

#### **3D - SGH**

#### "A SPATIALTEMPORAL GEOCHEMICAL HYDROCARBON **INTERPRETATION**"

## GOLDSTREAM EXPLORATION LTD. PAG-LKY PROJECT



August 9, 2013

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Page 1 of 49





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Page 2 of 49



# SGH – SOIL GAS HYDROCARBON Predictive Geochemistry

# for GOLDSTREAM EXPLORATION LTD. PAG-LKY PROJECT

August 9, 2013

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Activation Laboratories Ltd

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EVALUATION OF SAMPLES

DATA EXPLORATION FOR: "GOLD" TARGETS

SGH GOLD TEMPLATE USED FOR THIS REPORT

Workorder: A13-07700

August 9, 2013

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A13-07700

Page 3 of 49

Page 4 of 49



#### **Table of Contents**

PKEFACE		• • • • • • • • • • • • • • • • • • • •		
CAUTIONARY NO	TE REGARDING	ASSUMPTIONS AND FOR	WARD LOOKING STATEMEN	ITS8
SOIL GAS HYDRO	CARBON (SGH) G	GEOCHEMISTRY – OVERV	/IEW	10
SGH DATA QUALI	TY			13
SGH DATA INTER	PRETATION			14
SGH CHARACTER	ISTICS			15
_			STREAM EXPLORATION LTD.	
SGH SURVEY- S	GH PAG-LKY PRO	JECT SAMPLE LOCATION	MAP	16
SGH SURVEY IN	TERPRETATION	- A13-07700 – GOLDST	REAM EXPLORATION LTD P.	AG-LKY PROJECT17
			/ PROJECT SGH INTERPRETAT	
			/ PROJECTSGH INTERPRETA	
A13-07700 – G0	OLDSTREAM EXPI	LORATION LTD PAG-LK	/ PROJECT - <u>SGH</u> INTERPRETA	TION21
A13-07700 – G0	OLDSTREAM EXPI	LORATION LTD PAG-LK	/ PROJECT SGH "GOLD" PATH	FINDER CLASS MAP22
A13-07700 – G0	OLDSTREAM EXPI	LORATION LTD PAG-LK	PROJECT SGH INTERPRETAT	ION FOR GOLD24
A13-07700 – G0	OLDSTREAM EXPI	LORATION LTD PAG-LK	PROJECT SGH SURVEY RECO	MMENDATIONS25
GENERAL RECO	MMENDATIONS	FOR ADDITIONAL OR IN-	FILL SAMPLING FOR SGH ANA	LYSIS26
CERTIFICATE OF A	ANALYSIS			27
APPENDIX "B"	•••••			32
			RE EXAMPLE SHOWN FOR A	
APPENDIX "E" SG	SH DATA QUALIT	Υ		39
August 9, 2013	Activation	Laboratories Ltd.	A13-07700	Page 4 of 49

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#### Quality Analysis ...



Reporting Limit	39
LABORATORY REPLICATE ANALYSIS	39
HISTORICAL SGH PRECISION	40
LABORATORY MATERIALS BLANK – QUALITY ASSURANCE (LMB-QA)	40
APPENDIX "F" SGH DATA INTERPRETATION	42
SGH Interpretation Report	42
SGH PATHFINDER CLASS MAGNITUDE	42
GEOCHEMICAL ANOMALY THRESHOLD VALUE	42
MOBILIZED INORGANIC GEOCHEMICAL ANOMALIES	43
THE NUGGET EFFECT	43
SGH DATA LEVELING	44
APPENDIX "G" SGH RATING SYSTEM DESCRIPTION	
HISTORY & UNDERSTANDING	46
A DOTALDIN (ILI)	40



#### **PREFACE**

#### THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as inorganic geochemistries, this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1976 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over hundreds of surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses non-gaseous semi-volatile organic compounds interpreted using a forensic signature approach. It is based solely on SGH data and does not include the consideration or interpretation from any other geochemistry (inorganic), geology, or geophysics that may exist related to this survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A. A Supplemental Report and/or interpretations for other target types are available. A GIS package of georeferenced images is also available. (See Appendix H)

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data might be able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping geochemical anomalies. This research has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2009). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-**"Spatiotemporal Geochemical Hydrocarbons. This model has been formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 6 of 49

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#### DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 15+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any type of geochemical data as a general service. As the author is the originator of the SGH geochemistry, has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for close to 1,000 surveys, he is perhaps the best qualified to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

August 9, 2013

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A13-07700

Page 7 of 49



#### **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 or imply certain forward-looking information related to the quality of 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 tested 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 otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. 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, or factors such as the season of sampling, samples 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 external to Actlabs. Although Actlabs 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 that are not 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".

August 9, 2013

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A13-07700

Page 8 of 49



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.

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#### SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for minerals and elements, geology requires tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Organic material requires many minerals and elements, so organic materials can be biomarker of the present of the minerals and elements.

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. The hydrocarbons are residues from the decomposition of bacteria and microbe that feed on the target commodity as they require inorganic metallic's to catalyze the reactions necessary to develop hydrocarbons and grow in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating targets found at over 900 metres in depth. Samples of various media have been successfully analyzed such as soil (any horizon), sand, till, drill core, rock, peat, humus, lakebottom sediments and even snow. After preparation in the laboratory, 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. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and can be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from soil hydrocarbon tests that thermally extracts or desorbs 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 and then detected by mass spectrometry 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 especially from the two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 15+ 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 industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

August 9, 2013

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A13-07700

Page 10 of 49



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 700 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.

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. In 2007, 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)



## SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

#### **Summary:** See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

#### SAMPLE PREPARATION AND SGH ANALYSIS

#### **Summary:** See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -60 mesh sieve fraction (<250 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transported from our sample preparation department to our analytical building also located in the industrial park in Ancaster Ontario.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- 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.

August 9, 2013

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A13-07700

Page 12 of 49

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#### **SGH DATA QUALITY**

#### **Summary:** See Appendix E for more details

#### Reporting Limit:

The Excel spreadsheet of concentrations for each of the 162 compounds monitored is in units
of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The
reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of
low level analysis. Essentially all background noise has already been eliminated. All data
reported should be used in geochemical mapping. Actual detectable levels can be
significantly < 1 ppt.</li>

#### Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

#### Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is 8% within a range of ±4%.
- Field duplicates have historically been 5% higher than laboratory replicates.

#### Laboratory Materials Blank (LMB-QA):

- The LMB-QA values are only an early warning as a quality assurance procedure to indicate the relative cleanliness of laboratory glassware, vials, caps, and the laboratory water supply at the ppt concentration level.
- The LMB-QA values should not be subtracted from any SGH data as any background or noise characteristics have already been removed through the use of a Reporting Limit.

August 9, 2013

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A13-07700

Page 13 of 49

#### **SGH DATA INTERPRETATION**

**Summary:** See Appendix F for more details SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provide to offer guidance in regard to the results of this geochemistry for their survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH subclasses. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbons data should never be interpreted individually. Interpretation must always be by compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the
  presence of specific mineralization are called SGH Pathfinder Classes that together represent
  the forensic signature or fingerprint identification for a specific type of mineralization or
  petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is thus subjective and based on the experience of close to 1,000 SGH survey interpretations. The interpretation is not conducted by any computerized process.

August 9, 2013

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A13-07700

Page 14 of 49



#### **SGH CHARACTERISTICS**

**Summary:** See Appendix G for more details SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization.
- AS SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed.
  As such symmetry is rare this provides a quality control to the interpretation resulting in higher
  confidence that is reflected by a higher SGH Rating Score in comparison to known case
  studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data rarely require any data leveling.

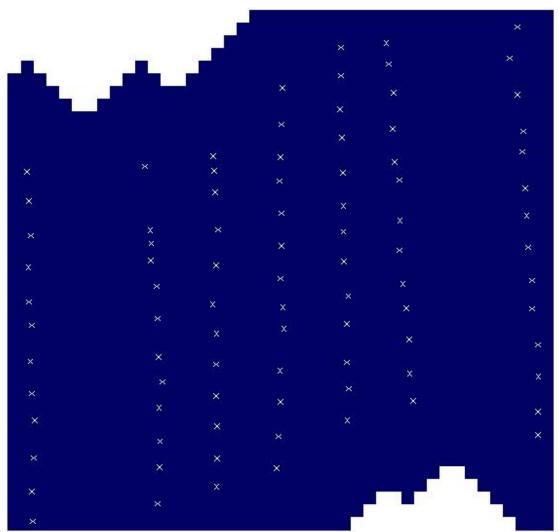




# INTERPRETATION OF SGH RESULTS A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT SAMPLE SURVEY INTERPRETATION

This report is based on the SGH results from the analysis of a total of 92 samples. The PAG-LKY project area is described by a survey containing five parallel north-south trending transects that are about 50 metres apart with samples spaced at about 25 metres along each transect. Two transects flanking on the east and west of the central five transects are another 100 metres away. Sample coordinates were provided for mapping of the SGH results for these samples as UTM NAD83 – Zone 16N datum coordinates. A sample location map is shown below.

#### SGH SURVEY- SGH PAG-LKY PROJECT SAMPLE LOCATION MAP



August 9, 2013

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A13-07700

Page 16 of 49



#### SGH SURVEY INTERPRETATION A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or parts-per-trillion (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is adequate to use SGH as an exploration tool. As SGH is an organic geochemistry it is essentially "blind" to the elemental presence of any inorganic species as actual metallic gold, silver, uranium, etc. content in the each sample analyzed. SGH has been proven to discriminate between false or mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Gold and other types of mineralization at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold targets. It is also initially assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and the increased complexity of resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized and which ones are not.

The overall precision of the SGH analysis for the samples at the PAG-LKY Project was **excellent** as demonstrated by 6 different samples taken from this survey which were used for laboratory replicate analysis. The average Coefficient of Variation (%CV) of the replicate results for the survey samples in this submission was 4.7% which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The performance of 3 field duplicates identified in this survey was 5.9% CV. This is representative of the average value usually observed for field duplicates in the SGH analysis. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. In comparison to other geochemistry's this is excellent performance. The typical excellent level of performance is due to the specificity of the SGH geochemistry as the method only targets relatively rare hydrocarbons that have been proven to be associated with mineralization, in this case for VMS. The SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. This interpretation is based only on the SGH results from this submission for the PAG-LKY **Project.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried gold targets are used as the basis for the interpretation of the PAG-LKY Project. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" often appears in an SGH Interpretation Report, a computerized interpretation is not used.

August 9, 2013

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A13-07700

Page 17 of 49



#### A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT SGH INTERPRETATION - SGH GOLD PATHFINDER CLASS MAP

The maps shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various hydrocarbon flux signatures related to gold targets. These maps represent the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 (unless otherwise stated) chemically related SGH compounds which are simply summed to create each class map. Thus each map has a higher level of confidence as it is not illustrating just one compound measurement. A legend of the compound classes appears at the bottom of the SGH data spreadsheet.

The Gold template of SGH Pathfinder Classes use low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed for gold must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold type mineralization. These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The overall SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least two additional pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold. Each pathfinder class map is still just one of the Pathfinder Class maps used in each of the interpretation templates (other SGH Pathfinder Class maps are usually not shown at this price point and report turnaround time except at the discretion of the Author). Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox cell locator". Many SGH surveys for gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization or specific target types. Redox cells are also related to the presence of bacteriological activity and the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than any measurements using pH or ORP tests. Thus it is important to understand that; not only is SGH a Redox cell locator, due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies and other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that results in the collection of multiple sample types.

August 9, 2013

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A13-07700

Page 18 of 49



#### A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT SGH INTERPRETATION SGH GOLD PATHFINDER CLASS MAP

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization at depth. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization present and the grade of mineralization, which probably defines the characteristics of the biofilm(s) in contact with the deposit, as well as being related to the depth to mineralization. SGH results have also been shown to correlate well with geophysical anomalies such as magnetic anomalies and those of CSAMT.

SGH is a "deep penetrating" geochemistry but also works well for relatively shallow targets. Targets shallower than about 3 to 5 metres will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various processes on these volatile and semi-volatile organic hydrocarbons.

One of the less known characteristics of this SGH geochemistry is that the anomalies have been shown several times to be unaffected by physical processes that usually cause drift to anomalies or sometimes called transported anomalies. As the SGH hydrocarbons are relatively neutral in charge or polarity, and are heavier in molecular weight (i.e. as they are not gases), they are unaffected by the slope of the terrain, effects of water table, etc. Only the lightest molecular weight SGH classes have shown any sign of deflection from illustrating a vertical projection when there is a major fault present. Although this may deflect the bulls-eye effect of these classes, the high amount of symmetry of heavier and thus none deflected classes can geometrically find the bulls-eye vertical projection of mineralization that can aid in decisions of drill targeting. Most importantly, in northern climates like that found in Canada, SGH has been shown to be completely resistant to transport by glacial drift.

Note, under no circumstances should SGH results be confused with assays. SGH is an excellent geochemistry to vector to, locate and identify the presence of blind mineralization. However, it is logical that the better identified and delineated a mineralized area is, the higher the possibly of finding some significant quantity of mineralization. Also, it is expected that well defined and identified mineralization is most likely to be at a relatively shallow depth. This varies with the SGH mineralization template used.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 19 of 49



# A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT SGH INTERPRETATION RATING AND CLARIFICATION

Often the use of a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client of an anomaly even if it is only a part of the mineral signature or template requested. The anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of the geological or geophysical target which may be valuable to the client. In addition it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well defined rabbit-ear anomaly on the SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the identification Rating.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, Nickel, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 20 of 49



### A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT

#### **SGH INTERPRETATION**

As a general comment in regard to the SGH results at this PAG-LKY Project, the interpretation was definitive as there were multiple SGH Gold Pathfinder Class maps that provided a significant amount of confirmatory evidence to the interpretation shown on page 22. The SGH anomalies detected were of fairly-good strength and contrast for each SGH Class maps and were of typical strength for Northern Ontario. This enabled good comparison of those SGH hydrocarbon classes that have been proven to be pathfinders relative to the presence of Redox cells and the pathfinders that have been associated with the SGH signature for "buried or blind" gold targets. The SGH Gold Pathfinder Class shown and other SGH Classes associated with Gold together illustrate the presence of an SGH hydrocarbon signature as the detection of those hydrocarbon residues produced by the decomposition of bacteria in the death phase that have been feeding on gold based material. These residues as concentrations of specific hydrocarbon compounds have subsequently migrated to the surface as a flux of different classes of hydrocarbons. During migration to the surface, dispersion away from the mineralization is expected and the distance of dispersion is dependent more on the average molecular weight of the class, or the depth of the target, than the complexity of the overburden. The migration paths of the SGH Classes as a rule are not affected by complex or exotic overburden. The deflection of the hydrocarbon flux is encountered only when in the direct proximity of major faults or shear zones.

This report illustrates an SGH Gold Pathfinder Class map on page 22 in plan view and on page 23 in 3D view that is a portion of the SGH signature associated with Gold and is one of the most reliable at depicting Gold mineralization. In the interpretation of this class we are typically looking for an apical response that fits within a Redox cell if the mineralization is relatively shallow. For Gold SGH apical responses are today estimated to indicate mineralization at less than about 30 metres. The map shown on page 22 for the PAG-LKY grid is predicted to represent a slightly deeper layer of possible Gold mineralization. The specific SGH Gold Pathfinder Class map was specifically chosen to be shown in this report as it is believed to not only show the shallowest location but also appears to be very diagnostic of the existence of a gold zone surrounding the shallowest mineralization as well as the potential to observe mineralized trends predicted to be gold hosted iron vein formations. As observed on the 3D map on page 23, the predicted gold veins are very evident as apical anomalies running in an east-northeast direction.

August 9, 2013

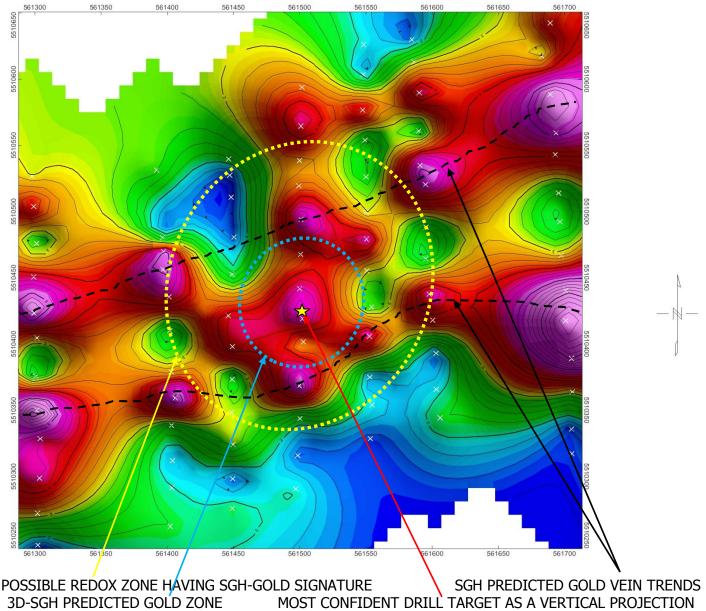
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A13-07700

Page 21 of 49



#### A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT SGH "GOLD" PATHFINDER CLASS MAP



SGH SIGNATURE RATING RELATIVE TO "GOLD TARGET" = 5.5 OF 6.0



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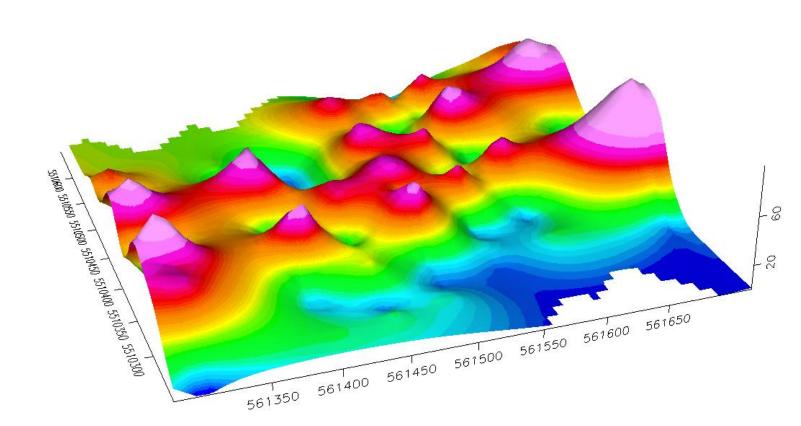
A13-07700

Page 22 of 49

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#### A13-07700 - GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT SGH "GOLD" PATHFINDER CLASS MAP





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August 9, 2013

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A13-07700

Page 23 of 49

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The interpretation of the SGH data relative to the presence of gold targets at the PAG-LKY Project area is described by what appears to be the presence of a central Redox cell approximated by the yellow dotted oval on page 22. The existence of a Redox Cell is often part of the SGH characteristic signature of identification for Gold mineralization. Other SGH Class maps (not shown) illustrate support to this segmented halo set of anomalies that is predicted to depict these redox conditions in the overburden. In addition, this particular SGH Gold Pathfinder class illustrates a more focused gold zone as that area within the dotted blue oval on page 22. This inner ring of this dartboard like description of this predicted Gold zone may outline the focus of gold mineralization and also helps vector to the bullseye as the most central point which is predicted to be the most reliable drill target for consideration as a vertical projection of that location having the greatest population of living-feeding-dying. It is not coincidence that this central point is geometrically centred to the gold-zone and to the redox-gradient boundary (dotted yellow oval). The symmetry of the segmented anomalies approximating the redoxgradient boundary, and the segmented anomalies approximating the inner mineralized zone boundary (dotted blue oval), the geometrically central apical anomaly (at the yellow star), near perfect geometrically circular zones, and multiple SGH Gold Pathfinder Class maps providing multiple evidence and confirmation, together defined this predicted mineralized gold target with a very high degree of confidence. The rating was only reduced by a value of 0.5 from a maximum of 6.0 as a couple of anomalies of the segmented halo were missing, probably due to the survey design and resolution. Slightly tighter sample locations may have provided a resolution that may have illustrated a "perfect" response as the complete set of segmented anomalies that define these halos as predicted by the 3D-SGH model for electrochemical cell effects in Redox zones. Typically the central apical anomaly, at the yellow star on page 22, is usually a bit more prominent, but as it is so well geometrically centred to the predicted Redox cell and inner mineralized zone, this anomaly is confidently predicted to be the best drill target in this survey. Thus the location of the best drill target would be at the yellow star on page 22 as a vertical projection to the target at depth. After review of all of the SGH Class maps, the SGH results from PAG-LKY Project suggests a "rating of 5.5" out of a possible 6.0 (6.0 being the best) for the zone described by the dotted blue oval, as the confidence in predicting that gold mineralization may be present at a possible depth of approximately 50 metres. The SGH Gold Pathfinder Class map on page 22 also illustrates anomalies that together may outline gold veins often hosted in iron formations. Two roughly parallel veins having the SGH signature of gold are predicted to be in an eastnortheast direction as shown by the dashed black lines.

