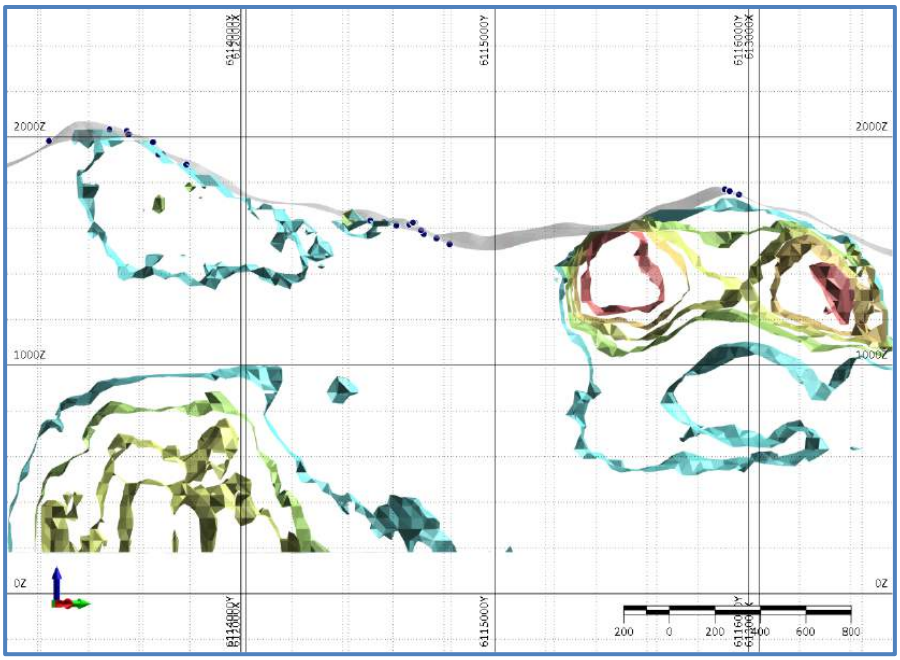
3D Porphyry Footprint Modeling, Red Springs, British Columbia Jaxon Mining Inc May 2021



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Introduction

The goal of this work is to generate 3D targets indicating possible porphyry copper mineralization in the Red Springs, British Columbia project area. The input data for the work are geochemical data for soil and rock chip samples that were provided to Fathom Geophysics by Jaxon Mining Inc with coordinates in NAD83 UTM Zone 9N. This coordinate system was used for all outputs.

Description of Data

The distribution of samples are shown in Figures 1 and 2. All rocks samples have been analyzed for 9 of the 11 elements that we use for porphyry footprint analysis with suitable detection limits. The samples do not have analyses for Li and Sn. The western half of the soil survey samples have been analyzed for the complete suite of elements show in Table 1 white the eastern half lacks W analyses but has analyses for the other elements.

The rock sample distribution is irregular with significant gaps in some areas (Figure 2). The targeting will not be effective in areas with large gaps.

Footprint Modeling Method

The porphyry footprint modeling method works by taking an idealized model of a porphyry copper system and moving it through 3D space. The core of the system is placed at every voxel in a 3D model. At every voxel, the fit between observed data and the idealized model are examined and a score is assigned with a value between 0 and 1.

A value of 1 indicates that the geochemical data perfectly match the idealized porphyry model and there is a high likelihood of a porphyry core at the pixel location. A value of 0 indicates that the data do not match a porphyry system at all and there is a low likelihood of a porphyry core at the pixel location. When looking at soil samples, we typically look for values greater than 0.2 over approximately 1km distance for a high-quality target.

The idealized model used for this work was been derived from Halley et al (2015). The geochemical model (Figure 3) is largely derived from Yerington but does include zonation information from other significant porphyry deposits.

The thresholds from the published models are not typically valid to use with soil samples due to leaching during weathering. We use the 90th percentile for each element in the soil dataset as the threshold values while preserving the geometry of the published models. The thresholds used for the models are shown in Table 1.

Footprint Modeling Results

The following footprint models were delivered:

- Halley model on soils using 90th percentile threshold unmasked (Red_Springs_Rocks_Halley_3DTargeting)
- Halley model on soils using 90th percentile threshold masked to show only well-constrained areas (Red_Springs_Rocks_Halley_3DTargeting)
- Halley model on rocks unmasked (Red_Springs_Soils_Halley_90th_3DTargeting)
- Halley model on rocks masked to show only well-constrained areas (Red_Springs_Soils_Halley_90th_Const_3DTargeting)

The results of the processing are shown in Figures 4-7. Table 2 summarizes the targets derived from the results.

The scores in the soil processing are lower than those in the rock processing. This is to be expected because of the way the model thresholds are derived for the soil analysis. The scores in both the soils and rocks are high for the respective methods indicating that the area is highly prospective for porphyry mineralization.

Targets FG-RS-1A, -1B, and -1C are all located in the same general area in the northern part of the soil survey. The targets are generated with both the soil and rock results. This area has a good chance of having exposed porphyry copper mineralization. The targets model close to the surface and have high scores. The soils target (FG-RS-1A) is the most likely location for mineralization and is a drill-ready target. Targets FG-RS-1B and FG-RS-1C should have additional rock sampling completed over them.

Targets FG-RS-2A and -2B are both generated from the rock data and are located at very similar X-Y positions. FG-RS-2A models close to the surface while FG-RS-2B is at a depth close to 1km. FG-RS-2B has higher scores suggesting that the target is relatively deep. However, in-fill sampling should be completed to rule out the possibility of a near-surface target in the vicinity and to better constrain the depth of FG-RS-2B.

Targets FG-RS-3A and -3B are both poorly constrained and located near the western edge of the soil survey. FG-RS-3A was generated using the rock results while FG-RS-3B was generated using the soil results. They appear to be highlighting the same hydrothermal system, but both would require additional sampling to determine the appropriate location of the target.

Target FG-RS-4 is an area with a few rock samples that look like they are from the distal part of a porphyry system. Sampling in the area should be expanded to determine where the core of the system is.

Footprint Modeling Results (Continued)

Targets FG-RS-5 and FG-RS-6 have high scores but model very deep. These areas may be more prospective for epithermal mineralization than porphyry mineralization due to the level of exposure.

Most of the targets would benefit from additional rock and/or soil samples. Any sampling should be done as close to equally spaced as possible and the samples should be representative samples of an area and not samples of individual veins.

The analytical package used for the soils analyzed in 2020 is better than the package used for earlier samples as it include tungsten. The more recent analytical package should be used for future samples.

Any additional rock samples should be analyzed with a four-acid digest and an ICP-MS finish with an analytical package that includes As, Bi, Cu, Li, Mo, Sb, Se, Sn, Te, Tl, and W.

