

6 CONCLUSIONS

A seismic refraction survey was conducted in Oak Ridge, Tennessee at the Clinch River SMR Project site. The purpose of the survey was to map bedrock depth and velocity structure beneath six (6) P-wave seismic refraction lines at locations selected by Bechtel and AMEC E&I. The locations of the seismic lines, designated SRS-1 through SRS-6, and nearby boreholes are presented in Figure 1.

The interpreted seismic bedrock interface at 7,000 ft/s contour in each seismic tomography model was chosen to agree acceptably with existing borehole data for bedrock. This interface typically only differs from borehole data in areas with thicker sections of weathering, or where velocities are changing, or sections with possible saturated soils.

7 REFERENCES

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8 CERTIFICATION

All geophysical data, analysis, interpretations, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a **GEOVision** California Professional Geophysicist and a **GEOVision** California Professional Engineer.

Prepared by



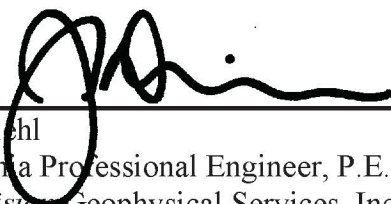
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02/28/14

Date

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Date

- * This geophysical investigation was conducted under the supervision of a California Professional Geophysicist and a California Professional Engineer using industry standard methods and equipment. A high degree of professionalism was maintained during all aspects of the project from the field investigation and data acquisition, through data processing interpretation and reporting. All original field data files, field notes and observations, and other pertinent information are maintained in the project files and are available for the client to review for a period of at least one year.

A professional geophysicist's and a professional engineer's certification of interpreted geophysical conditions comprises a declaration of his/her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations or ordinances.

TABLES

Table 1 Seismic Line Geometry

Line	Spacing (ft)	Geophone Endpoints (ft)	Easting (US Feet)	Northing (US Feet)	NAVD88 Elevation (ft)
1	12.5	0	2,448,238.1	570,478.0	804.4
		587.5	2,448,008.3	571,018.7	810.2
2	10	0	2,448,337.1	570,729.1	808.1
		470	2,448,152.9	571,161.5	810.9
3	12.5	0	2,448,507.9	569,842.1	795.0
		587.5	2,448,277.8	570,382.6	802.8
4	12.5	0	2,448,644.7	569,899.9	792.8
		587.5	2,448,415.1	570,440.7	800.9
5	12.5	0	2,447,999.1	570,440.0	807.9
		587.5	2,448,435.0	570,833.9	810.9
6	12.5	0	2,447,403.0	570,381.1	768.3
		587.5	2,447,733.2	570,867.0	776.7

Notes:

1. End point coordinates interpolated from provided AMEC survey points, if not coincident.
2. Coordinates in TN State Plane, NAD83, US Survey Feet.

