

GEOPHYSICAL REPORT

on the
Big Creek Property

Dawson Mining District

Map 115P

DATE OF REPORT

November 17, 2023

REPORT PREPARED BY

Nicholas Gust

CENTER OF WORK

Lat. $59^{\circ}27'46.774''\text{N}$, Long. $133^{\circ}33'49.462''\text{W}$

Table of Contents

Introduction	1
Location and Access	2
Property Description	3
Previous Work	5
Regional Geology	6
Survey Method and Theory	7
Equipment	9
Survey Procedure	10
Processing and Interpretation	11
Conclusion	12
References	13
Statement of Qualifications	14
Appendix I: Maps and Data	15
Appendix II: Cross Sections	21
Appendix III: Invoice	28

Introduction

On June 4, 2023, a geophysical survey was conducted on the Big Creek placer claim in the Yukon Territory, Canada, specifically within the Dawson regional district. The primary objective of this survey was to gain a comprehensive understanding of the bedrock and subsurface layers in this region.

Located in the Clear Creek – McQuesten River region, the Big Creek area features high-relief terrain, with the 'West Ridge' range to the south and Big Creek carving through the landscape. Elevations vary significantly, ranging from 3200 to 5500 feet. The predominant vegetation consists of evergreen and deciduous forests on the slopes, while the mountain tops, at higher elevations, lack vegetation, except for patches of buck brush. The treeline typically falls between 4100 and 4500 feet, with outcrop exposure decreasing at lower elevations.

Historically, mining activities in the Big Creek claim area have been relatively limited. The Klondike gold rush era witnessed a surge in placer gold exploration in nearby areas like Clear Creek. Josephine Creek became the focal point of attention in 1901 when placer gold was first discovered, leading to a rush of prospectors to the region. Hobo Creek, credited to Captain H. S. Back's discovery in 1915, is another notable find nearby. However, there is scant documented evidence of significant placer exploration and mining activities specifically on Big Creek during the early 1900s.

In contrast, the vicinity around Josephine Creek and Lewis Gulch saw the discovery of hard rock gold in 1902, resulting in the excavation of shallow adits. Unfortunately, detailed records of exploration activities in this area are limited, leaving gaps in the historical documentation. Sporadic instances of placer workings are noted in select parts of Big Creek.

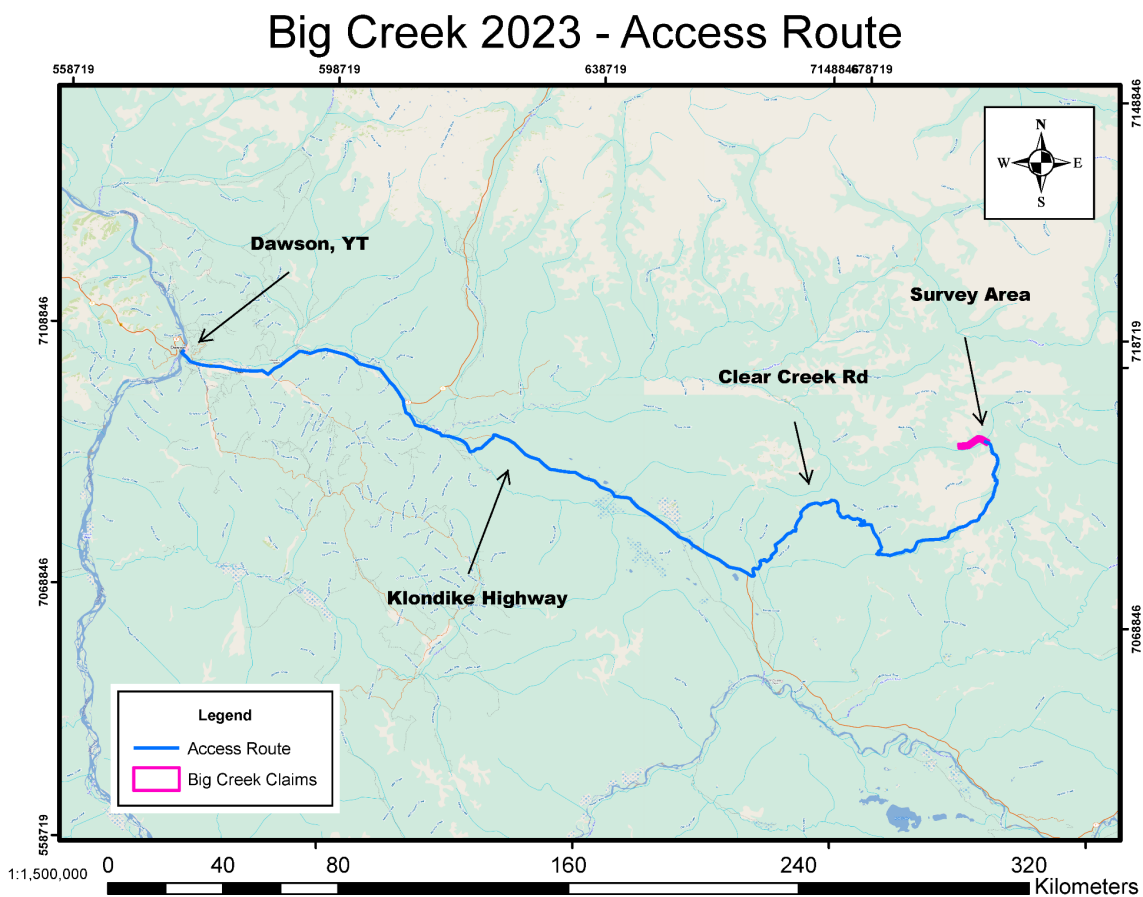
The seismic survey employed a passive seismic system that captured ambient seismic noise and leveraged the Horizontal-to-Vertical Spectral Ratio (HVSr) technique for the purpose of ascertaining the depth of the bedrock within the surveyed area. This survey method, known as passive seismic HVSr, relies on ambient seismic vibrations as its energy source. It distinguishes itself from conventional surveys that depend on artificial energy sources. The resonance generated by ambient seismic energy unveils essential layer attributes, thereby facilitating the measurement of overburden thickness.

The survey was conducted by a three-person team led by Nicholas Gust, who is trained in the application and interpretation of this technique.

Location and Access

The Big Creek placer claim is located in the Yukon Territory, Canada, in the Dawson regional district. The property claim is located approximately 500 kilometers northeast of Whitehorse, YT.

To reach Big Creek, start from Dawson City and head south on the Klondike Highway. Drive for about 110 km until you reach Clear Creek Road. Follow Clear Creek Road for 42 km until you arrive at the Harpers mine, located at the top of the left fork of the creek. There is an unnamed road which provides access to the claim.



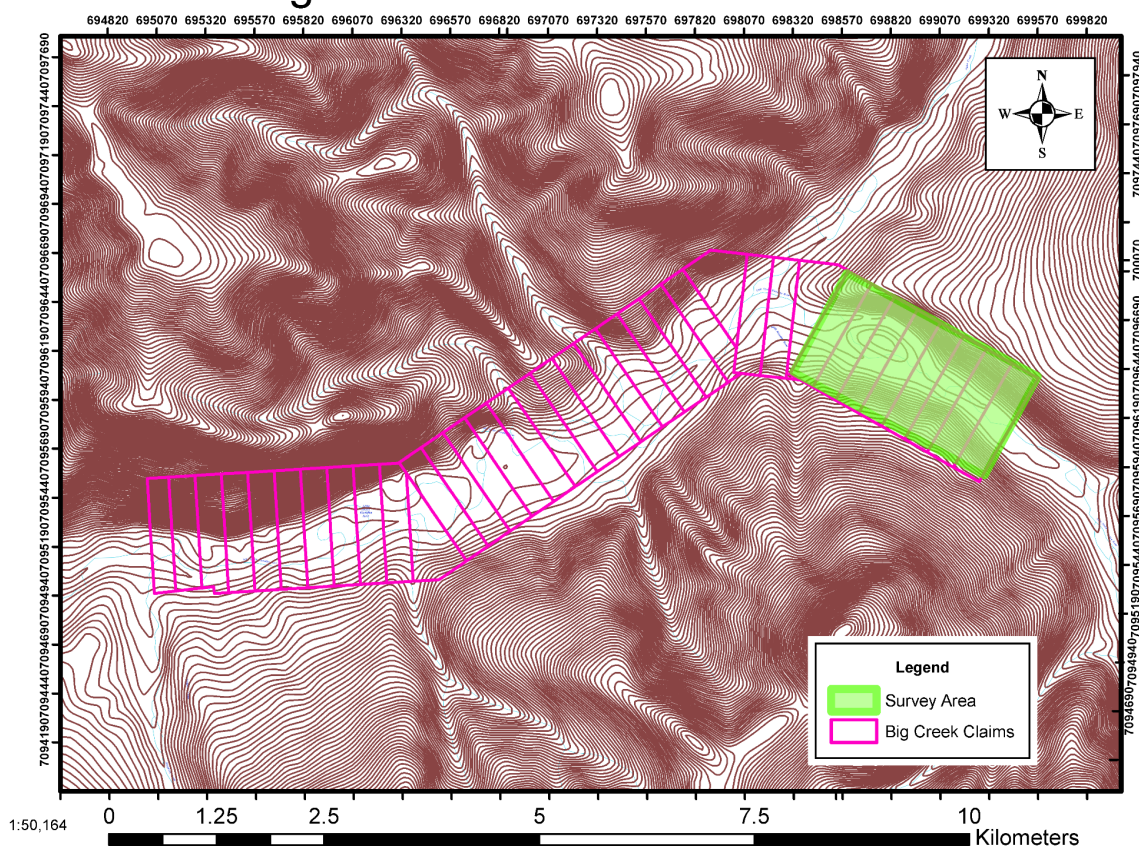
Property Description

The Big Creek property consists of 36 placer claims stake by Yukon Exploration Green Gold Inc. The claims were originally staked in 2017 except for one claim (P 518261) which was staked in 2016.

