



# **Ministry of Energy and Mines** BC Geological Survey

# Assessment Report Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geophysical Reprocessing & I	Modelling TOTAL COST: 2800.00
AUTHOR(S): A. Walcott, P. Walcott	SIGNATURE(S):
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A	<b>YEAR OF WORK</b> : 2014
STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):	
PROPERTY NAME: Getty	
CLAIM NAME(S) (on which the work was done): 218508,218509, 2185	11,221561, 221562, 221563,221564,1027750,1027751,102775
221565,221566,221567,221568,221570,221571,221572,22157	3,221574,221576,221577,221578,221579,221580,221581,
$\underline{221582,221585,543766,758882,758902,758963,759482,75952}$	2,759562,766082,768162,844516,917949,937922,1011732,101
COMMODITIES SOUGHT: Copper, Moly	
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092INE038,0	92INE043 ,092INW040
MINING DIVISION: Kamloops	NTS/BCGS: 921/10 & 11
MINING DIVISION: Kamloops  LATITUDE: 50 o 33 control line line line line line line line lin	o <u>02</u> '
OWNER(S):  1) Getty Copper Inc.	_ 2)
MAILING ADDRESS: 1000 Austin Avenue	<u> </u>
Coquitlam, British Columbia, V3K 3P1	
OPERATOR(S) [who paid for the work]:  1) As Above	2)
MAILING ADDRESS:	
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure	, alteration, mineralization, size and attitude):
Copper, Molybdenum, Guichon,	
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT R	EPORT NUMBERS: 24476,24692,28072,28084,32370

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Other Interpretation & M			2800
Airborne			
GEOCHEMICAL (number of samples analysed for)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric			
(scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/	rail		
Trench (metres)			
Underground dev. (metres)			
		TOTAL COST:	2800.00

BC Geological Survey Assessment Report 35379

#### **EVENT # 5539267**

#### AN ASSESSMENT REPORT

ON

#### A GEOPHYSICAL REVIEW

## GETTY PROPERTY LOGAN LAKE AREA, BRITISH COLUMBIA

KAMLOOPS M.D. 50° 33'N, 121° 02'W NTS 92I/ 10 & 11

Claims: 218508,218509, 218511,221561, 221562, 221563,221564 221565,221566,221567,221568,221570,221571,221572 221573,221574,221576,221577,221578,221579,221580 221581,221582,221585,543766,758882,758902,758963 759482,759522,759562,766082,768162,844516,917949 937922,1011732,1011733,1011734,1027750,1027751,1027752

**Work Dates:** May 1st – 5th, 2014

**FOR** 

GETTY COPPER INC. COQUITLAM, BRITISH COLUMBIA

BY

ALEXANDER WALCOTT, B.Sc PETER E. WALCOTT, P.Eng.

PETER E. WALCOTT & ASSOCIATES LIMITED Coquitlam, British Columbia

**APRIL 2015** 

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## **INTRODUCTION.**

Between May 1st and 5<sup>th</sup>, 2014, Peter E. Walcott & Associates Limited undertook a geophysical review over parts of its 100% owned Getty property for Getty Copper Inc.

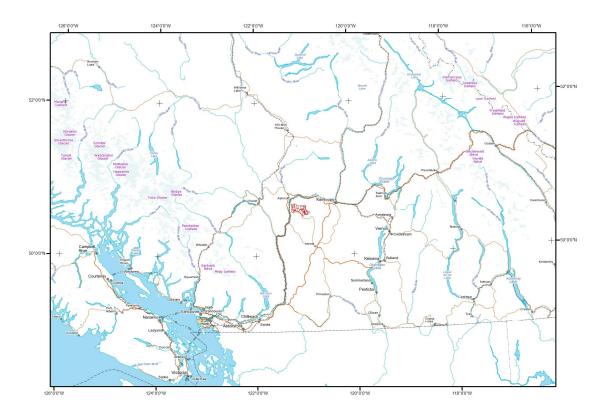
The review consisted of the compilation and subsequent reprocessing of historic geophysical data – regional and local – focusing specifically on the area proximal to the Getty West.

The review was undertaken in an attempt to validate a deep geophysical anomaly observed within the 2010 Titan Survey on strike with hole GL96-08 (-45), which reported 0.26% Cu with 0.02% Mo between 232-274 meters, and G2004-5A (-50) which also reported anomalous copper towards the bottom of the hole.

# **PROPERTY LOCATION AND ACCESS**

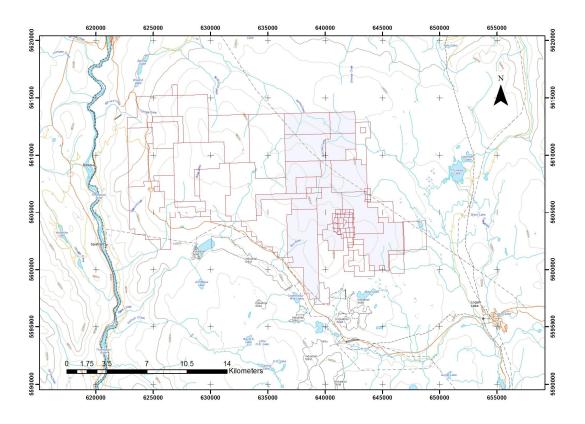
The Getty property is located some 20 kilometres northwest of the community of Logan Lake, British Columbia.