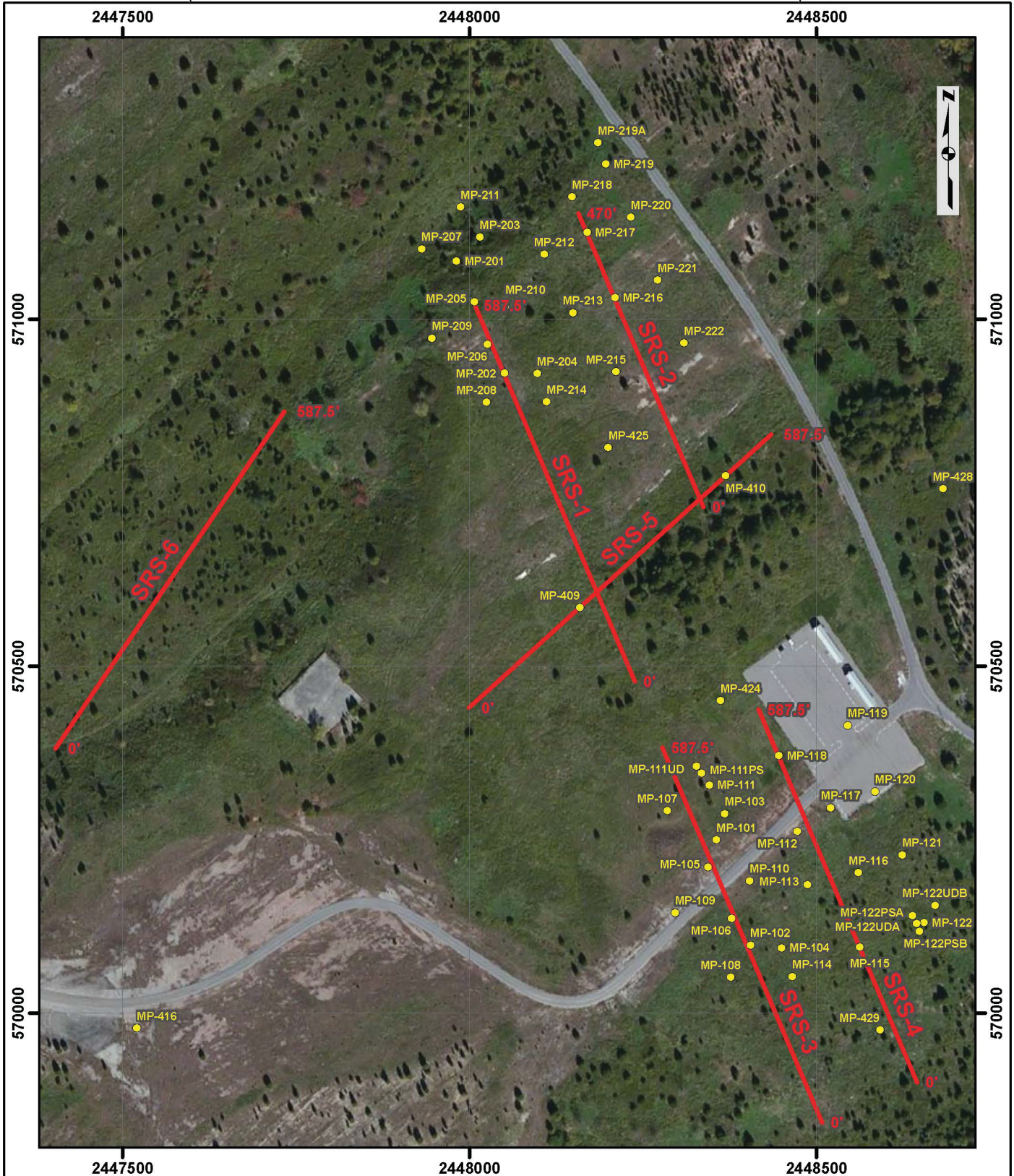
Table 2 AMEC Selected Asbuilt Borehole Locations

Description	Easting (US Feet)	Northing (US Feet)	NAVD88 Elevation (ft)
MP-101	2,448,355.2	570,249.6	800.5
MP-102	2,448,404.3	570,097.9	797.9
MP-103	2,448,367.5	570,287.2	800.6
MP-104	2,448,449.1	570,093.9	797.7
MP-105	2,448,343.5	570,210.2	800.2
MP-106	2,448,377.2	570,136.4	798.7
MP-107	2,448,284.8	570,291.6	801.6
MP-108	2,448,376.3	570,051.7	798.5
MP-110	2,448,403.3	570,190.7	798.7
MP-111	2,448,345.0	570,328.7	801.1
MP-111PS	2,448,334.2	570,345.7	801.6
MP-111UD	2,448,326.4	570,356.0	801.7
MP-112	2,448,472.1	570,261.9	799.2
MP-113	2,448,486.5	570,184.9	797.5
MP-114	2,448,464.6	570,052.5	797.2
MP-115	2,448,562.0	570,094.9	796.9
MP-116	2,448,560.2	570,202.4	797.6
MP-117	2,448,520.2	570,296.0	800.0
MP-118	2,448,445.5	570,370.9	799.8
MP-202	2,448,050.0	570,922.1	811.8
MP-204	2,448,097.0	570,921.7	812.0
MP-206	2,448,025.6	570,964.0	811.8
MP-208	2,448,024.1	570,880.5	811.9
MP-210	2,448,051.2	571,019.3	807.7
MP-214	2,448,110.8	570,881.2	779.8
MP-215	2,448,210.7	570,924.5	813.4
MP-216	2,448,209.1	571,031.0	813.4
MP-409	2,448,158.9	570,584.3	807.0
MP-410	2,448,368.8	570,774.2	809.4
MP-429	2,448,591.1	569,975.5	796.0