The Big Creek area, located in the Clear Creek – McQuesten River region, is characterized by its high-relief terrain. The area is framed by the 'West Ridge' range to the south and is prominently incised by Big Creek itself. Elevations in this region vary, ranging from 3200 ft to 5500 ft.

Vegetation in the area primarily consists of evergreen and deciduous forests, which are prevalent on the slopes. The mountain tops, due to their high elevations, are mostly barren with patches of buck brush. The treeline in this region is found between 4100 ft and 4500 ft. While the mountain tops offer fair outcrop exposure, this becomes considerably limited at lower elevations.

Big Creek 2023 - Claim Overview



Grant Number	Claim Name	Owner	Date Staked
P 519311	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519310	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519327	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519296	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519325	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519313	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 518262	OZ	Yukon Exploration Green Gold Inc	2016-08-25
P 519299	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519319	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519312	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519326	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519295	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519309	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519301	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519307	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519315	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519298	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519317	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519324	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519297	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519294	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519314	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519305	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519306	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519304	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519303	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519318	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519321	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519308	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519316	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 518261	OZ	Yukon Exploration Green Gold Inc	2016-08-25
P 519323	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519300	Oz2	Yukon Exploration Green Gold Inc	2017-07-27
P 519322	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519320	Oz2	Yukon Exploration Green Gold Inc	2017-07-28
P 519302	Oz2	Yukon Exploration Green Gold Inc	2017-07-27

Previous Work

The mining history of the Big Creek claim area is pretty sparse. Placer gold was first discovered in nearby areas such as Clear Creek soon after the Klondike gold rush.

Placer gold was discovered on Josephine Creek in 1901. The Province Newspaper reported on Sept 26, 1901:

A rich strike on the Josephine Creek, seventy miles above the Klondike, has been made, according to the present advices from Dawson. Up to September 18, more than one hundred people had joined the stampede to the new diggings. The miners went by the overland route with pack animals and with their supplies on their backs in a wild race to reach the discovery first. Josephine Creek is thirty-five miles beyond Gold Run, which is now the farthest stream out from Dawson that produces in any quantity.

Hobo Creek was discovered by Captian H. S. Back in 1915. (Juneau Empire Nov 3, 1916). There aren't any records of placer exploration and mining on Big Creek in the early 1900s.

Hard rock gold was discovered in the area around Josephine Creek and Lewis Gulch in 1902 where several shallow adits were driven. Very little is written about exploration in this area. There have been sporadic placer workings on Hobo Creek and parts of Big Creek but no major efforts had been made to explore and mine the area prior to the claims being staked by Yukon Exploration Green Gold Inc.

Queenstake Resources Ltd conducted a program of drilling, seismic, and backhoe pit sampling program on Big Creek in 1980 and 1981. The results showed reserves in the order of 7 million cubic yards of gold bearing gravel, suggested that although it is not a viable dredge prospect, the property, depending on metal prices and further testing, could support a bulldozer/slucice operation.

Schmidt Mining optioned a portion of the Big Creek claims from Yukon Exploration Green Gold Inc in 2015 and began full-scale exploration and test mining. Schmidt Mining began mining on Big Creek in 2019 as well as Josephine Creek. Schmidt hired Northern Sonic to drill 241 sonic drill holes over the property with the goal of tracking the pay streak down the valley and determining overburden thickness and bedrock depth.

Schmidt continued to mine both Big Creek and Josephine Creek between 2019 and 2022. At the time of this report, mining activities had transitioned to reclamation.

The claims covered by the survey area in this report, owned by Yukon Exploration Green Gold Inc, have seen limited exploration including small excavator test pits and small scale sampling.

Regional Geology

Located in central Yukon within the Tintina gold belt, the Big Creek property is set in a geologically rich area. In 1993, Murphy and Heon conducted a geological survey, identifying an extensive presence of Hyland Group formations. These formations include a variety of rock types such as quartzo-feldspathic psammite, micaceous psammite, and muscovite-chlorite phyllite, along with other formations like gritty psammite, metamorphic pebble conglomerate, marble, and calc-silicate rocks. To the north, younger and unmetamorphosed stratigraphic outcrops are present, including Lower Paleozoic carbonate (Rabbitkettle Formation), Road River Group shale and siltstone, and Earn Group conglomerate, shale, and sandstone.

The region has been significantly influenced by the intrusion of the Cretaceous (92 Ma) Tombstone Plutonic Suite, which includes sills and stocks. These have penetrated both sedimentary and metasedimentary rocks.

In 2001, Stephens and Weekes identified four primary types of gold mineralization in the Clear Creek area. These include auriferous quartz sulfide veins in east to east-southeast directions within larger Tombstone Plutonic Suite stocks, silicified fault zones in south to southeast and east to east-southeast directions, intrusive breccias with quartz-sulfide veins and stockwork patterns, and calc-silicate rocks with skarn-style mineralization.

Regarding the local geomorphology, as detailed in the 2015-2017 Placer industry report, Big Creek flows eastward from West Ridge, turning north toward the Little South Klondike River. The area features a mix of glaciated and unglaciated terrain. The valley of Big Creek experienced glaciation during the Pleistocene, with ice accumulation in cirques at West Ridge's headwater. During different glaciations, the ice extent varied, with the McConnell glaciation being relatively limited. The valley's history also includes a complex fluvial history with evidence of early Pleistocene alpine till.

The placer gold found in Big Creek is believed to originate from both pre-glacial deposits and from gold released during Pleistocene glacial erosion. Various zones of placer gold enrichment have been identified, including relatively shallow surfaces and a deeper channel discovered in 2017.

Survey Method and Theory

The passive seismic HVSR method consists of recording ambient or natural seismic energy vibrations using a seismometer. The seismometer must be able to record ground motion in three axes (XYZ), over a broad range of frequencies (0-128 Hz), and over a long time period (1 min to 60 min, usually 20 min).

Traditional seismic surveys use an energy source such as dynamite, or a dropped weight. The HVSR method is very different in that it utilizes ambient vibrations in the surface of the earth. These are considered noise in traditional surveys but in this case, provides the source vibrations.

The ambient signal consists primarily of surface Rayleigh and Love waves, which are generated from natural sources. Sources of ambient vibration are ongoing crustal microtremors, rain, and wind. In more populated areas sources can come from human activities such as traffic movement, construction and factories.

The ambient seismic energy creates seismic resonance within the near-surface strata and regolith. This resonance is a function of the thickness and the shear-wave velocity of the subsurface layers, and is particularly amplified when layers have a strong and sharp acoustic impedance contrast boundary. Acoustic impedance is a function of the density multiplied by the shear wave velocity of a layer. That impedance is how we can identify different layers and their depth.

