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To: Mitch Burns & Bert Sexton September 21, 2017
From: Fred Saunders
RE: Ascente Trenches

I was contacted by Mitch Burns of Lumos & Associates (Lumos) to see if I would go out to Ascente Property and evaluate the trenching that their doing. The objective of the trenching is to determine if the faults previously mapped by geologist from the Nevada Bureau of Mines and Geology and myself actual exist and if they extend onto the proposed Ascente development (Figure 1 Fault and trench map of Ascente Property).

I met Bert Sexton at the property on September 20, 2017 and we proceeded to Trench 1, located on the northeast corner of the property. The trench locations are plotted on figure 1 and the coordinates are tabulated in appendix A. Bert Sexton, the onsite engineer, supervised cutting the trenches that were located in the field by Mitch Burns of Lumos.

Faults

The faults on the property can be divided into two types. The first type are faults within or separating the volcanic units. These are not significant faults as they are believed to be quite older. The geologic mapping did not find any indication that these can be traced into alluvial or show offset of the alluvial. These fault usually trend in a northeast or northwest direction.

The second type of faults are the north-south faults that separate alluvial from bedrock volcanics. These faults are the significant faults as they are younger and potentially more active. The Galena Creek fault which is inferred to lie just off the west edge of the property is a typical example

of this type of fault as it separates outcropping volcanic units on the east from outwash deposits (? landslide breccia) on the west. It is mapped as a concealed fault by Romanelli & others (Preliminary Revised Geologic Map of the Reno Urban Area, Nevada, 2011). Concealed faults mean there is no surface evidence that the fault exist other than a linear feature. Their mapping shows that this north-south trending fault takes a sharp northeast turn across the north end of the Ascente property and then turns back north-south north of the property. The author believes that these are two different north-south faults and that there is no evidence to connect them (See Geology Map).
All trenches were surveyed using a handheld GPS (Nad 27 Zone 11 UTM coordinates). The trenches were photographed, but the sun angle and cloudy conditions were not conducive for good photographs (Photos attached).

Trench 1
Trench 1 is a 55 foot long roughly east-west trench that parallels the north property line. It was designed to cut a N 50°W trending fault that is defined by linear contact separating andesite's and dacites. The trench did not extend far enough to the east to intercept the fault. The last few feet on the eastern end of the trench did have some iron stained clay that could indicate it was getting near the fault.
The location of the fault doesn't affect any of the development plans for the project so it was decided not to extend the trench any further east.

Trench 2
Trench 2 is located on the northwestern edge of the property. It is 85 feet long and dug in an east west direction paralleling the north property line. It was designed to test the extension of the large north-south trending proposed Galena Creek fault that follows Galena Creek. This fault separates the outcropping dacitic and andesitic volcanics on the east from outwash deposits (thought to be a landslide breccia) on the west that is derived of dominantly large granitic boulders.

The trench did not intercept the fault as the fault projects further west off the Ascente Propety on the geologic map and therefore should not effect the Ascente development. The alluvial consisted mostly of rounded boulders of dacites from the hill to the east. There were a few decomposed boulders of granitics on the west end that would have come from a western source.

Trench 3

This trench is on west edge of the property line approximately 1,150 feet south of trench 2. It is 75 feet long in an east-west direction. It was designed to test the same north-south trending fault. The fault was not recognized in the trench but there was a dark clay zone. The dark clay zone is believed to be from the bottom of the existing drainage. The trench contained numerous large rounded boulders of granitics on the west end and more angular cobbles of dacitic volcanics on the east end, this suggests a fault could be located further to the west off the Ascente property. The fault believed located to the west of the trench should not effect the Ascente development.

Trench 4

This trench is again an east-west trench located near the west edge of the property approximately 100 feet south of the turnoff to the water tower road. The trench was 80 feet long. It was designed to test the same north-south trending fault located near the west edge of the property. The trench did not cut the fault zone as the trench was located too far to the east. It did intersect a small N30°E near vertical fracture zone within the dacitic volcanics. This fracture is believed to an older feature as it is within the dacitic rocks and of little significance to the project.