Notes:

1. Survey coordinates provided by AMEC Environment and Infrastructure.
2. Coordinates in TN State Plane, NAD83, US Survey Feet.

FIGURES



Legend

- Borehole Locations
- Seismic Refraction Line

NOTES:

1. Tennessee State Plane Coordinate System, NAD 83, FIPS 4100, US Survey Feet
2. Image Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
3. Surveyed locations provided by AMEC Environment and Infrastructure

Date:	2/28/2014
GV Project:	13162
Developed by:	W Dalrymple
Drawn by:	T Rodriguez
Approved by:	A Martin
File Name:	13162-1.MXD

**FIGURE 1
SITE MAP**

**CLINCH RIVER SMR PROJECT SITE
OAK RIDGE, TENNESSEE**

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AMEC ENVIRONMENT
& INFRASTRUCTURE, INC.**



Seismic Data Acquisition System



Typical Seismic Line



220 lb Truck Mounted AWD



2200 lb XLR8 Track Mounted AWD

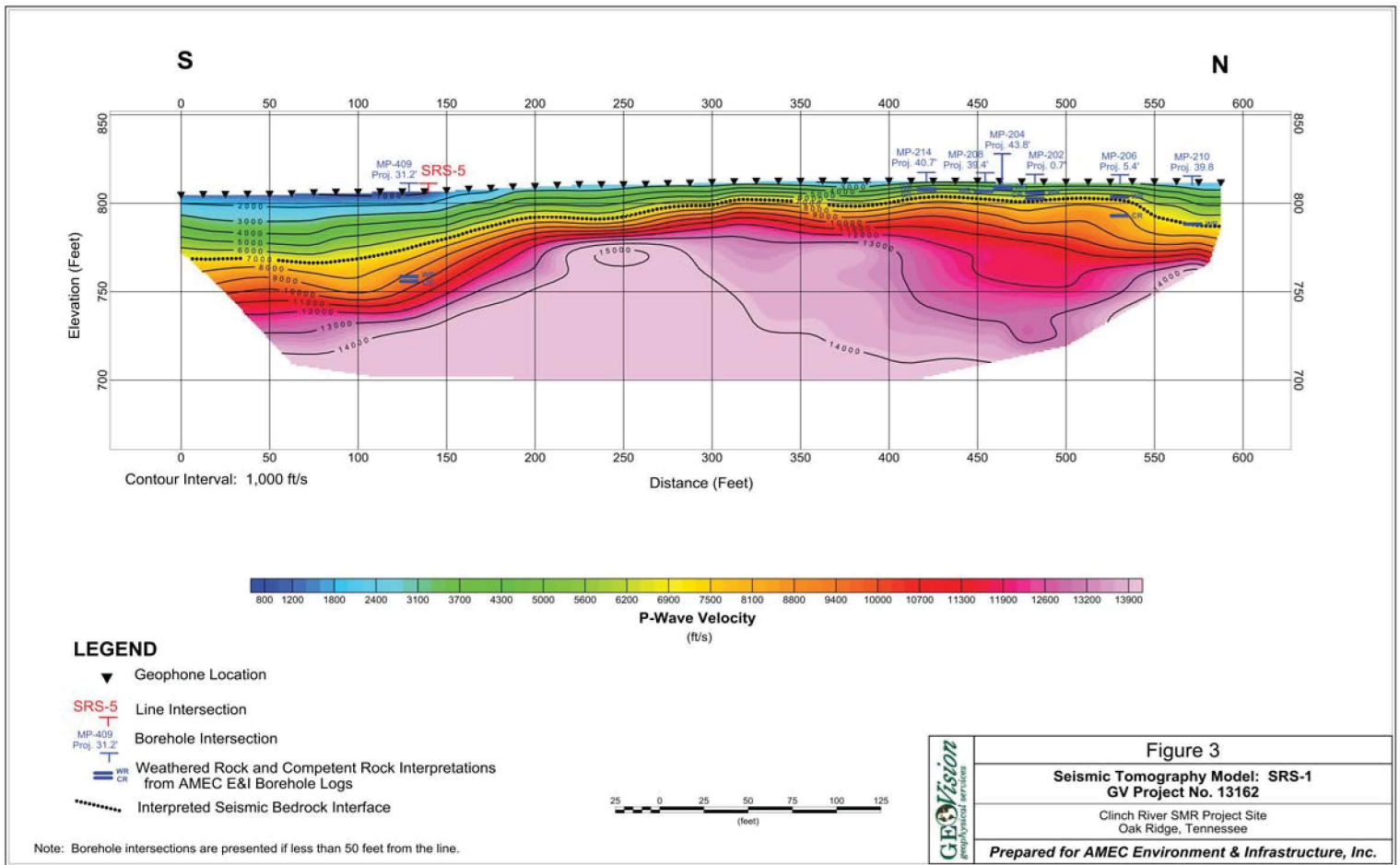


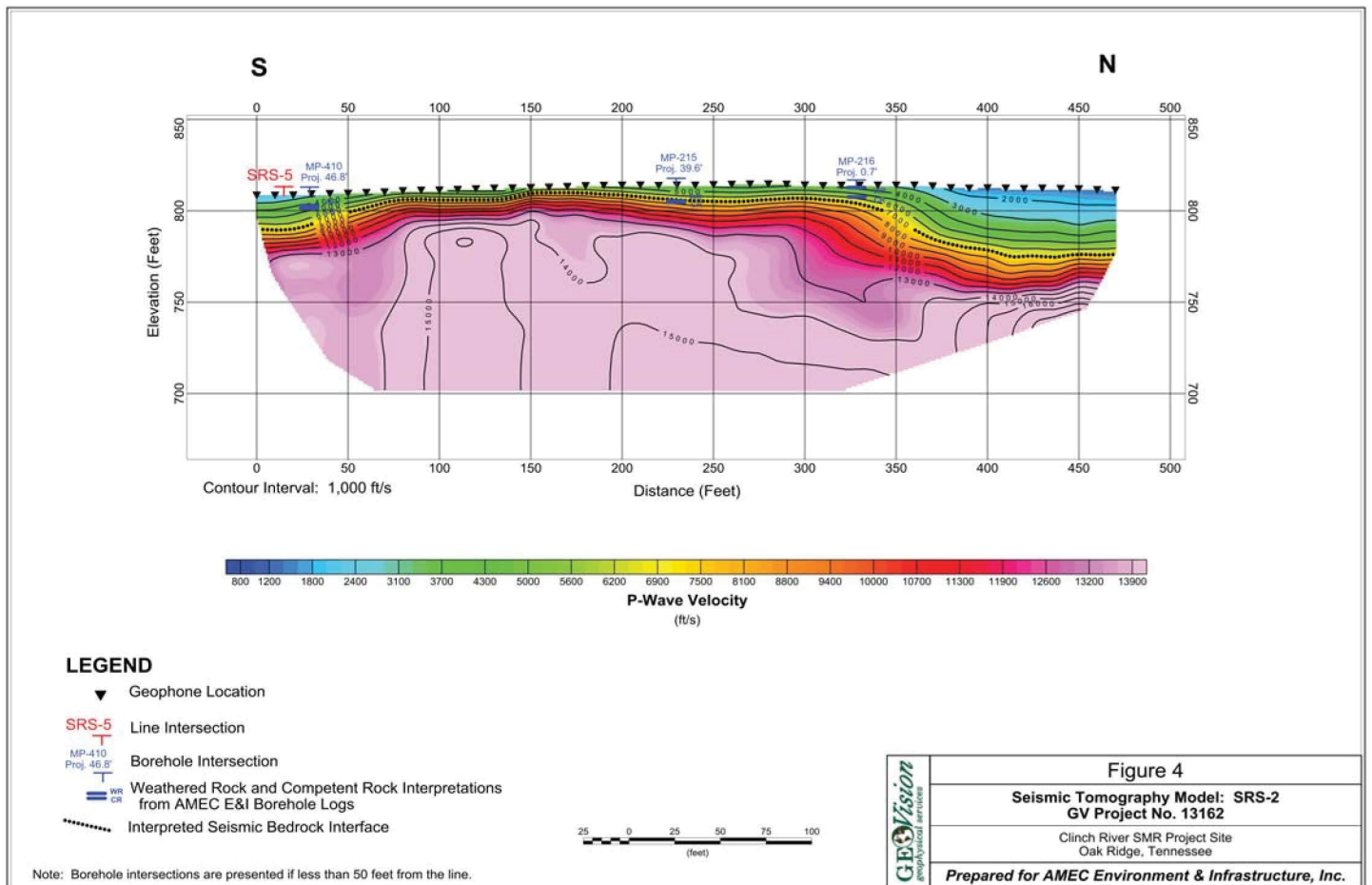
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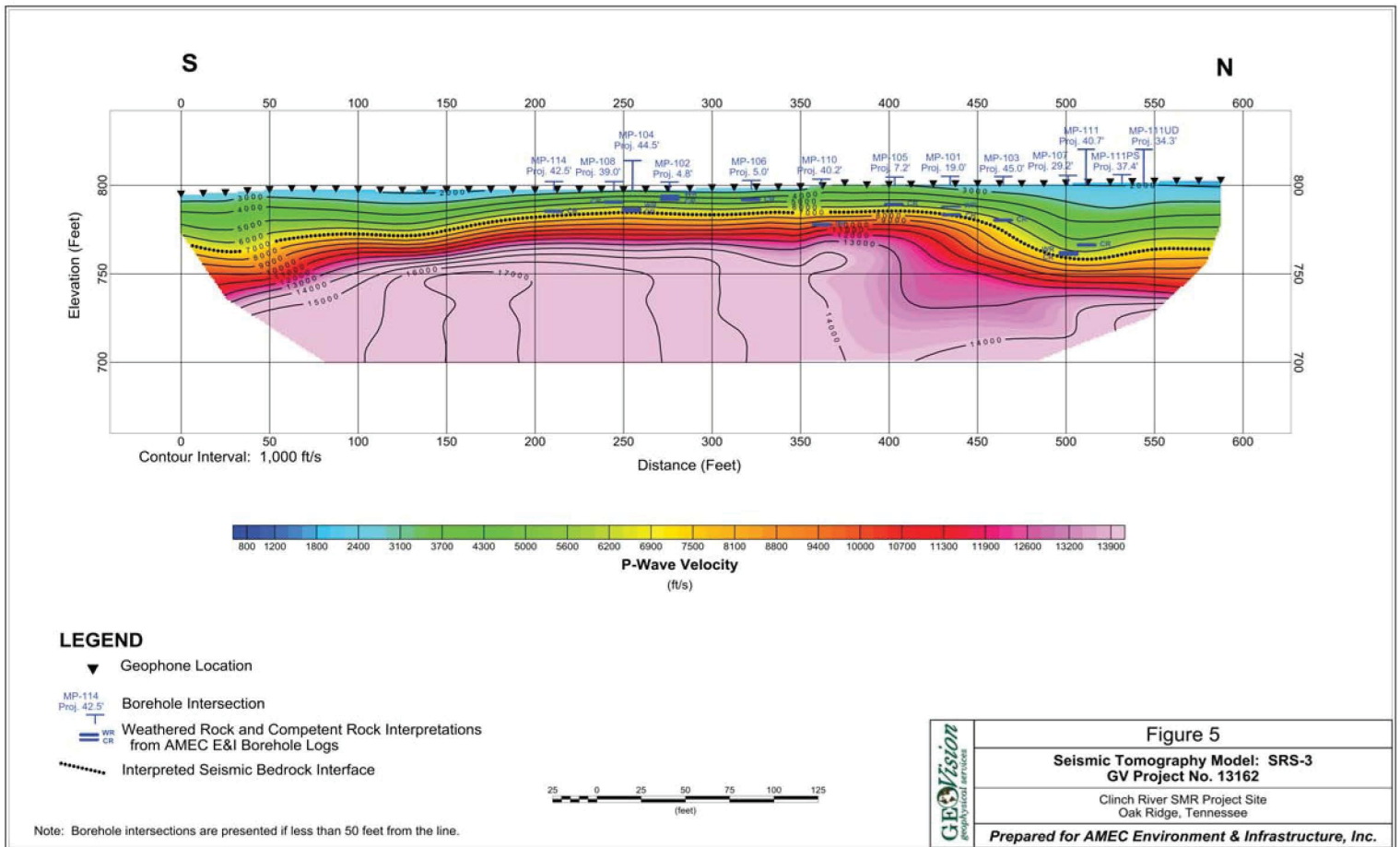
FIGURE 2
PHOTOGRAPHS OF SEISMIC EQUIPMENT