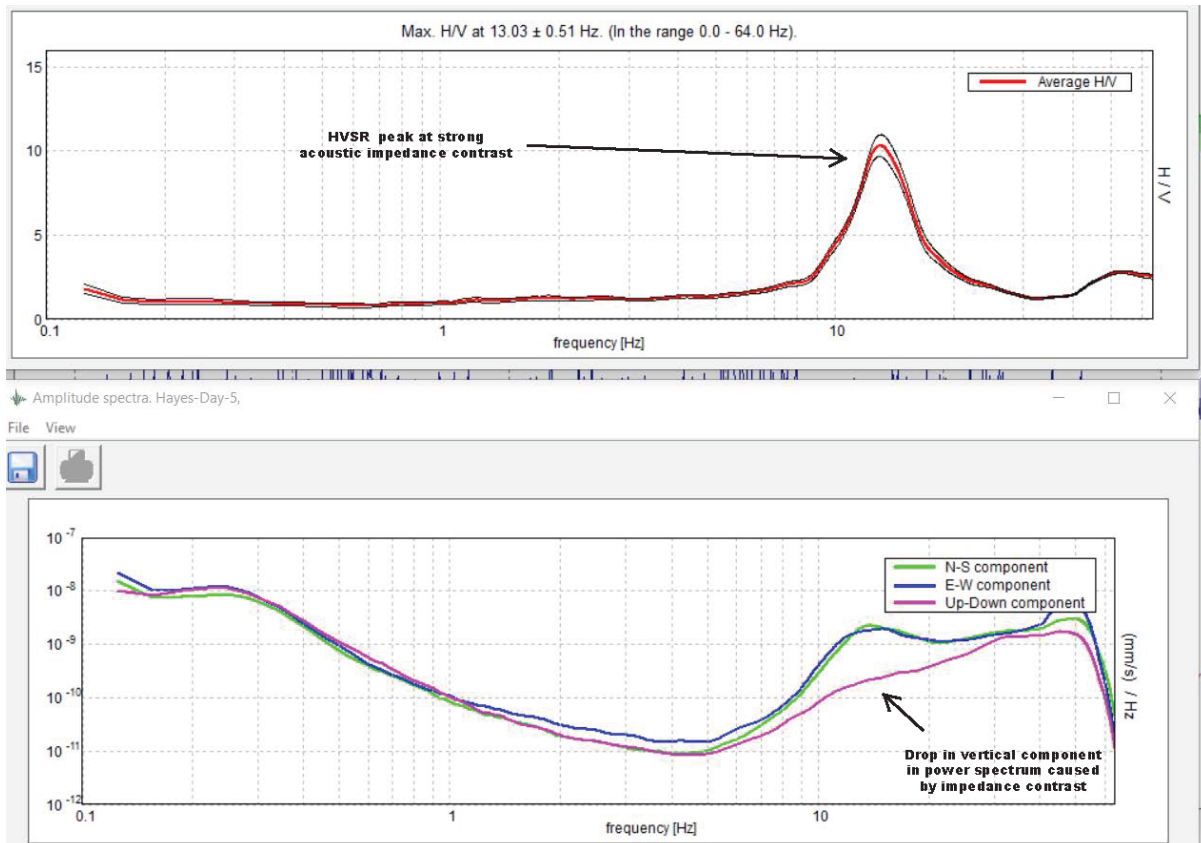
In processing with proprietary software the recorded time-series data (X, Y and Z) is converted to the frequency domain using a Fast Fourier Transform (FFT), and the two components are displayed as a power spectrum.

After the inversion, the horizontal components are usually very similar unless there is strong anisotropy in the near-surface. The Vertical component dips where resonance occurs from trapping by underlying layers. Where the vertical component deviates from the two horizontal components a H/V peak is interpreted. The frequency at which the peak occurs can be used to calculate the depth from surface.

This resonant frequency is related to the thickness and shear wave velocity of the resonant layer by the following equation from Nakamura (2000):

$$f_0 = V_s/4h$$

where f_0 = peak resonant frequency (Hz), V_s = shear wave velocity (m/s), and h = layer thickness (m). In a two-layered earth model, resonance frequency (f_0) can be used in estimating the overburden thickness (h) using the equation



From processing the data we know the peak resonant frequency but there are still two unknowns. V_s and the thickness (h). In order to accurately calculate the thickness for each location, we need to know the shear wave velocity of the overburden layers. That can be acquired by running a test station at an area of known depth such as a drill hole. Once the velocity is known it is simple to calculate the thickness.

Equipment

The Tromino 3G BLU Seismograph, manufactured by MoHo Science & Technology from Italy was used on this survey. The Tromino works on the HVSR principle, is a very light and portable instrument that records seismic noise in the frequency range of 0.1 to 1024 Hz.

The Tromino is a small (1 dm³, < 1 kg) all-in-one instrument, equipped with:

- 3 velocimetric channels (adjustable dynamic range)
- 3 accelerometric channels
- 1 analog channel
- GPS receiver

The Tromino does not require cables or a source and acts as a standalone geophysical instrument.

A Reach RS2 multi-band RTK GNSS receiver, manufactured by Emlid was used to record spatial information for computer mapping. Some of the specs are here below:

- Dimensions: 126x126x142 mm
- Weight: 950 gram
- Ingress protection: IP67
- Corrections: NTRIP, VRS, RTCM3
- Position output: NMEA, LLH/XYZ
- Positioning kinematic horizontal: 7 mm + 1 ppm
- Positioning kinematic vertical: 14 mm + 1 ppm
- GNSS signals tracked: GPS/QZSS L1C/A, L2C, GLONASS L1OF, L2OF, BeiDou B1I, B2I, Galileo E1-B/C, E5b

Number of channels: 184

Survey Procedure

Station spacing was set at 30m for the survey lines. A 30m rope was used to layout the survey lines using two people. Line locations were chosen in advance in GIS software and layed out in the field using a handheld GPS. Each station was marked with a pin flag and recorded on the GPS for processing.

Each reading takes 20 minutes, which allows for sufficient data collection to be modeled in the interpretation software. It is important for the seismometer to have good contact with the ground. At most stations, it was necessary to remove the vegetative mat and expose soil/subsoil that the instrument can be planted into.

The seismometer used in this survey is extremely sensitive since it's designed for picking up faint, ambient energy in the earth. The trade-off is that it is also sensitive to sources of noise.

Station data is stored on the device and downloaded each day to check for data quality. Initial processing was completed in the evening each day. To estimate the shear wave velocities seismic data was recorded at several of the drill hole locations that were completed in previous years. Those velocities were used to satisfy the equation above and calculate the layer thicknesses.

Processing and Interpretation

Each station is processed independently using proprietary software that utilizes the HVSR method described above. Each trace is analyzed for quality and if necessary noisy sections can be removed using a windowing technique. There were two stations that had too much noise and had to be repeated but most were below the noise threshold or able to be cleaned up.

The coordinates and calculated bedrock depth are populated into a CSV file to be gridded. Surfer software was used for gridding the data and the resulting vector data can be used in GIS software such as ArcMap. The final data is presented as a topographical map showing the difference between surface and bedrock elevations.

Interpretation

Cross Sections

Line 1 runs in a NE-SW direction on the southeast (upstream) side of the survey area. The line started on the hillside on the NE side. There is a deep section in the bedrock at station 2 (~7m deep) followed by a rise in the bedrock and another deep section at station 4 (~12m deep). The bedrock rises to the SW.

Line 2 lies 150m downstream from line 1. This line showed a very deep section at station 6 (41m deep). The eastern section of the line from stations 3-5 were also fairly deep. The deep spot at station 6 is indicative of a buried paleochannel.

Line 3 lies downstream from line 2. This line also showed a very deep area at station 5 (21 meters deep). The east side of the line dropped gradually toward station 5, under the current course of Big Creek. Station 6 showed a relative bedrock high point followed by a slightly deeper area at stations 7 and 8 (~12m deep). The deep section at station 5 is indicative of a buried paleochannel.

Line 4 showed an interesting cross-section. There were two deep sections separated by a bedrock high (17m and 14m respectively). Both deep sections hold potential for paleochannel deposits. The high point in the middle is unusual but similar features were observed on some of the other lines.

Line 5 showed a trend very similar to line 3 except in reversed directions. The bedrock sloped evenly from the SW toward Big Creek, reaching its deepest part at station 6 (~20 meters). Station 7 showed a bedrock high point as we've seen on other lines with a slightly deeper section on stations 8-10. The deep section at station 6 is interpreted as the expression of a paleochannel.

Line 6 has a similar cross-section to line 4 with two very deep readings separated by a high point in the bedrock. Stations 5 and 7 showed bedrock at 30 and 47 meters from surface respectively. These deep sections are consistent with two sections of paleochannel. The east side was fairly deep at an average of 14m from surface.

Conclusion

The seismic survey revealed deep areas in the bedrock that were previously invisible to the naked eye.

All six seismic lines showed deep areas that are consistent with the interpretation of a paleochannel ranging from 12 meters to 47 meters deep throughout the survey area. The channel gutter is well-defined on most of the lines showing an anomalous deep zone on each line. On lines 4 and 6 the channel is divided by a ridge in the bedrock.

Given the success of mining activities in nearby areas in recent years, further exploration, and testing of gold grades within this channel are recommended. Utilizing methods such as R/C or sonic drilling can provide valuable data, and additional seismic surveys on remaining claims can help ascertain the continuation of this channel.

This geophysical survey has shed light on previously hidden geological features in the Big Creek area, opening new avenues for exploration and potential resource extraction.

References

Nakamura, Y., 2000, Clear identification of fundamental idea of Nakamura's technique and its applications, Proc. 12WCEE, No. 2656, 177–402.