Reference

Halley, S., Dilles, J.H., and Tosdal, R.M., 2015, Footprints: Hydrothermal alteration and geochemical dispersion around porphyry copper deposits. SEG Newsletter, no. 100, pp 1 and 12-17.

Threshold table

Table 1: Table showing the Halley model and the 90th percentile thresholds for the Red Springs soil data. Analyses for Sn and Li are available for the soil data, but the rock samples were not analyzed for these elements.

Model	As	Bi	Cu	Li	Mo	Sb	Se	Sn	Te	Tl	W
Halley model	50	1	1000	15	5	4	4	4	1	1.5	5
90th Percentile	53.6	45.36	763.2	26.8	98.4	17	1.1	0.8	2.1	0.4	49.4

Target table

Table 2: Table showing the targets highlighted by the footprint modeling processing applied to the Red Springs soil and rock data.

Target	Model	X	Y	RL	DEM	Depth	Ranking	Comments
FG-RS-1A	**Rocks and soils**	612990	6115930	1730	1760	30	1	Near surface target highlighted by both the soil and rock samples. The soil data are better constrained in the area, so the location indicated here is derived from the soil data.
FG-RS-1B	**Rocks**	612700	6115520	1585	1620	35	1A	Area just SW of FG-RS-1A that is a higher scoring part of the target in the rock data. The rocks are poorly constrained in this area, so additional sampling would be required to verify the target.
FG-RS-1C	**Rocks**	613300	6120320	1530	1570	40	1B	Area just NE of FG-RS-1A that is a higher scoring part of the target in the rock data. The rocks are poorly constrained in this area, so additional sampling would be required to verify the target.
FG-RS-2A	**Rocks**	611680	6113990	1840	1840	0	2A	Shallow target directly over FG-RS-2B. The shallow target scores somewhat lower. Additional sampling would help constrain the target better.
FG-RS-2B	**Rocks**	611900	6113950	780	1830	1050	2B	Deep target directly under FG-RS-2a. The shallow target scores somewhat lower. Additional sampling would help constrain the target better.
FG-RS-3A	**Rocks**	611500	6115520	1330	1570	240	3A	Relatively poorly constrained target on the west side of the soil survey. I think this is the same system being targeted by the soils at FG-RS-3B, but neither the soils nor rocks are well-constrained in the area.
FG-RS-3B	**Soils**	611140	6115100	1110	1730	620	3B	Relatively poorly constrained target on the west side of the soil survey. I think this is the same system being targeted by the rocks at FG-RS-3A, but neither the soils nor rocks are well-constrained in the area.
FG-RS-4	**Rocks**	614380	6117690	1450	1970	520	4	Area with very few samples. The target is poorly constrained.
FG-RS-5	**Rocks**	614250	6114070	200	1620	1420	5	Poorly constrained and deep target. May be more of an epithermal setting.
FG-RS-6	**Rocks**	609950	6112070	490	1570	1080	6	Poorly constrained and deep target. May be more of an epithermal setting.

Location map – Soil samples

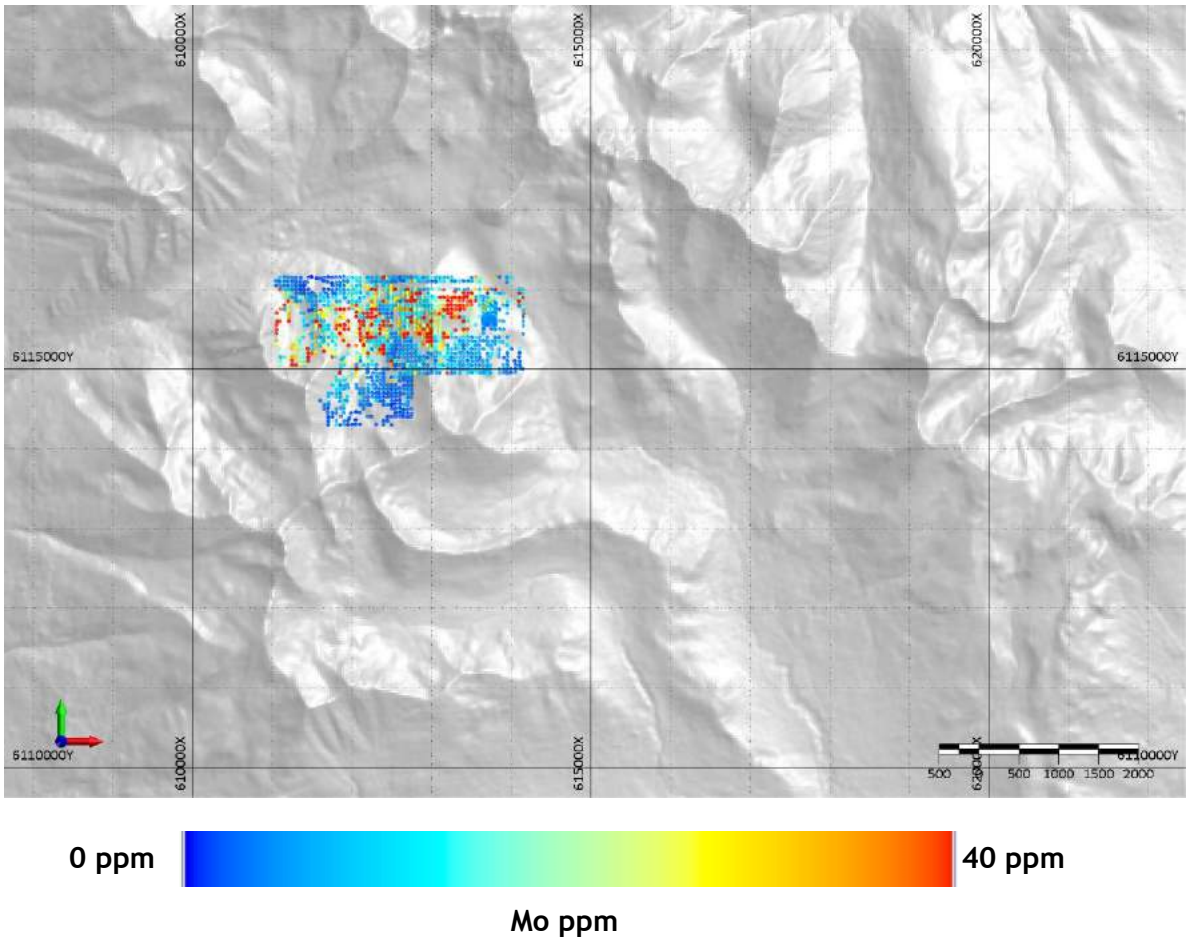


Figure 1: Soil sample locations for the Red Springs project area colored by Mo concentration. The Mo values are quite high in the area. The rocks samples for the area cover a larger region as indicated in **Figure 2**.

