Off Center Shot:        Angle Right: 281.1031
Zenith Angle: 89.5300               Slope Distance: 262.492USft
 5786  Off Center Shot:        Left/Right Offset: 2.0USft
Description: Left / Right Offset
 5787  Side Shot:              Occupy Point: 75
Foresight Point: 644                Angle Right: 281.364256           Zenith
Angle: 89.530001      Slope Distance: 262.499619USft  Description: B-6029
 5788  Occupy Pt:              Occupy Point: 75
Northing: 1147931.1824USft          Easting: 624175.1245USft
Elevation: 84.891USft        Description: #4RS
 5789  Backsight:              Occupy Point: 75
Backsight Point: 77                 Backsight Azimuth: 310.583811     Backsight
Circle: 0.0000
 5790  Note:                   Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 5791  Note:                   BS check 75 - 77:ZE89.4752,SD445.548,HD err= -
0.001618, VD err= 0.010533
 5792  Note:                   BS Circle check : angular err= 0.0000
 5793  Note:                   Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
 5794  Occupy Pt:              Occupy Point: 75
Northing: 1147931.1824USft          Easting: 624175.1245USft
```

```
Elevation: 84.891USft        Description: #4RS
 5795  Note:                  HR:5.17 (5.17 + 0.0 Offset)
 5796  Line of Sight (HI/HR):  Height of Instrument: 4.95USft
Height of Rod: 5.17USft
 5797  Backsight:             Occupy Point: 75
Backsight Point: 77                Backsight Azimuth: 310.583811     Backsight
Circle: 0.0000
 5798  Note:                  Fixed HR at Backsight:5.17 (5.17 + 0.0 Offset),
Prism Const.:0.0mm
 5799  Note:                  BS check 75 - 77:ZE89.4751,SD445.548,HD err= -
0.001626, VD err= 0.012693
 5800  Note:                  BS Circle check : angular err= 0.0000
 5801  Side Shot:             Occupy Point: 75
Foresight Point: 645               Angle Right: 0.0000               Zenith
Angle: 89.4751        Slope Distance: 445.55USft      Description: CHK77
 5802  Note:                  Data Collector Serial Number: FS29A13023
 5803  Note:                  Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 5804  Note:                  Foresight Target:My Prism, HR:5.17 (5.17 + 0.0
Offset), Prism Const.:0.0mm
 5805  Note:                  Date: 04-18-2007  Time: 17:11:39
 5806  Note:                  Data Collector Serial Number: FS29A13023
 5807  Note:                  Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 5808  Note:                  Survey Pro Version: 4.2.1
 5809  Note:                  Data Collector Serial Number: FS29A13023
 5810  Note:                  Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
 5811  Note:                  Foresight Target:My Prism, HR:4.97 (4.97 + 0.0
Offset), Prism Const.:0.0mm
 5812  Note:                  Date: 05-14-2007  Time: 10:05:39
 5813  Note:                  Date: 05-14-2007  Time: 15:32:27
 5814  Note:                  Survey Pro Version: 4.2.1
 5815  Note:                  Data Collector Serial Number: FS29A13023