Allen, T.L., Hart, C.J.R. and Marsh, E.E., 1999. Placer gold and associated heavy minerals of the Clear Creek drainage, central Yukon: past to present. In: Yukon Exploration and Geology 1998, C.F. Roots and D.S. Emond (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 197-214.

Murphy, D. and Heon, D. (1994): Geology and Mineral Occurrences of Sprague Creek Map Area (115P/15), Western Selwyn Basin. In: Yukon Exploration and Geology 1993. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 29-46.

Murphy, D. (1996): Geology of the McQuesten River Region, Northern McQuesten and Mayo Map Areas, Yukon Territory (115P/14, 15, 16; 105M/13, 14. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin 6, 122 p.

Stephens, J.R., Oliver, N.H.S., Baker, T. and Hart, C.J.R., (2000): Structural evolution and controls on gold mineralization at Clear Creek, Yukon. In: Yukon Exploration and Geology 1999, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 151-163.

Stephens, J.R. and Weekes, S., (2001): Intrusive-breccia-hosted gold mineralization associated with ca. 92 Ma Tombstone Plutonic Suite magmatism: An example from the Bear Paw breccia zone, Clear Creek, Tintina gold belt, Yukon. In: Yukon Exploration and Geology 2000, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 347-353.

Yukon Minfile 115P011 (2004): Josephine, Yukon Geological Survey.

Yukon Minfile 115P023 (2004): Lewis, Yukon Geological Survey.

Yukon Minfile 115P061 (2004): Big, Yukon Geological Survey.

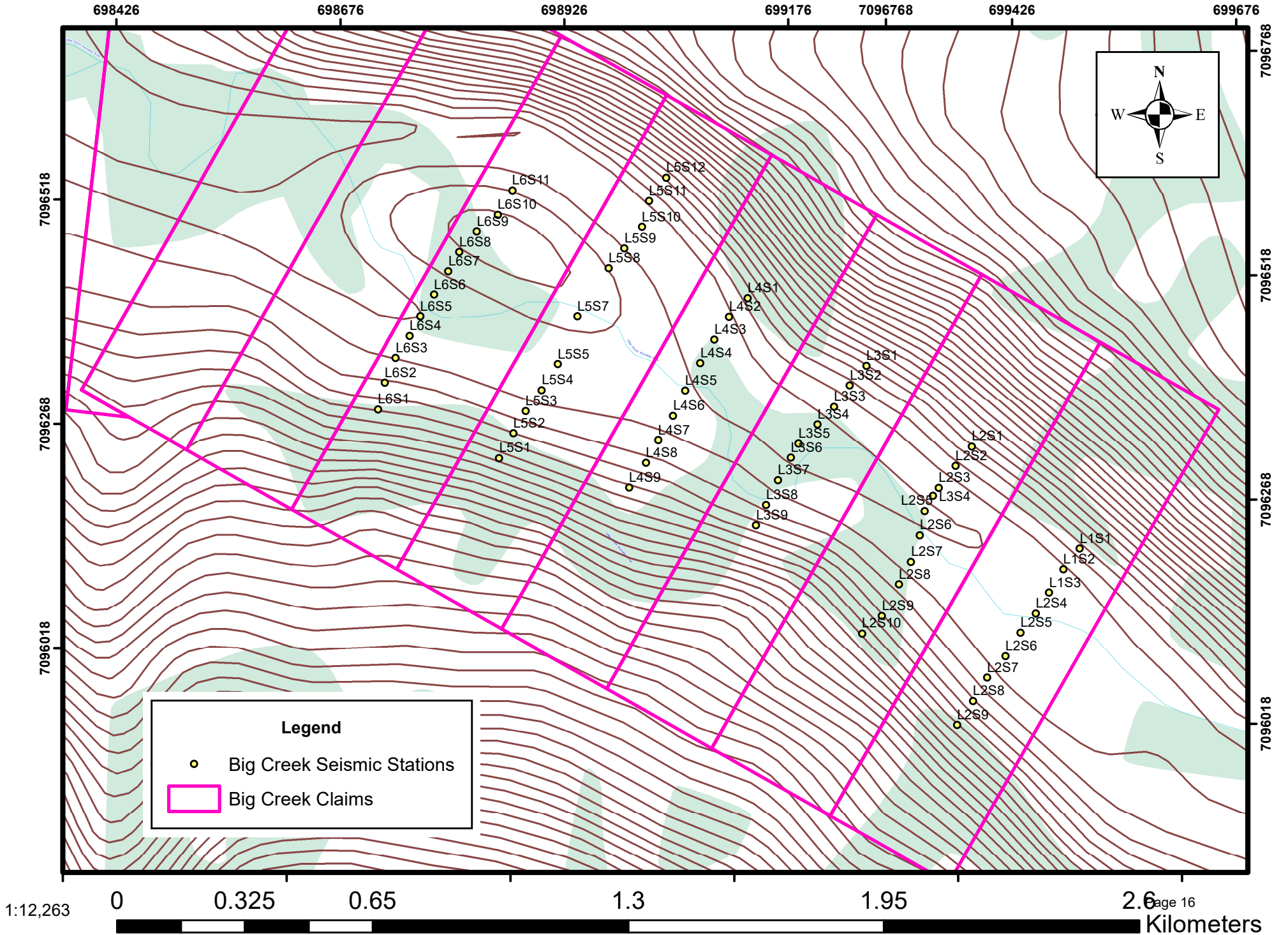
Statement of Qualifications

I, Nicholas Gust, of the city of Mission, in the province of British Columbia do hereby certify that:

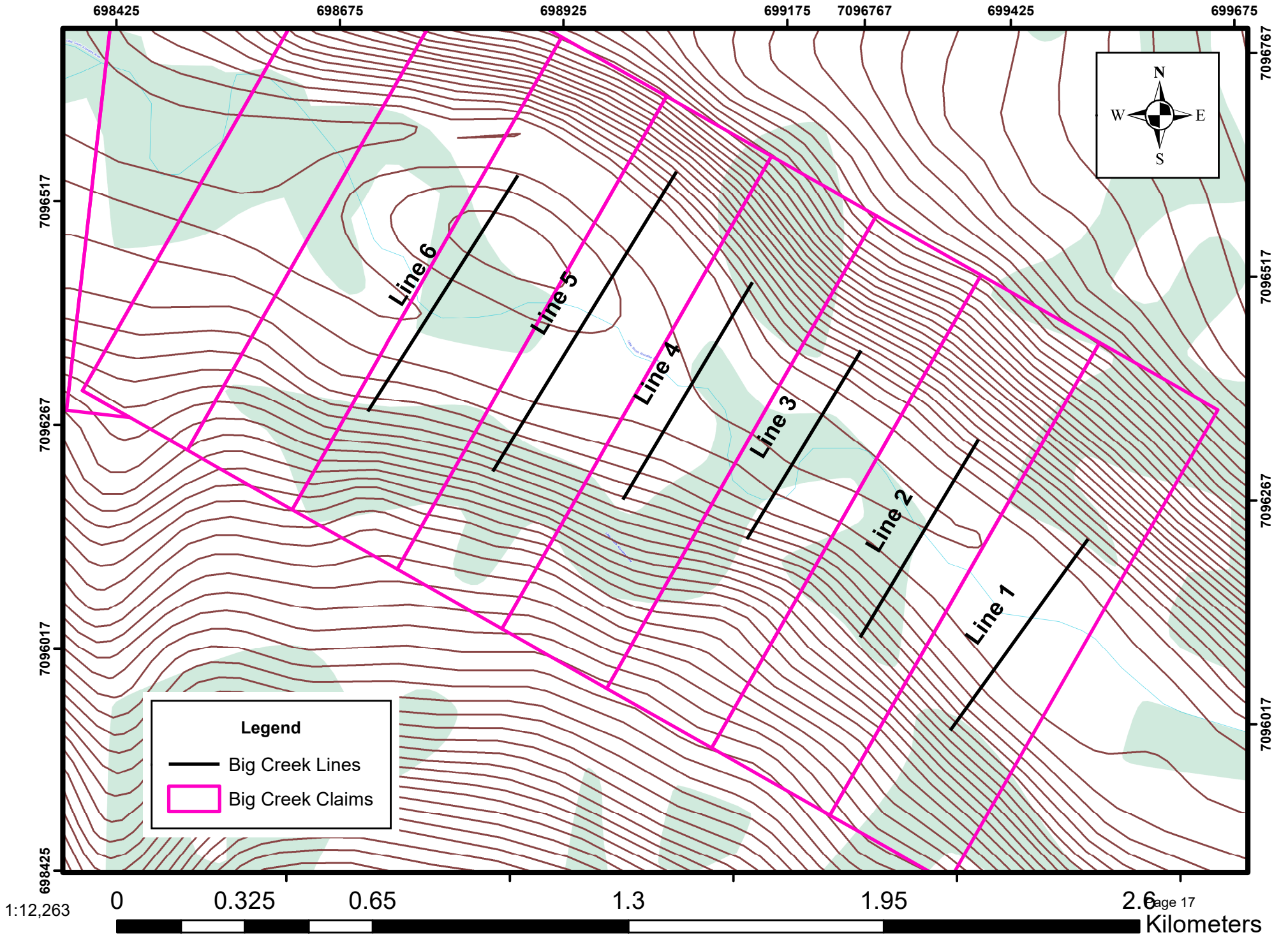
1. I am a graduate of the University of Calgary with a B.Sc.in Geophysics. I am also a graduate of the Southern Alberta Institute of Technology and hold a diploma in Exploration Technology.
2. I have received training from the manufacturer of the instrument used in this survey in the application of field techniques and interpretation.
3. I have worked in the exploration industry and have been conducting geophysical surveys since 2008.
4. This report is compiled and interpreted from data obtained from a passive seismic survey carried out under my field supervision.
5. I have based the conclusions and recommendations contained in this report on my knowledge of geophysics, my previous experience, and the results of the field work conducted on the property.