The rating shown in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The rating discussed in relation to gold targets represents the similarity of these SGH results with other SGH case studies over known gold targets. The SGH signature or template has since been further enhanced since inception and has been proven effective from the interpretation over many other surveys in many different geographical regions and for a wide variety of lithologies of gold. Again, the degree of confidence in the rating only starts to be "good" at a level of 4.0. A Rating of 4.0 is an indication that the SGH geochemistry predicts that the zone described may warrant more work or more consideration.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 24 of 49



#### A13-07700 – GOLDSTREAM EXPLORATION LTD. - PAG-LKY PROJECT **SGH SURVEY RECOMMENDATIONS**

Additional survey boundary extensions or infill sampling to add to the survey area is not recommended as the SGH Rating, as a rating of confidence in the interpretation, might only be increased slightly. Please refer to the general recommendations for additional or in-fill sampling for SGH in the next section if this is considered.

The identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of the mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that many other SGH Class maps not shown in this report have been reviewed to support the interpretation shown. The client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 25 of 49



#### GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

Based on the results of this report and/or other information, the client may decide that in-fill sampling may be warranted. To obtain the best results from additional sampling for SGH it is recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection. The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and in additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower that the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 26 of 49



Date Received at Actlabs Geraldton: July 8, 2013

Date Received at Actlabs Ancaster: July 12, 2013

Date Analyzed: July 17-25, 2013

Interpretation Report: August 9, 2013

#### **GOLDSTREAM EXPLORATION LTD.**

Suite 1510, 141 Adelaide Street West Toronto, Ontario, M5H 3L5 Canada

Attention: Paul Dunbar, M.Sc., P.Geo. Vice President Exploration

RE: Your Reference: PAG-LKY PROJECT

Activation Laboratories Workorder: A13-07700

#### **CERTIFICATE OF ANALYSIS**

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

92 Samples were analyzed for this submission.

Sample preparation – Code S4 – Drying at 40°C and Sieving with -60 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 27 of 49



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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the <u>organic</u> signature in the sample material collected from a survey area. It is not an assay of mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

The author of this SGH Interpretation Report, Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemistry's. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, and the Ontario Petroleum institute as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Dale Sutherland, B.Sc., B.Sc., B.Ed., C.Chem., MCIC

Forensic Scientist, Organics Manager,

Director of Research

Activation Laboratories Ltd.



#### **APPENDIX "A"**

#### **List of terms**

- 1. **SGH** "SOIL GAS HYDROCARBON" GEOCHEMISTRY a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
- 3D-SGH- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
- 3. **Redox cell** an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
- 4. **Electrochemical cell** the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
- 5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
- 6. **Background areas** the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
- 7. **Background subtracted** A sample taken some distances away as to not contain any elements of the target being analyzed.
- 8. **Biofilm** a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
- 9. **Biomarker** a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
- 10. **Blind mineralization** buried mineralization that shows no physical indication of its existence at the surface
- 11. **Compound** used synonymously with the term hydrocarbon in this report
- 12. **Compound chemical class** a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
- 13. **Cultural activities** human initiated processes that may affect the physical and chemical characteristics at the earth's surface
- 14. **Delineating targets** indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
- 15. **Geochemical anomalies** inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 29 of 49



- 16. **Dispersion patterns** the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.
- 17. **Exploration tool** a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
- 18. **Fit for purpose** this method is ideal for its intended use.
- 19. Forensic signature- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
- 20. **High specificity** as in being very specific to the mineralization.
- 21. **Anomalies** this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
- 22. **Inorganic geochemistry** the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
- 23. **Data leveling** a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
- 24. **Lithologies-** the characteristics and classifications of rock.
- 25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
- 26. **Noise-** interference in a measurement which is independent of the data signal.
- 27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
- 28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
- 29. **Percent Coefficient of Variation (%CV)** a measure of data variability
- 30. **Project maintenance** an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
- 31. **Rating-** a value given to the overall confidence in the SGH results
- 32. **Real (in relation to data)-** any rational or irrational number
- 33. **Reporting Limit** minimum concentration of an analyte that can be accurately measured for a given analytical method.
- 34. **Sample matrix-** the components of a sample other than the analyte.
- 35. **Sample type** soil, till, humus, lake bottom sediment, sand, snow, etc.
- 36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
- 37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
- 38. **SGH Pathfinder** (class map/compounds)

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 30 of 49



- 39. **SGH template** a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
- 40. Surficial bound hydrocarbons -
- 41. **Surficial samples-** a sample from near the earth's surface.
- 42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.
- 43. **Project-** a planned undertaking
- 44. **Transect-** A straight line or narrow section through an object or across a section of land.
- 45. **Target-** Target refers to the ore body of interest

**Target signature:** the unique characteristics that identify the target. Target type:

- i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
- 46. **Threshold-** level or point at which data is accepted as significant or true.
- 47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.

**Visible (in terms of signature)**- the portion shown in a chart or map

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 31 of 49

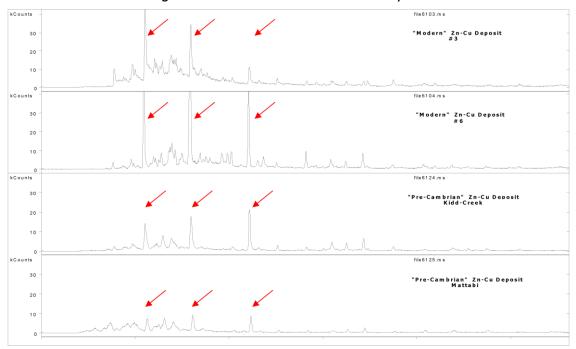


#### **APPENDIX "B"**

## EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the "visible" portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

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A13-07700

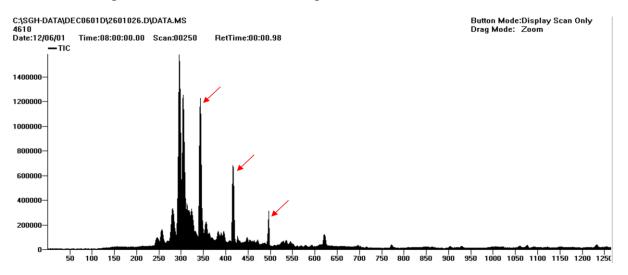
Page 32 of 49



- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

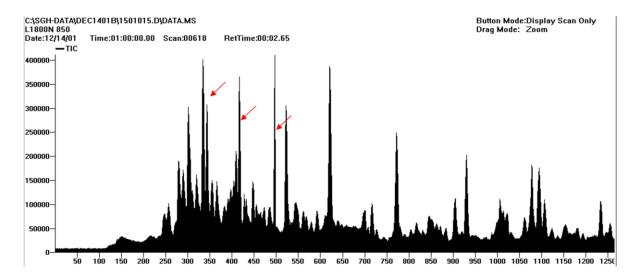
Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 33 of 49



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the complete SGH VMS signature**. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.

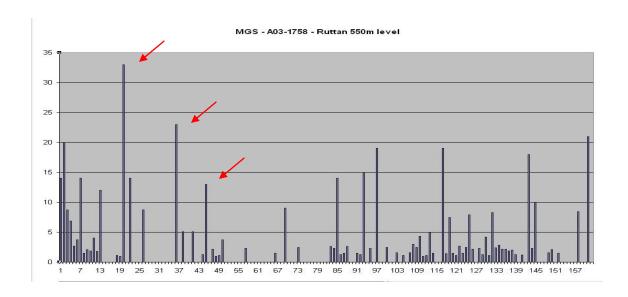
August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 34 of 49

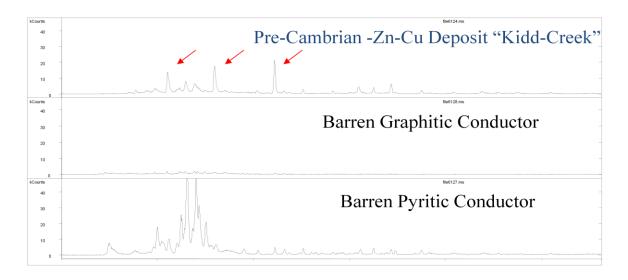




Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.





SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.



# APPENDIX "C" SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

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, lakebottom 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 twothirds 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. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling
  is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden
  Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 37 of 49



- A minimum of 50 sample "locations" is recommended with one-third over the target and onethird on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

## APPENDIX "D" 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 cell structure, 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.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 38 of 49



## **APPENDIX "E" 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.

## **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 geochemistry's 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 in 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

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 39 of 49

units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values  $\geq 2$  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 subsampling 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.

### **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, including 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 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. 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 the deposit type and vector to the same target location.

## **Laboratory Materials Blank – Quality Assurance (LMB-QA)**

The Laboratory Materials Blank Quality Assurance measurements (LMB-QA) shown in the SGH spreadsheet of results are matrix free blanks analyzed for SGH. These blanks are not standard laboratory blanks as they do not accurately reflect an amount expected to be from laboratory handling or laboratory conditions that may be present and affect the sample analysis result. The LMB-QA measurements are a pre-warning system to only detect any contamination originating from laboratory glassware, vials or caps. As there is no substrate to emulate the sample matrix, the full solvating power of the SGH leaching solution, effectively a water leach, is fully directed at the small surface area of the glassware, vials or caps. In a sample analysis the solvating power of the SGH leaching solution is distributed between the large sample surface area (from soil, humus, sediments, peat, till, etc.) and the relatively small contribution from the laboratory materials surfaces. The sample matrix also buffers the solvating or leaching effect in the sample versus the more vigorous leaching of the laboratory

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 40 of 49



materials which do not experience this buffering effect. Thus the level of the LMB-QA reported is biased high relative to the sample concentration and the actual contribution of the laboratory reagents, equipment, handling, etc. to the values in samples is significantly lower. This situation in organic laboratory analysis only occurs at such extremely low part-per-trillion (ppt) measurement levels. This is one of the reasons that SGH uses a reporting limit and not a detection limit. The 1 ppt reporting limit used in the SGH spreadsheet of raw concentration data is 3 to 5 times greater than a detection limit. The reporting limit automatically filters out analytical noise, the actual LMB-QA, and most of the sample survey site background. This has been proven as SGH values of 1 to 3 parts-per-trillion (ppt) have very often illustrated the outline of anomalies directly related to mineral targets. **Thus all SGH values greater than or equal to 1 or 2 ppt should be used as reliable values for interpretations.** 

The LMB-QA values thus should not be used to background subtract any SGH data. The LMB-QA values are only an early warning as a quality assurance procedure to indicate the relative cleanliness of laboratory glassware, vials, caps, and the laboratory water supply at the ppt concentration level. *Do not subtract the LMB-QA values from SGH sample data.* 

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 41 of 49



# APPENDIX "F" SGH DATA INTERPRETATION

### **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 sub-classes. 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 subjective 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 PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

### **GEOCHEMICAL ANOMALY THRESHOLD VALUE**

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. To thus calculate an additional Threshold Value is a loss of real and valuable data. Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 42 of 49



hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. Do not calculate another Threshold value. Fact: It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

## **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.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 43 of 49



#### SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data in sectioned into quartiles and each section is assigned specific leveling factors that is then applied to one data set. It should be noted that any type of data leveling is an approximation.



# APPENDIX "G" SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. 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, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- A rating of "6" is the highest or best rating, and means that the SGH classes most important to describing a Gold 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 Gold 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.
- A rating of "4" means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- A rating of "3" means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> 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 Gold 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, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also 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

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 45 of 49



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 unless otherwise specified.

#### **HISTORY & UNDERSTANDING**

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with ever submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing an particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the

August 9, 2013

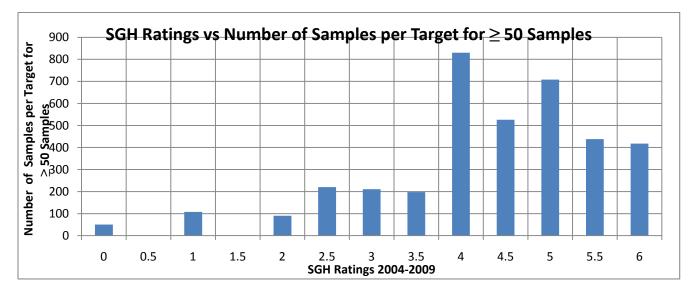
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A13-07700

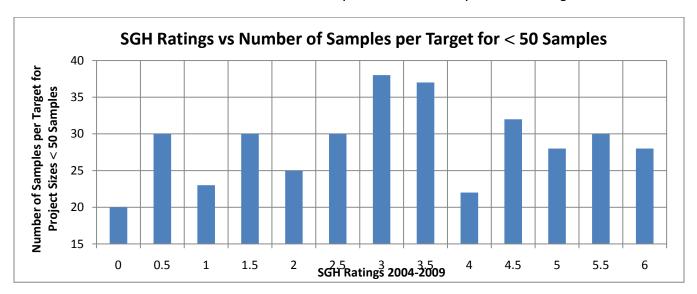
Page 46 of 49



geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.

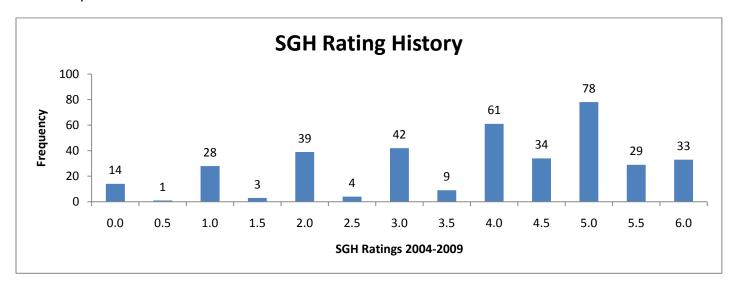


August 9, 2013 Activation Laboratories Ltd. A13-07700 Page 47 of 49

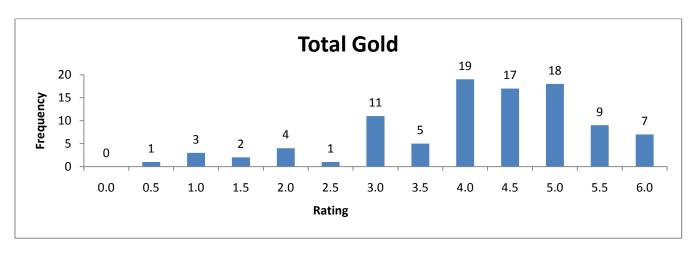
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The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 48 of 49



### **APPENDIX "H"**

#### "SUPPLEMENTAL REPORT": (\$ 1,800.00)

Those clients who have determined that these SGH results will add an important aspect to their exploration effort can request a "Supplemental Report". This report contains the additional SGH Pathfinder Classes and an explanation of their use in the SGH interpretation that supports the initial applied "Rating" for the survey as a relative comparison to the results previously obtained in case studies that were used to create the SGH template for the general target type.

#### "ADDITIONAL INTERPRETATION": (\$ 1,800.00)

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at \$1,800 per area, thus a total of \$3,600.

#### "BASIC OR SUPPLEMENTAL REPORT GIS PACKAGE": (\$ 200.00)

Those clients that wish to import the SGH results into their GIS software can request a "GIS Package", which will include the geo-referenced image files that reflect the mapped SGH Pathfinder Class or Classes contained in the Standard or Supplemental Report and an Excel CSV file(s) containing the associated Class Sum data.