Location map – Soil samples

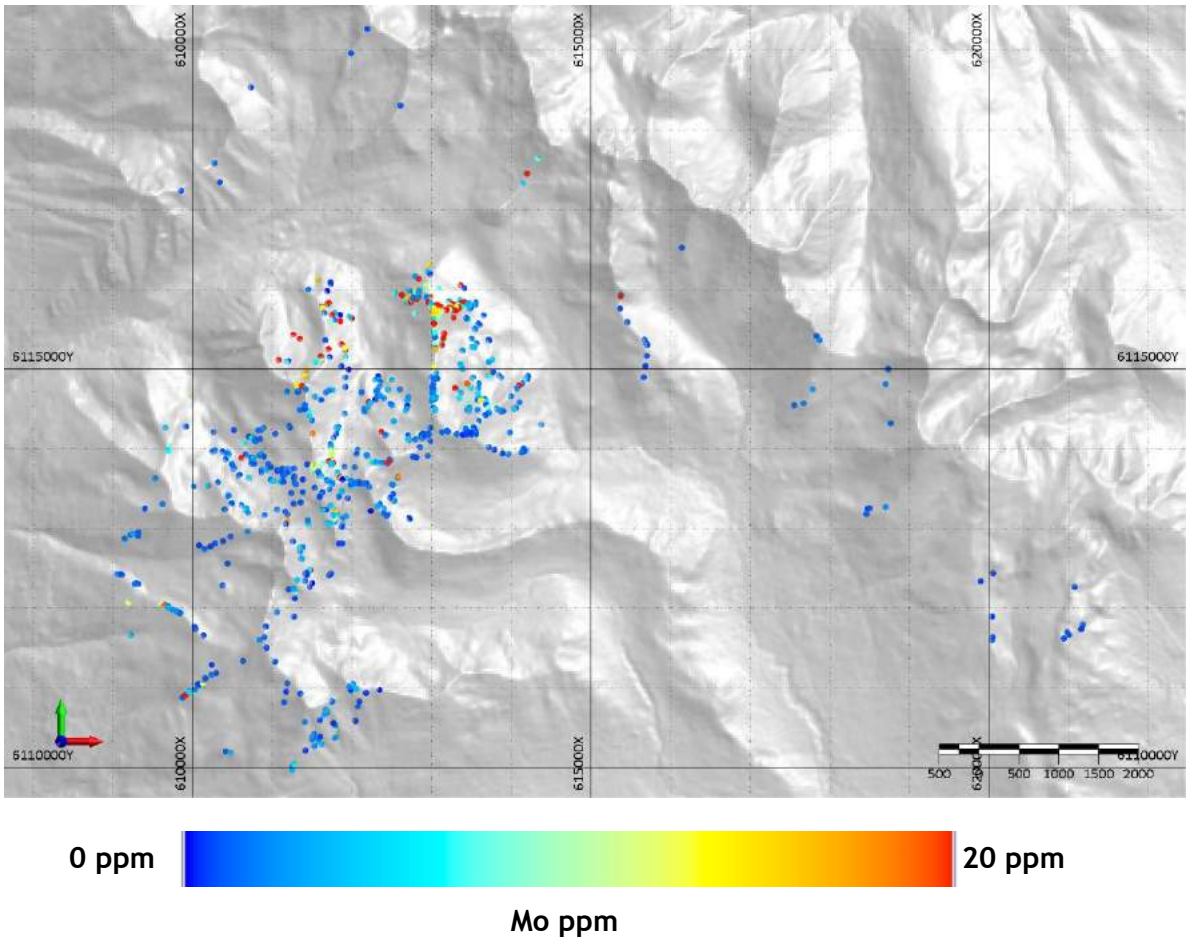


Figure 2: Rock sample locations for the Red Springs project area colored by Mo concentration. The samples in the vicinity of the soils survey show high Mo values similar to the soil survey. Samples show generally lower Mo in most of the rest of the project area suggesting that any mineralization that is present would likely be relatively deep outside of the soil survey. The area shown is the same as for **Figure 1**.