Appendix I: Maps and Data

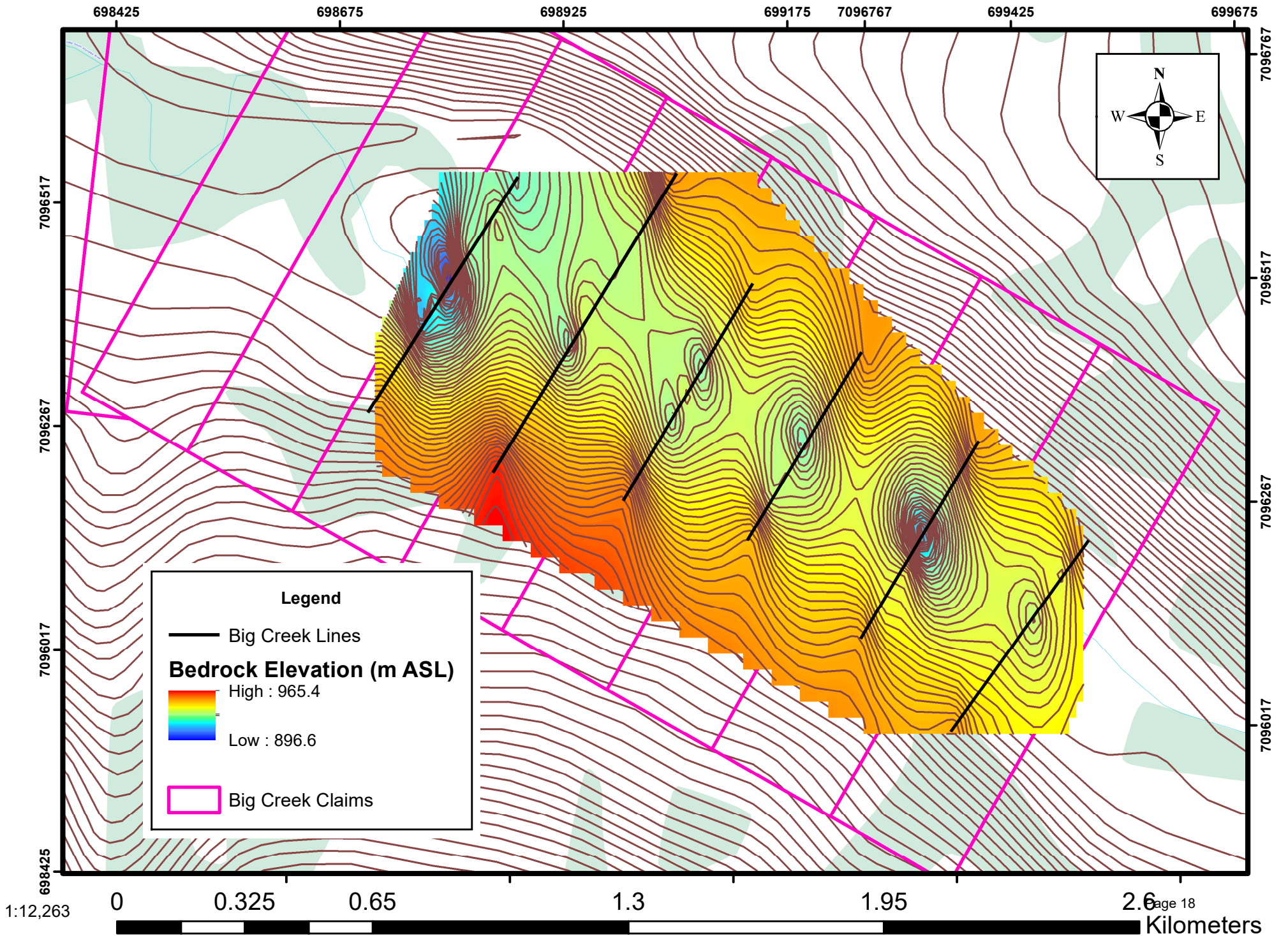
Big Creek 2023 - Seismic Stations



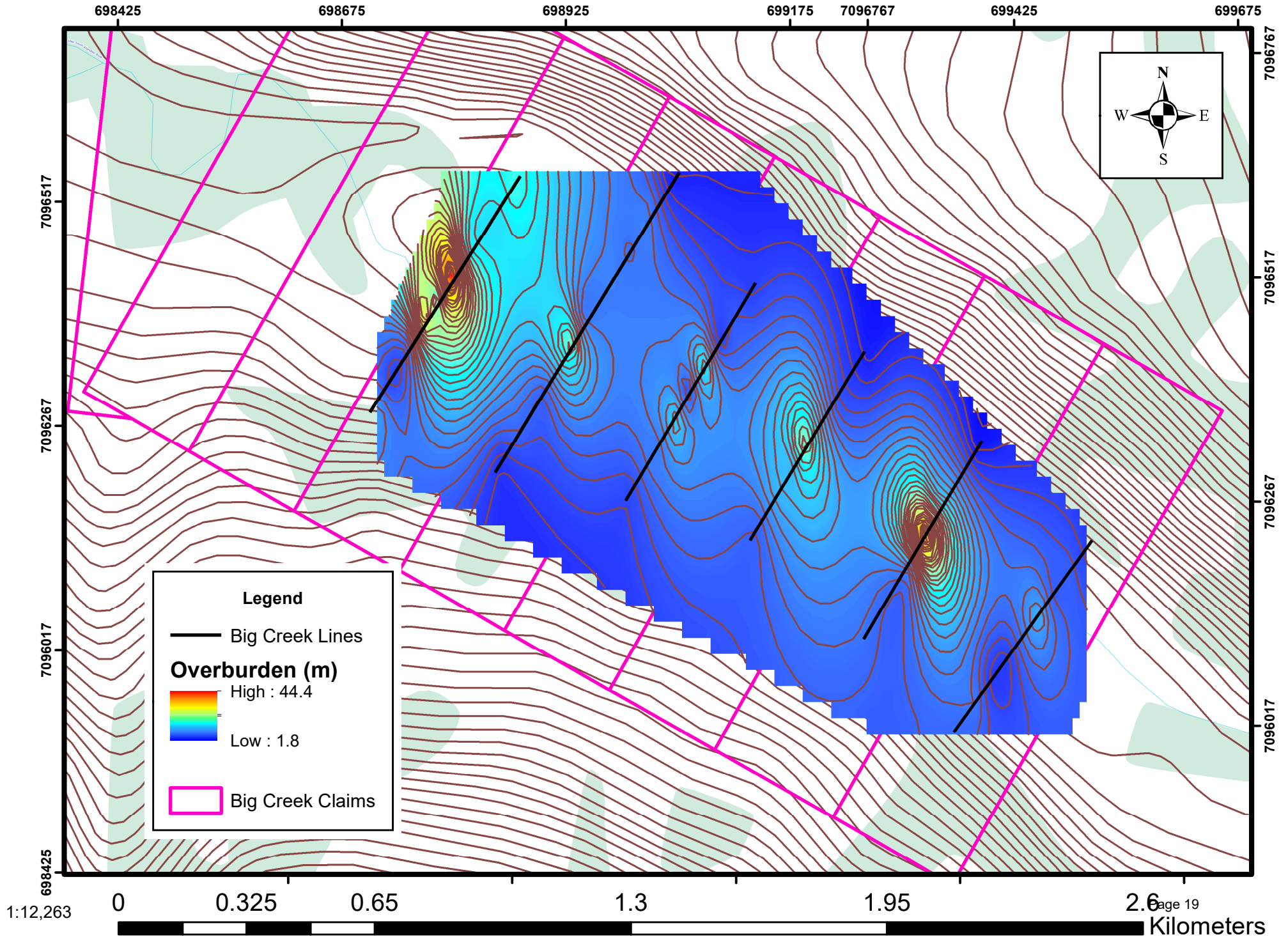
Big Creek 2023 - Seismic Lines



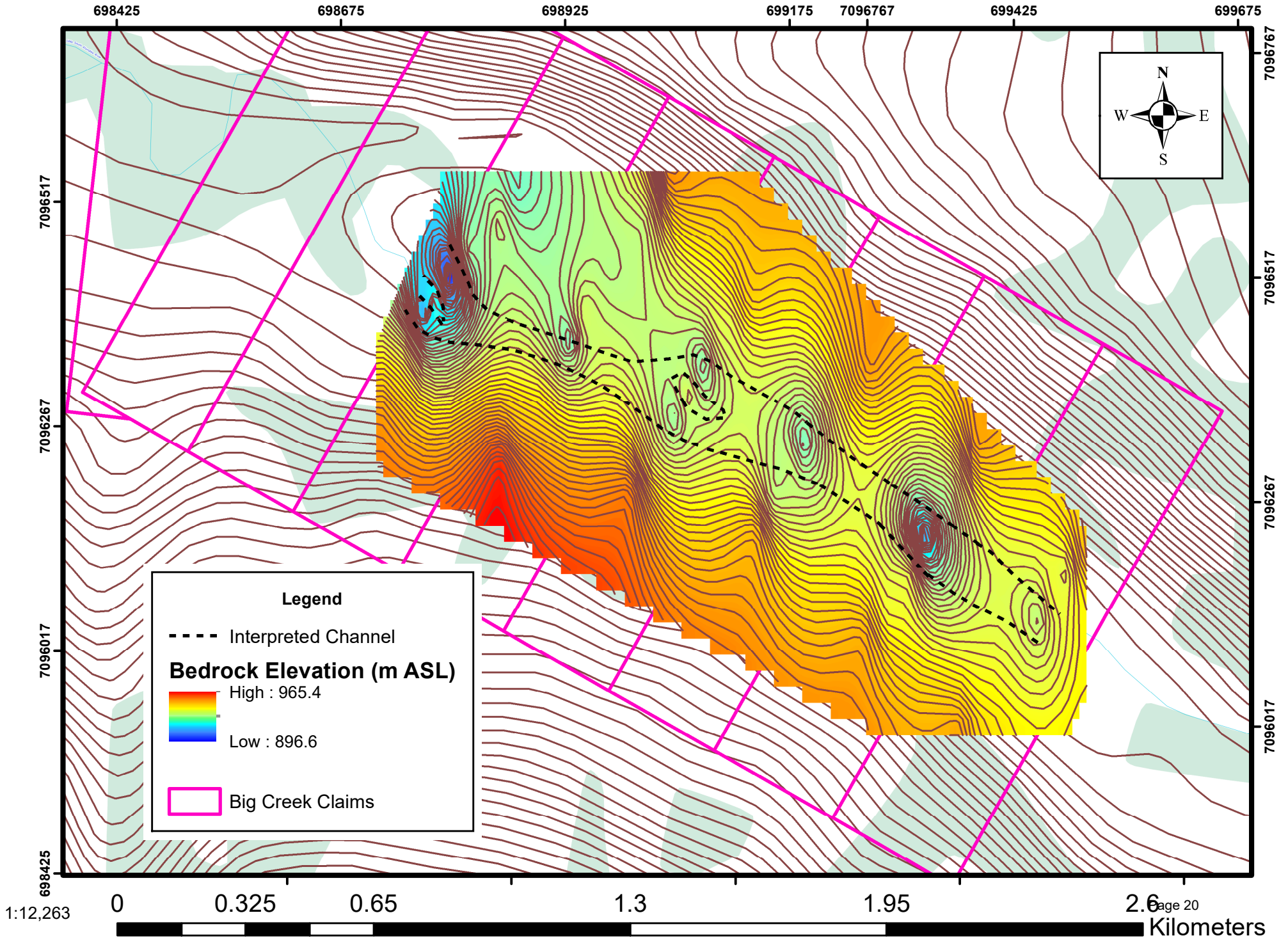
Big Creek 2023 - Bedrock Elevation



Big Creek 2023 - Overburden Thickness