August 9, 2013

**Activation Laboratories Ltd.** 

A13-07700

Page 49 of 49

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	001 - LA	002 - LA	003 - LB	004 - LA	005 - LB	006 - LB	007 - LA	008 - LB	009 - LB	010 - LB	011 - LA	012 - LB	013 - LBA	014 - LB	015 - LAR
0-1	122		17			2	1	5			-1				-1
0-2	120	540	8		3	3 -1	2	3			<del>  i</del>	-1	1 1	-1	-1
0-3	143	726	14		6	1	3	4	-1	1	1	-1	1	-1	-1
0-4	158	813	12		5	1	2	4			2	-1	2	-1	-1
0-5	134	549	11		5	1	2	5			2	-1	2	-1	-1
0-5-R	138	567	12		5	1	2	5			2	-1	1	-1	-1
0-6 0-7	143 131	651 486	14 9		5	1 1	2	4		1	2	-1 -1	2	2 -1 2 -1	-1 -1
0-7 0-8	156	783	9 18	•	7	3 -1	2	5	-1 -1	1	2	-1 -1	1	-1	-1 -1
0-8 0-9	153	705	12			L -1	2	3	-1		1	-1	1		-1 -1
0-10	163	819	14		6	2	3	6			7	-1	2	-1	-1 -1
0-10D	154	720	12		4	1	2	4			1	-1	1		-1
0-11	129	591	13		5	1	-1	3	-1	-1	1	-1	-1	-1	-1
0-12	117	423	12		4	2	-1	2	•		•		-1	•	-1
0-13	181	666	14		6	2	-1	2	-1				-1		-1
050W1	138	573	15		7	2	-1	•	•		•	•	-1	•	-1
050W2 050W3	94 122	396 573	16 11		5	1 2 3 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3	-1 -1	2		-1 -1			-1 -1		-1 -1
050W4	106	417	11		3	. 2	-1 -1	2	***************************************				-1		-1 -1
050W5	103	408	10		3	1	-1	2	-1				-1		-1 -1
050W6	141	100	11		5	5	4	5			2	-1	2	-1	-1
050W6-R	155	693	12	6	5	5	4	5			2	-1	2		-1
050W7	162	108	13		5	5 4	3	4			2	-1	2		-1
050W8	107	47	9		3	-1		2			·		-1		-1
050W9	125	65	10		3	1		3	-1	-1		-1	1		-1
050W10	141	603	12		4	2	1	3	-1 1	•	·	-1 1	1 -1		-1 1
050W11 050W12	118 200	513 516	13 17		6	' 2	1 -1	5	-1 -1				-1 -1		-1 -1
050W1Z 050E1	200	822	17		<u> </u>	3 3	-1 -1	5		***************************************	***************************************		-1 -1		-1 -1
050E1	134	309	13		4	1	2	2					-1		-1
050E3	119	591	10		4	-1	3	6		2		-1	2		-1
050E4	111	420	10	4	3	3 -1	1	2	-1	-1	-1	-1	-1	-1	-1
050E5	145	744	12		4	1	2	3				-1	-1		-1
050E6	114	486	12		4	-1	-1	3	•			-1	-1		-1
050E7	161	774	12		5	1	3	4				-1	1		-1
050E8 050E9	126 156	534 732	12 15		4	3	1	3	-1 -1	1 -1		-1 -1	-1 1		-1 -1
050E9 050E9-R	144	663	15		5	1 4	1	3	-1 -1			-1 -1	-1		-1 -1
050E3-K	145	642	11		5	1 1	3	5				-1	2		-1 -1
050E10	134	65	12		4	3	-1	2					-1		-1
050E12	103	360	8	4	2	<u>'</u> 1	1	2	-1	-1	-1		-1	-1	-1
050E13	159	681	19		6	3	-1	2	-1	-1	•	-1	-1	•	-1
1W1	109	90	18		8	3	-1	4					-1	•	-1
1W2	98	423	13		4	2	-1		-1				-1		-1
1W3	136	88 618	11 12	-	6	5	3	5				-1 -1	2		-1
1W4 1W5	132 160	618 720	12 14			+ Z	3	5 5			2	-1 -1	2		-1 -1
1W6	196	717	13		, / F	1	-1	2			-1		-1		-1 -1
1W7	108	51	9		3	-1	***************************************	3	-1			-1	1		-1
1W8	148	696	14		6	5 5	4	6				-1	2	1	-1
1W9	168	810	15	10	7	2	2	5	-1		1	-1	-1	3.1	-1
1W10	134	80	13		5	3	-1	2		-1		-1	-1		-1
1W10D	115	417	11		4	1	-1	2					-1	3.1	-1
1W10D-R	116	68	10		4	2	-1	2	-1				-1		-1
1W11	107	56	9		4	2	1	2	-1				-1 -1	3.1	-1
1W12 1E1	137 492	549 1360	19 18			1	-1	2	-1 -1		-1 -1		-1 -1	· · · · · · · · · · · · · · · · · · ·	-1 -1
1E2	167	546	16		6	3 2	-1	4					-1	3.1	-1
1E3	131	507	9		3	3 -1		3	-1		7	-1	2		-1
1E4	145	89	14		4	-1		2	-1		1 1	-1	-1		-1

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full.

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd. Date: July 25, 2013 R=Replicate Sample

	001 - LA	002 - LA	003 - LB	004 - LA	005 - LB	006 - LB	007 - LA	008 - LB	009 - LB	010 - LB	011 - LA	012 - LB	013 - LBA	014 - LB	015 - LAR
1E5	205	864	14	10	5	1	2	4	-1	2	2	-1	2	1	-1
1E6	191	612	18	9	9	3	1	6	-1	2	1	-1	1	-1	-1
1E7	175	630	12	5	4	. 1	1	3	-1	-1	1	-1	-1	-1	-1
1E8	135	555	14		4	. 2	-1	2	-1	-1	-1	-1	-1	-1	-1
1E9	159	738	13		7	2	3	5	2	2	2	-1	2	-1	-1
1E10	164	729	11		4	1	3	5	-1	1	2	-1	2	-1	-1
1E10D	168	759	12	10	5	1	3	4	-1	-1	2	-1	1	-1	-1
1E11	124	489	10	6	4	-1	2	2	-1	-1	1	-1	-1	-1	-1
1E12	114	384	9	5	3	-1	2	2	-1	-1	1	-1	-1	-1	-1
1E12-R	119	402	11		3	-1	—·	2	-1	-1	•	-1	-1	•	-1
1E13	372	504	23	23	9	2		4	-1	-1			-1		-1
2W1	130	432	9	7	3	2		2	-1	-1		•	1	7.1	-1
2W2	181	855	14			2		5	•	1	2	-1	1		-1
2W3	148	609	11		5	2		3		-1	1	-1	-1	•	-1
2W4	183	840	12		7	2	_	5	-1	1	2	-1	1	'	-1
2W5	224	1160	20	13				7	-1	2			2		-1
2W6	130	495	11	7	3			3		-1		-1	1		-1
2W7	143	624	16	7	10			4	-1	1	-1	-1	-1	•	-1
2W8	195	861	15	16	8	8		7	-1	3	2	-1	2		-1
2W9	190	1170	15			5	**************************************	5	-1	1	2	-1	1	- 1	-1
2W10	136	531	10	7		-1			-1	1	2	-1	1		
2W11	227	1160	14		- /	5	•	4	-1	1	1	-1	•	-1	-1
2W12	127	444	12		8	2		3	-1	-1	-1	-1	-1		-1
2E1 2E2	151 217	729 867	15 18	12 13	8	6	•	כ	-1	2	-1	-1	1	-1	-1
2E2-R	206	891	17		0	5	_	5 5		2		-1 -1	1	'	-1 -1
2E2-K 2E3	189	843	14	14	9	3		5 6		2	•	-1	2		-1 -1
2E3	197	876	19	12	0	2		0	2	2	-1	-1	2		-1
2E5	150	91	19	12 6		2	· · · · · · · · · · · · · · · · · · ·	5	-1		2	-1	1 1	•	-1
2E6	134	90	16	8		2	v	3		-1	<u>-1</u>	-1	-1		-1
2E7	123	567	9	8	ব	-1	•	2	-1	-1	•	-1	-1	•	-1
2E8	133	567	12	v	7	1 1	1	1	2	1	1	-1	1	-1	-1
2E9	186	846	12	9	5	5	5	- 6	-1	2	2	-1	2	-1	-1
2E10	147	507	10	8	4	-1		5	-1	1	1	-1	2	-1	-1
2E11	294	1330	22	•	17			3	1	2	2	-1	1	-1	-1
2E12	411	498	21	20				6	-1	2	-1	-1	1	-1	-1
2E13	126	501	14	9	***************************************	2	1	3	-1	-1	-1	-1	-1		-1
2E14	123	456	11	7	5	1	1	2	-1	-1	-1	-1	-1		-1
		,55						<del>-</del>	•			•			•
LMB-QA	115	381	8	3	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
LMB-QA	119	375	8	4	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
		7. 0			_	1				1	1		1		-

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS

A13-07700 - Date: July 17, 2013 - Activation Laboratories Ltd.

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

#### **Goldstream Exploration - Paul Dunbar** PAG LKY Project Site

R=Replicate Sample -1=Reporting Limit of 1pg/g (ppt=parts per trillion) LMB-QA = Laboratory Materials Blank - Quality Assurance

#### **LEGEND FOR COLUMN HEADINGS - SGH COMPOUND CLASSES**

LA, HA, LBA, HBA = ALKYL-ALKANES LB, HB, LPB, HPB = ALKYL-BENZENES

> Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested samples are discarded in 90 days. This report is only to be reproduced in full. A13-07700 2/33

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

LAR, MAR, HAR = ALKYL-AROMATICS
LBI, MBI, HBI, LPH, MPH, HPH = ALKYL-POLYAROMATICS
THI = ALKYL-DIVINYLENE SULPHIDES
ALK = ALKYL-ALKENES

002 - LA 003 - LB

004 - LA

005 - LB

006 - LB

007 - LA

008 - LB

009 - LB

010 - LB

011 - LA

012 - LB

013 - LBA

014 - LB

015 - LAR

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

0-1 -1 -1 1 1 -1 -1 1 -1 -1 -1 -1 -1 -1 -		016 - LB	017 - LB	018 - LB	019 - LB	020 - LA	I 021 - I DH	1 022 - I BA	1 023 - LAP	024 - LB	1 025 - Ι ΔΡ	1 026 - I BA	027 - LB	028 - ALK	029 - HB	030 - HB
Second Column	N-1							022 - LDA 1								
Section   Sect	0-2					3		4					2			
Section   Sect		-1	-1	-1	1	2	-1	2	-1	-1	-1	2	2	2	-1	-1
528					1	4		4					2	*		***************************************
Set					2	-1		1					2			
27			***************************************	***************************************		-1		4					2			***************************************
98					1	4		5			-		2			
930	0-8	-1	-1			5		4					2			
9 19 1						3		3					2			
9-11						5		5					3			
912		***************************************	•	*	•	2	•	2	•		•		1		•	***************************************
SSWI	-		·					-1					-1		·	
SSWY2		-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1
Second		•	•					•			•	•	•			
SSWM											-		1			
Second														*	***************************************	
Sewing													1			
Segretary	050W6			1	1	4	-1	1		-1			2	1		-1
050008			<del>-</del>	· · · · · · · · · · · · · · · · · · ·		5	***************************************	5			•		2	2	· · · · · · · · · · · · · · · · · · ·	
Company			·			1 1		1					2	1	·	
CSOW10						2		2					1	•		
DEMPT						-1		1					1	3		
050E1						•		1					-1			
050E2		***************************************		*	•			•	***************************************	•	*					***************************************
000E3								-1					1 24			
05054								-1					-1			
050E6   1	050E4	-1	-1			-1		-1					1	1		
0.50E7			·			-1					-		1	2		
050E8						3		2					1			***************************************
SSCE9   -1   -1   -1   -1   -1   -2   -1   -2   -1   -1						-1		-1					1	1		
CSDE11			***************************************			2	****************	2	*************				1	2		***************************************
OSDE11						2		-1		· · · · · · · · · · · · · · · · · · ·		2	1	2		
CSDE12						5		•					2			
OSDET 3						1		•					-1			
1W1         -1											-		-1			
1W3         1         -1         -1         1         2         6         -1         6         1         -1         -1         -1         3         3         4         1         -1           1W4         -1         -1         1         1         1         1         1         1         1         3         3         4         1         -1           1W5         -1         1         1         1         5         -1         5         1         -1         1         2         2         3         1         -1           1W6         -1		-1	-1	-1			-1	-1	-1		-1	-1	1 1	-1	-1	-1
1W4         -1         -1         -1         1         6         -1         7         2         -1         -1         3         3         4         1         -1           1W5         -1         -1         -1         1         1         1         -1         5         -1         5         1         -1         -1         1         -1         <		-1			-1	-1							-1			
1W5         -1		1			2	6		6					3		1	
1W6         -1		•	***************************************	•	1	5		/ 5			•	_	2		1	
1W7         -1         -1         -1         1         5         -1         5         -1         -1         -1         -1         2         2         2         -1						-1		J			-		1	V		
1W9         -1         -1         -1         -1         -3         -1         -3         12         -1         -1         -2         1         4         3         1           1W10         -1         -1         -1         -1         1         -1 <th></th> <th>-1</th> <th>-1</th> <th>-1</th> <th>1</th> <th>5</th> <th>-1</th> <th>5</th> <th>-1</th> <th></th> <th>-1</th> <th>2</th> <th>2</th> <th>2</th> <th>-1</th> <th></th>		-1	-1	-1	1	5	-1	5	-1		-1	2	2	2	-1	
1W10         -1         -						8		8				•	3		1	
1W10D         -1								3			-		1	4		
1W10D-R         -1 <t< th=""><th></th><th></th><th><del>-</del></th><th>· · · · · · · · · · · · · · · · · · ·</th><th></th><th></th><th></th><th>_1</th><th></th><th></th><th>•</th><th></th><th>_1</th><th></th><th></th><th></th></t<>			<del>-</del>	· · · · · · · · · · · · · · · · · · ·				_1			•		_1			
1W11         -			·			•					-				·	
1E1         -1	1W11	-1	-1			-1							1			
1E2         -1		•	<del>-</del>								•			•	· · · · · · · · · · · · · · · · · · ·	
1E3 -1 -1 1 1 4 -1 4 1 -1 -1 4 2 3 1 1 -1			·			1 		·					1		·	
		***************************************			*	-1			***************************************	•	*			•	•	
						-1		-1					1			

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#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	016 - LB	017 - LB	018 - LB	019 - LB	020 - LA	021 - LPH	022 - LBA	023 - LAR	024 - LB	025 - LAR	026 - LBA	027 - LB	028 - ALK	029 - HB	030 - HB
1E5	1	-1	1	1	5	-1	5	2	-1	-1	3	3	3	1	-1
1E6	-1	-1	1	1	2	-1		1	-1	-1		2	3		-1
1E7	-1	-1	-1	-1	2	-1		-1	-1	-1	1	1	1		-1
1E8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	1	2	-1	-1
1E9	-1	-1	1	1	-1	-1	-1	2	-1	-1	2	. 2	. 4	1	-1
1E10	-1	-1	1	2	3	-1	4	2	-1	-1	4	. 3	4	. 1	-1
1E10D	-1	-1	-1	1	3	-1	3	2	-1	-1	2	-1	3	-1	-1
1E11	-1	-1	-1	-1	2	-1	2	-1	-1	-1	1	-1	2	-1	-1
1E12	-1	-1	-1		1	-1	2	-1	-1	-1	2	1	3	-1	-1
1E12-R	-1	-1	-1		1	-1	2	-1	-1	-1	· · · · · · · · · · · · · · · · · · ·	-1	3		-1
1E13	-1	-1	-1		1	-1		-1	· · · · · · · · · · · · · · · · · · ·	-1	·		-1		-1
2W1	-1	-1	-1		4	-1		-1	-1	-1	<del></del>		3	-1	-1
2W2	-1	-1	1		-1	-1	1	2	-1	-1	_	. 2	. 4		-1
2W3	-1	-1	-1	-1	3	-1	2	-1	-1	-1	•	1	2	-1	-1
2W4	-1	-1	1	1	3	-1	3	3	-1	-1	_	. 2	3	1	-1
2W5	-1	-1	1		-1	•	1	9	-1	-1	—	3	7	4	-1
2W6	-1	-1	-1		-1		1	-1	-1	-1	_	1	2	1	-1
2W7	-1	-1	-1	•	-1	*	-1	1	-1	-1	•	1	1	-1	-1
2W8	-1	-1	2	2	1	-1	2	8	-1	-1		3	8	4	1
2W9	-1	-1	1	2	4	-1	4	2	-1	-1		4	4	1	-1
2W10 2W11	-1	-1 -1	-1	_		-1		2	-1	-1 -1		1	. 4	-1	-1 -1
2W11	-1 -1	-1 -1	-1 -1		-1	-1			-1 -1	-1			4	-1	-1 -1
200 12 2E1	-1	-1	-1		-1			-1	-1	-1	_	-1	1 3		-1
2E2	-1	-1 -1	-1		-1 -1			2	-1 -1	-1		1	4	1	-1
2E2-R	-1	-1	-1		-1			2	-1	-1	_	1	-	_1	-1
2E3	1	-1 -1	2	•	-1	-1	2	4	 -1	-1		. 2			-1 -1
2E4	-1	-1	1	2	1	-1	1	5	-1	-1		. 2	7	΄ Δ	-1
2E5	-1	-1	1	1	3	-1	3	2	-1	-1	· · · · · · · · · · · · · · · · · · ·	2	3	2	-1
2E6	-1	-1	-1		-1	1	-1	-1		-1	_	1	2		-1
2E7	-1	-1	-1	•	-1		*	-1		-1	•	1	1		-1
2E8	-1	-1	1		2	-1		1	-1	-1	2	-1	3	1	-1
2E9	-1	-1	1	2	1	-1		3	-1	-1	3	3	6		-1
2E10	-1	-1	2	2	11	-1	12	2	-1	-1	9	4	g	3	-1
2E11	-1	-1	2		-1	-1		3	-1	-1	2	3	4	. 2	-1
2E12	-1	-1	-1	1	-1	-1	1	-1	-1	-1	-1	1	-1	-1	-1
2E13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
LMB-QA	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
LMB-QA	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

016-LB 017-LB 018-LB 019-LB 020-LA 021-LPH 022-LBA 023-LAR 024-LB 025-LAR 026-LBA 027-LB 028-ALK 029-HB 030-HB

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	031 - HB	022 FB	022 EB	02/ UD	1 N25 1 ND	1 036 LBV	027 EB	030 I BA	U30 TVB	I NAU I DB	I 0/1 I BA	I MY I DB	L UAS FIB	044 - HB	045 - LA
0-1	031 - ПБ -1	032 - HB -1			035 - LAR -1		037 - HB -1	-1		040 - LPB -1			043 - HB -1		
0-1	1	-1	-1				-1	-1	-1	-1		-1	-1		7
0-3	-1	-1	-1			-1	-1	-1		-1	5	-1	-1	-1	4
0-4	1	-1				-1	-1	-1	-1		••••••••••		-1		6
0-5	1	-1	-1				-1	-1	-1	-1	_		-1		6
0-5-R 0-6	1	-1 -1	-1 -1				-1 -1	-1 -1	-1 -1	-1 -1			-1 -1	4	6 6
0-7	1	-1	-1			· ·	-1	1	-1	-1			-1		8
0-8	1	-1		-1		1	-1	-1	-1	-1	7	-1	-1		7
0-9	1	-1	-1				-1	-1	-1	-1		-1	-1		4
0-10	1	-1	-1 -1				-1	<u>1</u> -1	-1	-1			-1 -1		8
0-10D 0-11	-1 -1	-1 -1	-1 -1	•			-1 -1	-1 -1	-1 -1	-1 -1	•	-1 -1	-1	•	2
0-12	-1		-1				-1	-1	-1	-1	_	1	-1		-1
0-13	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
050W1	-1	-1	-1				-1	-1	-1	-1	•	*	-1	) (111111111111111111111111111111111111	-1
050W2 050W3	-1 -1		-1 -1				-1 -1	-1 -1	-1 -1	-1 -1		-1 -1	-1 -1		-1
050W4	-1 -1	•				•	-1 -1	-1 -1	-1 -1	-1			-1		-1
050W5	-1	-1	-1				-1	-1	-1	-1		-1	-1		2
050W6	1	-1	-1				-1	-1	-1	-1			-1		6
050W6-R	1	-1	-1				-1	-1	-1	-1	· · · · · · · · · · · · · · · · · · ·	-1	-1		5
050W7 050W8	-1	-1 -1	-1 -1			· ·	-1 -1	-1 -1	-1 -1	-1 -1	·	-1	-1 -1		7
050W9	-1	-1 -1	-1				-1	-1 -1	-1 -1	-1		-1	-1		4
050W10	-1	-1	-1				-1	-1	-1	-1	2	-1	-1	-1	2
050W11	-1		-1				-1	-1	-1	-1		-1	-1		-1
050W12 050E1	-1 -1		-1 -1	•		•	-1 -1	-1 -1	-1 -1	-1 -1			-1 -1	•	-1 -1
050E1	-1	-1	-1				-1	-1	-1	-1		-1	-1		-1
050E3	-1	-1	-1				-1	-1	-1	-1		-1	-1		4
050E4	-1		-1				-1	-1	-1	-1		-1	-1		2
050E5 050E6	-1 -1		-1 -1				-1 -1	-1 -1	-1 -1	-1 -1	_	-1 -1	-1 -1		2
050E6 050E7	-1	-1 -1	-1 -1				-1 -1	-1	-1 -1	-1	•	-1	-1		5 5
050E8	-1	-1	-1				-1	-1	-1	-1		-1	-1		3
050E9	-1		-1				-1	-1	-1	-1	3	-1	-1		3
050E9-R	-1		-1				-1	-1	-1	-1	4	-1	-1		4
050E10 050E11	-1	-1 -1	-1 -1			·	-1 -1	-1 -1	-1 -1	-1 -1		-1	-1 -1		5 -1
050E11	-1	-1	-1				-1	-1	-1	-1		-1	-1		1
050E13	-1	•	-1	•		•	-1	-1	-1	-1	•	*	-1	•	-1
1W1	-1		-1				-1	-1	-1	-1			-1		-1
1W2 1W3	-1 1	-1 -1	-1 -1				-1 -1	-1 1	-1 -1	-1 -1			-1 -1		-1 11
1W4	1	-1	-1				-1 -1	1	-1	-1			-1		12
1W5	1	-1	-1			1	-1	1	-1	-1			-1	) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	14
1W6	-1		-1				-1	-1	-1	-1			-1		2
1W7	-1	-1					-1	1	-1	-1			-1		11
1W8 1W9	1	-1 -1	-1 -1				-1 -1	-1	-1 -1	-1 -1	•		-1 -1		18 8
1W10	-1		-1				-1	-1	-1	-1		-1	-1		1
1W10D	-1	-1	-1		-1		-1	-1	-1	-1	1	-1	-1	-1	1
1W10D-R	-1							-1					-1		-1
1W11 1W12	-1 -1	-1 -1	-1 -1				-1 -1	-1 -1	-1 -1	-1 -1		-1	-1 -1		1 1
161	- I -1	· · · · · · · · · · · · · · · · · · ·	- I -1				- I -1	-1 -1	-1 -1	- 1 - 1		·	-1		-1
1E2	-1		-1			-1	-1	-1	-1	-1	-1		-1		-1
1E3	1	-1					-1	2	-1	-1			-1		15
1E4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2	-1	-1	-1	2

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full.