 5816  Note:                  Activating Total Station: Nikon TOP GUN [Nikon],
COM1, 4800 baud, no parity
```

QUALITY ASSURANCE REPORTS

Borehole Location and Staking Comparison by Coordinate Comparison

Last Revised 05-15-07

AS-BUILT COORDINATES					STAKED COORDINATES		
Point #	Northing	Easting	Elevation	Description	Description	North	East
192	1144168.36	620002.76	257.89	B-1105	B-1105	1144169.50	620005.80
189	1144153.75	620916.11	266.66	B-1107	B-1107	1144153.20	620912.50
186	1144214.07	621273.00	273.56	B-1108	B-1108	1144213.10	621274.80
182	1144180.46	621580.64	276.48	B-1109	B-1109	1144170.50	621634.10
176	1144170.91	622011.31	265.14	B-1110	B-1110	1144170.50	622050.70
327	1144212.59	622333.79	224.90	B-1111	B-1111	1144213.10	622333.00
326	1144223.37	622691.31	213.74	B-1112	B-1112	1144213.10	622574.00
325	1144219.36	622561.49	227.14	B-1112A	B-1112A	1144213.10	622574.00
367	1143901.44	620217.17	249.99	B-1113	B-1113	1143893.09	619858.06
187	1143894.12	621264.65	261.82	B-1116	B-1116	1143893.10	621274.80
443	1143890.75	621628.43	263.89	B-1117	B-1117	1143893.10	621627.50
177	1143885.92	622007.97	257.91	B-1118	B-1118	1143893.10	622050.70
168	1143888.30	622333.77	223.57	B-1119	B-1119	1143893.10	622333.00
324	1143893.05	622558.49	227.18	B-1120	B-1120	1143893.10	622574.00
446	1143575.57	620216.27	241.33	B-1121	B-1121	1143573.10	620216.70
342	1143575.43	620921.98	241.27	B-1123	B-1123	1143573.10	620922.10
345	1143627.62	621421.59	241.21	B-1124	B-1124	1143650.20	621422.30
348	1143586.80	621628.20	240.97	B-1125	B-1125	1143573.10	621627.50
116	1143567.68	621980.43	219.88	B-1126	B-1126	1143573.10	621980.30
166	1143573.26	622332.29	219.67	B-1127	B-1127	1143573.10	622333.00
329	1143572.65	622682.42	218.26	B-1128	B-1128	1143573.10	622635.69
330	1143573.71	622685.46	217.92	B-1128A	B-1128A	1143573.10	622635.69
117	1143278.22	621893.74	221.84	B-1129	B-1129	1143283.00	621891.00
319	1142482.76	622250.00	217.46	B-1130	B-1130	1142485.00	622280.00
292	1143172.99	621823.06	222.18	B-1131	B-1131	1143174.00	621823.50
263	1142614.19	621450.08	218.73	B-1132	B-1132	1142639.00	621452.00
262	1142968.94	621451.15	221.20	B-1133	B-1133	1142969.00	621452.00
333	1143282.88	621104.27	222.04	B-1134	B-1134	1143283.00	621104.00
332	1143178.11	621023.00	221.65	B-1136	B-1136	1143174.00	621023.00
488	1143469.69	619192.80	215.82	B-1138	B-1138	1143469.50	619191.89
249	1142289.86	621026.81	216.68	B-1139	B-1139	1142290.00	621023.50
137	1142290.16	621823.56	216.58	B-1140	B-1140	1142290.00	621823.50
369	1144416.58	620649.58	224.69	B-1142	B-1142	1144422.40	620831.00
163	1145428.36	622272.08	240.04	B-1146	B-1146	1145428.20	622272.00
210	1145537.78	623236.50	218.94	B-1148	B-1148	1145539.30	623238.50
196	1145467.29	624235.30	170.69	B-1150	B-1150	1145467.50	624235.00
199	1145581.68	625227.34	117.05	B-1152	B-1152	1145577.60	625227.20
202	1145568.97	625673.46	103.58	B-1153	B-1153	1145570.40	625727.10
206	1145664.20	626216.06	95.08	B-1154	B-1154	1145678.70	626215.20