Halley geochemical model

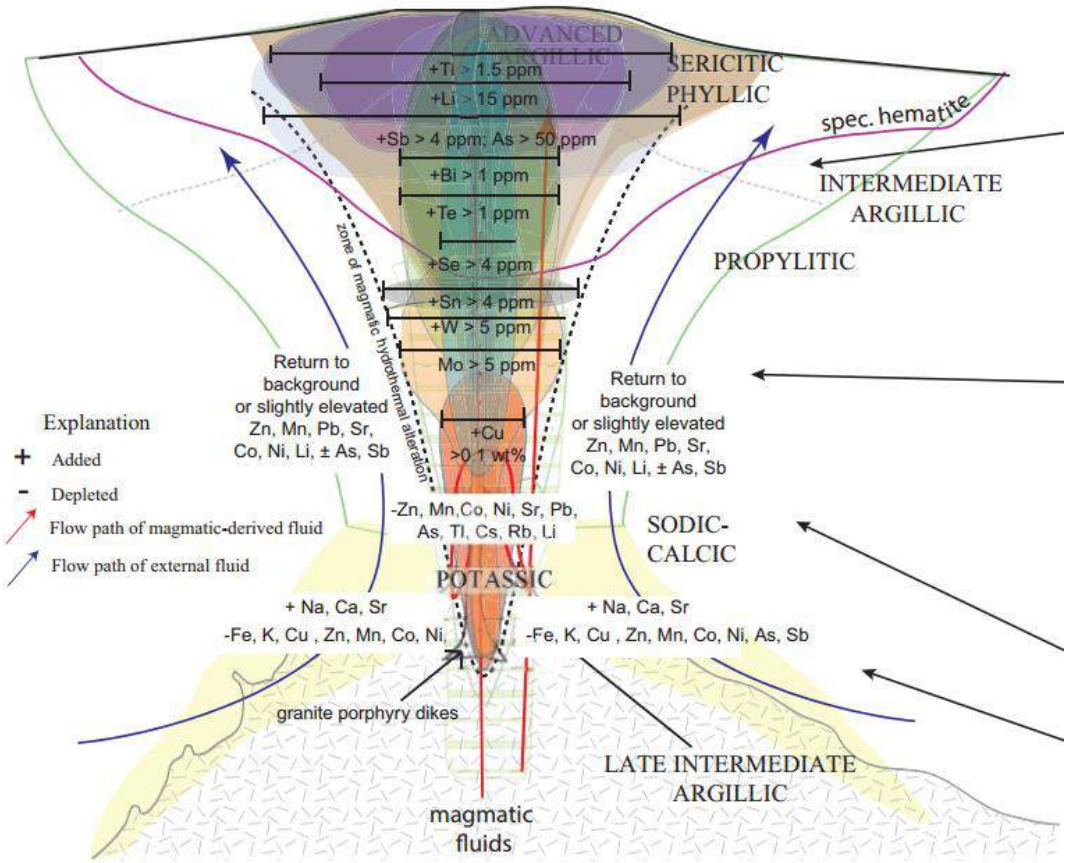
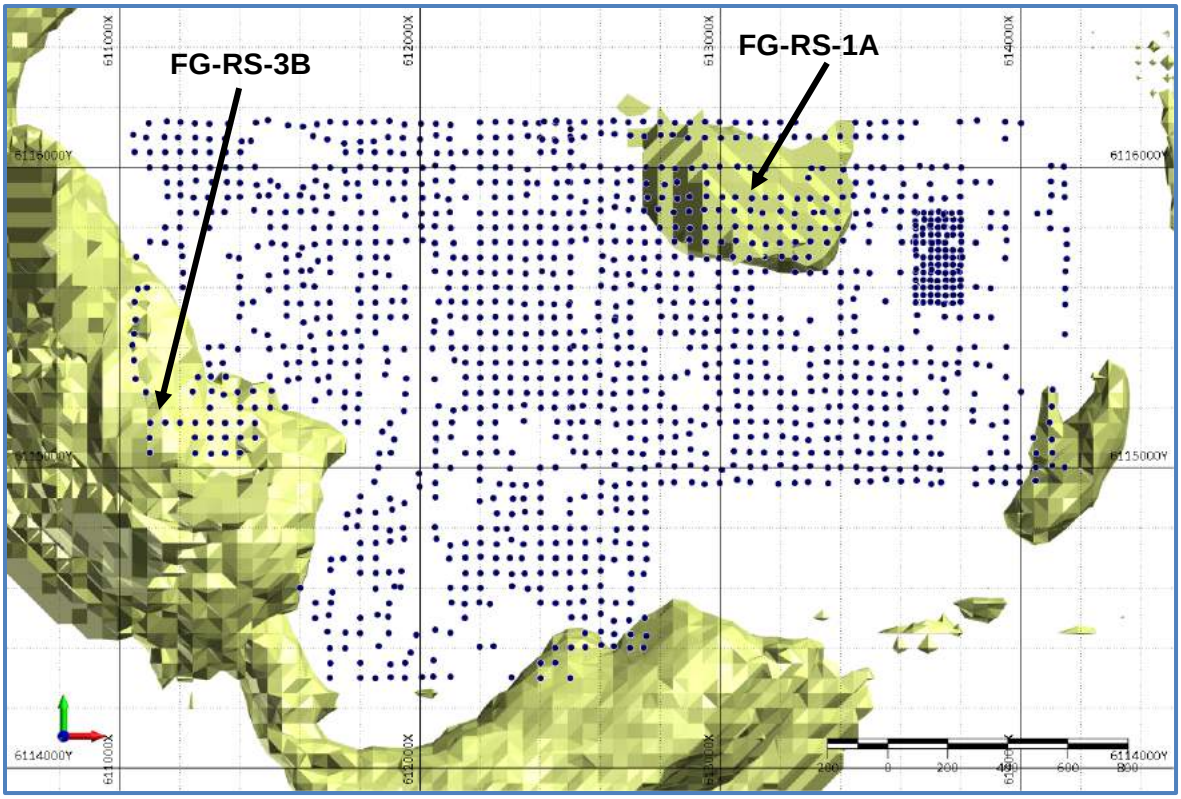


Figure 3: Image showing the interpreted geochemical zonation around porphyry copper systems based on Ann-Mason as well as other porphyry systems from Halley et al (2015).

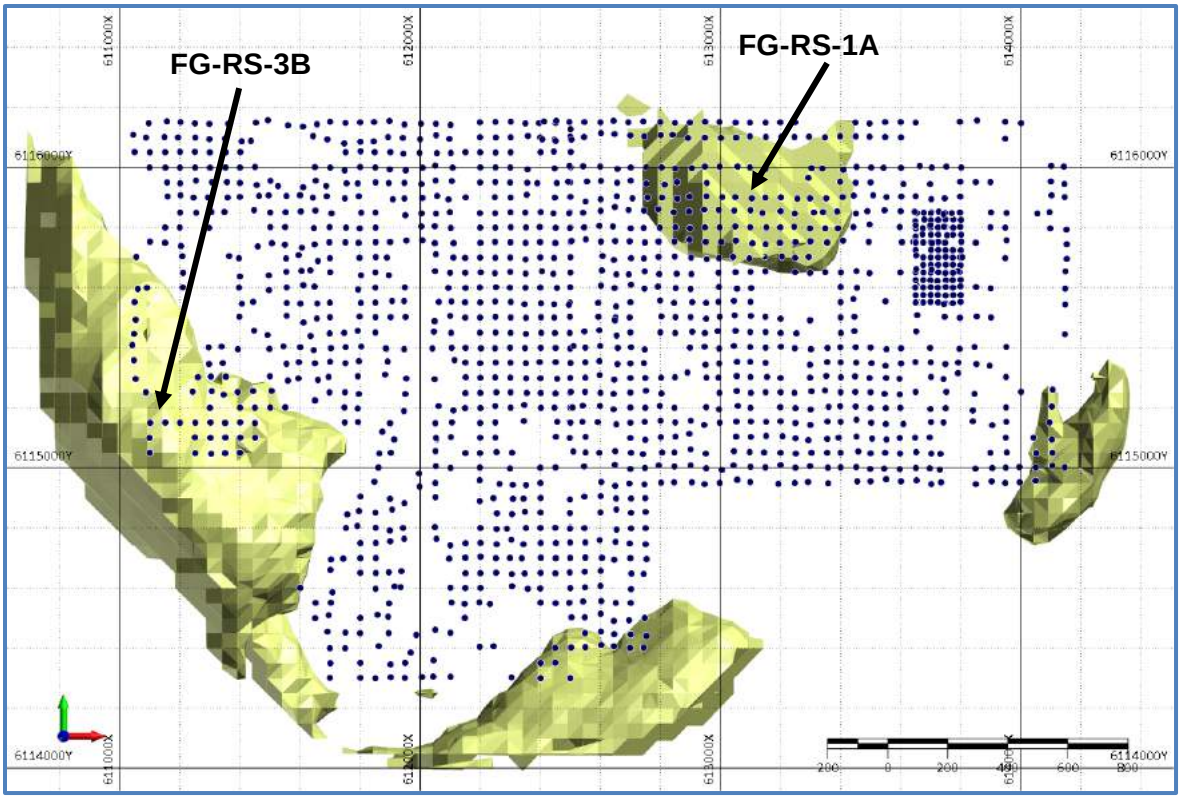
Targeting results plan view – Soils no masking



Red_Springs_Soils_Halley_90th_3DTargeting_0p26.dxf

Figure 4A: The image above shows the 0.26 isosurface of the results for the soil data using a model built using the Halley model geometry with thresholds generated using the 90th percentile of the soil data. The results are not masked and include both well-constrained and poorly-constrained targets. Target FG-RS-1A is well-constrained and relatively shallow. **Figure 4B** shows the better constrained parts of the targets around the edge of the survey.