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	031 - HB	032 - HB	033 - HB	034 - HB	035 - LAR	036 - LBA	037 - HB	038 - LBA	039 - LAR	040 - LPB	041 - LBA	042 - LPB	043 - HB	044 - HB	045 - LA
1E5	1	-1	-1	-1	-1	-1	-1	1	-1	-1	10	-1	-1	-1	10
1E6	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	3	-1	-1	-1	3
1E7	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	3	-1	-1	-1	3
1E8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	1
1E9	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	7	-1	-1	-1	7
1E10	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	7	-1	-1	-1	7
1E10D	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	6	-1	-1	-1	6
1E11	-1	-1	-1		-1	-1	-1	-1		-1	2	-1	-1		2
1E12	-1	-1	-1		-1			-1		-1		-1	-1		4
1E12-R	-1	-1	-1	•				-1		-1	· · · · · · · · · · · · · · · · · · ·	-1	-1		5
1E13	-1	-1	-1		-1		-1	-1		-1	_	-1	-1		2
2W1		-1	-1	•	-1	-1	-1	-1		-1		-1	-1		3
2W2	1	-1	-1		-1		-1	-1		-1		-1	-1		4
2W3	-1	-1	-1	•	-1	•	•	-1	•	-1		-1	-1		3
2W4	1	-1 -1	-1 -1					-1 1		-1 -1		-1	-1 -1		4
2W5 2W6		-1	-1 -1		-1 -1	•		-1		-1 -1	•	•	-1	•	3
2W7	-1							-1 -1		-1		-1	-1		3
2W8	-1						•	-1 1	-1	-1	•		-1	•	0
2W6 2W9		-1						-1		-1		-1	-1		O 5
2W10	1	-1	-1 -1		-1			1	-1	-1	· · · · · · · · · · · · · · · · · · ·	-1	-1		6
2W10	1	-1	-1		-1			-1		-1	v	-1	-1		2
2W12	-1	-1	-1		-1			-1	***************************************	-1			-1		3
2E1	1	-1	-1		-1			-1		-1	3		-1	-1	3
2E2	-1	-1	-1		-1			-1		-1	2	-1	-1	-1	2
2E2-R	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2	-1	-1	-1	2
2E3	2	-1	-1	-1	-1	-1	-1	1	-1	-1	5	-1	-1	-1	5
2E4	2	-1	-1	-1	-1	-1	-1	1	-1	-1	5	-1	-1	-1	5
2E5	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	4	-1	-1	-1	4
2E6	-1	-1	•		-1	-1	-1	-1	•	-1	•	-1	-1	•	-1
2E7	-1	-1	-1		-1		-1	-1		-1	_	-1	-1		2
2E8	1	-1	-1	•	-1	•	-1	-1	•	-1	· · · · · · · · · · · · · · · · · · ·	-1	-1	•	3
2E9	2	-1	-1		-1			1	-1	-1		-1	-1		4
2E10	3	-1	-1		-1	·	-1	4	-1	-1			-1		16
2E11	2	-1	-1		-1		-1	-1		-1			-1		3
2E12	-1	-1	-1		-1	•		-1	•	-1			-1	•	-1
2E13	-1	-1	-1					-1		-1			-1		-1
2E14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
LMB-QA	_1	-1	-1	_1	_1	-1	-1	-1	-1	_1	-1	-1	-1	_1	-1
LMB-QA	_1	-1			-1		•	-1		-1			-1	•	
,,,,		'	'	·	'	·	'			'	'				

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

031 - HB 032 - HB 033 - HB 034 - HB 035 - LAR 036 - LBA 037 - HB 038 - LBA 039 - LAR 040 - LPB 041 - LBA 042 - LPB 043 - HB 044 - HB 045 - LA

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	046 - LPH	047 - LBA	048 - HB	049 -HB	050 - LBA	I 051 - LBI	052 - LPB	053 - LPB	054 - HB	055 - LPB	056 - LBI	057 - ALK	058 - LPB	059 - LPB	060 - LPH
0-1	-1	-1	-1		-1				-1						-1
0-2	-1	5	-1		2	-1	-1	-1	-1				-1		
0-3	-1		-1		-1	-1	-1	-1	-1	-1			-1		-1
0-4	-1	-1	-1		1	-1 -1	-1	-1 -1	-1	-1			-1 -1		-1
0-5 0-5-R	-1 -1	Ŭ	-1 -1		1	-1	-1 -1	-1 -1	-1 -1	-1 -1			-1 -1		-1 -1
0-5-K 0-6	-1		-1 -1	•	1	-1 -1	-1	-1	-1 -1	-1			-1		-1 -1
0-7	-1	4	-1		1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
0-8	-1	-1	-1		2	-1	-1	-1	-1	-1			-1		-1
0-9	-1		-1	· · · · · · · · · · · · · · · · · · ·	-1	-1	-1	-1	-1	-1	· · · · · · · · · · · · · · · · · · ·	•	-1	· · · · · · · · · · · · · · · · · · ·	-1
0-10 0-10D	-1 -1	5	-1 -1		_1	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1			-1 -1		-1
0-11	-1	-1	-1		-1	-1	-1	-1	-1	-1			-1		-1
0-12	-1	-1	-1		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
0-13	-1		-1		-1	-1	-1	-1	-1	-1			-1		-1
050W1 050W2	-1		-1 -1	•	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1	•	•	-1 -1	•	-1 -1
050W2	-1 -1		-1		-I -1	-1	-1	-1	-1 -1	-1			-1		-1 -1
050W4	-1 -1	-1	-1 -1		-1 -1		-1	-1	-1 -1	 -1			-1		-1
050W5	-1	1	-1		-1	-1	-1	-1	-1	-1		-1	-1		-1
050W6	-1	5	-1			-1	-1	-1	-1	-1			-1		-1
050W6-R 050W7	-1 -1	•	-1 -1	· · · · · · · · · · · · · · · · · · ·	1	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1		•	-1 -1	· · · · · · · · · · · · · · · · · · ·	-1 -1
050W8	-1		-1 -1		-1	-1	-1	-1	-1 -1	-1			-1		-1 -1
050W9	-1	3	-1		-1	-1	-1	-1	-1	-1			-1	•	-1
050W10	-1	1	-1	· · · · · · · · · · · · · · · · · · ·	-1	-1	-1	-1	-1	-1		•	-1	•	-1
050W11	-1		-1	·	-1 -1	-1	-1	-1	-1	-1	·		-1	·	-1
050W12 050E1	-1 -1	•	-1 -1	•		-1 -1	-1 -1	-1 -1	-1 -1	-1 -1			-1 -1		-1 -1
050E1	-1		-1		-1	-1	-1	-1	-1	-1			-1		-1
050E3	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1		-1	-1	-1
050E4	-1		-1	•	-1	-1	-1	-1	-1	-1			-1		-1
050E5 050E6	-1 -1		-1 -1		-1 -1	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1			-1 -1		-1 -1
050E6 050E7	-1		-1 -1		1	-1	-1	-1	-1 -1	-1			-1		-1
050E8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1		-1	-1	-1
050E9	-1	·	-1		-1	-1	-1	-1	-1	-1			-1	·	-1
050E9-R 050E10	-1 -1		-1 -1		-1	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1		·	-1 -1	· · · · · · · · · · · · · · · · · · ·	-1 -1
050E10	-1	·	-1		-1	-1	-1	-1	-1	-1			-1		-1 -1
050E12	-1		-1		-1		-1	-1	-1	-1			-1		-1
050E13	-1	-1	-1		-1	-1	-1	-1	-1	-1		-1	-1		-1
1W1	-1	-1	-1		-1	-1	-1	-1	-1	-1			-1		-1
1W2 1W3	-1 -1		-1 -1		-1 2	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1		*	-1 -1	•	-1 -1
1W4	-1	-	-1	·	2	-1	-1	-1		-1	·		-1	·	-1
1W5	-1	-1	-1	-1	2	-1	-1	-1	-1	-1	-1		-1	-1	-1
1W6	-1		-1		-1	-1	-1	-1	-1	-1			-1		-1
1W7	-1		-1		1	-1 -1	-1	-1 -1	-1	-1		<u>.</u>	-1 -1		-1
1W8 1W9	-1	12	-1 -1		-1	-1 -1	-1 -1	-1 -1	-1 -1	-1   -1			-1 -1		-1 -1
1W10	-1	-1	-1		-1	-1	-1	-1	-1	-1			-1		-1
1W10D	-1		-1		-1		-1	-1	-1	-1			-1		-1
1W10D-R	-1		-1		-1	· · · · · · · · · · · · · · · · · · ·	-1	-1	-1	-1			-1		-1
1W11 1W12	-1 -1	·	-1 -1		-1 -1	-1 -1	-1 -1	-1 -1	-1 -1	-1 -1			-1 -1		-1 -1
188 IZ 1E1	-1 -1	-1	-1 -1	· · · · · · · · · · · · · · · · · · ·	-1 -1	-1	-1 -1	-1	-1 -1	- 1 - 1			-1	· · · · · · · · · · · · · · · · · · ·	-1 -1
1E2	-1	-1	-1		-1			-1	-1	-1		-1	-1		-1
1E3	-1		-1		3	-1	-1	-1	-1	-1			-1		-1
1E4	٦-	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

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#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	046 - LPH	047 - LBA	048 - HB	049 -HB	050 - LBA	051 - LBI	052 - LPB	053 - LPB	054 - HB	055 - LPB	056 - LBI	057 - ALK	058 - LPB	059 - LPB	060 - LPH
1E5	-1	-1	-1	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E6	-1	3				-1	-1	-1		-1	-1	-1	-1	-1	-1
1E7	-1	2	-1	-1		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E8	-1	-1	-1	-1		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E9	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E10	-1	5	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E10D	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E11	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E12	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E12-R	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
1E13	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W1	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W2	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W3	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W4	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W5	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W6	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W7	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W8	-1	7	-1	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W9	-1	-1	-1	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W10	-1	4	-1	-1		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W11	-1	2	-1	-1		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2W12	-1	2	-1	-1		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E1	-1	2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E2	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E2-R	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E3	-1	4	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E4	-1	3	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E5	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E7	-1]	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E8	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E9	-1]	3	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E10	-1	11	-1	-1	4	-1	-1	-1	-1	-1	-1	2	-1	-1	2
2E11	-1	1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E12	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E13	-1]	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E14	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
LMD OA			4							4				,	
LMB-QA	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
LMB-QA	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

046 - LPH | 047 - LBA | 048 - HB | 049 - HB | 050 - LBA | 051 - LBI | 052 - LPB | 053 - LPB | 054 - HB | 055 - LPB | 056 - LBI | 057 - ALK | 058 - LPB | 059 - LPB | 060 - LPH

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	061 - LBI	062 - LBA	I 063 - I PH	064 - LBA	I 065 - HPR	066 - LBA	067 - I BI	068 - HPB	069 - LA	I 070 - HPB	I 071 - HPB	072 - HPB	073 - HBA	074 - HBA	075 - HPB
0-1	-1	-1	-1		-1		-1	-1		-1			-1		
0-2	-1		-1	4	-1	14	-1	-1	14	-1	-1	-1	-1	4	-1
0-3	-1		-1	_	-1			-1	-	-1			2		-1
0-4 0-5	-1 -1	2	-1 -1		-1 -1		-1 -1	-1 -1		-1 -1			-1 2	•	-1 -1
0-5-R	-1	2	-1		-1			-1		-1			-1		-1
0-6	-1	2	-1		-1	12	-1	-1	13	-1		-1	-1	3	-1
0-7	-1		-1		-1			-1	· · · · · · · · · · · · · · · · · · ·	-1			3		-1
0-8 0-9	-1 -1	3	-1 -1		-1 -1		-1 -1	-1 -1		-1 -1			-1		-1 -1
0-9 0-10	- I - 1	2	-1		-1 -1			-1 -1		-1			-1		-1
0-10D	-1	2	-1		-1		-1	-1		-1			-1		-1
0-11	-1	·	-1	_	-1			-1		-1			-1	_	-1
0-12	-1		-1 -1		-1 -1	*	-1	-1 -1		-1			-1 -1		-1
0-13 050W1	-1 -1	-1 -1	-1		-1		-1 -1	-1 -1		-1 -1			-1		-1 -1
050W2	-1	-1			-1	•	-1	-1		-1	•	•	-1		-1
050W3	-1		-1		-1	· · · · · · · · · · · · · · · · · · ·	-1	-1	<del>-</del> -	-1			-1		-1
050W4	-1	-1					-1	-1		-1			-1 1		
050W5 050W6	-1 -1	1 2	-1 -1		-1 -1	· · · · · · · · · · · · · · · · · · ·	-1 -1	-1 -1		-1 -1			1 2		-1 -1
050W6-R	-1	2	-1		-1		-1	-1		-1			-1		-1
050W7	-1		-1		-1		-1	-1		-1			1		-1
050W8	-1	-1			-1			-1 -1		-1			-1		-1
050W9 050W10		1	-1 -1		-1	Ŭ	-1 -1	-1 -1		-1 -1			2	_	-1 -1
050W10	-1	-1			-1		-1	-1	•	-1			-1	-1	-1
050W12	-1		-1	•		•	-1	-1	•	-1			-1	***************************************	-1
050E1	-1						-1	-1 -1		-1			-1 -1		
050E2 050E3	-1 -1	-1 1	-1 -1		-1 -1	•	-1 -1	-1 -1		-1 -1			-1 -1		-1 -1
050E4	-1	1	-1		-1	3	-1	-1		-1			-1		-1
050E5	-1	·	-1	_	-1			-1		-1			-1		-1
050E6 050E7	-1	1	-1		-1 -1	· · · · · · · · · · · · · · · · · · ·		-1 -1		-1 -1			-1 2		-1 -1
050E7 050E8	-1 -1	2	-1 -1		-1 -1	Ü	-1 -1	-1 -1		-1			-1		-1 -1
050E9	-1	2	-1		-1		-1	-1	**************************************	-1			-1	4	-1
050E9-R	-1		-1	· · · · · · · · · · · · · · · · · · ·	-1			-1	<del>-</del> -	-1			-1		-1
050E10 050E11	-1 -1	2	-1 -1		-1 -1	v	-1 -1	-1 -1		-1 -1			-1		-1 -1
050E11	- I - 1	-1	-1		-1	-	- I -1	-1 -1		-1			1		-1
050E13	-1	-1	-1		-1		-1	-1		-1	1		-1	-1	-1
1W1	-1	·	-1		-1		-1	-1	· · · · · · · · · · · · · · · · · · ·	-1			-1		-1
1W2 1W3	-1 -1	-1 2	-1 -1		-1 -1	_		-1 -1		-1 -1			-1 3		-1 -1
1W4	-1	2	-1		-1			-1 -1		-1			3		-1
1W5	-1	3	-1		-1			-1		-1		•	5	•	-1
1W6	-1		-1		-1		***************************************	-1		-1			-1		-1
1W7 1W8	-1 -1	2	-1 -1		-1 -1			-1 -1		-1 -1			2		-1 -1
1W8 1W9	-1 -1	-1	-1 -1		-1			-1 -1		-1			2		-1
1W10	-1		-1		-1		-1	-1		-1	1		-1		-1
1W10D	-1	·			-1		-1	-1		-1			-1		-1
1W10D-R 1W11	-1	-1	-1 -1		-1 -1		-1	-1 -1		-1			-1 2		-1
1W11 1W12	-1 -1	-1	-1 -1		-1 -1	<u>'</u>	-1 -1	-1 -1		-1 -1		1	-1		-1 -1
1E1	-1				-1	•	-1 -1	-1		-1			-1	· · · · · · · · · · · · · · · · · · ·	-1
1E2	-1		-1	•	-1	•	-1	-1	•	-1			-1	•	-1
1E3	-1	3	-1		-1			-1		-1			-1		-1
1E4	-1	1	-1	3	-1	5	-1	-1	5	-1	-1	-1	1	2	-1