58	1147390.34	624936.42	84.95	B-1155	B-1155	1147397.38	624948.45
64	1147302.50	624571.69	85.70	B-1156	B-1156	1147322.90	624521.23
55	1147209.56	625062.18	86.77	B-1157	B-1157	1147219.64	625075.77
205	1145194.92	626669.12	88.74	B-1158	B-1158	1145231.34	626689.50
62	1147285.78	624954.51	88.70	B-1159	B-1159	1147283.63	624943.36
63	1147363.37	624862.14	86.10	B-1161	B-1161	1147361.34	624854.27
57	1147234.91	624815.03	85.55	B-1162	B-1162	1147228.35	624798.04
56	1147170.58	624938.82	85.95	B-1163	B-1163	1147168.53	624936.34
112	1147039.33	624487.08	199.58	B-1164	B-1164	1147039.33	624487.08

Point #	Northing	Easting	Elevation	Description	Description	North	East
453	1147452.97	623961.56	203.40	B-1166	B-1166	1147457.80	623999.10
452	1147688.45	623467.78	202.20	B-1168	B-1168	1147701.00	623461.30
485	1147423.85	622953.71	223.29	B-1170	B-1170	1147423.70	622944.90
482	1146983.44	622538.70	249.49	B-1172	B-1172	1146981.70	622539.10
475	1146476.06	622228.06	225.81	B-1174	B-1174	1146576.52	622249.13
161	1145876.27	622195.21	221.48	B-1176	B-1176	1145876.50	622195.50
162	1145878.82	622196.80	221.51	B-1176A	B-1176A	1145876.50	622195.50
114	1144716.64	622232.17	226.78	B-1185	B-1185	1144712.61	622235.93
422	1144711.88	618818.88	277.51	B-1186	B-1186	1144711.23	618821.49
425	1144710.19	619259.61	277.68	B-1187	B-1187	1144711.23	619257.47
421	1144459.72	618997.50	279.98	B-1189	B-1189	1144461.65	619000.00
412	1144301.60	619490.75	260.30	B-1191	B-1191	1144302.74	619486.81
449	1144217.44	618840.90	243.17	B-1192	B-1192	1144215.60	618833.80
357	1144091.49	619277.79	254.11	B-1193	B-1193	1144089.10	619279.90
389	1147504.69	621630.15	199.35	B-1194	B-1194	1147505.20	621631.60
385	1147574.84	622478.35	220.60	B-1195	B-1195	1147574.40	622481.30
388	1147286.63	622017.51	217.52	B-1196	B-1196	1147286.60	622013.90
390	1146874.74	622003.82	245.60	B-1197	B-1197	1146872.90	622002.10
125	1142599.50	621799.64	218.40	B-3001	B-3001(DH)	1142600.00	621800.00
126	1142599.97	621872.49	218.89	B-3002	B-3002(DH)	1142600.00	621872.50
536	1142597.90	621878.80	218.83	B-3002A	B-3002A	TBD	TBD
124	1142599.85	621727.30	218.29	B-3003	B-3003(DH)	1142600.00	621727.50
300	1142447.42	621867.12	218.51	B-3004	B-3004	1142460.00	621849.00
284	1142717.58	621749.10	219.20	B-3005	B-3005	1142718.00	621750.00
122	1142425.58	621924.99	217.59	B-3006	B-3006	1142718.00	621876.50
156	1142718.50	621876.74	220.78	B-3007	B-3007	1142425.50	621925.00
135	1142425.35	621773.01	217.86	B-3008	B-3008	1142425.50	621773.00
123	1142484.48	621956.58	217.85	B-3009	B-3009	1142484.00	621957.00
297	1142634.86	622024.97	219.69	B-3010	B-3010	1142645.50	622025.00
154	1142776.68	622024.86	220.57	B-3011	B-3011	1142773.00	622025.00
119	1142772.53	621911.91	220.40	B-3012	B-3012	1142773.00	621912.00
286	1142842.89	621825.35	220.51	B-3013	B-3013(C)	1142843.00	621823.50
285	1142799.43	621748.55	220.26	B-3014	B-3014	1142831.00	621750.00
288	1142956.89	621823.95	221.78	B-3015	B-3015	1142957.00	621823.50
118	1142978.42	621913.43	222.48	B-3016	B-3016	1142996.50	621912.00