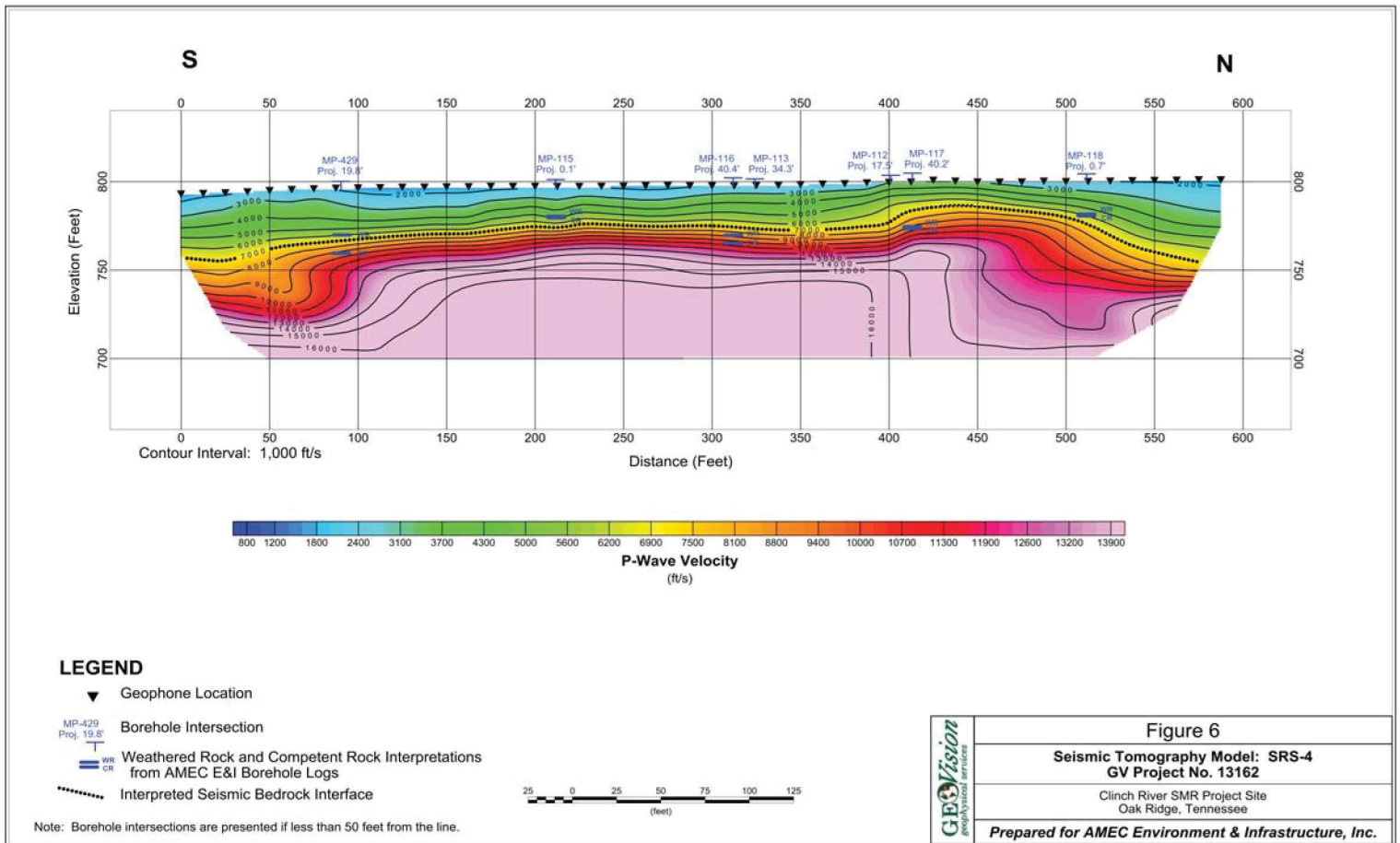
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OAK RIDGE, TENNESSEE