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full. 13/33

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	061 - LBI	062 - LBA	063 - LPH	064 - LBA	065 - HPB	066 - LBA	067 - LBI	068 - HPB	069 - LA	070 - HPB	071 - HPB	072 - HPB	073 - HBA	074 - HBA	075 - HPB
1E5	-1	3	-1	4	-1	25	1	-1	25	-1	-1	-1	5	5	-1
1E6	-1	2	-1	3	-1			-1	8	-1	-1	-1	3	2	-1
1E7	-1	1	-1	2	-1	6	-1	-1	6	-1	-1	-1	-1	1	-1
1E8	-1	1	-1	2	-1	3	-1	-1	3	-1	-1	-1	-1	2	-1
1E9	-1	2	-1	3	-1	15	-1	-1	15	-1	-1	-1	4	3	-1
1E10	-1	2	-1	3	-1	12	-1	-1	12	-1	-1	-1	3	3	-1
1E10D	-1	2	-1	-1	-1	12	-1	-1	13	-1	-1	-1	2	2	-1
1E11	-1	1	-1	-1	-1	4	-1	-1	5	-1	-1	-1	-1	-1	-1
1E12	-1	2	-1	4	-1	6	-1	-1	6	-1	-1	-1	2	2	-1
1E12-R	-1	2	-1	4	-1	5	-1	-1	6	-1	-1	-1	2	2	-1
1E13	-1	-1	-1		-1	3	-1	-1	3	-1	-1	-1	-1	1	-1
2W1	-1	-1	-1		-1	6		-1	6	-1	•	-1	2	2	-1
2W2	-1	2	-1		-1			-1	10	-1		-1	-1	_	-1
2W3	-1	-1	•		-1	×		-1	5	-1			-1	•	-1
2W4	-1	1	-1				-1	-1	7	-1			-1	_	-1
2W5	-1	3	-1		•	•				-1	•		3		-1
2W6	-1	1	-1					-1	4	-1			1		-1
2W7	-1	-1	•			· · · · · · · · · · · · · · · · · · ·		•••		-1	•		-1	•	-1
2W8	-1	2	-1		-1			-1	18	-1			-1		-1
2W9	-1	2	-1	***************************************	-1				13				-1		-1
2W10	-1	2	-1	_	-1	Ŭ		-1	8	-1		-1	2	v	-1
2W11	-1	1	-1	***************************************	-1			-1	5	-1	•		-1	*	-1
2W12	-1	-1	-1		-1	V		-1	3	-1			1		-1
2E1	-1	1	-1		-1			-1	5	-1	•		-1		-1
2E2	-1	1	-1		-1	Ŭ		-1	3	-1		·	-1		-1
2E2-R	-1	-1	•						3	-1			-1	•	-1
2E3	-1	2	-1	_	-1			-1	12	-1		·	2	v	-1
2E4 2E5	-1 -1	2	-1 -1		-1	• •		-1 -1	12 6	-1 -1	· · · · · · · · · · · · · · · · · · ·		-1	_	-1 -1
2E6			-1		-1	Ŭ		- I -1	0	-1		<u> </u>	-1		-1 -1
2E7	-1 1	1	-1 -1		-1 -1		•	-1 -1	∠	-1	•		-1	•	-1
2E8	-1	- 1	-1		-1		·	-1	<u>ي</u> د	-1		-1	-1		-1
2E9	-1	1	-1	•	-1			-1 -1	9	-1	•	•	-1		-1
2E10	-1	2	- 1	_	-1			-1	11	-1			-1	_	-1 -1
2E10	-1		-1	•	-1			-1 -1	6	-1	) (111111111111111111111111111111111111		-1		-1
2E12	-1	-1						-1	2	-1			-1		-1
2E13	_1	-1						-1	-1	-1			-1		-1
2E14	_1	-1			-1			-1	2	-1			-1		-1
															-1
LMB-QA	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
LMB-QA	-1	-1			-1		•	-1	-1	-1	-1		-1	•	
		<del>                                     </del>	·	·	<del>                                     </del>	†	·	·		·	·	<del>                                     </del>	·	<del>                                     </del>	<u> </u>

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

061 - LBI | 062 - LBA | 063 - LPH | 064 - LBA | 065 - HPB | 066 - LBA | 067 - LBI | 068 - HPB | 069 - LA | 070 - HPB | 071 - HPB | 072 - HPB | 073 - HBA | 074 - HBA | 075 - HPB

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	076 - LPH	077 - MAR	078 - ALK	079 - I BI	080 - LPH	081 - MAR	082 - LPH	083 - HBA	084 - HBA	085 - LPH	086 - LBI	087 - MAR	088 - HBA	089 - THI	090 - HPB
0-1	-1	-1	-1				-1	-1					3		
0-2	-1	-1	1				-1	11		12			5		-1
0-3	-1	-1	-1					-1		5			5		-1
0-4	-1	-1	-1				-1	7		7	1	-1	7		-1
0-5 0-5-R	<u>-1</u>	-1 -1	-1 -1				-1 -1	<u>6</u>		6	1	-1 -1	7		-1 -1
0-5-K	-1	-1	-1 -1				-1	9		8		-1	8		-1
0-7	-1	-1	-1			-1	-1	8		10	1	-1	10		-1
0-8	-1	-1	-1				-1	4		10	1	-1	10		-1
0-9	-1	-1	-1				-1	5		6	-1		6		-1
0-10 0-10D	-1 -1	-1 -1	2 -1				-1 -1	7 5	-1 -1	7		-1 -1	7		-1 -1
0-10D	-1	-1	-1	•			-1	-1	•	4		•	4		-1
0-12	-1	-1	-1	-1	-1	-1	-1	1	-1	2	-1	-1	2	-1	-1
0-13	-1	-1	-1				-1	-1		2	-1		2		-1
050W1	-1	-1	-1				-1	2		2	•	•	2		-1
050W2 050W3	<u>-1</u>	-1 -1	-1 -1				-1 -1	-1 3		-1 3	-1 -1		1 3		<u>-1</u> -1
050W4	-1	-1 -1	-1 -1			•	-1 -1	2		2			2		-1
050W5	-1	-1	-1				-1	2		-1			3		-1
050W6	-1	-1	-1				-1	4		5	-1		5		-1
050W6-R	-1	-1 -1	-1 1				-1 -1	5		4	-1 -1		5	•	-1
050W7 050W8	-1 -1	-1 -1	-1			· ·	-1	4		3			3		-1 -1
050W9	-1	-1	-1		-1		-1	4	-1	4	-1		4		-1
050W10	-1	-1	1		-1		-1	3	-1	2	-1	-1	3	-1	-1
050W11	-1	-1	-1				-1	2	-1	-1			2	-1	-1
050W12 050E1	-1	-1	-1 -1	•		•	-1	2		2	-1		1	-1	-1
050E1	-1 -1	-1 -1	-1				-1 -1	2		-1 -1			2	-1 -1	-1 -1
050E3	-1	-1	-1				-1	4	-1	5			5		-1
050E4	-1	-1	-1				-1	4	-1	4			4	•	-1
050E5	-1	-1	-1				-1	4		4	-1		4		-1
050E6 050E7	-1 -1	-1 -1	-1 -1				-1 -1	6	-1 -1	5	-1 -1		5		-1 -1
050E7 050E8	-1	-1 -1	-1				-1	7	-1	7		-1	7	1 -1	-1
050E9	-1	-1	-1				-1	2	-1	6	-1	-1	6		-1
050E9-R	-1	-1	1			4	-1	5		6	•		6		-1
050E10	-1	-1	-1				-1	6		6		1	6	-1	1
050E11 050E12	-1 -1	-1 -1	-1 -1			4	-1 -1	-1 3	-1 -1	2	-1 -1		3	•	-1 -1
050E12	-1	-1	-1				-1	-1		2			2	-1	-1
1W1	-1	-1	-1	-1		-1	-1	-1	-1	2	-1	1	2	-1	-1
1W2	-1	-1	-1				-1	1			-1		2		-1
1W3 1W4	-1 -1	-1 -1	-1 -1				-1 -1	9		9	1	-1	9		-1 -1
1W5	-1 -1	-1 -1	-1 -1				-1 -1	4	-1 -1	10		-1	11		-1 -1
1W6	-1	-1	-1				-1	2	-1	3	-1		3		-1
1W7	-1	-1	-1				-1	3		8		-1	4		-1
1W8	-1	-1	-1				-1	4	-1	12		-1	11		-1
1W9 1W10	-1 -1	-1 -1	-1 -1				-1 -1	1	-1 -1	7			6		
1W10D	-1	-1 -1	-1 -1				-1	2		-1	-1		2	•	-1
1W10D-R	-1	-1	-1	-1	·	-1		2	·	-1			2		-1
1W11	-1	-1	-1				-1	2		2	-1		3	-1	-1
1W12	-1	-1	-1			•	-1	3	-1	2			2	•	-1
1E1 1E2	-1 -1	-1 -1	-1 -1			-1	-1 -1	-1 -1		2	-1 -1		2	· -1	-1 -1
1E3	-1	-1 -1	2	*			-1	9		9		-1	9		-1
1E4	-1	-1	-1				-1	3	-1	3	-1	-1	4	-1	-1

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#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	076 - LPH	077 - MAR	078 - ALK	079 - LBI	080 - LPH	081 - MAR	082 - LPH	083 - HBA	084 - HBA	085 - LPH	086 - LBI	087 - MAR	088 - HBA	089 - THI	090 - HPB
1E5	-1	-1	1	-1	-1	-1	-1	5	-1	13	1	-1	12	-1	-1
1E6	-1	-1	1	-1	-1	-1	-1	2	-1	6	-1	-1	6	-1	-1
1E7	-1	-1	-1	-1	-1	-1	-1	4	-1	4	-1	-1	4	-1	-1
1E8	-1	-1	-1	-1	-1	-1	-1	3	-1	3	-1	-1	3	-1	-1
1E9	-1	-1	-1	-1	-1	-1	-1	9	-1	8	1	-1	8	-1	1
1E10	-1	-1	-1	-1	-1	-1	-1	7	-1	7	1	-1	7	'  -1	1
1E10D	-1	-1	-1	-1	-1	-1	-1	-1	-1	7	1	-1	7	-1	-1
1E11	-1	-1	-1		-1	-1	-1	5	-1	5	-1	-1	5	-1	-1
1E12	-1	-1	2		-1			4	-1	3	-1	-1	5	-1	-1
1E12-R	-1	-1	2		-1			4	-1	3	-1	-1	5	-1	-1
1E13	-1	-1	-1		-1		-1	-1	-1	3	-1	1	3	-1	-1
2W1	-1	-1	-1	•	-1	-1	-1	6	-1	5	-1	-1	5	-1	-1
2W2	-1	-1	-1		-1	-1	-1	6	-1	8	1	-1	/	1 -1	-1
2W3 2W4	-1 -1	-1 -1	-1 -1	•	-1 -1	•	-1 -1	3 5	•	2 5	-1 -1	-1 -1	3		-1 -1
2W5	- 4	-1						11		14		-1	13		-1
2W6	-1	-1	1		-1			3		2		•	4		-1
2W7	-1	-1						4		-1			3		-1
2W8	-1	-1	-1				•	13		14	•	-1	13		1
2W9	-1	-1			-1			4	-1	11		-1	11		-1
2W10	-1	-1	-1		-1	-1	-1	7	-1	7	1	-1	8		-1
2W11	-1	-1	1	-1	-1	-1	-1	2	-1	4	-1	-1	4	-1	-1
2W12	-1	-1	-1	-1	-1	-1	-1	3	-1	-1	-1	-1	-1	-1	-1
2E1	-1	-1	-1	-1	-1	-1	-1	3	-1	2	-1	-1	4	-1	-1
2E2	-1	-1	-1		-1	-1	-1	2	-1	2	-1	-1	3	-1	-1
2E2-R	-1	-1	-1	•	-1	•	•	3	-1	2	-1	-1	3	-1	-1
2E3	-1	-1	2		-1			5	-1	9	1	-1	8		-1
2E4	-1	-1	-1	•	-1	•		8	-1	11		-1	11		-1
2E5	-1	-1	-1		-1		-1	6	-1	6		-1	6		-1
2E6	-1	-1	-1		-1			2	-1	3	-1	-1	2	-1	-1
2E7	-1	-1 -1	1 -1		-1	-1 -1	-1	3	-1 -1	2	-1	-1	4	-1	-1
2E8 2E9	-1	-1 -1	-1 -1	•	-1 -1		-1 -1	7	-1 -1	7	-1	-1 -1	7	-	∠ -1
2E10	- 4	-1	-1		-1			7	-1	- 1	4	-1	7	-1	-1
2E11	-1	-1	1		-1		-1	7	-1	6	-1	-1	6	-1	-1
2E12	-1	-1	-1		-1			-1		2		-1	2		-1
2E13	-1	-1	-1		-1			1	-1	-1	***************************************		1	-1	-1
2E14	-1	-1	-1		-1		-1	2	-1	-1	-1	-1	2	-1	-1
		•						_				•			
LMB-QA	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1
LMB-QA	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	1	-1	-1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

076 - LPH | 077 - MAR | 078 - ALK | 079 - LBI | 080 - LPH | 081 - MAR | 082 - LPH | 083 - HBA | 084 - HBA | 085 - LPH | 086 - LBI | 087 - MAR | 088 - HBA | 089 - THI | 090 - HPB

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	091 - LBI	092 - LPH	093 - LA	094 - I BI	095 - MAR	096 - LPH	097 - HRA	098 - THI	NGG - I PH	100 - LPH	101 - MAR	102 - MBI	103 - LPH	104 - MAR	105 - ALK
0-1	-1	-1	093 - LA 3	-1			31-1107	-1					103 - EFTT -1		
0-2	-1	-1	24	1	-1	1	24	2	1	1	-1		1		3
0-3	-1	-1	12	-1	-1	-1		1	-1	-1	-1	-1	-1	-1	1
0-4	-1	-1		1	-1	-1	13	1	-1	-1			-1		2
0-5	-1	-1	13	-1	-1	1	12	1	-1	-1			-1		2
0-5-R 0-6	-1 -1	-1 -1	13 19	-1 1	-1 -1	-1 -1	11 18	1 2	-1 -1	-1 -1			-1 -1	4	2
0-7	-1	-1 -1	22	1	-1	1	20	2	-1	1	-1		1		2
0-8	-1	-1		1	-1	-1	19	2	-1	-1			-1	1	2
0-9	-1	-1	12	-1	-1	-1	11	-1	-1	-1	-1	-1	-1	-1	1
0-10	-1	-1	13	1	-1	1	13	1	-1	-1			-1		2
0-10D 0-11	-1 -1	-1 -1	9	-1 -1		-1 -1	8	-1 -1	-1 -1	-1 -1	•	•	-1 -1	•	1
0-11	-1 -1	-1 -1	2	-1 -1	·	-1	2	-1 -1	-1 -1	-1			-1		-1
0-13	-1	-1	2	-1	-1	-1	2	-1	-1	-1			-1		-1
050W1	-1	-1	2	-1	-1	-1	2	-1	-1	-1		-1	-1		-1
050W2	-1	-1	-1	-1			1	-1	-1	-1			-1		-1
050W3	-1	-1	5	-1		-1	5	-1	-1	-1			-1		-1
050W4 050W5	-1 -1	-1 -1	2 5	-1 -1		-1 -1	2 A	-1 -1	-1 -1	-1 -1			-1 -1		-1 -1
050W5	-1	-1	8	-1		-1	8	-1 -1	-1 -1	-1			-1		1
050W6-R	-1	-1	8	-1			7	1	-1	-1			-1		1
050W7	-1	-1	9	-1	-1		8	1	-1	-1	-1	-1	-1		1
050W8	-1	-1	7	-1		· · · · · · · · · · · · · · · · · · ·	6	-1		-1			-1		1
050W9 050W10	-1 -1	-1 -1	8 5	-1 -1	-1	-1 -1	/	1 -1	-1 -1	-1 -1			-1 -1		1 -1
050W10	-1 -1	-1 -1	3	-1 -1		· · · · · · · · · · · · · · · · · · ·	2	-1 -1	-1 -1	-1	· · · · · · · · · · · · · · · · · · ·		-1	•	-1
050W12	-1	-1	2	-1		-1	-1	-1	-1	-1			-1		-1
050E1	-1	-1	1	-1	-1		1	-1	-1	-1	-1	-1	-1		-1
050E2	-1	-1	3	-1		-1	2	-1	7	-1			-1		-1
050E3 050E4	-1 -1	-1 -1	9	-1 -1		-1 -1	9	-1 -1	-1 -1	-1 -1			-1 -1		1
050E5	-1 -1	-1	6	-1			5	-1 -1	-1 -1	-1			-1	***************************************	-1
050E6	-1	-1		-1			9		-1	-1			-1		1
050E7	-1	-1	10	-1		-1	10	1	-1	-1			-1		1
050E8	-1	-1	9	-1		-1	9	1	-1	-1			-1	4	1
050E9 050E9-R	-1 -1	-1 -1	13 13	-1 -1		-1 -1	12 12	1 -1	-1 -1	-1 -1			-1 -1		1
050E3-K	-1 -1	-1 -1		-1		-1	11	1	-1	-1			-1		1
050E11	-1	-1	4	-1		-1	4	-1	-1	-1			-1		-1
050E12	-1	-1	7	-1		-1	5	-1	-1	-1			-1		-1
050E13 1W1	-1	-1 -1	2	-1		-1 -1	2	-1 -1	-1 -1	-1 -1	•	•	-1 -1	•	-1
1W1	-1 -1	-1 -1	2	-1 -1	·		2	-1 -1	-1 -1		·		-1 -1		-1 -1
1W3	-1 -1	-1	19	1	-1	-1 -1	18	1	-1	-1			-1		2
1W4	-1	-1	21	1	-1	1	20	2	-1	-1			-1		2
1W5	-1	-1	26	2	-1		26	2	1	-1			-1		2
1W6	-1	-1	5	-1		-1	5	-1	-1	-1			-1		-1
1W7 1W8	-1 -1	-1 -1	18 26	<u>1</u>	-1 -1	-1	17 26	2	-1 1	-1 -1			-1 -1		1
1W9	-1 -1	-ı -1	18	1	-1	-1	16		-1	-1 -1			-1		1
1W10	-1	-1	-1	-1		-1	2	-1	-1	-1			-1		-1
1W10D	-1	-1	3	-1	·	-1	2	-1	-1	-1			-1		-1
1W10D-R	-1	-1		-1			2	-1					-1		
1W11	-1	-1	4	<u>-1</u>		-1 -1	4	-1 -1	-1	-1 -1			-1 -1		-1
1W12 1E1	-1 -1	-1 -1	2	-1 -1		· · · · · · · · · · · · · · · · · · ·	2	-1 -1	-1 -1	-1 -1	· · · · · · · · · · · · · · · · · · ·		-1 -1	•	-1 -1
1E2	-1	-1	2	-1		-1	-1	-1	-1	-1	-1		-1		-1
1E3	-1	-1	18	1	-1	1	17	1	-1	-1	-1	-1	-1		2
1E4	-1	-1	8	-1	-1	-1	6	-1	-1	-1	-1	-1	-1	-1	1