Big Creek 2023 - Interpretation

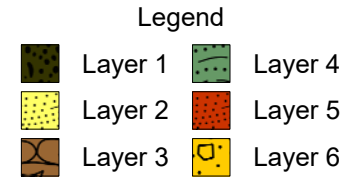


Appendix II: Cross Sections

Big Creek

Passive Seismic 2023

Line 1



L1S1

L1S2

L1S3

L1S4

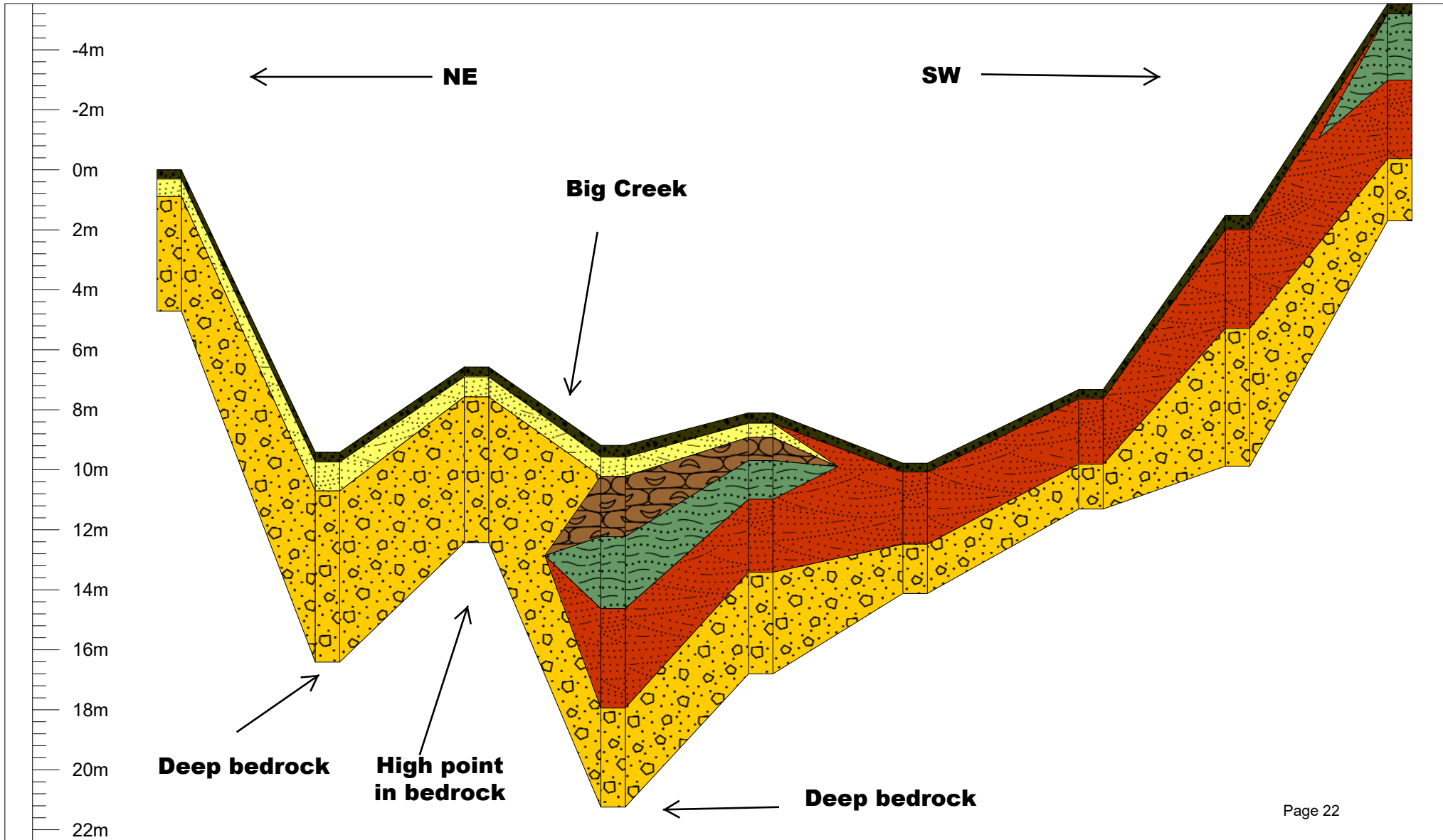
L1S5

L1S6

L1S7

L1S8

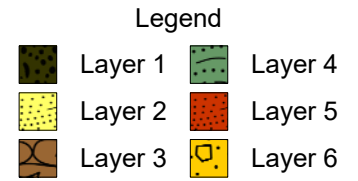
L1S9