Access to the core of the property is obtained from Logan Lake, via highway 97C, and then utilizing a network of logging roads.



Property Location Map

# PROPERTY LOCATION AND ACCESS con't



Claim Location Map

## **PREVIOUS WORK.**

The Getty Property and surrounding areas has been the subject of numerous exploration campaigns over the past 100 years.

Well documented exploration programs conducted over the property have consisted of prospecting, geological mapping, geochemical samples, geophysics, and diamond drilling.

The author would refer the reader to the BC Ministry of Energy and Mines – Assessment Report Indexing System (ARIS) <a href="http://www.empr.gov.bc.ca/mining/geoscience/aris">http://www.empr.gov.bc.ca/mining/geoscience/aris</a> for the historic public reports.

## **REGIONAL & PROPERTY GEOLOGY**

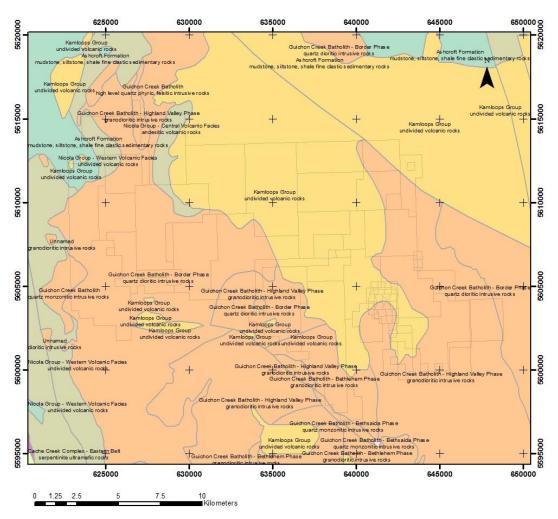
The Highland Valley is underlain by the Guchion Creek Batholith. This complex hosts a number of BC's rich copper and molybdenum deposits, such as the Valley and Lornex deposit.

The Guichon Creek Batholith is composed of multiple intrusive phases, which can be distinguished by both composition and texture. These semi concentric phases are orientated in a north northwesterly orientation, stemming from a root some 8 kilometers down as interpreted form historic gravity data. The author would refer the reader to the numerous geological papers written about this prolific mining district for a detailed overview.

The Getty property covers the northern extent of the late Triassic Guichon Creek Batholith. The intrusive rocks ranges in composition ranging from diorite to granodiorite, respective of the phase of emplacement.

The property is also underlain by tertiary sediments and Kamloops group volcanics dominantly in the north eastern portion of the property.

# REGIONAL & PROPERTY GEOLOGY con't



General Geology

# **PURPOSE.**

The purpose of the review was an attempt to generate new target areas, utilizing geophysical inversion techniques applied to historic geophysical data focusing on the Getty West area.

#### **DATA PROCESSING, INVERSION AND PRESENTATION.**

### **Datasets**

Geophysical datasets for the various surveys were obtained from Getty Copper's digital archives. These datasets were then reformatted for use in Geosoft and along with the various inversion codes, with a number of conversion programs written in Matlab.

Regional geology and geophysical data were also obtained from the respective BCGS websites. These datasets were provided in Geosoft and ArcGIS format.

In addition to the aforementioned data, parts of the 2010 Geoscience BC Quest South gravity survey were also utilized, which was obtained in Geosoft format

## **Gravity Processing and Inversion**

A subset of the Quest South Airborne Gravity dataset was first windowed out to cover the extents of the Guichon Batholith.

The freeair and bouguer channels within the database where then gridded utilizing Geosoft minimum curvature gridding algorithm. The results were subsequently reviewed and overlaid with regional geology, topographic, and airborne magnetics data utilizing ArcGIS.

The Bouguer data was then used in Geosoft Voxi for subsequent 3D inversion.

The resulting 3D density model was then incorporated into a 3D visualization using Encom Profile Analysis and Geosoft Oasis Montaj.

#### DATA PROCESSING, INVERSION AND PRESENTATION con't

#### Induced Polarization Processing and Inversion.

Two historic induced polarization datasets were also used during the review - the 1995 induced polarization survey conducted by Peter E. Walcott & Associates Limited and the 2010 Titan-24 survey conducted by Quantec Geoscience.

Data from both surveys was imported into Geosoft Oasis Montaj, where the raw data was reviewed prior to export to the 3D inversion software.

Topographic data for the respective data points was then extracted from a high resolution DEM model. In the case of the 1995 survey, limited horizontal control points existed thus a number of positioning assumptions were made.