Trench 5

This was an added trench located approximately 300 feet southeast of trench 4. It was designed to test a north-south striking fault that separated outcropping dacitic rocks on west from alluvial on east

(Saunders Geologic Map 2016). This trench was deemed important as it was within designed lots in the development.
The east-west trench was only 40 feet long. The west end of the trench was cut down 4 feet to outcropping dacite. At about ½ way in the trench the fault was cut. The alluvial had a marked color change and represented a sharp drop off of basement depth. The trench was cut 15 feet deep on the east side of the fault and never encountered bedrock, thus indicating a vertical offset. This fault will need to have a 50 foot offset designed in the Ascente plot plan.
The projected core hole located east of the trench could be moved closer to the trench to see if it encounters bedrock at a reasonable depth.

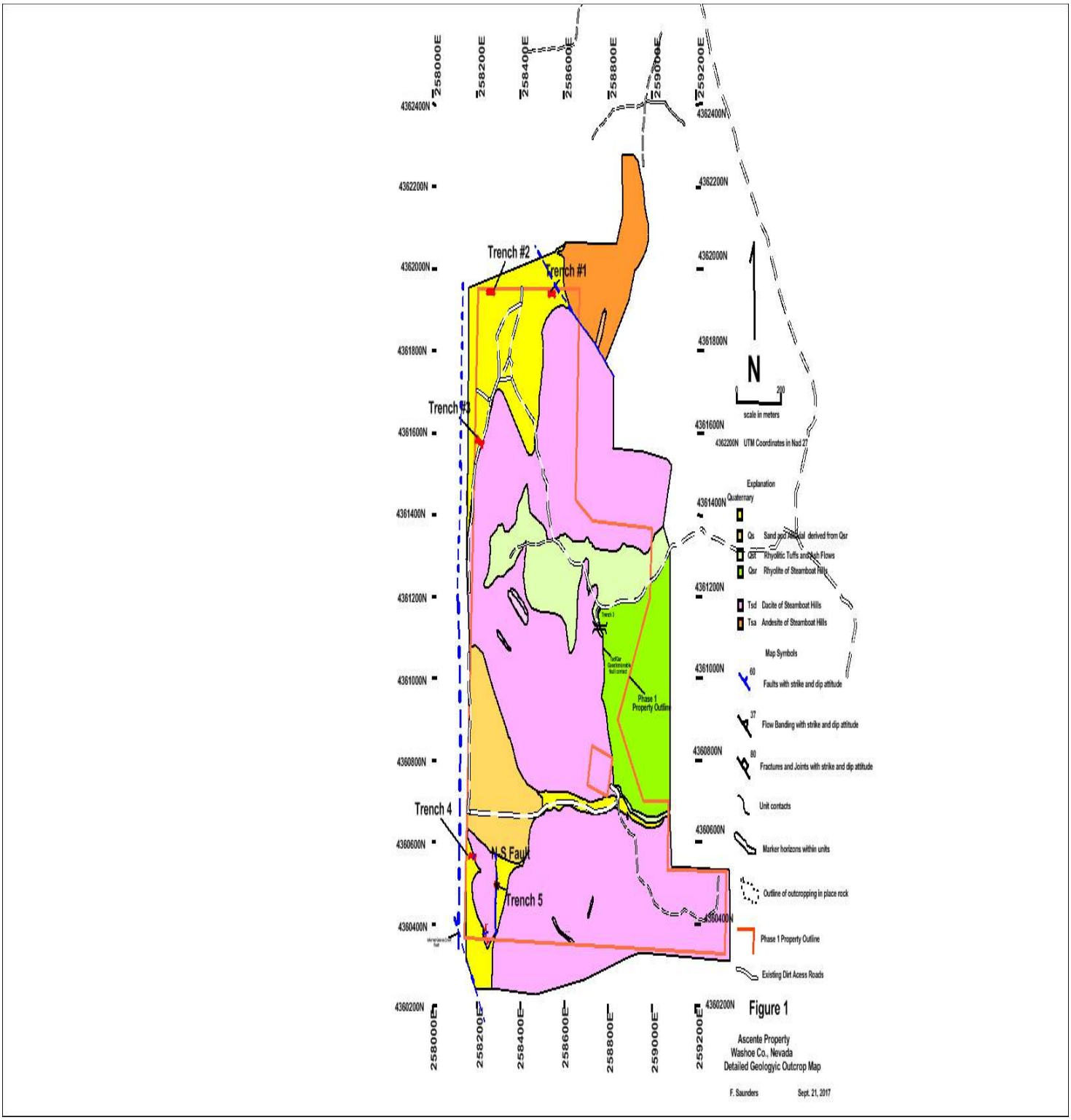
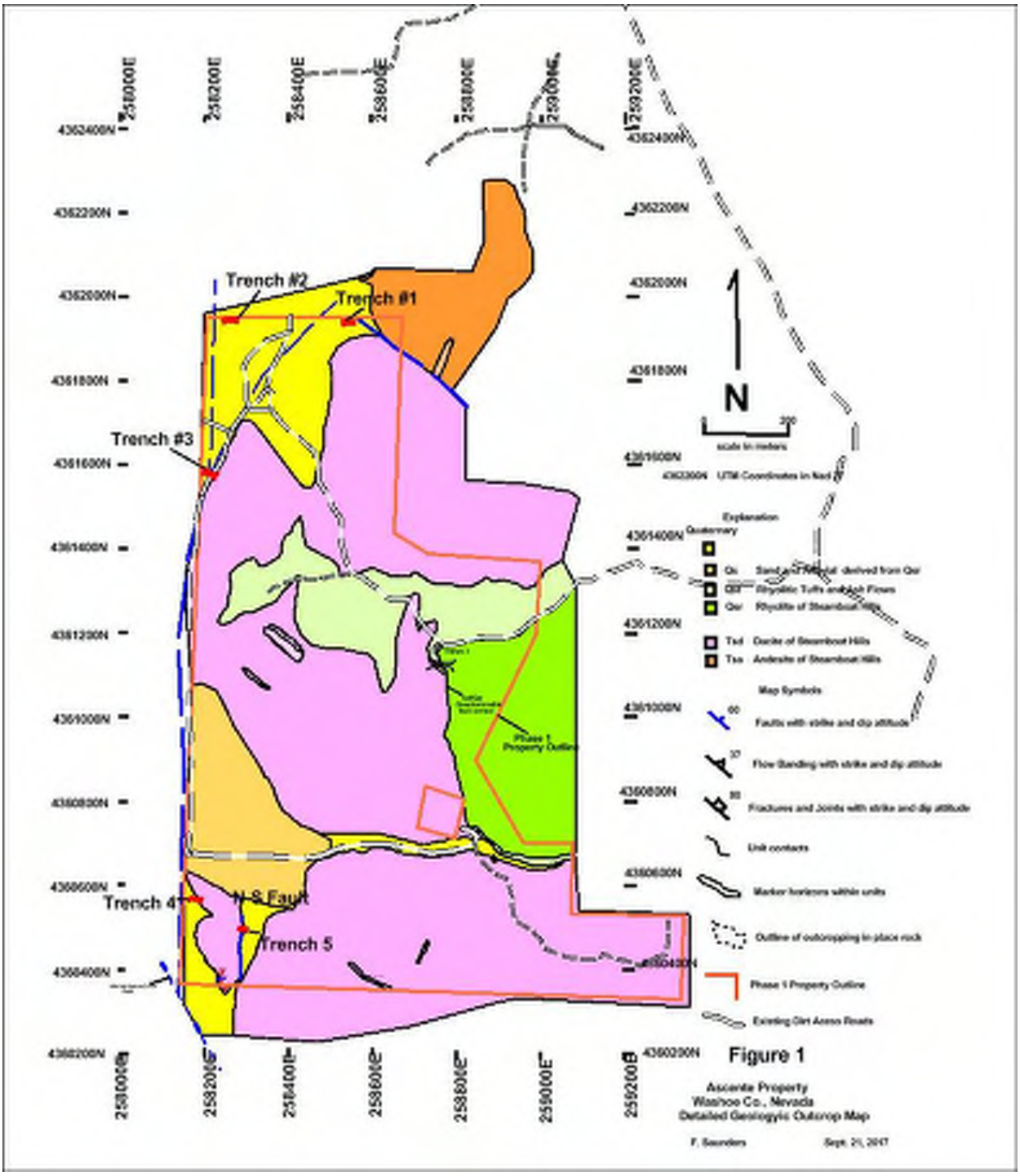