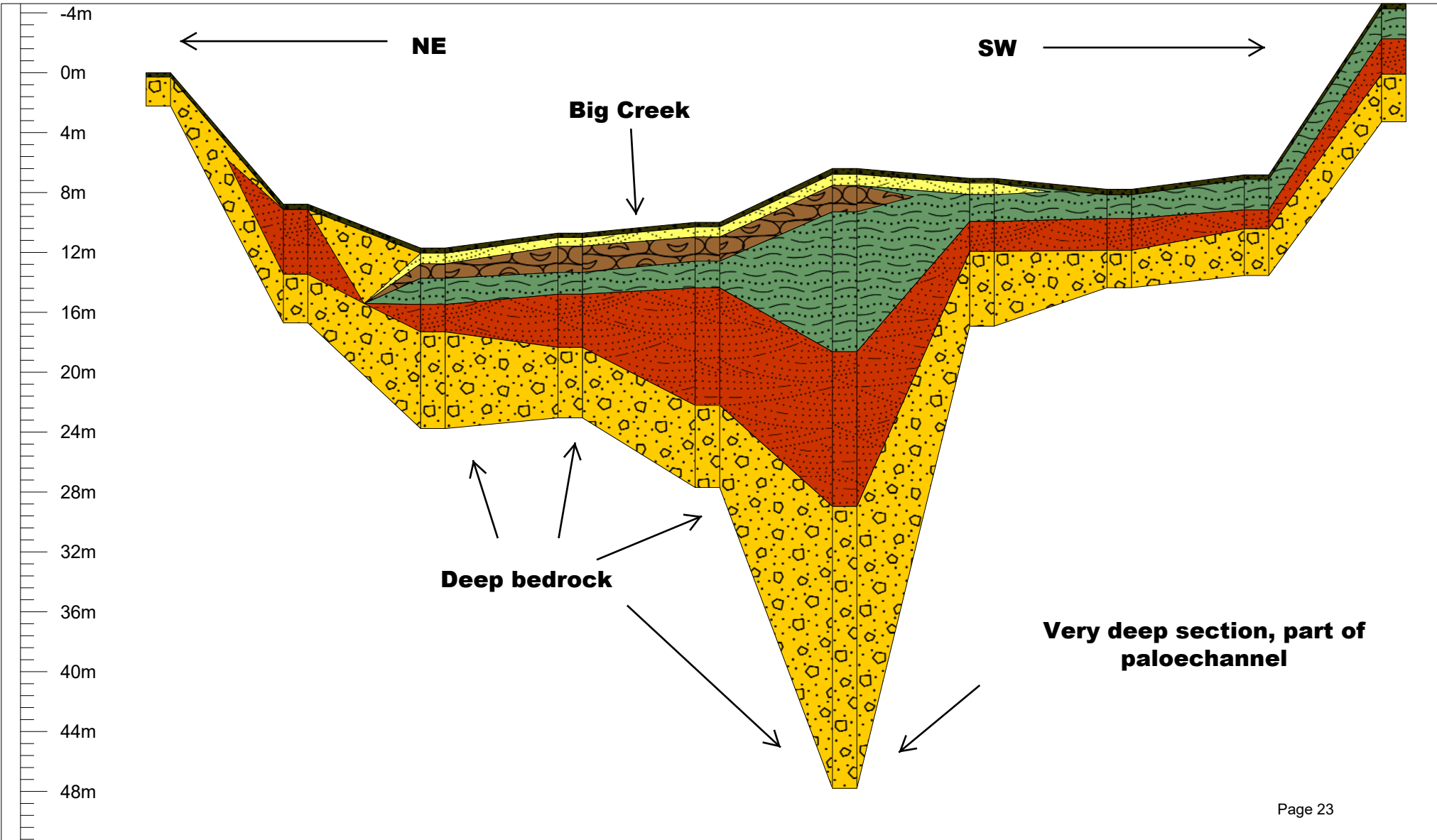
Big Creek

Passive Seismic 2023

Line 2



L2S1 L2S2 L2S3 L2S4 L2S5 L2S6 L2S7 L2S8 L2S9 L2S10



Big Creek

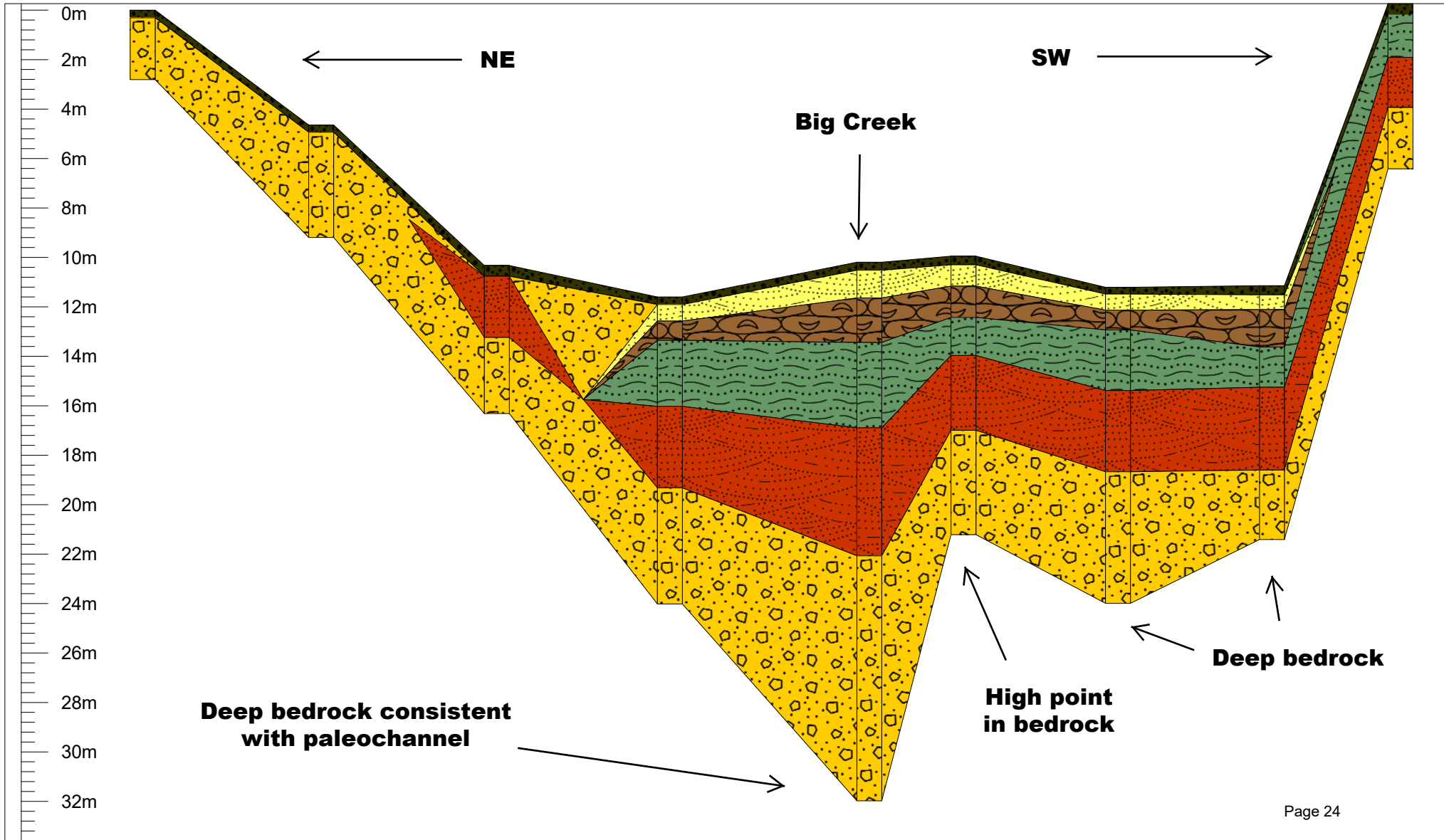
Passive Seismic 2023

Line 3

Legend



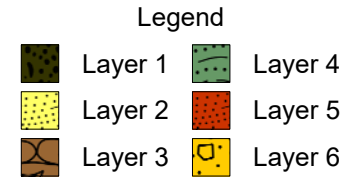
L3S1 L3S2 L3S3 L3S4 L3S5 L3S6 L3S7 L3S8 L3S9