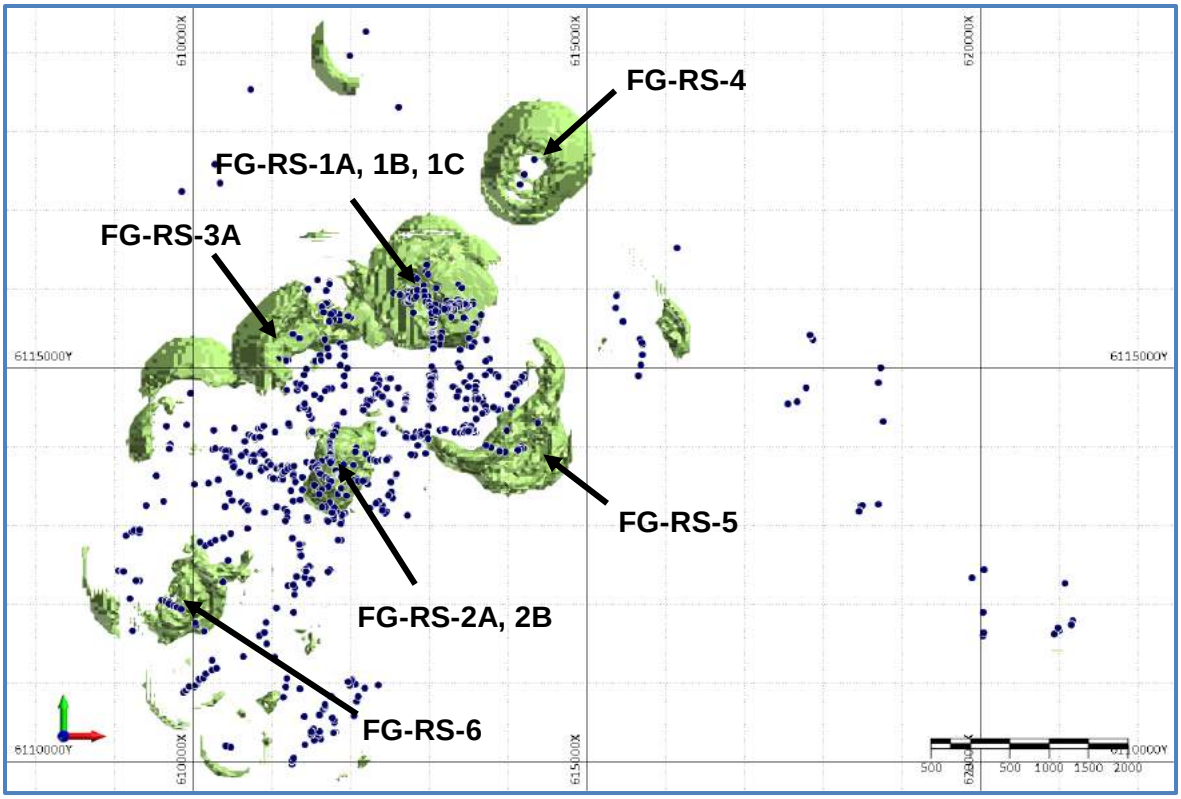
Targeting results plan view – Soils well-constrained



Red_Springs_Soils_Halley_90th_Const_3DTargeting_0p26.dxf

Figure 4B: The image above shows the 0.26 isosurface of the results for the soil data using a model built using the Halley model geometry with thresholds generated using the 90th percentile of the soil data. The results have been masked to show the better constrained parts of the targets. FG-RS-1A and FG-RS-3B are the only reasonably well-constrained targets at an explorable depth. The target at FG-RS-1A is nearly outcropping, so there should be evidence of significant porphyry alteration at the surface.

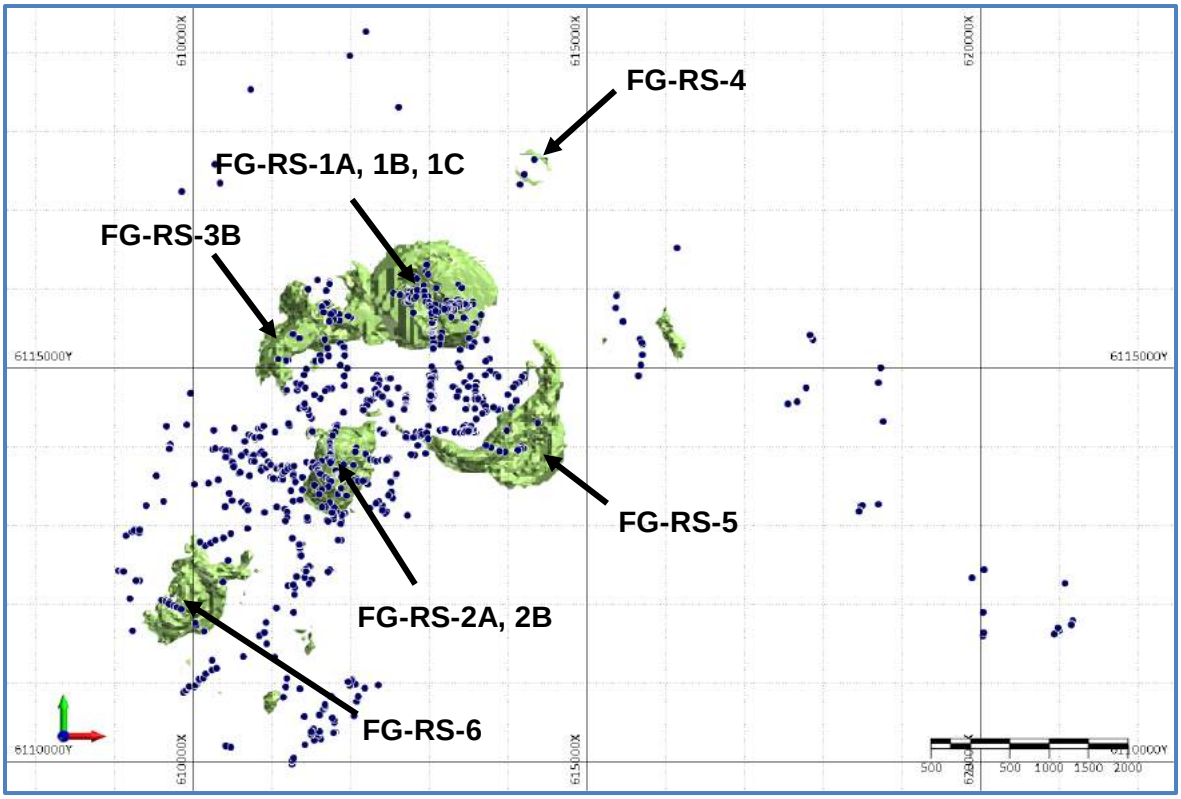
Targeting results plan view – Rocks no masking