290	1143034.35	621749.86	222.10	B-3017	B-3017	1143035.00	621750.00
296	1142738.11	622115.75	219.80	B-3018	B-3018	1142738.00	622116.00
295	1142977.36	622167.48	222.42	B-3019	B-3019	1142975.50	622171.00
294	1142977.94	622074.78	222.44	B-3020	B-3020	1142975.50	622079.00
293	1143070.22	622033.23	223.19	B-3021	B-3021	1143069.00	622031.00
120	1143069.84	621873.43	223.86	B-3022	B-3022	1143069.00	621874.00
291	1143061.11	621679.90	222.81	B-3023	B-3023	1143062.00	621680.00
261	1142905.82	621399.65	220.16	B-3024	B-3024	1142904.57	621400.00
264	1142460.42	621425.34	218.21	B-3025	B-3025	1142460.00	621425.00
265	1142290.23	621403.73	215.76	B-3026	B-3026	1142290.00	621400.00
233	1142058.69	621423.26	218.80	B-3027	B-3027	1142148.00	621425.00
232	1141867.30	621408.76	220.12	B-3028	B-3028	1142000.00	621400.00
230	1141881.50	621803.88	220.13	B-3029	B-3029	1141874.00	621800.00
228	1141699.94	621799.67	221.99	B-3030	B-3030	1141675.00	621800.00
322	1141398.73	622042.01	222.70	B-3031	B-3031	1141400.00	622075.00
221	1141158.18	621709.53	220.05	B-3032	B-3032	1141125.00	621800.00
223	1141405.26	621715.21	222.26	B-3033	B-3033	1141400.00	621525.00

Point #	Northing	Easting	Elevation	Description	Description	North	East
225	1141399.76	621914.68	224.67	B-3034	B-3034	1141400.00	621800.00
283	1142729.18	621675.37	219.34	B-3035	B-3035	1142728.70	621676.00
136	1142441.55	621675.96	217.87	B-3036	B-3036	1142441.70	621676.00
289	1143057.42	621768.87	222.94	B-3037	B-3037	1143058.10	621769.50
231	1141882.97	621543.15	220.76	B-3038	B-3038	1141883.00	621542.00
287	1142917.72	621753.54	219.17	B-3039	B-3039	TBD	TBD
254	1142599.53	621000.20	218.88	B-4001	B-4001(DH)	1142600.00	621000.00
252	1142600.19	621072.22	219.06	B-4002	B-4002(DH)	1142600.00	621072.50
255	1142599.93	620927.13	218.99	B-4003	B-4003(DH)	1142600.00	620927.50
251	1142459.68	621046.56	218.45	B-4004	B-4004	1142460.00	621049.00
273	1142714.97	620948.74	221.13	B-4005	B-4005	1142718.00	620950.00
129	1142719.63	621076.36	220.98	B-4006	B-4006	1142718.00	621076.50
248	1142426.19	621125.28	217.90	B-4007	B-4007	1142425.50	621125.00
250	1142424.22	620973.78	218.08	B-4008	B-4008	1142425.00	620973.00
247	1142486.09	621156.86	217.91	B-4009	B-4009	1142484.00	621157.00
259	1142667.58	621249.04	219.09	B-4010	B-4010	1142645.50	621225.00
276	1142773.07	621236.36	219.08	B-4011	B-4011	1142773.00	621225.00
271	1142842.72	621020.31	222.24	B-4013	B-4013(C)	1142843.00	621023.50
272	1142831.99	620950.23	220.74	B-4014	B-4014	1142831.00	620950.00
270	1142773.04	621115.24	220.11	B-4015	B-4015	1142773.00	621112.50
149	1142996.39	621112.90	221.23	B-4016	B-4016	1142996.50	621112.50
275	1143034.80	620949.92	220.94	B-4017	B-4017	1143035.00	620950.00
260	1142735.45	621315.51	220.30	B-4018	B-4018	1142738.00	621316.00
280	1142975.89	621371.41	221.76	B-4019	B-4019	1142975.50	621371.00
279	1142969.39	621280.02	222.79	B-4020	B-4020	1142975.50	621279.00
533	1142973.73	621280.34	222.56	B-4020A	B-4020A	TBD	TBD
148	1143092.61	621247.38	224.55	B-4021	B-4021	1143069.00	621231.00