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full. 19/33

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	091 - LBI	092 - LPH	093 - LA	094 - LBI	095 - MAR	096 - LPH	097 - HBA	098 - THI	099 - LPH	100 - LPH	101 - MAR	102 - MBI	103 - LPH	104 - MAR	105 - ALK
1E5	-1	-1	34	2	-1	1	33	2	1	1	-1	-1	1	1	2
1E6	-1	-1	12		-1	-1	12		-1	-1	-1	-1	-1	-1	1
1E7	-1	-1	8	-1	-1	-1	7	-1	-1	-1	-1	-1	-1	-1	1
1E8	-1	-1	3	-1	-1	-1	3	-1	-1	-1	-1	-1	-1	-1	-1
1E9	-1	-1	19		-1	1	17	2	-1	-1	-1	-1	-1	-1	2
1E10	-1	-1	16	1	-1	-1	15	1	-1	-1	-1	-1	-1	1	2
1E10D	-1	-1	19	1	-1	-1	18	1	-1	-1	-1	-1	-1	1	2
1E11	-1	-1	8	-1	-1	-1	8	1	-1	-1	-1	-1	-1	-1	1
1E12	-1	-1	9			-1	7	-1	-1	-1	-1	-1		-1	1
1E12-R	-1	-1	8	-1	-1	-1	7	-1	-1	-1	-1	-1		-1	1
1E13	-1	-1	5		-1	-1	5	-1	-1	-1	-1	-1		-1	-1
2W1	-1	-1	9	•	-1	-1	9	-1	-1	-1	-1	-1		-1	1
2W2	-1	-1	16		-1	1	15	1	-1	-1	-1	-1		1	2
2W3	-1	-1	7		· · · · · · · · · · · · · · · · · · ·	-1	6	•	-1	-1	-1	-1	***************************************	-1	-1
2W4	-1	-1	12			-1	10		-1	-1	-1	-1		-1	1
2W5	-1	-1	32			1	32		1	1	-1	-1		1	2
2W6	-1	-1	7			-1	6		-1	-1	-1	-1		-1	1
2W7	-1	-1				-1	3		-1	-1		-1		-1	-1
2W8	-1	-1	38		-1	1	38		1	1	-1	-1		1	2
2W9 2W10	-1	-1 -1	23 16		-1	-1	23 14		1	-1 -1	-1	-1 -1		1	2
2W10 2W11	-1	-1 -1	8		-1	-1	14	-1	-1 -1	-1	-1	-1		4	
2W11	-1	-1 -1	6 6		-1 1	-1 -1		-1	-1 -1	-1	-1	-1 -1		-1 1	1
2E1	-1	-1	8		-1	-1	0	-1	-1 -1	-1	-1	-1		-1	1
2E2	-1	-1	5			-1	5		-1	-1	-1	-1		_1	-1
2E2-R	-1	-1	6			-1	5	-1	-1	-1	-1	-1		-1	-1
2E3	-1	-1	20			1	20	•	-1	-1	-1	-1		1	2
2E4	-1	-1	30		•	1	29		1	-1	-1	-1		1	2
2E5	-1	-1	12		-1	-1	11	1	-1	-1	-1	-1	***************************************	-1	2
2E6	-1	-1	3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
2E7	-1	-1	5	-1	-1	-1	4	-1	-1	-1	-1	-1	-1	-1	1
2E8	-1	-1	12	-1	-1	1	11	1	-1	-1	-1	-1	-1	1	1
2E9	-1	-1	13	1	-1	1	13	1	1	-1	-1	-1	1	1	2
2E10	-1	1	18	1	1	-1	17	1	1	1	-1	-1	-1	1	3
2E11	-1	-1	11	-1	-1	-1	11	-1	-1	-1	-1	-1	-1	1	1
2E12	-1	-1	4	-1	-1	-1	4	-1	-1	-1	-1	-1		-1	-1
2E13	-1	-1	1	-1	-1	-1	1	-1	-1	-1	-1	-1		-1	-1
2E14	-1	-1	3	-1	-1	-1	3	-1	-1	-1	-1	-1	-1	-1	-1
LMD OA	4	,	4		,	4			А.	4				,	
LMB-QA LMB-QA	-1	-1 -1	1	-1 -1	-1	-1 -1	1	-1 -1	-1 -1	-1 -1	-1	-1 -1	***************************************	-1	-1 -1
LIVID-QA	-1	-1	1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

091 - LBI 092 - LPH 093 - LA 094 - LBI 095 - MAR 096 - LPH 097 - HBA 098 - THI 099 - LPH 100 - LPH 101 - MAR 102 - MBI 103 - LPH 104 - MAR 105 - ALK

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	106 - MRI	107 - MBI	108 - I PH	100 - MAD	110 - HRA	111 - MAD	112 - MRI	113 JHRA	114 - MRI	115 - MRI	116 - MAR	117 - HA	118 - MDH	119 - HBA	120 - THI
0-1	106 - MBI -1	107 - MBI -1	108 - LPH 4		110 - HBA 8	111 - MAR -1		113-HBA 9		115 - MBI 11		117 - HA 13			
0-1	-1	-1 -1	4		6	4		27		18		58	4		4
0-3	-1		4		12	-1	5	13	9	11	2	32	3	13	
0-4	-1			· · · · · · · · · · · · · · · · · · ·	16		· · · · · · · · · · · · · · · · · · ·	*************						(4) (655-655-655-655-655-655-655-655-655-655	
0-5 0 5 B	-1		4		14		5	15		22		• • •			3
0-5-R 0-6	-1 -1	-1 -1	4	······································	14	3	5	14 17		21 15		74 61	5		-1
0-7	-1		4		19			20		24		45	4		-1 -1
0-8	-1		•	· · · · · · · · · · · · · · · · · · ·	4			20	18	24	2	90	•		-1
0-9	-1		4	***************************************	3	3		15		10		32	3	8	-1
0-10	-1			3	15		ŭ			13		26	4	_	-1
0-10D 0-11	-1 -1	-1 -1	4	3	12	-1	4	13 12		14 8		28 35	3	8 3 12	-1 -1
0-11	-1 -1	·	-1	v	6	. <u> </u>	-1	7		4			-1		-1 -1
0-13	-1	•	4		6			7		7	-1	12	3	•	-1
050W1	-1				7	•				6			-1		-1
050W2	-1	-1	-1	_		-1		6		5	-1		-1		-1
050W3 050W4	-1 -1	-1 -1	-1		9			10 6		6 4		· · · · · · · · · · · · · · · · · · ·	-1 -1	·	-1 -1
050W5	-1 -1		4		8	-1		9		9	-1				-1
050W6	-1				11	-1	4	12	9		2	32	3	15	-1
050W6-R	-1	-1	4	· · · · · · · · · · · · · · · · · · ·	10			11		11			3	12	-1
050W7	-1	-1	4		11			13		16			4	-	-1
050W8 050W9	-1 -1	-1 -1	4	9	10			10 11		11 12		25 28	3	6 3 12	-1 -1
050W9	-1 -1		4		9	3		10		9			3		-1
050W11	-1	-1	4	3	6	-1	-1	7	3	6	-1	17	3	9	-1
050W12	-1	-1	4		7	-1		8		12			-1		-1
050E1	-1	-1 -1	4	Ŭ	6	-1 -1		7	3	7	-1 -1		-1 3	7	-1 -1
050E2 050E3	-1 -1	•	4	•	10			11	3 8	9	•	16 18	3	J	-1 -1
050E3	-1	-1	4	Ŭ	10			11		7	-1		-1		-1
050E5	-1	-1	4	3	10	-1	4	11	7	7		18	3	11	-1
050E6	-1	-1	4	· · · · · · · · · · · · · · · · · · ·	15		•	15		12		56	3		-1
050E7 050E8	-1 -1	-1 -1	4	v	12			13 16		14 8		38 25	3		-1 -1
050E8 050E9	-1 -1		4	······································	14	•	1	16		8 10		25 36	3	3 17 3 15	-1 -1
050E9-R	-1				13	3	4	14	9	11	2	46	3	15	-1
050E10	-1	-1	4		14		4	14		11		25	3	15	-1
050E11	-1	-1	4	· · · · · · · · · · · · · · · · · · ·	2	3	•	10		5		· · · · · · · · · · · · · · · · · · ·	3		-1
050E12 050E13	-1 -1		4	v	8 7	-1 -1		9		10 4			3	12	-1 -1
1W1	-1 -1			•	8		•	9			***************************************	•	3	· · · · · · · · · · · · · · · · · · ·	-1
1W2	-1		4		6			7	-1	5		15	3		-1
1W3	-1	-1	4	3	16		·	17		12	2	49	4	·	-1
1W4	-1 1	-1	4	3	18			18		12	2	49	4	)	-1
1W5 1W6	-1 -1		4		19			19 8		9 5	_	34	3	8 18 8	-1 -1
1W6 1W7	-1 -1	***************************************	4	· · · · · · · · · · · · · · · · · · ·	14					5 13			-1	-	-1 -1
1W8	-1		4		18	4		18	11	14	2	29	3	18	-1
1W9	-1	-1	4	v	13		5	14		12		45	3		-1
1W10	-1	-1	4	· · · · · · · · · · · · · · · · · · ·	7	-1	•	7	7	8		· · · · · · · · · · · · · · · · · · ·			-1
1W10D 1W10D-R	-1 -1		4 -1		7	-1 -1		7 6	·	5 5			-1 -1	v	-1 -1
1W10D-R	-1 -1			· · · · · · · · · · · · · · · · · · ·	8			10		5 5			-1		-1 -1
1W12	-1		4		9	-1		10		6			3		-1
1E1	-1	-1	4	Ü	8	-1		9	v	4	-1		3	8	-1
1E2	-1		4	•	8	-1	1	8		5	•	•	3	8	-1
1E3 1E4	-1 -1	-1 -1		Ü	17	•	5	18 11		12 10		46 51	3	3 21 3 15	-1 -1
114	1		, 4,	. 3,	1 10	1 -1	1 4,	, 11,	9	. 10.	•	. 31,	, J	· 101	•

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full.

#### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	106 - MBI	107 - MBI	108 - LPH	109 - MAR	110 - HBA	111 - MAR	112 - MBI	113 -HBA	114 - MBI	115 - MBI	116 - MAR	117 - HA	118 - MPH	119 - HBA	120 - THI
1E5	-1	-1	. 4	4 3	5 أ	<u>۵</u>	+ F	5 24	4 13	17	2	57	4	25	-1
1E6	-1	-1	, 4	4 3	3 13	3 4	+ 2	4 14							
1E7	-1	-1	. 4	4 3	3 10	0 -1		4 10	9 ر	10	-1	36	4	13	-1
1E8	-1	-1	. 4	4 3	, ç	9 -1	. 0	4 10	6	7	-1			11	-1
1E9	-1	-1	. 4	4 3	3 15	5 3	. 5	5 16	6 9	11	2	47	3	17	-1
1E10	-1	-1	, 4	4 3	3 14	4 -1	F	5 15				41	3	1	
1E10D	-1	-1	. 4	4 3	3 14		, 5	5 15		14	. 2	40	3		
1E11	-1	-1	4	4 3	3 12		۵	4 13		7	-1	25	3	14	
1E12	-1	-1	4	4 3	3 11			4 12		9		48		18	
1E12-R	-1	-1		4 3	3 11		Co.	4 12		9		49	3	7	-1
1E13	-1	-1		4 3	, 8	8 -1		4 9	9	10		14	3	9	-1
2W1	-1	-1		4 3	3 11		Co	4 11	*··	11		30	3	14	
2W2	-1	-1		4 3	3 14			5 15				46	4	9	-1
2W3	-1	-1	·	4 3	8	0		1 9	•			35		· · · · · · · · · · · · · · · · · · ·	
2W4	-1	-1		4 3	12			4 12				31	3		
2W5	-1	-1		+ 3	3 22			5 22		U					
2W6	-1	-1		4 3											
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2W8	-1			4 4	. 5	5 4									
2W9	-1	-1	***	# 4	3	5 4		5 21 5 17		10		43		C. C	
2W10 2W11	-1	-1 -1		<u>+ 3</u>	3 16	-	-	5 17 4 11		14		46 26	4	10	
2W11 2W12	-1	-1 -1	***	# 3	3 10					9	S] -1 SI -1				
2W1Z 2E1		-1 -1		# 3 #1 9	3 9 3 11	9 -1 1 -1		4 9 4 11		<u> </u>	7 7	20			
2E1 2E2	-1	-1	•	<u> </u>	<del>}                                    </del>	1] -1 8] -1		4 11 4 9		) b	) <u>∠</u> S -1				
2E2-R		-1		/ S	<del>,                                    </del>	9 -1		4 10	•	6	2	22			
2E3	-1	-1		4 3	3 17	T-0	Co	5 18		9	2	42			
2E4	-1	-1		4 3	3 25		-	5 26		9	2	68			
2E5	-1	-1	·	5 7	3 14			5 11		i š	<del>-</del>	62	3		
2E6	-1	-1		<u>4                                    </u>	<u>1</u>	8 -1				5	-1	29			
2E7	-1	-1		4 3	3 10	•		4 12	6	7	2	35	3	· · · · · · · · · · · · · · · · · · ·	
2E8	-1	-1		4 3	d ē	3 4	. F	5 16		7	2	49	4	20	
2E9	-1	-1		4 3	3 15	5 3	<u> </u>	5 15		5	. 2	23	3	7	
2E10	-1	-1		5 ?	3 22		j F	5 24		17	2	49	4	29	
2E11	-1	-1		4 3	3 14		<i>ا</i>	4 15		7	2	28	3		
2E12	-1	-1	. 4	4 3	, 7	7 -1	_1	1 8	3 -1	5	-1	10	3	. 8	-1
2E13	-1	-1	1 -1	3	6 و	6 -1	1 -1	1 6	6 -1	4	-1	8	-1	6	-1
2E14	-1	-1	, Δ	4 3	, 7	7 -1	1 -1	٤ و	3 -1	5	i -1	16	-1	9	-1
				1					1						
LMB-QA	-1	-1	1] -1	1 3	, 5	5 -1	·	. 5	5 -1	4	-1	7	-1	•	-1
LMB-QA	-1	-1	-1	1 3	, 5	5 -1	1 -1	5	5 -1	-1	-1	7	-1	7	-1
				1		1		1							1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

106-MBI 107-MBI 108-LPH 109-MAR 110-HBA 111-MAR 112-MBI 113-HBA 114-MBI 115-MBI 116-MAR 117-HA 118-MPH 119-HBA 120-TH

### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

<b>\</b>	TICHA PCT	199 KM311	199 MIDI	43N KMEII	125 1111	126 14131	197 MIDIT	190 KM31	190 841	126 843	124 (10)	129 111	122 EMB	134 EAB	125 (4)313
0-1	121 - MPH 4					120 - WIPH	121 - WIPH	128 - MPH 3		130 - HAR	_	132 - ALK 3 24			
0-1 0-2	-1		4		5	3 4	4	3		4		72	23		19
0-3	4	5	3	4	2	3	4	3	Ψ.	4		30	21	23	20
0-4	4	22	4	. 5		5 4	4	3	3	4	3	50	22	25	20
0-5	6		4		25			4	_	4	4	69	20	22	22
0-5-R	6	237	5 4	•	5 27			4	3	4	4		20		21 21
0-6 0-7	4	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4	ŭ	T 3	3 4 3 4	· ·	3	<u>√</u> 3	4	3	51 65	21 20		21 21
0- <i>7</i> 0-8	4	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	,	3 4 3 4		3		4	•		20		
0-9	4				<u> </u>	5 4		3		<u> </u>	3	47	20	22	20
0-10	4	8	4		5	5 4	•	3		4	3	47	19	22	21
0-10D	4	31	4	5,	1 7	3	4	3	3,	4	3	3 41	21	24	20
0-11	4	5	3	$\frac{\overline{4}}{4}$	1 2	3	4	-1		3	3	32	19		19
0-12 0-13	-1 4	•	-1 3		<del>1 2</del>	2  -1  2  -1	•	-1 -1			1 3	3 23 3 22	20 20		19 19
0-13 050W1	4	·	3		. Z	2 -1 2 3		·		- U	3				
050W1	1	14	-1		1 2	-1		-1		<u> </u>	-1	7.	-1	22	19
050W3	-1	4	3	4	2	2 3	-1	3	3	•	3	31	19	21	20
050W4	-1		-1		2,	-1		-1	-1	-1	-1	-1	-1	22	19
050W5	4		3		1 2	2 3	•	-1	·	3	3	35	19		
050W6 050W6-R	-1		3	4	3	3	4	3	3	4	4	50 3 31	21 21		
050W6-R 050W7	-1 4		3	† 5 F	7 <u>3</u>	اد ع	1 3 A	3	4 3	† 4/n	1 3	31 3 40			20 20
050W8	<u>4</u>	40	4		1 5	1 3	† 4 4	3	_	1 4	† 3	29			20
050W9	4	5	3		2	2 4	141	3	<del>-</del> -	4	3	35	21	23	20
050W10	4	27	3	4	5.	3	3	3	•	4		38	21	23	20
050W11	4				\ <u>3</u>	3,	3	3			-1	-1	18	21	-1
050W12	-1		3	4	1 2	2 -1		-1		4	-1		-1		19
050E1 050E2	-1 4	-	3	4	7 - 2	3	· ·	-1 -1		4	. 3	3  -1   -1	-1 20		19 -1
050E2 050E3	4		3	•	2 · 5	1 31	+ 4/1	-1 3			1 3	32	20 19		-1 20
050E4	·	15	13	14	1	<u>  3</u>	14	3		<u>†3</u> 1	13	36	19	21	
050E5	-1	4	-1		2	3	4	-1	3	3	3	28	19	21	19
050E6	4	14	4	•	3	3	4	3	·	3	3	51	20		20
050E7	-1	4	4	5,	\	3	4	3	3	4	4	53	21		22
050E8 050E9	1 4	4	3	4	1 2	2 3	4	3	3	3	3	3 46 3 37	19 19		20 20
050E9 050E9-R	4	4	3	4	. 2	2 4		3	· ·	3	3	37 3 44	19 21		20
050E9-R 050E10	14	7	4		4	<u>  3</u>	14	3		14	3	36	21		20
050E11	4	4	3	Ü	2	31	4	-1	3	3	3	25	19	21	19
050E12	4	9	3	4,	3,	3	3	-1	3	4	3,	36	20	23	20
050E13	-1	4	3	4	2	3	3	-1		3	3	-1	-1	21	-1
1W1 1W2	-1	-	3 -1		3	3 3		-1 -1		4	3	3 22 3 24	20 20		19 19
1W2 1W3	-1 4		-1 4		$\frac{2}{0}$	2] -1] 3 4		-1 3		3	<del>1 3</del>	3 24 3 47	20 20		19 20
1W3 1W4	4 4	13	4	ŭ	3	<u> 4</u> ⊿1	+ 4h	1 3	3	<u>4</u> ⊿1	3	3 47 3 46	20		20
1W5	4		4	, <del></del>	3	8 4	14	3	13	13	1 3	51	20		20
1W6	-1		3	4	` <u> </u>	2 3	3	-1	3	4	3,	25	-1	22	20
1W7	4		3	Ŭ	2	3		3		3	3,	37	19	22	19
1W8	4	<u> 8</u>	4	5	¥ 3	4	4	3	**************************************	4	3	40	21		20
1W9 1W10	4	4	3	5	¥ 2	3	4	3 -1		3	3	37 3 -1	20 -1		20 19
1W10 1W10D	-1		3	<u> </u>	- <u> </u>	3	<del>  4</del>	-1 -1		-1		3 -1	-1		19
1W10D-R	-1		-1	31	12	13	-1	-1		1	-1		-1	22	19
1W11	4		4	4	<u> </u>	3	•	-1	3		4	85	20	21	23
1W12	4	4	3		2	3	4	-1	3	4	3	3 24	20	23	20
1E1	4	4	3	4,	<u>2</u>	3	4	3	•	3	3	23	19		19
1E2 1E3	<u>4</u> ,	4	3	4	¥ 2	3 4	<u> 4</u> )	-1 3	3	4	<u> 3</u>	21	-1 20		20
1E3 1E4	4	5	4	Ŭ	<del>1 3</del>	4	4	3	<del>+ 3</del>	4	4	63 55	20 21		21 21
114	- 4	. 0	٠ <u></u> ٥,	4,	· ∠.	. 3,	4.		· 3.	4.	4.	•		2.31	. / III