Red_Springs_Rocks_Halley_3DTargeting_0p45.dxf

Figure 4A: The image above shows the 0.45 isosurface of the results for the rock samples using the Halley model. The results are not masked and include both well-constrained and poorly-constrained targets. FG-RS-1A is a broad target that splits into two smaller targets at high isosurface values as shown in **Figure 4C**. Target FG-RS-4 disappears when only well-constrained areas are shown (**Figure 4B**) indicating that more sampling is required to full evaluate it. Targets FG-RS-5 and FG-RS-6 are deep and possibly indicate levels of exposure that would be suitable for epithermal mineralization. FG-RS-2A and FG-RS-2B need additional samples in the northern part of the target area to better constrain target location and depth. Target FG-RS-3B also requires additional sampling and is roughly coincident with soils target FG-RS-3B.

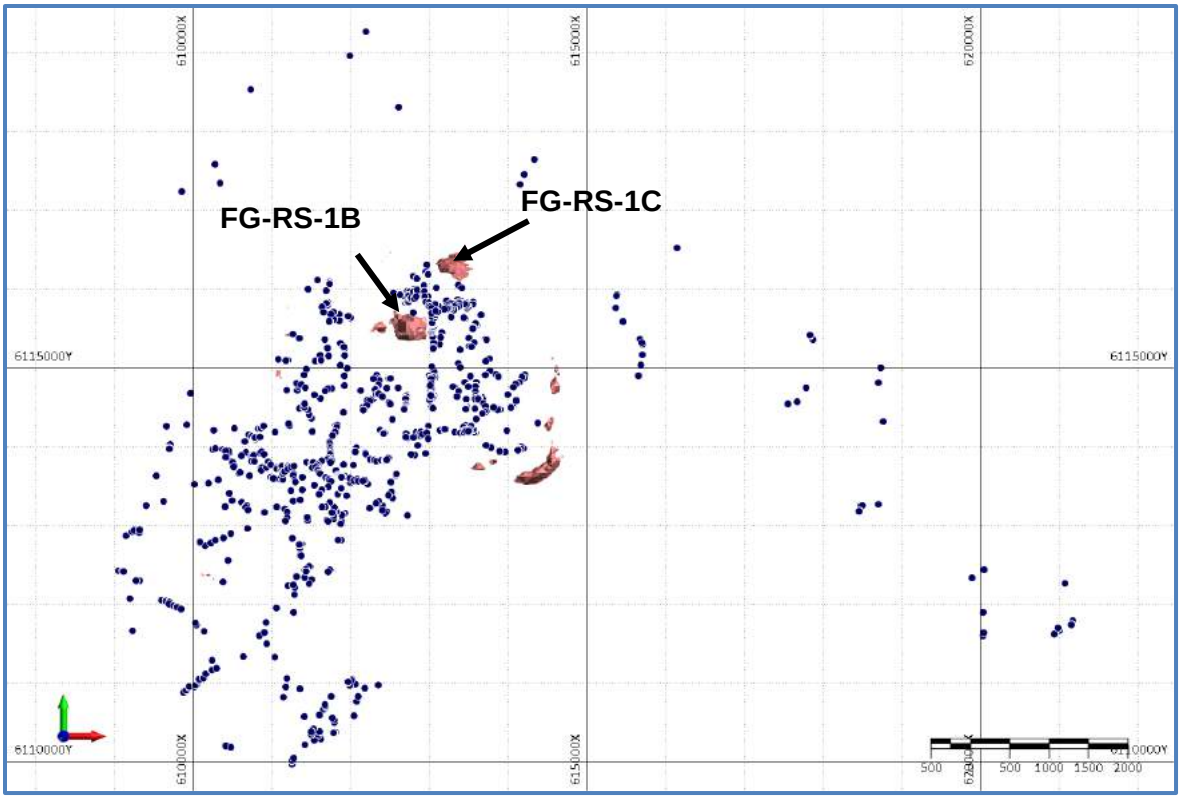
Targeting results plan view – Rocks well-constrained



Red_Springs_Rocks_Halley_Const_3DTargeting_0p45.dxf

Figure 5B: The image above shows the 0.45 isosurface of the results for the rock samples using the Halley model. The results have been masked to show the better constrained parts of the targets. Target FG-RS-4 is mostly removed from the results because it has very few samples over it. The location of target FG-RS-3B is better constrained in these results but still requires additional sampling. The remaining targets are similar to the results shown in **Figure 5A**.

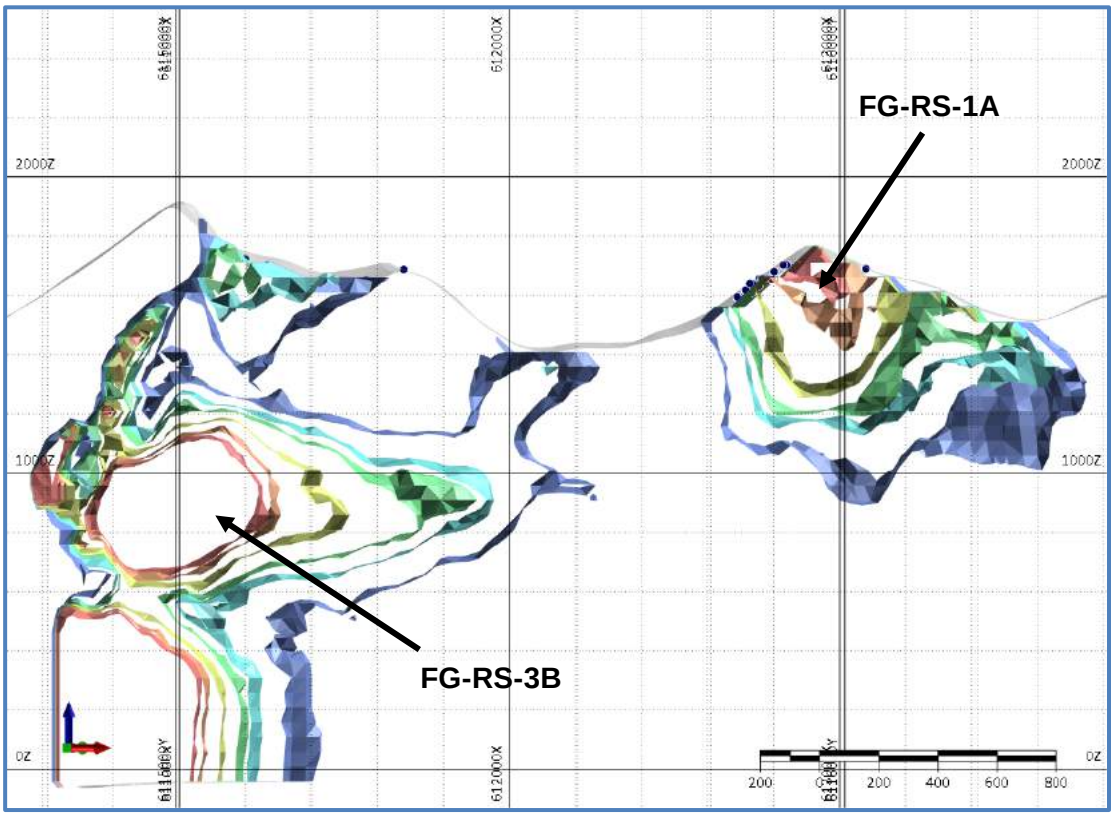
Targeting results plan view – Rocks high isosurface value



