



**SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry**

for

THE NAU PROJECT, LLC
"PU'U NAONAO CLAIM"

August 4, 2009

Dale Sutherland, Eric Hoffman

Activation Laboratories Ltd

EVALUATION OF SGH SOIL SAMPLE DATA

EXPLORATION FOR: "URANIUM" FORMATION

Workorder: A09-3282

Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.



SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY - OVERVIEW

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. SGH has been successful for delineating targets found at over 500 metres in depth. Samples of various media have been successfully analyzed such as soil (any horizon), drill core, rock, peat, lake-bottom sediments and even snow. The SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. SGH is also different from soil hydrocarbon tests that thermally extract or desorb all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach to identification. The hydrocarbons in the SGH extract are separated by high resolution capillary column gas chromatography to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing in two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 12+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in the shortest time frame and provide the benefit from past research sponsored by Actlabs, CAMIRO, OMET and other projects.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 400 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were selected since other inorganic geochemistries were unsuccessful at illustrating anomalies related to the target.

SOIL GAS HYDROCARBONS (SGH) GEOCHEMISTRY – OVERVIEW

Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. SGH has recently been very successful in exploration and discovery of unknown targets e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing “visible” gold. (www.goldenbandresources.com)

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample “locations” is preferred to obtain enough samples into background areas on both sides of small suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemistries. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be evenly spaced with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even “within” the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the “Upper B-Horizon”, however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways.

SOIL GAS HYDROCARBONS (SGH) GEOCHEMISTRY – OVERVIEW

Sample Preparation and Analysis: Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -60 mesh sieve fraction (<250 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transported from our sample preparation building to our analytical building on the same street in Ancaster Ontario. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a reporting limit of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cells, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

Mobilized Inorganic Geochemical Anomalies: It is important to note that SGH is essentially "blind" to any inorganic content in samples as only organic compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect: As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for inorganic geochemistries from surveys over copper, gold, lead, nickel, etc. type targets.

SOIL GAS HYDROCARBONS (SGH) GEOCHEMISTRY – OVERVIEW

SGH Interpretation Report: All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH subclasses. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are “gaseous” at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH RATING SYSTEM

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Polymetallic, and Copper, as well as for Kimberlites. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies. The rating is a measure of the comparability to known case studies, e.g. if the client requires a review for uranium deposits, what is the rating or similarity of the target to SGH case studies over known uranium deposits. The uranium template was developed using SGH data from study sites over Dawn Lake and McArthur River Athabaskan uranium deposits in Saskatchewan, roll-front uranium deposits in Nevada and Mongolia, and breccia pipes in Arizona.

- A rating of “6” is the highest or best rating, and means that the SGH classes most important to describing a Uranium related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- A rating of “5” means that the SGH classes most important to describing a Uranium signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.

SGH RATING SYSTEM (continued)

- A rating of "4" means that the SGH classes most important to describing a Uranium signature are mostly present describing the location with well defined anomalies. Supporting classes may also be present.
- A rating of "3" means that the SGH classes most important to describing a Uranium signature are mostly present and describe the same location with fairly well defined anomalies. Some supporting classes may or may not be present.
- A rating of "2" means that some of the SGH classes most important to describing a Uranium signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- A rating of "1" is the lowest rating, meaning the SGH class most important to describing a Uranium signature is present but a predicted location is difficult to determine. Supporting classes are not helpful.
- The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short will automatically receive a lower rating no matter how impressive an SGH anomaly might be. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information.

SGH DATA QUALITY

- **Reporting Limit:** The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

SGH DATA QUALITY (continued)

- **Laboratory Replicate Analysis:** A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is 1 part-per-trillion. Further, SGH is a semi-quantitative technique and was not designed to have the same level of precision as other less sensitive geochemistries as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds or the first page of the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is **"fit for purpose"** as a geochemical exploration tool.

SGH DATA QUALITY (continued)

- **Historical SGH Precision:** In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, having a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH is excellent with an overall precision of 6.6% Coefficient of Variation (%CV). When last calculated, this number has a range having a maximum of 10% CV and a minimum of 3% CV in a population made up of a total of some 400 targets interpreted since June of 2004 which has encompassed a wide variety of sample types as soils, peat, etc. in over 32,000 samples. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify and vector to the same target location.