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full. 25/33

### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

185		121 - MPH	122 - MPH	123 - MPH	124 - MBI	125 - HAR	126 - MPH	127 - MPH	128 - MPH	129 - HAR	130 - HAR	131 - MPH	132 - ALK	133 - HAR	134 - HAR	135 - MPH
1E6	1E5	4	4	4	5	3	4	4	3	3	4	3	61	22	25	21
1E7		-1	6	3	5	3	4	4	3	3	4	3				21
1E9	1E7	4	13	4	4	3	4	4	3	3	3	3	33	19	21	
1E9	1E8	4	4	3	4	2	4	4	-1	3	4	3				
15100	1E9	4	5	4	5	2	2 4	4	3	3	4	3	43	21		20
15100	1E10	-1	5	4	5	3	4	4	3	3	4	4	48	20	22	21
1E12	1E10D	-1	5	3	5	3	4	4	3	3	4	3	40	20	23	20
1E12R	1E11	4	13	3	4	3	4	4	3	3	4	3	32	. 21	23	
1E13		-1	11	3	4	4	. 4	4	3	3	4	4	62	21	24	21
2W1		4	22	4	4	5	4	4	3	3	4	4	59			
2W2		-1	4	3	4	3	3	4	-1	3	4	3				19
2W3		4	5	3	4	3	3	4	3	3	3	3				20
2W4		5	65	4	5	10	4	4	3	3	4	4				21
2W6		-1	8	-1	4	3	3	4	3	3	4	3				20
2W6         4         22         3         4         5         3         4         3         3         4         3         3         31         19         21         20           2W8         4         4         4         4         5         3         4         4         3         3         31         19         21         20           2W8         4         4         4         5         3         4         4         4         66         20         23         21           2W9         4         4         4         5         2         4         4         4         66         20         23         21           2W10         4         42         4         5         9         4         4         3         3         3         4         4         4         9         31         4         3 <t< th=""><th></th><th>4</th><th>7</th><th>4</th><th>5</th><th>3</th><th>4</th><th>4</th><th>3</th><th>-</th><th>1</th><th>3</th><th></th><th></th><th></th><th>20</th></t<>		4	7	4	5	3	4	4	3	-	1	3				20
2W7		4	4	4	5	2	. 4	4	3	•	•	4				20
2W8		4	22	3	4	5		4	•	V		3				20
2W9		-1	4	3	4	2	. 3	4	_	•	•	3				20
2W10         4         42         4         5         9         4         4         3         3         4         4         49         21         25         21           2W11         4         4         3         4         2         3         4         3         4         3         3         3         4         3         3         3         4         3         3         3         4         3         3         3         4         3         3         3         4         3         3         3         4         2         3         4         4         3         3         3         4         4         3         3         3         4 <t< th=""><th></th><th>4</th><th>4</th><th>4</th><th>5</th><th>3</th><th>4</th><th>4</th><th>3</th><th>3</th><th>4</th><th>4</th><th></th><th></th><th></th><th>21</th></t<>		4	4	4	5	3	4	4	3	3	4	4				21
2W11         4         4         4         3         4         2         3         4         3         4         3         3         4         3         3         4         3         3         4         4         3         3         4         4         3         3         4         4         3         3         4         4         3         3         4         4         3         3         4         4         3         3         4         4         3         3         4         4         3         3         4         4         4         3         3         3         4         4         4         3         3         4         4         4         3         3		4	4	4	5	2	! 4	4	3	3	4	4				21
2W12		4	42	4	5	9	4	4	3	3	4	4				
EE1         4         4         3         4         3         3         4         3         34         21         23         19           2E2 P         4         4         3         4         2         3         4         -1         3         4         3         39         21         23         20           2E2 R         -1         4         3         4         2         3         4         3         39         21         23         20           2E3         -1         4         4         5         3         4         4         3         3         4         4         66         22         25         21           2E4         4         5         4         5         3         4         4         3         3         4         4         483         23         26         22         25         21         25         20         26         22         25         21         25         20         26         22         25         21         25         20         26         22         25         21         25         20         26         22         25         22<		4	4	3	4	2	· · · · · · · · · · · · · · · · · · ·	4	3	3	3	3				20
2E2         4         4         3         4         2         3         4         -1         3         4         3         39         21         23         20           2E2-R         -1         4         3         3         4         3         3         4         3         30         21         23         20           2E3         -1         4         4         4         5         3         4         4         3         3         4         4         66         22         255         21           2E4         4         5         4         5         3         4         4         3         3         4         4         83         23         26         22         25         21         25         20         22         25         21         25         20         22         25         3         4         4         3         3         4         4         83         23         26         22         25         22         25         25         20         22         25         20         22         25         20         22         25         20         22         25 <th></th> <th>4</th> <th>9</th> <th>3</th> <th>4</th> <th>3</th> <th>·</th> <th>3</th> <th>3</th> <th>3</th> <th>4</th> <th>3</th> <th></th> <th></th> <th></th> <th></th>		4	9	3	4	3	·	3	3	3	4	3				
ZE2-R         -1         4         3         4         2         3         4         3         3         4         4         66         22         25         21           ZE3         -1         4         4         5         3         4         4         3         3         4         4         66         22         25         21         22         25         21         22         25         21         22         25         21         22         25         21         25         22         25         21         25         22         25         21         25         20         25         25         21         25         20         25         20         25         20         26         26         4         4         3         3         4         3         3         3         4         3         3         3         3         3         3         4         3         3         3         4         3         3         3         3         3         3         4         3         3         3         3         4         4         4         4         4         4         4 <t< th=""><th></th><th>4</th><th>4</th><th>3</th><th>4</th><th>3</th><th>3</th><th>4</th><th>3</th><th>3</th><th>4</th><th>3</th><th></th><th></th><th></th><th>19</th></t<>		4	4	3	4	3	3	4	3	3	4	3				19
2E3         -1         4         4         5         3         4         4         3         3         4         4         66         22         25         21           2E4         4         5         4         5         3         4         4         3         3         4         4         83         23         26         22         25         20         25         20         25         20         25         20         22         25         20         22         25         20         22         25         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         22         20         22         22         25         21         23         20         22         22         25         21         23         20         22         22         25         21         23         20         22         25         21         22         25         22<		4	4	3	4	2	3	4	-1	3	4	3				
2E4         4         5         4         5         3         4         4         3         3         4         4         83         23         26         22           2E5         -1         7         3         4         3         3         4         3         4         3         4         3         4         3         4         3         4         3         3         4         3         3         4         3         3         4         3         3         3         4         3         3         3         4         3         3         3         4         3         3         3         4         3         3         3         3         3         4         3         3         3         3         4         3         3         3         3         4         3         3         3         4		-1	4	3	4	2	3	4	3	3	4	3				20
2E5         -1         7         3         4         3         3         4         3         3         4         3         4         2         20         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         20         22         22         20         22         22         22         22         25         21         20         22         25         21         22         25         21         22         25         21         22         25         22         25         22         25         22         25         22         25         22         22         25         22		-1	4	4	5	3	4	4	3	3	4	4				21
2E6         4         4         3         4         2         3         4         -1         -1         3         3         36         19         22         20           2E7         -1         6         3         4         3         3         3         4         3         45         21         23         20           2E8         4         10         4         5         4         4         4         3         3         4         4         49         22         25         21         22           2E9         4         4         4         4         4         4         3         3         4         4         49         22         25         21         22           2E10         -1         6         4         6         4         4         4         3         3         4         4         41         12         22         22         25         22         22         22         22         22         22         22         22         22         21         22         21         22         21         22         21         22         22         21         22		4	5	4	5	3	4	4	3	3	4	4				22
2E7         -1         6         3         4         3         3         3         3         3         4         3         45         21         23         20           2E8         4         10         4         5         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         22         25         21           2E10         -1         6         4         6         4         4         4         3         3         4         4         81         22         25         22           2E11         4         8         4         4         4         4         3         3         3         4         44         19         22         25         22           2E12         4         4         4         4         4         4         3         3         3         4         44         19         22         21           2E13         -1         4         -1         4         2         3         4         -1         3         3         -1         19         21<		-1		3	4	3	3	4	3	3	4	3				20
2E8         4         10         4         5         4         4         4         3         3         4         4         49         22         25         21           2E9         4         4         4         4         4         3         3         4         3         21         24         20           2E10         -1         6         4         6         4         4         4         3         3         4         41         22         25         22           2E11         4         8         4         4         4         4         3         3         3         4         41         19         22         21           2E12         4         4         -1         4         2         3         4         -1         3         3         -1         19         21         -1           2E13         -1         4         -1         4         2         3         3         -1         3         3         -1         19         21         -1           2E13         -1         4         -1         4         2         3         3         -1		4	4	3	4	2	3	4	-1	-1	3	3				20
2E9         4         4         4         4         4         4         4         4         3         3         4         3         43         21         24         20           2E10         -1         6         4         6         4         4         4         3         3         4         4         81         22         25         22           2E11         4         8         4         4         4         4         4         3         3         3         4         44         19         22         22           2E12         4         4         -1         4         2         3         4         -1         3         3         -1         19         21         -1           2E13         -1         4         -1         4         2         -1         -1         -1         3         3         -1 </th <th></th> <th>-1</th> <th>6</th> <th>3</th> <th>4</th> <th>3</th> <th>3</th> <th>3</th> <th>3</th> <th>3</th> <th>4</th> <th>3</th> <th></th> <th></th> <th></th> <th>20</th>		-1	6	3	4	3	3	3	3	3	4	3				20
2E10         -1         6         4         6         4         4         4         3         3         4         4         81         22         25         22           2E11         4         8         4         4         4         4         3         3         3         4         44         19         22         21           2E12         4         4         -1         4         2         3         4         -1         3         4         3         -1         19         21         -1           2E13         -1         4         -1         4         2         -1         -1         -1         3         3         -1         19         21         -1           2E14         -1         4         -1         4         2         3         3         -1         3         3         -1 <t< th=""><th></th><th>4</th><th>10</th><th>4</th><th>5</th><th>4</th><th>4</th><th>4</th><th>3</th><th>33 (</th><th>4</th><th>4</th><th></th><th></th><th></th><th>21</th></t<>		4	10	4	5	4	4	4	3	33 (	4	4				21
2E11         4         8         4         4         4         4         4         3         3         3         4         44         19         22         21           2E12         4         4         -1         4         2         3         4         -1         3         4         3         -1         19         21         -1           2E13         -1         4         -1         4         2         -1         -1         -1         3         3         -1         -1         -1         20         -1           2E14         -1         4         -1         4         2         3         3         -1         3         4         3         27         20         -2         19           LMB-QA         -1         3         3         -1		4	4	4	4	4	4	4	3	3	4	3				20
ZE12         4         4         -1         4         2         3         4         -1         3         4         3         -1         19         21         -1           ZE13         -1         4         -1         4         2         -1         -1         -1         3         3         -1         -1         -1         -1         20         -1           ZE14         -1         4         -1         4         2         3         3         -1         3         4         3         27         20         22         19           LMB-QA         -1         3         3         -1         2         -1         -		-1	0	4	, b	4	4	4	3	3	4	4				22
ZE13         -1         4         -1         4         2         -1         -1         -1         3         3         -1         -1         -1         20         -1           ZE14         -1         4         -1         4         2         3         3         -1         3         4         3         27         20         22         19           LMB-QA         -1         3         3         -1         2         -1		4	8	4	4	4	4	4	3	3	3	4				
2E14 -1 4 -1 4 2 3 3 3 -1 3 4 3 27 20 22 19  LMB-QA -1 3 3 -1 2 -1 -1 -1 -1 -1 -1 -1 -1 20 -1		4	4		4	2	·	4	•		•	3		•		
LMB-QA -1 3 3 -1 2 -1 -1 -1 -1 -1 -1 -1 -1 20 -1		-1	4		4			-1	· · · · · · · · · · · · · · · · · · ·	V		-1				
	ZE 14	-1	4	-1	4		. 3	3	-1	3	4	3	21	20	22	19
	I MP OA	4	2	ာ	4	2	1	4	4	4	1	4	4	4	201	4
		-1	3	3	•	2		-1				-1				
	LIVID-QA	-1	3	-1	-1	-	-1	-1	-1	-1	-1	-1	-1		21	-1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

121 - MPH | 122 - MPH | 123 - MPH | 124 - MBI | 125 - HAR | 126 - MPH | 127 - MPH | 128 - MPH | 129 - HAR | 130 - HAR | 131 - MPH | 132 - ALK | 133 - HAR | 134 - HAR | 135 - MPH

### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	136 - MPH	137 - HBI	138 - HBI	139 - HPH	140 - HPH	141 - HBI	142 - HPH	143 - HA	144 - HBI	145 - HBA	146 - HPH	147 - HBI	148 - HPH	149 - HBI	150 - HPH
0-1	-1	19	19	19	19			51 51	18	143 - 11BA 40					
0-2	20	23	23	21	21	22	20	193	21	81	19	20	18		18
0-3	19	20	20	-1	20	20	19	79	19	45	18	19	17	18	17
0-4	19	21	21	19	21		19	116	20	62	18				
0-5	20	21	21	20	20		19	18	19	57	18		18		
0-5-R 0-6	19 20	21 21	21 21	19 20	20 21	21 20	19 19	93 125	18 19	51 57	18 19		18 18		18 18
0-6 0-7	20	21	21	20	21		19	125	19	57 64	19		18		18
0-8	20	22	21	19	20		19	126	20	62	18				
0-9	20	20	21	20	20	20	19	101	19	53	18	4	18	19	17
0-10	19	20	20	19	20		19	87	19	50	18		18		17
0-10D	19	20	20	19	19	20	19	84	19	49	18		18		17
0-11 0-12	18 -1	19 19	19 19	-1 -1	19 19		19 19	79 58	18 18	46 36	18 -1		17 -1		18 -1
0-12 0-13	19	19	19	-1 -1	19 -1	19		46	18	36	-1 -1		-1	•	-1
050W1	-1	19	19	-1	-1	19		48	18	37	-1		-1		-1
050W2	-1	18	19	19	-1	19	-1	47	17	35	-1	-1	-1	-1	-1
050W3	19	20	19	-1	19			66	18	42			17		
050W4	-1	18	-1	-1 -1	-1		-1 10	42	-1 40	32	-1		-1 -1		
050W5 050W6	-1 19	19 20	19 21	-1 -1	-1 20	**************************************		70 88	18 18	41 45	-1 18		-1 18		
050W6-R	19	20	19	-1 -1	20			64	18	40	17		-1		17
050W7	19	21	20	19	20	20	19	83	18	46	18	18	17	18	-1
050W8	19	20	20	18	19		19	73	18	43	18		18		
050W9	19	20	20	19	20			78	19	44	18		18		17
050W10 050W11	19 -1	19 19	19 19	19 19	20 19	19 18	19 -1	11 47	18 -1	44 34	18 -1		17 -1	•	17 -1
050W11	-1 -1	19	19	19 -1	19		-1 19	47	-1 -1	34 35	-1 17		-1		-1 17
050E1	-1	19	19	-1	-1			41	-1	33	-1		-1		-1
050E2	-1	19	19	18	19	19	19	51	18	35	-1	4	-1	-1	-1
050E3	19	20	20	19			19	70	18	39	18		17		
050E4	-1 10	19		19	19	19		69	18 18	42 39	18		-1 17		-1 1
050E5 050E6	19 19	19 20	19 20	19 19	19 20	19 21	19 19	64 106	18 20	39 59	18 18		17 18		
050E6 050E7	20	21	20	19	20		19	16	19	50	18		18		
050E8	19	21	20	20	20	20	19	95	19	52	18	19	-1	18	17
050E9	19	21	20	19	20	20		96	19	52	18	19	18		
050E9-R	19	20	20	19	20			104	19	51 46	18		-1		
050E10 050E11	19 -1	20 19	20 19	19 -1	20 19	20 19		80 68	19 18	46 42	17 18		-1 17		-1 17
050E11	-1	19	19	-1 -1	20	19	19	10	18	40	17		-1		-1
050E12	-1	19	19	19	-1	-1	-1	43	18	35	-1		-1	17	-1
1W1	19	19		-1	-1			51	18	41	-1	1	-1		-1
1W2	-1	18	19	19				47	-1	35	-1		-1		
1W3 1W4	19	20 22	21 21	19 19	20 20	20 21	19 19	97 106	19 19	50 53	18 18		18 18		18 18
1W4 1W5	19 19	22 20	21	19 20	20 20			106 116	19 19	53 53	18 19		18		
1W6	-1	19		-1	19			58	18	36	17		-1		
1W7	18	20	20	19	19	20	19	98	19	45	18	18	18	18	17
1W8	19	20	21	19	20	20	19	105	19	49	18		18		17
1W9	19	20	21	19	20	20		99	19	46	19		18		17
1W10 1W10D	18 -1	19 19	19 19	-1 19	19 -1		19 19	44 50	18 18	34 35	18 -1		-1 -1		
1W10D-R	-1	-1	-1	-1	-1	18		37	-1	30	-1 -1		-1		-1 -1
1W10D1X	19	21	21	20	21			124	18	53	18		17		
1W12	19	20	20	19	19	20	19	57	18	43	18	18	17	18	18
1E1	-1	19	19	-1	19			7	18	40	17		-1		17
1E2	-1 19	19	20 21	19 20	19	19 21	19	7	18	40 63	18 19		18 18		17 17
1E3 1E4	19	21 21	21	20 19	20 20		20 19	136 103	20 18	52	19				
1 to 7	13	∠   1	. 41	13	· ZU,	20.	131	100	101						

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full. 28/33

### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	136 - MPH	137 - HBI	138 - HBI	139 - HPH	140 - HPH	141 - HBI	142 - HPH	143 - HA	144 - HBI	145 - HBA	146 - HPH	147 - HBI	148 - HPH	149 - HBI	150 - HPH
1E5	20	22	22	19	20	21	20	164	20	67	19	19	19	19	18
1E6	19	20	20	19	20	20	19	100	19	50	19				
1E7	19	20	20	19	19	20	19	83	18	45	18		18		
1E8	19	20	20	19	19	20	19	63	18	42	18		18	17	18
1E9	19	20	20	19	20	20	19	100	19	51	18	19	18	18	18
1E10	19	20	20	20	20	21	19	101	19	49	19	18	18	18	17
1E10D	19	21	21	20	20	21	19	106	19	50	18	18	18	18	18
1E11	-1	20	20	19	19	20	19	85	19	49	18	19	18	18	17
1E12	20	21	21	20	20	20	19	113	19	52	18	18	18		
1E12-R	20	20	20	20	20	21	19	19	19	52	18		18		
1E13	19	20	19	19	19	19	19	69	18	41	17	18	17		
2W1	19	20	20	19	20	21	19	103	19	52	18		18	•	18
2W2	19	21	21	20	20	21	20	118	19	53	19		18		
2W3	19	20	20	19	19	19	-1	8	18	43	18				
2W4	19	20	20	20	20	20	19	83	19	45	18	18	17		
2W5	20	22	22	20	20	22	20	146	20	64	18		18		
2W6	19	20	20	19	20	20	19	75	19	44	18	18	17		
2W7	18	19	19	-1	19	19	19	58	18	41	-1	18	-1	•	•
2W8	20	22	22	20	21	23	20	217	22	75	19	20	18		
2W9	19	21	21	19	20	21	19	132	20	62	19	19			
2W10	20	21	21	20	20	22	20	145	20	64	18				
2W11	19	20	20	20	20	20	-1	83	19	44	18			•	
2W12	-1	20	19	19	19	19	-1	65	18	42	18		18		
2E1 2E2	19	20 20	20 20	19	19	20	19	89 10	19 18	46 43	18	18	-1 -1		
2E2-R	19 19	20	20	-1 18	20 19	19 19	-1 19	72	18	43 41	-1 -1	18	18		
2E2-R 2E3	20	21	21	20	21	21	20	164	20	65	- i 18	• • • • • • • • • • • • • • • • • • • •	18		
2E3	20	23	23	20	21	23	20	275	20	96	19		18		
2E5	20	20	21	20	20	21	19	92	19	57	18		18		
2E6	19	20	20	19	19	19	-1	59	17	41	18		18		
2E7	19	20	20	19	20	20	19	77	18	48	18		-1		
2E8	19	21	21	20	20	22	19	112	20	62	18		18		
2E9	19	20	20	20	20	21	20	95	20	50	19	18	18		
2E10	20	22	22	20	21	24	20	167	21	76	19	20	18		
2E11	19	20	21	20	20	21	19	107	19	53	18		18		
2E12	18	20	20	19	19	19	19	54	18	36	18	18			
2E13	-11	19	19	-1	-1	-1	-1	40	17	33	18	-1	-1		-1
2E14	19	19	19	-1	19	19	-1	55	18	37	-1	18	17	18	-1
LMB-QA	-1	18	-1	-1	-1	19	-1	38	-1	30	-1	17	-1	-1	-1
LMB-QA	-1	-1	19	-1	-1	19	-1	37	17	30	-1	-1	-1	-1	-1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