Red_Springs_Rocks_Halley_Const_3DTargeting_0p65.dxf

Figure 5C: The image above shows the 0.65 isosurface of the results for the rock samples using the Halley model. The results have been masked to show the better constrained parts of the targets. At higher isosurface values, target FG-RS-1 splits into two discrete targets with very little sampling over them. It is likely that the target highlighted by the soil anomaly is the best target, but rock chip sampling should be completed over these two areas to see if they should be high-priority areas.

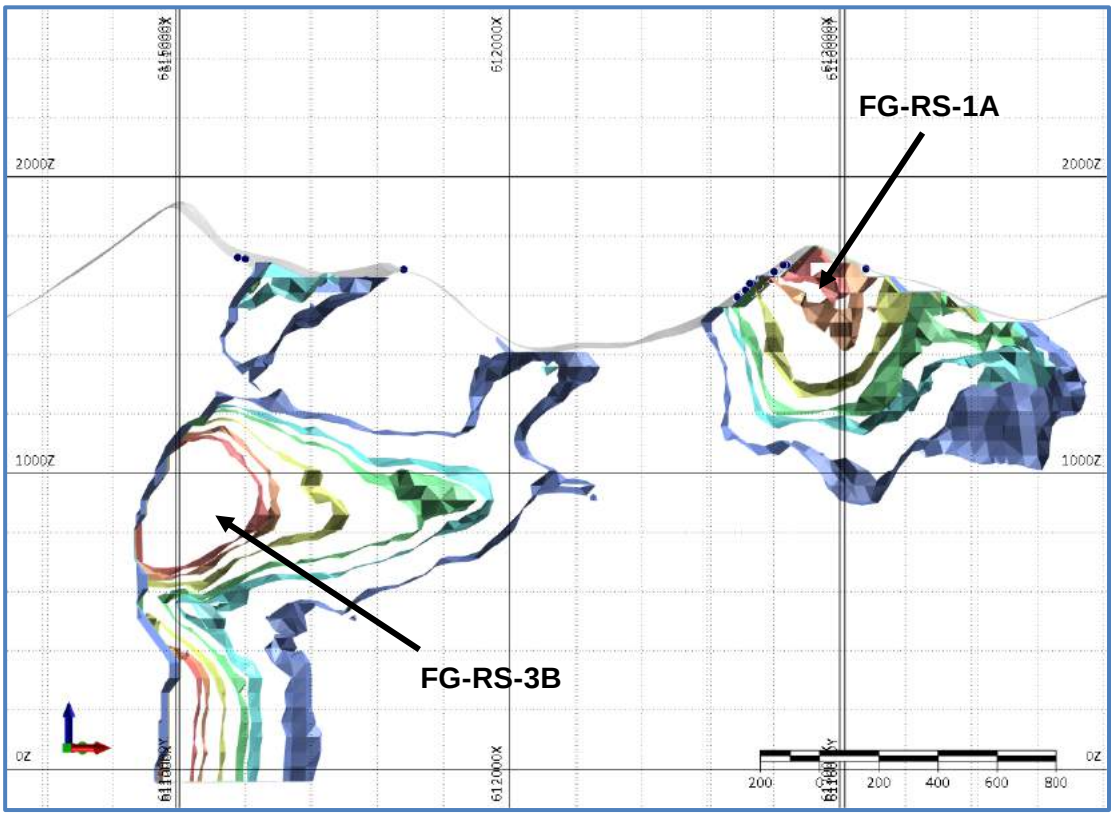
Targeting results section view – Soils no masking



Red_Springs_Soils_Halley_90th_3DTargeting_0p16.dxf (blue)
Red_Springs_Soils_Halley_90th_3DTargeting_0p2.dxf (cyan)
Red_Springs_Soils_Halley_90th_3DTargeting_0p22.dxf (green)
Red_Springs_Soils_Halley_90th_3DTargeting_0p26.dxf (yellow)
Red_Springs_Soils_Halley_90th_3DTargeting_0p3.dxf (orange)
Red_Springs_Soils_Halley_90th_3DTargeting_0p32.dxf (red)

Figure 6A: The image above shows a cross section through the unmasked soil processing results. The section is from 610480E 6114750N on the left to 613800E 6116390N on the right. Target FG-RS-1A is near surface and high scoring. FG-RS-3B is not as well constrained as it sits on the edge of the soil survey. **Figure 6B** shows the better constrained of the target.

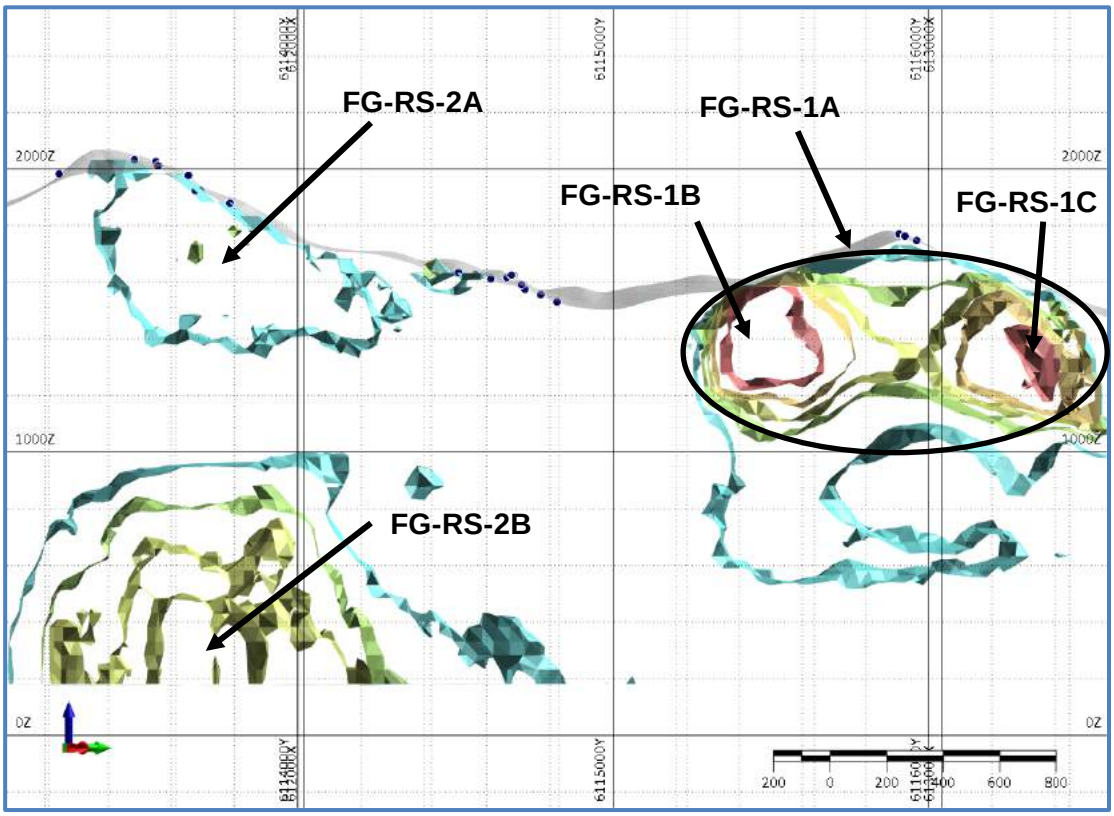
Targeting results section view – Soils no masking