SGH EVALUATION OF RESULTS – A09-3282 **THE NAU PROJECT, LLC – PU’U NAONAO CLAIM**

- This report is based on the SGH results from the analysis of a total of 57 soil samples from the Pu’u Naonao claim area. This project area consisted of four 300 metre transects in an asterix formation with samples spaced about 20 metres apart. Relative coordinates were provided for mapping of the SGH results for these soil samples.
- The number of samples submitted for this project is adequate to use SGH as an exploration tool. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of a Uranium deposit. It is also assumed that there is only one potential target. To obtain the best interpretation the client should indicate if there are possible multiple targets, say from geophysical data. The possibility of multiple targets should be known due to potential overlap and thus increased complexity of the resulting geochromatographic anomalies which could alter the interpretation.

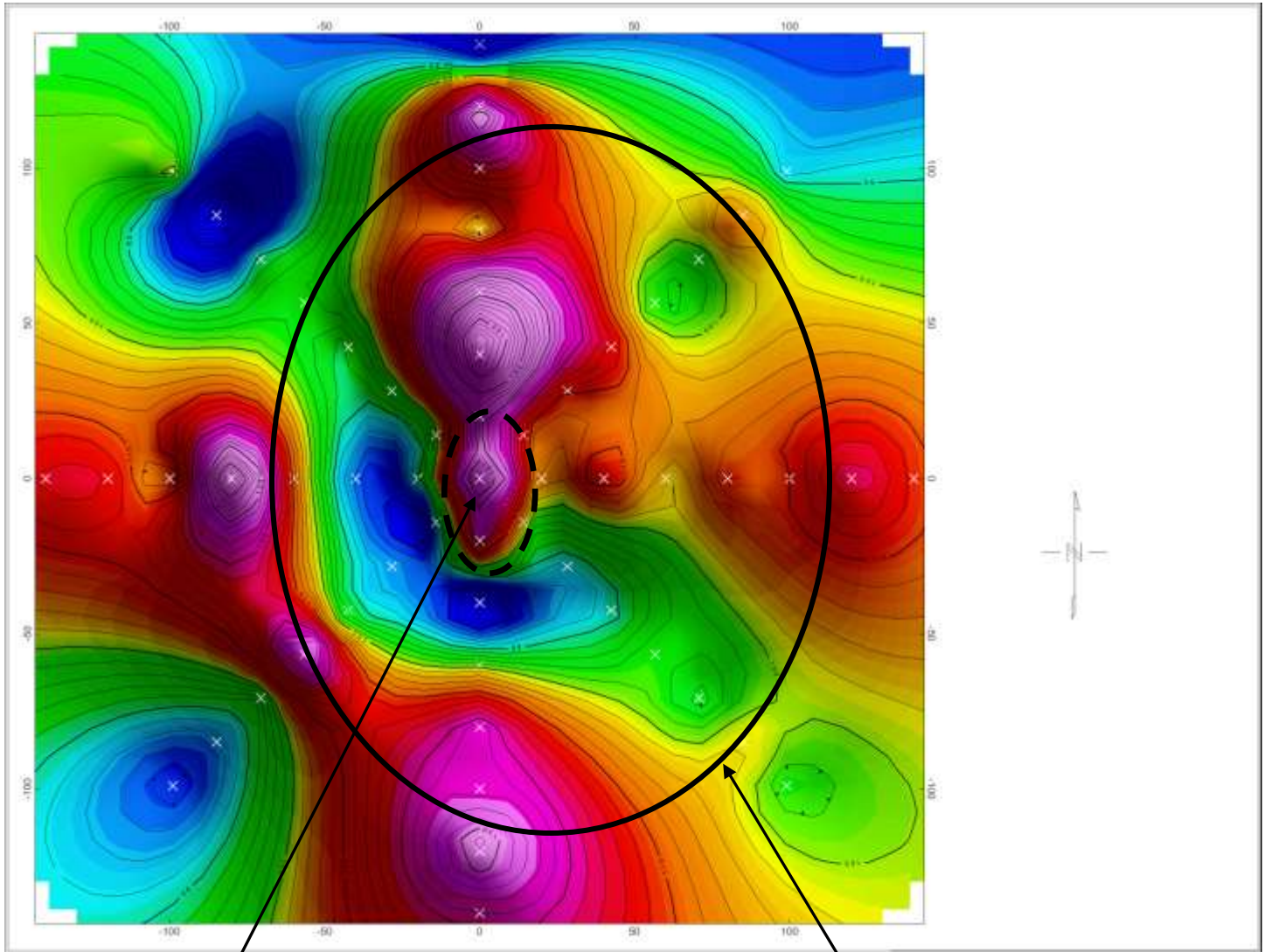
SGH EVALUATION OF RESULTS – A09-3282
THE NAU PROJECT, LLC – PU’U NAONAO CLAIM

- **The overall precision of the SGH analysis for this survey was excellent** as demonstrated by 4 different samples taken from this survey, each used for laboratory replicate analysis. The average Coefficient of Variation (%CV) of these replicate results for this project was 7.1 % which represents an excellent level of analytical performance.
- It should be noted that the SGH technique has been successful at comparing and melding data over a period of years using the standardized soil samples for which SGH was originally designed. Clients have taken large grids of orientation samples in one year and successfully added new data from infill samples in areas of interest in a subsequent year.
- This interpretation has been conducted without any additional knowledge except sample coordinates. No other geochemical or geophysical information that the client may have reviewed.
- The client should use a combination of these SGH results and its report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location.
- The plan view map on page 11 developed from this SGH data, illustrates an important SGH pathfinder class signature for a Uranium target. The Uranium template was developed using SGH data from study sites over Dawn Lake and McArthur River Athabaskan uranium deposits in Saskatchewan, roll-front uranium deposits in Nevada and Mongolia, and breccia pipes in Arizona. The data is mapped with a Kriging trending algorithm set in the GeoSoft Oasis Montaj software.
- SGH has been described by the Ontario Geological Survey (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple anomalies depending on the class of SGH compounds used. Thus "Apical", "Nested-Halo" and "Rabbit-Ear" or "Halo" type anomalies are all typically observed from the effect REDOX cell that have developed over deposits. REDOX cells are also related to bacteriological activity directly on the mineral target.