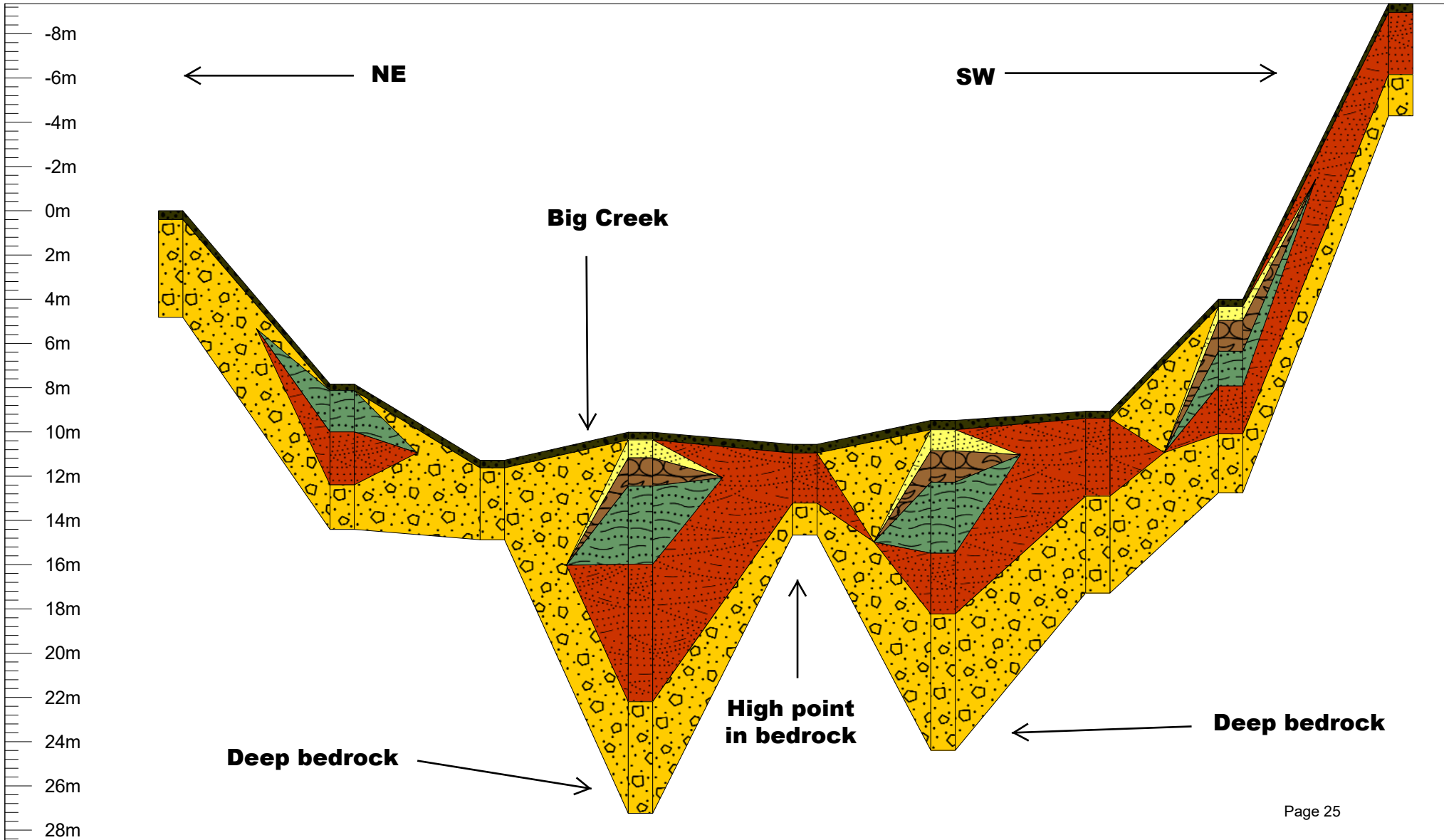
Big Creek

Passive Seismic 2023

Line 4



L4S1 L4S2 L4S3 L4S4 L4S5 L4S6 L4S7 L4S8 L4S9



Big Creek

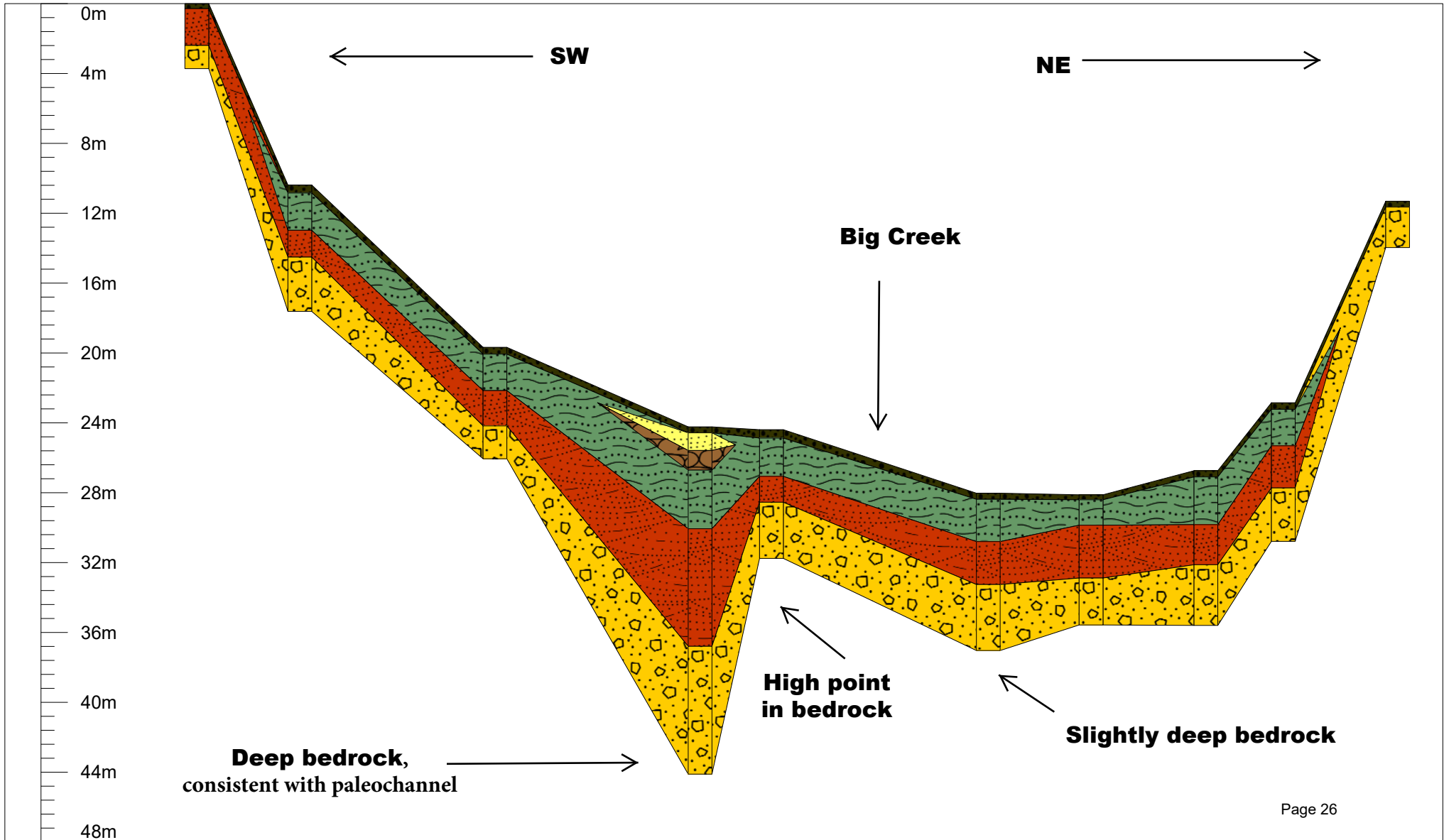
Passive Seismic 2023

Line 5

Legend



L5S1 L5S2 L5S4 L5S6 L5S7 L5S8 L5S9 L5S10 L5S11 L5S12



Appendix III: Invoice

WCP West Coast Placer LTD.
 32612 Mitchell Ave
 Mission, BC V4S 1M3
 Phone: 778-255-0289

DATE
 Invoice #
 CUSTOMER ID

2023-08-15
WCP-643
YEG-001

CUSTOMER

Yukon Exploration Green Gold Mining Inc
 17 Rabbit Creek Rd
 Dawson City, YT
 Y0B 1G0

DESCRIPTION	Unit Price	QTY	AMOUNT
Seismic Survey on Big Creek Claim			
Placer Bedrock Survey - Rates based on 10 hr day			
Geophysical Technician	\$900.00	3	\$2,700.00
Equipment Costs	\$600.00	3	\$1,800.00
Survey Technician #1	\$500.00	3	\$1,500.00
Survey Technician #2	\$500.00	3	\$1,500.00
Survey Planning	\$900.00	1	\$900.00
Data Processing and Interpretation	\$800.00	1	\$800.00
Report Writing	\$350.00	1	\$350.00
Mob/Demob Costs, travel, etc	\$475.00	1	\$475.00
Accommodation	\$280.00	3	\$840.00
		Subtotal	\$ 10,865.00
		Other	
		TOTAL	\$ 10,865.00

Thank You For Your Business!