Figure 1 Geology Map showing 2017 trenches


Trench #2
Trench #1
Trench #3
Trench 4
N-S Fault
Trench 5
N
Phase 1 Property Outline
Figure 1
Ascente Property
Washoe Co., Nevada
Detailed Geologyic Outcrop Map
F. Saunders
Sept. 21, 2017

Appendix A

Trench #	Location	Easting	Northing	Discription
Trench 1	West end	258535	4361938	Qal with angular dacite boulders
Trench 1	East End	258552	4361939	same with some red clay at end
Trench 2	West end	258251	4361942	Qal with some granitics boulders
Trench 2	East end	258277	4361943	Qal with rounded dacite boulders
Trench 3	West end	258203	4361586	Qal with mostly granitic boulders
Trench 3	East end	258226	4361576	Qal with angular dacite cobbles
Trench 3	Fault	258215	4361582	dark clay zone in Qal
Trench 4	West end	258168	4360567	Qal with angular dacite cobbles
Trench 4	East end	258193	4360565	dacite bedrock
Trench 4	Fault	258188	4360565	N30°E 55°SE fault in bedrock
Trench 5	West End	258287	4360500	4’ to dacite bedrock
Trench 5	East End	258299	4360496	15 ft. all alluvial
Trench 5	N-S Fault*	258291	4360500	soil color change 15 ft. drop no dacite

*Trench was too dangerous to get into to get attitude on fault.

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- To: Mitch Burns November 3, 2017
- From: Fred Saunders

Re:Seismic Findings Report Issues – Ascente Project

I was asked by Mitch Burns to review the findings report submitted by Gasch Geophysics Services (GES) of Rancho Cordova, California. More specifically I was asked to review siesmic line RS-4 in relationship to my interpretations of the fault scenario at the Ascente Property.

I reveiwed the report and feel the possible fault zone in siesmic line RS -4 could be reinterpretated as a bedrock or basement high. Seismic geophysics essentially measures variances in the density of the material that it encounters and reflects various sound waves velocities back to the surface. Denser rocks such as outcrops will reflect higher velocity sound waves than lower density rocks such as alluvial.

If you compare Line RS-4 to line RS-5, where in line RS-5 we definitely hit the N-S fault that that can be seen on the google earth base map of GES. In line RS-5 There is a marked break in seismic profile right at the fault, (shown in blue on my figure below) showing a decrese in wave speed on the hanging wall side of the fault. Indicating this a normal fault dipping eastward with a small downdropped displacement on the east or hanging wall side of the fault which is what we saw in Trench 5. This is typical of horst and graben faulting within the Basin and Range Province of Nevada.

Line RS-4 on the does not show this same pattern. It shows a zone that GES has outlined as a possible fault zone in the Seismic Velocity Section – RS-4 as a higher density material sourrounded on both sides by a lower

density material. Indicating this a bedrock high surrounded by gravels or alluvial shwon in red on attached Seismic Line RS-4 profile.