SGH EVALUATION OF RESULTS – A09-3282
THE NAU PROJECT, LLC – PU’U NAONAO CLAIM

- The scale map illustrated on page 11 is the primary SGH class map in the template for Uranium. This map illustrates a “slightly polarized” SGH anomaly within the area shown with a solid black oval. This anomaly is a halo style which is expected for this class. Other pathfinder classes (not shown) support this primary class map by illustrating consistent polarized anomalies that are of the same shape and in the same direction. Only the primary pathfinder class map is shown in this report for reasons of economy. The agreement between several of the SGH pathfinder classes confirms the presence of a polarized REDOX cell. The SGH class maps have been shown to be robust as they are described using from 4 to 14 chemically related SGH compounds which are simply summed to create this map. Thus the map is not illustrating just one compound response. The SGH interpretation further relies on the consensus between at least three pathfinder classes that are specific to defined targets, in this case for Uranium.
- The small apical area within the dotted black oval is a “nested-halo anomaly”. The small apical anomaly in nested-halos is predicted to lie directly over the centre of targets. This SGH identification is similar to results found over other uranium breccia pipe case studies in Arizona. Thus the best vertical drill location with the highest confidence of intersecting the target, based only on SGH data, would be at the centre of the halo, at this apical anomaly, although vertical drilling may not be the best method of exploration of these targets.
- After review of all of the SGH pathfinder class maps, the SGH results for these soil samples suggest a **“rating of 5.0”** within the solid black oval, in relation to the presence of a Uranium based target in the Pu’u Naonao project area. This rating is based on a scale of 6, with a value of 6 being the best. This rating represent the similarity of these SGH results to case studies for Uranium from study sites over Dawn Lake and McArthur River Athabaskan uranium deposits in Saskatchewan, roll-front uranium deposits in Nevada and Mongolia, and breccia pipes in Arizona. The degree of confidence in these ratings only starts to be “good” at a level of 4.0.
- The anomalies in this claim satisfy the basic signature to describe the presence of Uranium, however, the various uranium pathfinder classes need to be more consistent to obtain a higher rating. There appears to be a North-South polarization. At this time SGH cannot be used to comment on the grade or depth to the deposit.