136 - MPH 137 - HBI 138 - HBI 139 - HPH 140 - HPH 141 - HBI 142 - HPH 143 - HA 144 - HBI 145 - HBA 146 - HPH 147 - HBI 148 - HPH 149 - HBI 150 - HPH

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	151 - HBI	152 - HPH	153 - HPH	154 - HPH	155 - HPH	156 - HBI	157 - HAR	158 - HBA	159 - HBA	160 - HBI	161 - HA	162 - HPH
0-1	18	18	53	59	53	54	56	131	54	53	163	50 55
0-2	19		56	63	55	54	58	204	55	57	251	
0-3	18	18		60	54	52	55	138	53	54		50
0-4	18	18	56	61	54	53	56	163	55	53		52
0-5	18			61	55	53	56	153	54	54	186	53
0-5-R	18	18		62	53	54	57	147	54	55		51 51
0-6	18	18		61	55	55	57	164	55	54		51
0-7	18			61	55	56	58	176	56	54		51
0-8	18			63	55	53	57	158	53	54		53
0-9	18			62	54	52	56	146	54	54	176	53
0-10	18	18	53	61	54	52	56	141	54	53		52 52
0-10D	17	-1	53	60	54	52	53	133	52	53		52
0-11	18			59	53	53	54	138	53	54		49
0-12	17	-1	52	-1	52	-1	54	113	52	-1		49
0-13	-1	-1	52	59	53	53	53	104	52	51		49
050W1	17	-1	-1	-1	-1	51	54	117	53	51		51
050W2	-1	17	-1	-1 F0	-1	-1	53	100	51	51		50
050W3	-1	17	54	59	53	52	54	115	52	51	139	51
050W4	17	-1	-1	-1	53	-1	53	98	51	52	119	-1
050W5	-1 10		-1	-1 60	53 54	52	54	118	53	-1		-1
050W6 050W6-R	18 18	17 18	53 54	60 59	54 53	51 51	55 53	121 113	53 51	52 -1		52 52
050W6-R	18	18	5 <del>4</del> -1	59 57	53 54	51 52	53 54	113	51	-1 52		52 52
050W8	-1	-1	53	59	53	52	53	123	51	52	157	50
050W9	- 1 18	17	53	59	53 54	52 52	55	125	53	53	150	51
050W9	18		-1	61	54	-1	55	123	53	52		52
050W10	17	-1	54	59	-1	-1 -1	55	104	53	52 52		51
050W11	17	17	-1	-1	-1	-1	55	105	53	52		-1
050E1	-1		-1 -1	59	53	51	54	97	53	51	117	-1
050E1	-1	-1	53	59 59	53	51	52	106	52	52	131	51
050E3	18			59	-1	54	54	115	53	54		50
050E4	18	17	-1	59	53	54	54	119	53	53		-1
050E5	-1		54	56	53	-1	53	110	51	-1		51
050E6	18	18	53	58	54	55	56	150	54	53		50
050E7	17	18		60	54	52	53	134	53	53		52
050E8	18			60	54	52	56	137	52	53		51
050E9	18	18		60	53	52	55	135	52	53		51 52
050E9-R	18	-1	54	60	53	53	54	138	53	52	167	50
050E10	17	17	53	62	-1	53	55	129	53	53	155	50
050E11	-1	17	-1	59	-1	53	54	134	52	54	164	49
050E12	17	17	53	59	53	51	55	116	53	51	140	-1
050E13	-1	-1	53	60	53	51	53	105	51	52	131	51
1W1	17	18		-1	53	51	55	119	52	52		51
1W2	-1	-1	-1	59	-1	51	54	98	53	51		-1
1W3	18			59	53	54	55	138	54	55		52
1W4	18			57	54	53	57	136	53	53		51
1W5	18			63	54	54	55	136	53	56		50
1W6	-1	-1	52	-1	-1	51	54	105	52	52		51
1W7	-1	17	52	59	53	53	55	127	54	54	158	50
1W8	18		53	60	53	52	55	132	53	53		50
1W9	18			62	53	54	55	134	53	54		50
1W10	-1		-1	59	53	53	55	99	53	53		50
1W10D	17	-1	52	59	-1	53	55	99	53	-1		-1
1W10D-R	-1	-1	52	-1	-1	53	55	93	53	-1		-1
1W11	17	17	53	59	53	-1	55	124	53	53		50
1W12	18	18		59	53	52	57	130	55	53		52
1E1	18			59	53	54	55	121	53	52		50
1E2	18			60	53	52	58	125	57	52		-1
1E3	18			61	55	55	57	180	56	57	220	52
1E4	17	18	54	62	53	53	53	136	52	52	174	52

Results represent only the material tested. Actlabs is not liable for any claim/damage from use of this report in excess of the test cost. Unless requested A13-07700 samples are discarded in 90 days. This report is only to be reproduced in full. 31/33

### SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE

Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

	151 - HBI	152 - HPH	153 - HPH	154 - HPH	155 - HPH	156 - HBI	157 - HAR	158 - HBA	159 - HBA	160 - HBI	161 - HA	162 - HPH
1E5	18	18	54	64	55	54	56	181	56	55	221	53
1E6	18	18	53	60	55	54	56	147	54	54	179	50
1E7	17	18	53	61	54	52	53	130	51	52	167	52
1E8	17	18	53	60	54	51	53	117	52	52	150	51
1E9	18	18	53	61	54	53	56	138	54	53	167	51
1E10	18	18	53	60	54	54	55	140	53	53	171	50
1E10D	18	18	53	61	54	55	56	146	54	55	180	50
1E11	18	18	54	62	53	54	56	135	54	54	165	51
1E12	18	18	53	60	54	54	55	144	53	53	173	50
1E12-R	18	18	54	61	54	52	56	150	54	53	180	50
1E13	18	18	54	61	54	53	55	131	52	53	163	-1
2W1	18	18	55	61	-1	53	56	148	53	53	185	52
2W2	18	18	54	61	54	55	57	148	55	55	184	51
2W3	18	18	54	61	53	52	56	120	54	53	144	52
2W4	18	18	53	62	53	54	55	134	53	53	159	50
2W5	18	19	56	62	56	53	57	169	55	55	205	52
2W6	18	17	54	57	53	-1	55	122	51	53	152	51
2W7	18	18	52	59	-1	53	55	116	53	51	145	49
2W8	19	18	56	64	55	56	59	202	56	55	241	51
2W9	18	18	54	63	55	54	56	166	55	53	206	51
2W10	19	18	55	62	12	53	57	185	56	54	223	53
2W11	18	18	53	60	54	54	55	131	53	54	163	-1
2W12	18	18	54	-1	53	51	55	118	52	52	146	51
2E1	-1	18	54	60	54	52	55	135	53	52	163	52
2E2	-1	18	53	59	-1	52	55	122	53	52	147	52
2E2-R	17	17	-1	59	-1	-1	53	113	52	52	145	52
2E3	18	18	54	61	55	53	56	181	54	54	218	51
2E4	19	19	56	63	55	54	59	253	57	56	306	52
2E5	18	18	54	61	54	53	55	155	54	53	189	50
2E6	17	17	52	-1	52	53	54	112	52	54	139	49
2E7	18	18	55	60	54	52	52	127	51	53	159	52
2E8	18	18	56	61	54	53	57	153	55	54	187	52
2E9	18	18	53	60	54	54	56	135	54	53	164	51
2E10	19	19	56	62	55	53	58	208	56	54	253	53
2E11	18	18	54	61	54	54	55	149	53	53	180	50 50
2E12	18	-1	53	59	53	54	55	123	53	-1	150	50
2E13	-1	-1	-1	-1	53	53	54	102	53	-1	124	-1 F0
2E14	-1	17	52	59	53	52	54	114	53	-1	139	50
LMB-QA	-1	-1	-1	61	-1	-1	54	104	52	52	125	-1
LMB-QA	-1	-1	-1	-1	53	-1	52	92	50	51	114	-1

SOIL GAS HYDROCARBONS (SGH) by GC/MS PAG LKY PROJECT SITE Activation Laboratories Ltd.
Date: July 25, 2013
R=Replicate Sample

151 - HBI 152 - HPH 153 - HPH 154 - HPH 155 - HPH 156 - HBI 157 - HAR 158 - HBA 159 - HBA 160 - HBI 161 - HA 162 - HPH

## **LUCKY GRID**

# SOIL GAS HYDROCARBON "SGH" SURVEY FIELD NOTES PAGWACHUAN LAKE CLAIM BLOCK

PROJECT: LUCKY

DATE: June 27

No.	STATION	DEPTH TAKEN (cm)	Sample Type	Sample Colour	Sample	Moisture	Terrain	Field (Y/N)	Samplei
1W12	162,55	25 cm	Organic		Texture	Content	E Balleton Comment	Duplicate	Name
10011	137.55	25 cm	R	black	Organic	50%	Bog	No.	TC/ET
100	112,55	20 cm	1,	m.L	SI Hy Sond	40 Va	Rog		10/
1009	87,55	25 cm	A/B mix	mb/blac	1010	30%	Flat rock	Yes	
1W8	62.55	20m	3	L.b.	5ilty sand	20%	Flat		1
1007	37,55	20cm	3	mb	u "	10%	Plat	-	
166	12.55	20 cm	В	LB	St Hoby	20%	disturbed	) scarked	*
165	12.5N	30 cm	B	LB	silty day	40%	disturbed	Scoring	
164	37.5N	25 cm.	B	LB	514	10%	disturted		
1W3	62.5N	20		Mp	Silt	10%	Flat		
1W2	"875N	20cm	B	LB	5:14	10%	flat	4	
1001	112,5N	30cm	B	LB	clar	40 %	Bog		2.155.1
2WI	100N	20cm	organic	black	organic	50%	Bog		
2002	75N	20cm	B	LB	clas	50%	Bog		
2W3	50N°	30 cm	В	LB	day	50%	Beg		100
DWY	25 N	20 cm	B	LB	Sitty	50%	Bog	*	
DW5	0	25 cm	B	IB	siltysand	10%	uphillslope		
2016	255	20cm	B	DB	Siltysand		outerop	1	*****
2007	505	15cm	B	LB	Silt		scarified.		
2008	755	20cm	В	LB	5:1+		Scarified!	/	
249		20 cm	B	MAB	54	C S C C C C C C C C C C C C C C C C C C			
2W10	1255	20cm	B	IB	5:1+	10%	recuterop Outerop		
2WII	1505	20cm	B	mB"	SIL	10%	gentle stope		13/2/
2W12	1755	25 cm	B	LB.	GIL	The state of the s	Flat	A SAME TO SAME	
20010	1133	25 cm	В	LB	SIH			brice	
					21/10/2	20%	Bog	- boiles cruss	19.11 E
	1		St. V.		The state of the s		ALC: YELL THE	1758	(6776) Au-
		10.15		all the second				Contract de la contraction de	- (8)V
		1	- 4			0 3			
		The second secon		The Paris of the P	to the second se				5 5 df

PROJECT: Lucy

DATE: June 26/27

No.	STATION	DEPTH TAKEN (cm)		Sample Colour	Sample Texture	Moisture Content	Terrain	Field (Y/N) Duplicate	Sample Name
402		5 Ocus	Organity	131 A	Organo	160%	Flut 3 oggs		7 c
10:3		20	B	LBV	5. Ity Sund	1 ,109	5/UPP V		TC
204		20	B	LB- 1	Silty	202	Pat		70
105	6	25	3	131	SIL	10%	15/6/10		+(
606		25cm	B	MBr 1	solty 5 and	102	Flut	1 1	TC
407		25cm	8	L.Br	3,-1+	(0%)			TC
108		70	B	LBY	solt 9	20%			TC
109	200	20	B 11	MBV-	11	20%	Trench		TC
0/0		20	8	mg-	11	(0%	flat		TC
ibit		25	B	mBr	11/	102	Flort	Y	TC
012		20	B	LBV	5. Cly Sand	1020	17		TC
	- Line - with the		organic	Black	organic	20%	19		TC
013	1000	20							1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	一一一	30 m	organde.	Black	Ovganor	9050	u .		TC
	The state of the s	-						The state of the s	
50W1	125 N	20cm	0 -	1 0					
50w2	100N	25 cm	Organic	black	progenic	90%	Boa		
50W3	75N	25 cm	Origina	black	organic	60%	Brahofill		
50W4	50N	25 cm	B	m.b.	Silt	20%	thouse flat		9
50W5	25N	25 cm		L.b.	5:14	30%	Flat		1 40
50W6	0	15 cm	B	LB	Silt	20%	flat		Heal .
50w7	255	15 cm	0	m b	Sil+	20%	disturbed \	April Name	PIGM. Too
50W8	505	25 cm	B	nb	Silt	2090	distribed	\	254
50w9	755	30 cm	B	1B	Silb.		disturbed	scarifiel	penil -
50W10	LDDS	15 Cm	5	B	Silt		(scanfied)	/ land	
50W11	1255	30cm		nb	silt		dishubed /	100 May 2019 30	
50w12	1505	30 cm		LB	PI	30%	Bog		
	and address of the second	-70 UN	organic 1	slack !	Organic	80%	1300	4	100

PROJECT: Lucky Grid

DATE:

June 26, 2013

SAMPLE No.	STATION 1005	DEPTH TAKEN (cm)	Sample Type	Colour	Sample Texture	Moisture Content	Terrain	Field (Y/N) Duplicate	Sample: Name
L50 E12	755	30 in	Organic mack	DBL	clay	50%	Flat		
L 50 E 11	505	1500	4	1 Br 4	SITE	30 %	.74		
150 E 10	255	25	1	MGV	50lt	10%	rock ?!		
150 B 9	05	15cm	B	mBr +	504	107	Flat	STATE OF THE STATE OF	ı
650 E 8	25 14	25 %	3	Zar	55/ty	109	Flat		
150 E7	50 1	25	B)	LBn	1 CHY	10%	flat		
50 E 6	75 N	25	B	13r	SIL	10%	fleth	-2121-34	
5085	100 N	25	17	u u	Charles 1	1	W 11 11 11 11	Maria National	
5084	125N	30	13	CALIFORNIA TO SERVICE	silty.	2020	Sloppy		A PACTOR
50E3	150	25	R	L Br	11 2 10	109	Flat		The sale of
5082		93	124 3	m 8/		2028	n s		
5 8 13 /						Andrew Control		ency - in the second	
OFIN		25	organit	Black		9098			- Anni
	×	MARINE CARACTER	Organic	Black	OVALATE	90%	11		1 499
	K L		N. P.			4			No.
		1							A. 1887
	- T					170			
						3 18223	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 1	
		No. /					100		
	15		ALCO MANAGEMENT		200	100000000000000000000000000000000000000			
	- 10			2			San A		72
						The state of the s	1	- Some a som	Mark of
	11191	A PARTY OF	and the second	· 1			8-34-5-7		3
							7040	1912-1-1	100
								brasile,	
		Branch Commence	A				TOTAL TOTAL	Tames es 20	
						-		The second	and the second s

PROJECT: Lucky Grid

DATE June 26, 2013

No.	LINE/ STATION	DEPTH TAKEN (cm)	Sample Type	Sample Colour	Sample Texture	Moisture Content	Terrain	Field (Y/N)	Sample
C2E14	112+55	25 cm	B	Light Blas		50%	ELLO	Duplicate	Name
2613-	87.55	30 cm	· Orthing	Die la Brace	greasy blad	50%	Flat Boggy		TC
2E12	62,55	30 cm	organic	1 1 2/1/ 1	areasyland	75%	Hat Bag	A Section of the sect	TC
ZEII	37.55	20 cm	B	0.8	Sand	16%	Flat Land		TC
2E10	12.55	20 cm	B	LiB	clay	75%			Ta.
DE9	12.5N	15 cm	B	butterstock	: Silty	10%	flat forest		To
2E8	37.5 N	35 cm	B	LB		10%	Flat Forek		TC
2E7	62.5N	20cm	6	L.B	Silt	20%	Flat Fores		Te
2E6	187.5N	20 cm	B	DA	Clar	3020	FlatForest		TC
255	112.5N	20an	В	L.B	101.6	30%	Flat forest		TC
254	CB0.5N	75 EN	B	40	clay	1520	10.000		TC
43	162,5M	20 cm	B	mB	30/4	109	REOCKY hilly		TC
200	18/2				7.00				And the second second second
TE/	107,50	20 cm	3	LB	solt	2028	Flat	A	EP
ZE	2/2/5/8	200m	B	13	SILLY Chy	2051	lal		
IEI	287,5M	15cm	organic	DB1	organie	908	10		EP
IBL	662,5M		organic	DBA	organie	5090	10	7	EP
IE3	137,5N	ZS	3	LBr	Solt Clay	1591	N Span		FP
1E4	1.12.5N	15	3	mBr	S. 1 Hi Char	20%			EP
IES !	87.5N	15	В	m Br	sitty day	202	up hill slope		EP
126	62,5N	16 cm	& A	6.68 M	50174	10%	flat oc		EP
15	37,5 N	10 cm.	B	7.80	Sill Clas	2090	E/foc	hnesiadi	FP
159	12, N	70 cm	B	mBr 6	silty Sand	102	Flat	Tact to	EP
15/2	7157	25	B	LBAN	esty said	10.22	LI	A Subsection	EP
15 11	62,53	25 cm	B	LBr	Solt sand	10%	01/-	V manage	EP
1510	87.55	25en	B	LB.	5 olly sand	£020	u	7	EP
16 (2)	2750	25 cm	B. 2	1Br	311	357	2/		EP
E 131	37,55	25	organt c	DB)	organice	909	11		FP

7 20.