150	1143081.30	621073.52	220.71	B-4022	B-4022	1143069.00	621074.00
151	1143062.36	620879.81	220.71	B-4023	B-4023	1143062.00	620880.00
152	1142904.78	620601.81	223.80	B-4024	B-4024	1142904.57	620600.00
257	1142510.01	620625.03	220.80	B-4025	B-4025	1142510.00	620625.00
244	1142330.16	620597.72	221.54	B-4026	B-4026	1142330.00	620600.00
243	1142180.05	620633.45	217.73	B-4027	B-4027	1142148.00	620625.00
240	1141984.20	620587.77	219.57	B-4028	B-4028	1142000.00	620600.00
239	1141874.85	620699.95	220.28	B-4029	B-4029	1141874.00	620700.00
237	1141676.68	620698.48	222.35	B-4030	B-4030	1141675.00	620700.00
314	1141399.83	620975.03	222.13	B-4031	B-4031	1141400.00	620975.00
309	1141118.48	620794.64	220.24	B-4032	B-4032	1141125.00	620740.00
310	1141123.72	620794.66	220.22	B-4032A	B-4032A	TBD	TBD
306	1141398.11	620348.78	219.93	B-4033	B-4033	1141400.00	620365.00
311	1141375.68	620795.35	222.79	B-4034	B-4034	1141378.00	620719.00
274	1142729.08	620876.27	220.52	B-4035	B-4035	1142728.70	620876.00
258	1142457.21	620876.25	218.05	B-4036	B-4036	1142457.00	620876.00
406	1146177.05	621807.73	218.99	B-5001	B-5001	TBD	TBD
405	1146339.76	621808.33	241.53	B-5002	B-5002	TBD	TBD
401	1146386.61	621574.70	227.94	B-5003	B-5003	TBD	TBD
400	1146547.79	621568.38	236.61	B-5004	B-5004	TBD	TBD
354	1144134.10	619626.88	247.90	B-6002	B-6002	TBD	TBD
353	1143925.02	619422.80	229.76	B-6003	B-6003	TBD	TBD
352	1143718.15	619473.34	231.59	B-6004	B-6004	TBD	TBD
351	1143717.98	619873.77	242.59	B-6005	B-6005	TBD	TBD
337	1143069.79	620301.79	248.22	B-6006	B-6006	TBD	TBD

Point #	Northing	Easting	Elevation	Description
338	1142730.73	620301.79	222.28	B-6007
383	1145443.82	622676.36	240.11	B-6008
379	1144773.69	621748.18	246.04	B-6009
372	1143893.34	621059.21	263.39	B-6010
376	1144557.94	621261.73	244.00	B-6011
363	1144256.66	620480.54	194.20	B-6012
494	1143169.54	617234.87	251.14	B-6013
492	1143168.15	618281.46	209.79	B-6014
487	1143166.26	619317.85	221.52	B-6015
491	1142909.31	618366.55	204.66	B-6018
640	1142132.73	618344.49	163.94	B-6019
601	1142634.02	619555.91	221.48	B-6020
607	1142185.73	619103.41	209.80	B-6021
613	1142224.77	620040.33	216.23	B-6022
628	1141553.10	619177.88	202.77	B-6023
510	1141545.87	619997.72	216.07	B-6024
633	1140518.65	619189.73	172.69	B-6025
616	1140537.74	619900.15	215.46	B-6026
620	1145779.35	626145.09	96.65	B-6027
619	1145611.36	626062.41	95.70	B-6028
644	1147771.71	623966.62	85.41	B-6029
643	1147588.12	624222.62	88.37	B-6030
435	1144357.46	620185.46	265.76	C-1101ALT
375	1144424.00	621333.43	267.61	C-1102
380	1145011.61	622037.40	236.52	C-1103
460	1145601.77	622746.95	230.19	C-1104
465	1145483.00	623733.68	200.57	C-1105
457	1145533.96	624748.08	138.02	C-1106ALT
469	1147233.91	624202.32	211.92	C-1107
454	1147628.30	623753.23	200.89	C-1108
472	1147622.11	623171.88	209.79	C-1109
481	1147198.95	622740.32	242.39	C-1110
393	1146753.15	622346.15	250.69	C-1111
440	1142610.55	621726.54	218.37	C-3001
439	1142606.51	621872.75	218.89	C-3002