SGH EVALUATION OF RESULTS – A09-3282
THE NAU PROJECT, LLC – PU’U NAONAO CLAIM



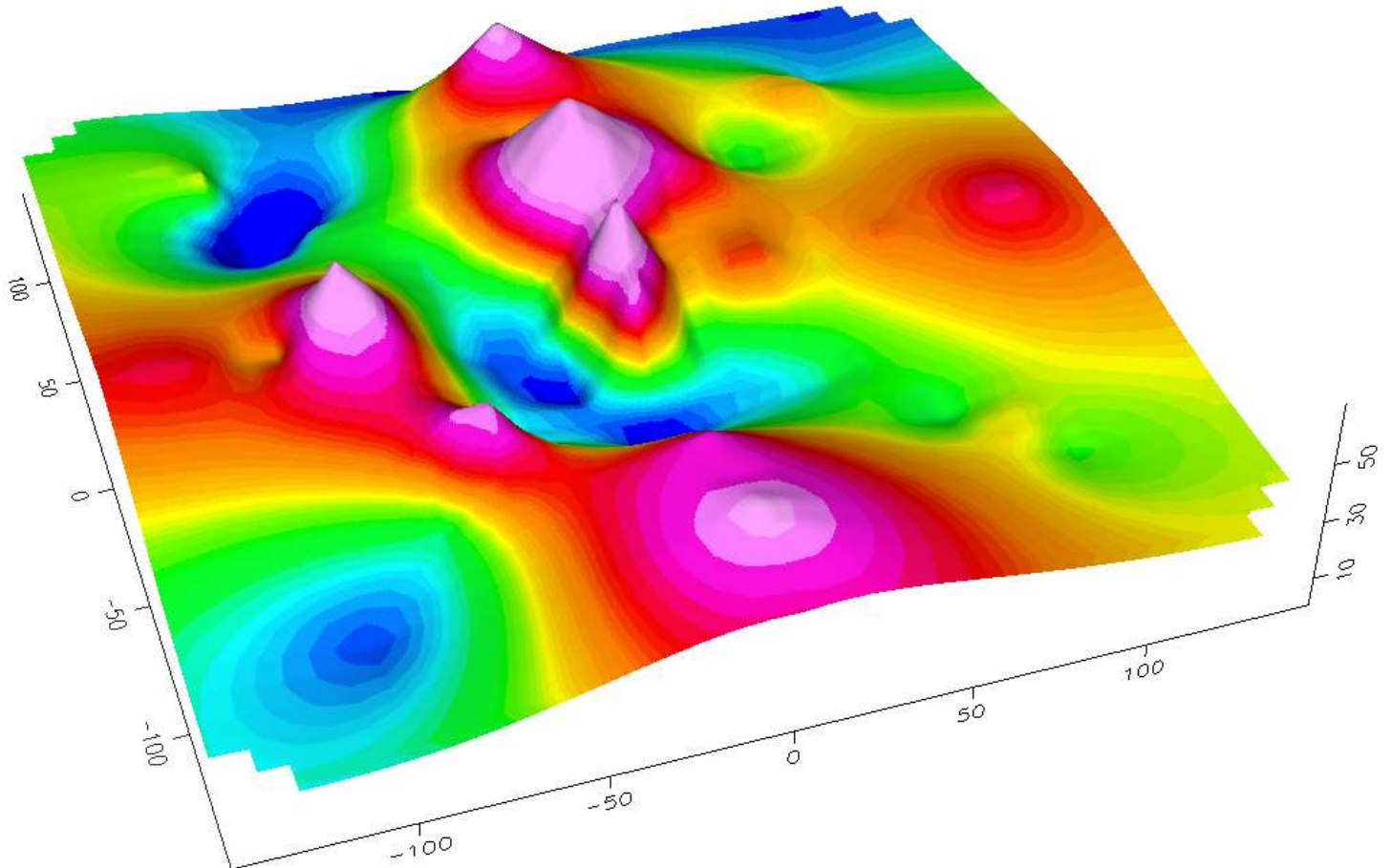
Apical Anomaly

Complete Nested-Halo Anomaly - REDOX Boundary



Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.

SGH EVALUATION OF RESULTS – A09-3282
THE NAU PROJECT, LLC – PU’U NAONAO CLAIM



Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.

Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain certain forward-looking information related to a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on other geochemistries, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. The rating does not imply ore grade and is not to be used in mineral resource estimate calculations. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemistries, the implied rating and anticipated target characteristics may be different than that actually encountered if the target is drilled or the property developed.

Activation Laboratories Ltd. may also make a scientifically based reference in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used, season, handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended.

In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.

Actlabs nor its employees shall be liable for any claims or damages as a result of this report,
any interpretation, omissions in preparation, or in the test conducted.
This report is to be reproduced in full, unless approved in writing.