This seismic anomaly is located just north of an outcropping ridge that is interpretated to extend out under the alluvial to the north as shown on the attached Ascente Geologic map and enlargement map . The attitudes, although somewhat chaotic on the geologic map, due roughly indicate that the outcropping ridge of dacite bedrock is is elongated in a north-south direction and dipping back to the west, which is what the seismic data indicates.

Other less likely, but possible options could be it is an intrusive high similar to the rhyolitic intrusive located ½ mile to the southeast. The choatic nature of the flow bedding attitudes also might indicate that this maybe an older vent area for the volcanics.

A shallow (100 feet deep) reverse circulation drill hole located in the center of the high on seismic line RS-4 would test the bedrock extension and hopefully help resolve the question.

RS Line Location Map

Base Map Courtesy of Google Earth Pro

Figure 2

0 250' 500' 1000'
Scale: 1" = 500'

North

Refraction Seismic Investigation:
Ascenté Development Site

Prepared for: ***Lumos & Associates***

Project Number: 2017-29.01 *Date:* October, 2017

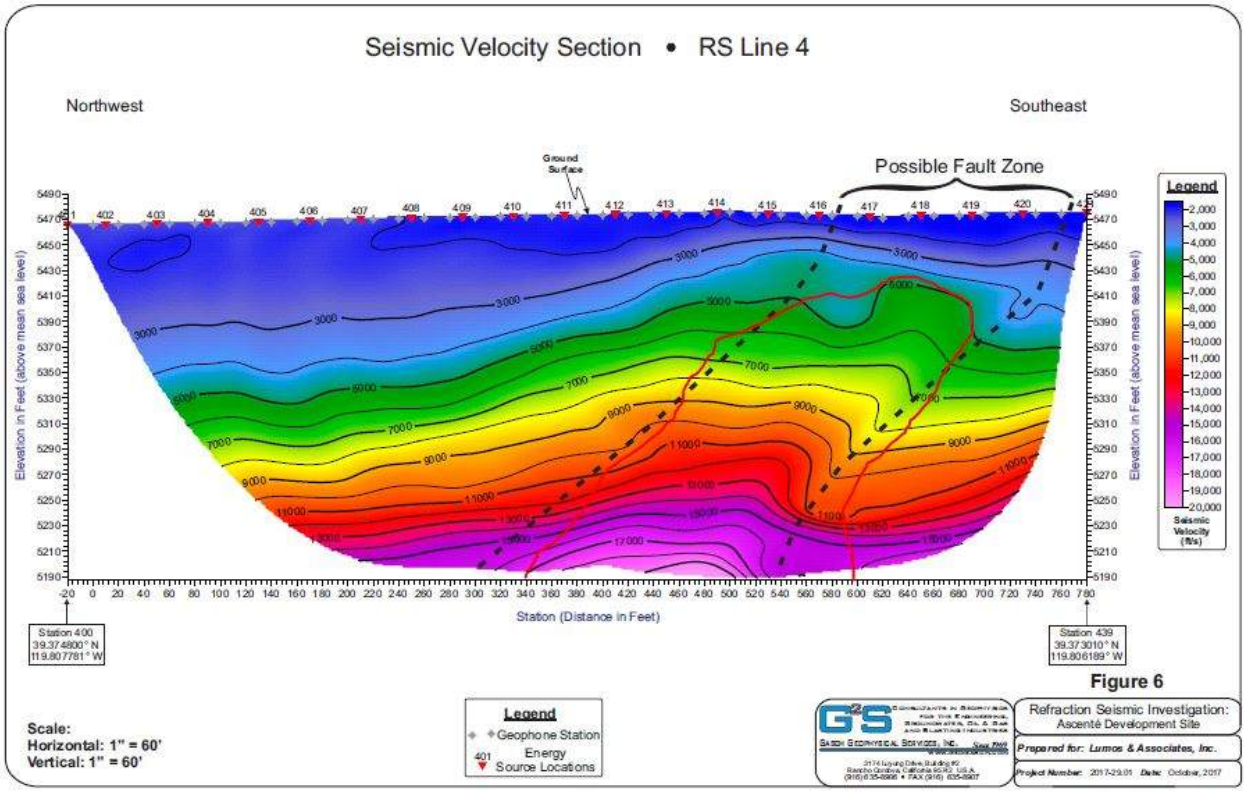


Figure 6

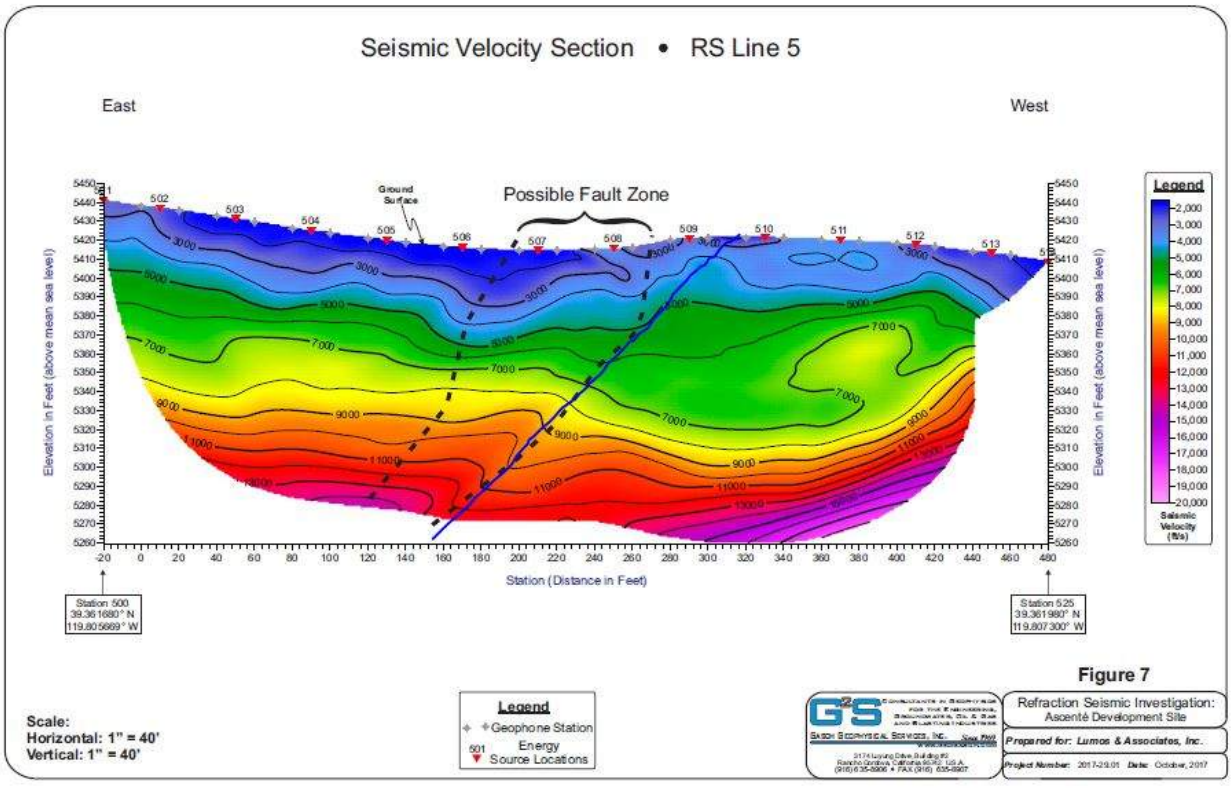
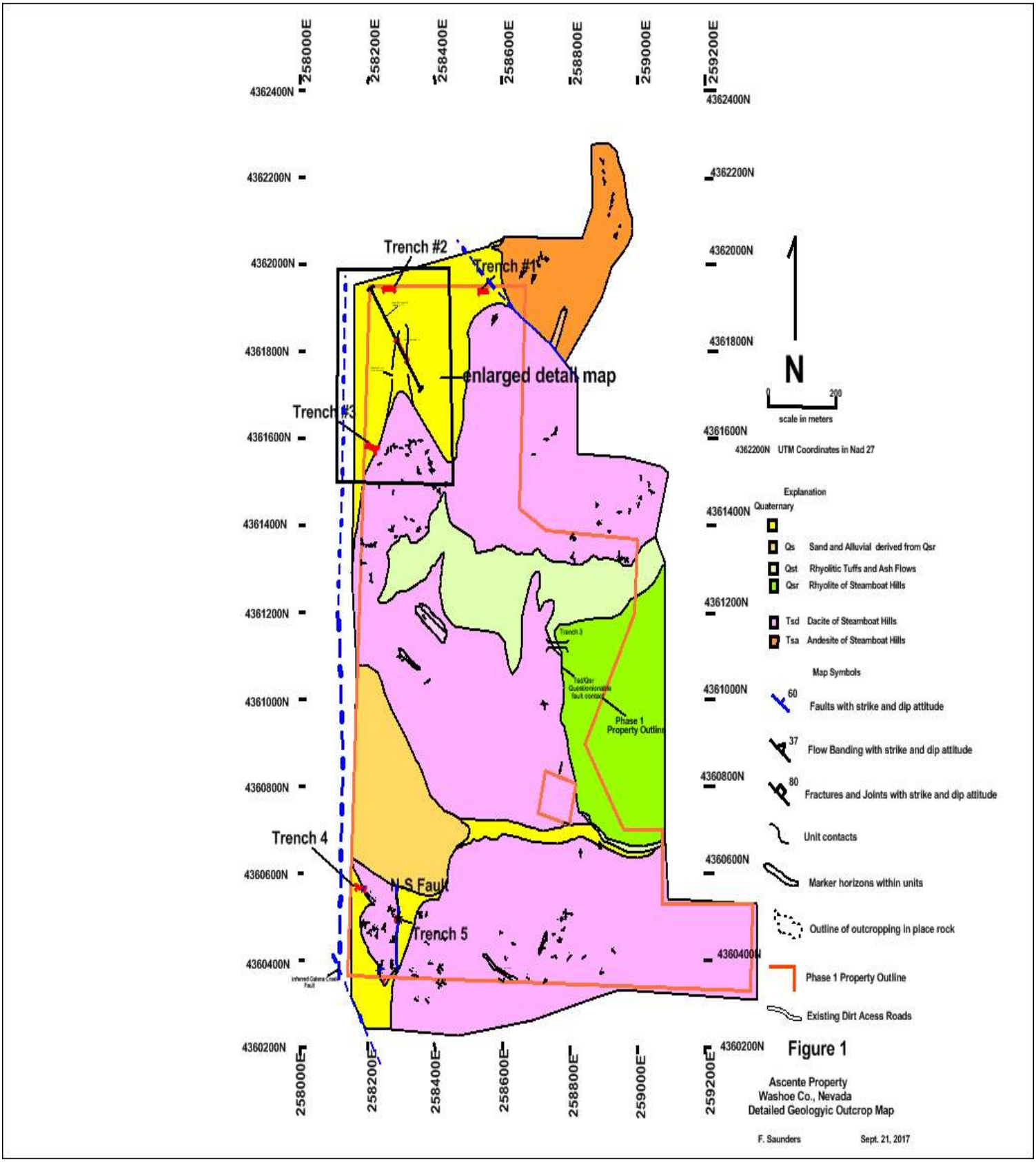
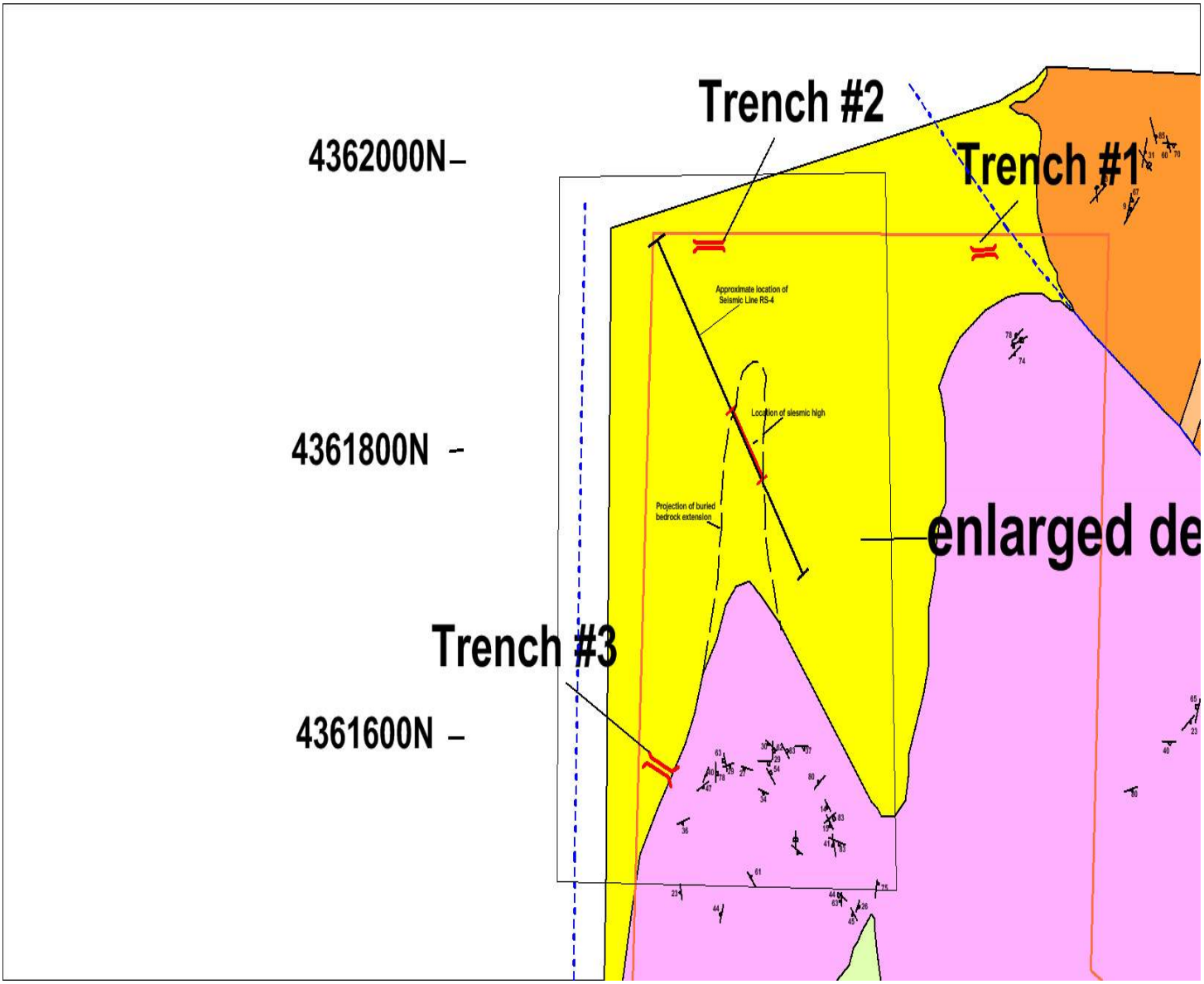


Figure 7

GES seismic lines RS-4 & 5 with new interpretation.



Ascente Geology map showing block of enlarged area and seismic line RS-4.



Enlarged Ascente Geology Map with Siesmic line RS-4 and Proposed bedrock extension.