229	1141771.79	621801.62	221.38	C-3003
224	1141542.00	621807.33	223.25	C-3004
222	1141266.89	621792.33	221.27	C-3005
256	1142599.87	620918.51	218.87	C-4001
253	1142599.94	621063.82	219.08	C-4002
238	1141784.64	620708.48	221.16	C-4003
241	1141543.07	620597.67	219.99	C-4004
242	1141249.90	620593.96	220.01	C-4005
576	1144258.24	621799.94	279.61	ER-1103CL
580	1144706.50	621821.45	250.84	ER-1103N
591	1143809.08	621785.19	258.96	ER-1103S
590	1143823.00	621536.77	257.11	ER-1104CL
592	1143820.75	621986.25	257.44	ER-1104E
589	1143821.35	621086.95	258.33	ER-1104W
542	1146579.02	621622.05	243.09	ER-1105
543	1146866.31	621276.81	226.62	ER-1105
544	1146286.04	621961.60	226.63	ER-1105

Description	North	East
B-6007	TBD	TBD
B-6008	TBD	TBD
B-6009	TBD	TBD
B-6010	TBD	TBD
B-6011	TBD	TBD
B-6012	TBD	TBD
B-6013	TBD	TBD
B-6014	TBD	TBD
B-6015	TBD	TBD
B-6018	TBD	TBD
B-6019	TBD	TBD
B-6020	TBD	TBD
B-6021	TBD	TBD
B-6022	TBD	TBD
B-6023	TBD	TBD
B-6024	TBD	TBD
B-6025	TBD	TBD
B-6026	TBD	TBD
B-6027	TBD	TBD
B-6028	TBD	TBD
B-6029	TBD	TBD
B-6030	TBD	TBD

Point #	Northing	Easting	Elevation	Description	Description	North	East
545	1146706.48	621999.64	256.15	ER-1106			
559	1146039.75	621401.84	164.68	ER-1106			
560	1146365.63	621702.00	237.53	ER-1106			
520	1141404.39	621932.86	223.41	ER-3001			
521	1141104.51	621935.56	219.44	ER-3001			
522	1141704.88	621929.94	221.43	ER-3001			
518	1141220.32	621725.95	220.47	ER-3002			
519	1141206.51	622025.58	220.02	ER-3002			
525	1141200.00	622324.03	220.49	ER-3002			
312	1141375.68	620795.35	222.79	ER-4001			
513	1141133.24	620798.50	220.41	ER-4001			
514	1141583.32	620797.68	223.47	ER-4001			
515	1140683.32	620798.70	215.33	ER-4001			
313	1141375.68	620795.35	222.79	ER-4002			
506	1141796.43	620333.57	220.73	ER-4002			
509	1140897.17	620349.94	219.86	ER-4002			
508	1141346.76	620341.65	219.84	ER-4002CL			
315	1142180.05	620633.45	217.73	ER-4003			
504	1142049.90	620629.66	219.61	ER-4003			
507	1141575.77	620263.31	217.95	ER-4003			
505	1141813.06	620446.25	220.68	ER-4003CL			
528	1142060.89	621873.12	218.35	ER-4004			
529	1142060.45	621423.14	218.46	ER-4004			
530	1142057.75	620973.50	219.21	ER-4004			
553	1143195.74	623156.24	217.83	REMI-1101CL			
551	1143344.68	623156.02	218.60	REMI-1101N			
552	1143046.36	623156.23	217.87	REMI-1101S			
555	1143432.28	623846.88	217.84	REMI-1102CL			
556	1143433.70	623995.86	217.75	REMI-1102E			
554	1143431.62	623697.54	217.88	REMI-1102W			
267	1142620.86	621877.24	218.54	REMI-3001EAST			
266	1142620.58	621577.79	218.20	REMI-3001WEST			
268	1142620.95	621150.17	218.71	REMI-4001EAST			
269	1142624.08	620856.90	219.31	REMI-4001WEST			
584	1144312.49	621145.92	264.14	TP-B-1108			
577	1143967.31	621627.50	269.50	TP-B-1117			
596	1143591.74	620401.53	241.17	TP-B-1121			
593	1143603.70	621685.81	240.61	TP-B-1125			
539	1144634.18	622242.15	225.17	TP-B-1185			
573	1147500.59	621708.45	202.73	TP-B-1194			
568	1147648.39	622363.06	212.15	TP-B-1195			
565	1146874.40	622074.57	245.94	TP-B-1197			

Intentionally Blank Page