Red_Springs_Soils_Halley_90th_3DTargeting_0p16.dxf (blue)
Red_Springs_Soils_Halley_90th_3DTargeting_0p2.dxf (cyan)
Red_Springs_Soils_Halley_90th_3DTargeting_0p22.dxf (green)
Red_Springs_Soils_Halley_90th_3DTargeting_0p26.dxf (yellow)
Red_Springs_Soils_Halley_90th_3DTargeting_0p3.dxf (orange)
Red_Springs_Soils_Halley_90th_3DTargeting_0p32.dxf (red)

Figure 6B: The image above shows a cross section through the well-constrained soil processing results The section is from 610480E 6114750N on the left to 613800E 6116390N on the right. The image shows the better-constrained parts of target FG-RS-3B. The target sits at the edge of the survey, so follow-up work should include additional sampling prior to any drilling being conducted.

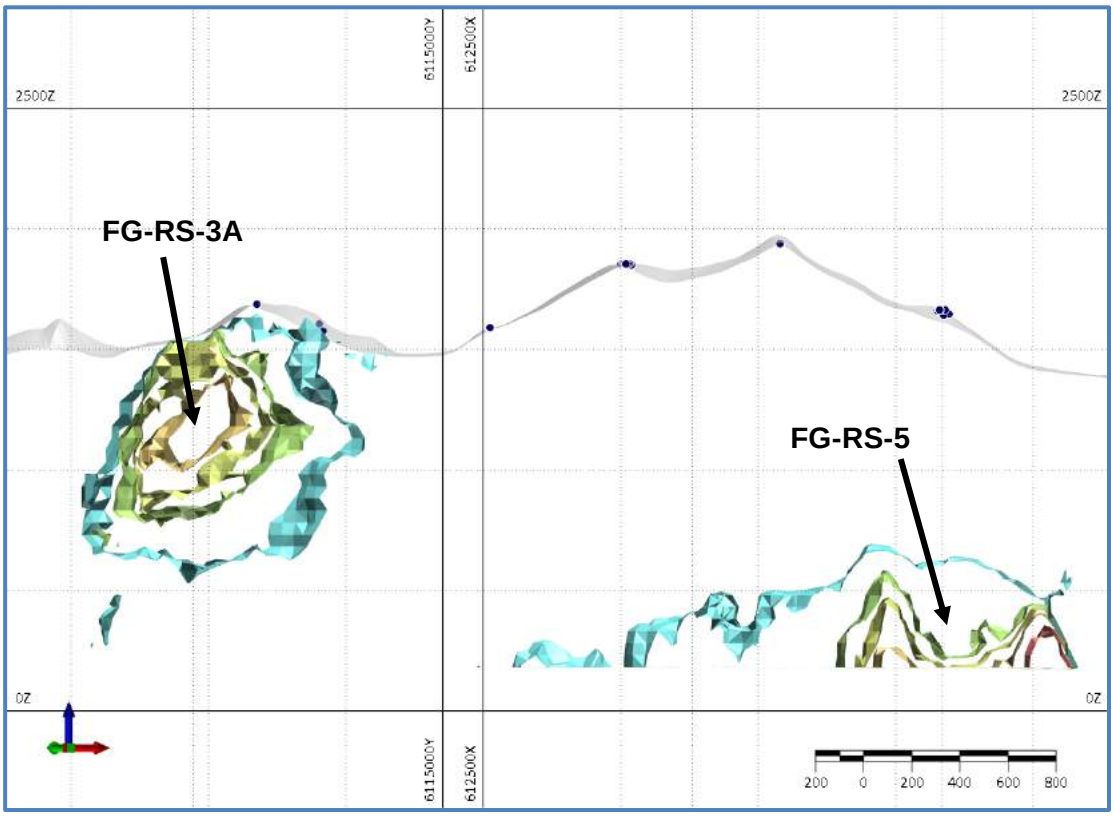
Targeting results section view – Rocks section 1



Red_Springs_Rocks_Halley_Const_3DTargeting_0p35.dxf (cyan)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p45.dxf (green)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p5.dxf (yellow)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p55.dxf (orange)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p65.dxf (red)

Figure 7A: The image above shows a cross section through the masked rock processing results showing relatively well-constrained targets. The section is from 611540E 6113080N on the left to 613260E 6116560N on the right. FG-RS-1A is a broad target coincident with the soils target. FG-RS-1B and FG-RS-1C are higher scoring parts of that target area. Targets FG-RS-2A and FG-RS-2B have a similar X-Y location but are at different depths. The deeper part scores higher suggesting it is more likely. However, the northern part of the target is not sampled densely enough for a shallow target.

Targeting results section view – Rocks section 2



Red_Springs_Rocks_Halley_Const_3DTargeting_0p35.dxf (cyan)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p45.dxf (green)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p5.dxf (yellow)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p55.dxf (orange)
Red_Springs_Rocks_Halley_Const_3DTargeting_0p65.dxf (red)

Figure 7B: The image above shows a cross section through the masked rock processing results showing relatively well-constrained targets. The section is from 610770E 6115870N on the left to 614760E 6113680N on the right. Target FG-RS-3A is directly adjacent to soils target FG-RS-3B. Neither the rock nor soils targets are very well constrained. FG-RS-5 is an example of a deep target. The area scores highly but the depth of the target suggests that the surface exposure may be closer to the epithermal part of the hydrothermal system.