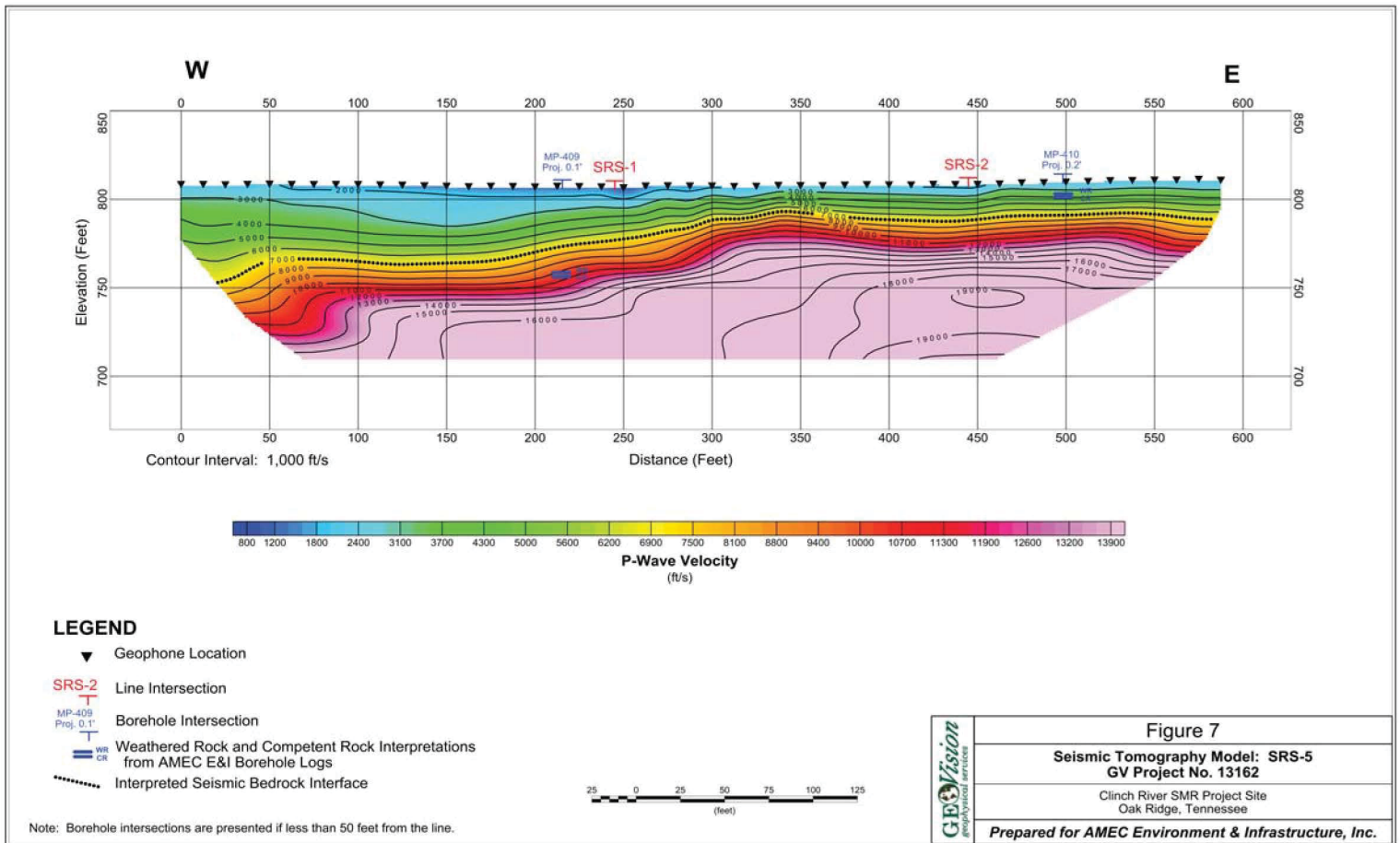
PREPARED FOR
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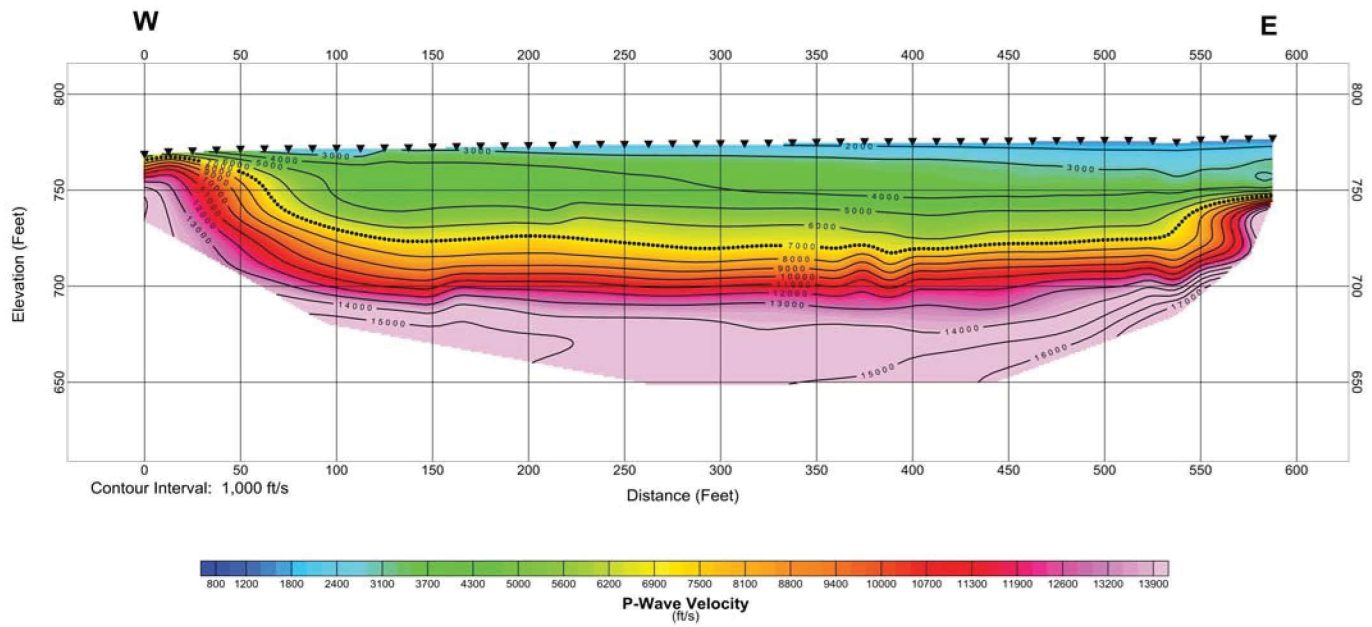












LEGEND

- ▼ Geophone Location
- Interpreted Seismic Bedrock Interface

Note: Borehole intersections are presented if less than 50 feet from the line.

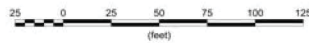


	Figure 8
	Seismic Tomography Model: SRS-6 GV Project No. 13162
	Clinch River SMR Project Site Oak Ridge, Tennessee
	Prepared for AMEC Environment & Infrastructure, Inc.