The data from each of the respected datasets was then formatted for use with the inversion code.

The respective datasets were then loaded into Geoelectrical RES3DINV were 3D inversion of the apparent chargeability and resistivity was undertaken.

The resulting 3D data mesh generated by the inversion algorithm was then imported back into Geosoft Oasis Montaj for 3D gridding and presentation.

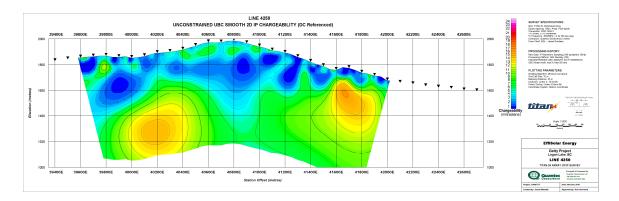
#### Visualization and Presentation

The respective historic datasets were then imported into ArcGIS for review and presentation. This combined historic geochemical, airborne magnetics, geology and induced polarization data (raw and inverted).

A 3D visualization was also created using the respective 3D information generated by the various inversions. Topography and historic drill holes were also incorporated within the visualization.

#### **DISCUSSION OF RESULTS.**

The compilation was designed to focus on the area to the north of the Getty West, where the 2010 Titan Induced Polarization/MT survey identified an induced polarization anomaly at depth in the western portion of the survey grid at some 300 meters in depth as shown on the section below.



Line 4250 N – Modelled Chargeability

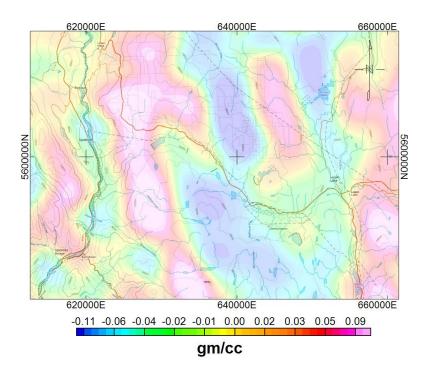
The review initially focused on the regional GSC airborne magnetics and Geoscience BC Quest South Gravity survey.

Given the resolution, survey height and lack of parameters for use in inversion of the historic airborne magnetic survey, the dataset was somewhat limited. It does however show a moderate magnetic low trending north beneath Forge mountain on strike with the area of interest.

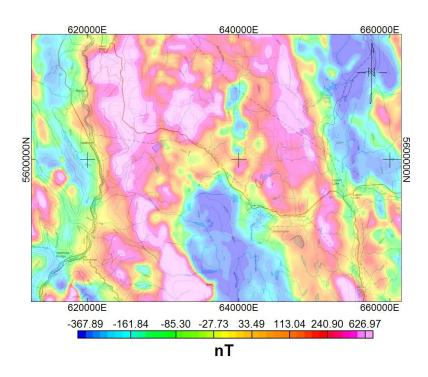
A broad regional inversion over the Highland Valley camp was then undertaken on the Geoscience BC Quest South Gravity dataset utilizing a Geosoft Voxi 3D inversion in an attempt to locate regional basement features proximal the area of interest.

The results of this inversion proved to be somewhat more interesting. Proximal to the area of interest a regional north-south trending gravity low can be readily observed beneath Forge Mountain as shown below. While this may be a function of terrain effect, the gravity low also appears to be coincident the aforementioned magnetic low.

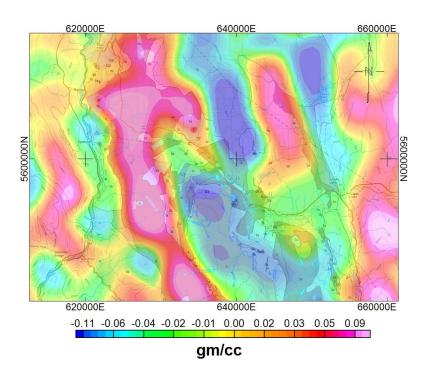
## **DISCUSSION OF RESULTS.**



Modelled Regional Gravity -1000 MSL



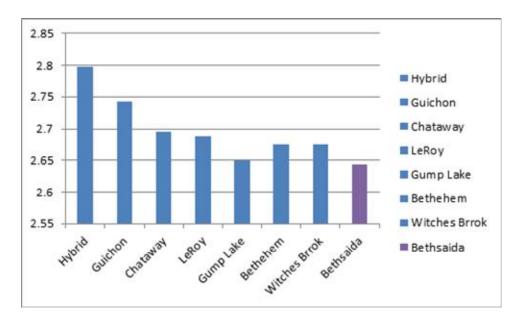
Residual Regional Magnetics



Modelled Regional Gravity with Geology

The -1000 MSL image appears to show a potential right lateral offset in the gravity low, along the Highland Valley Fault immediately to the south of the property. This contact/offset can be traced to the northwest, and partially observed within topographic features immediately to the south of Ashcroft.

The model also suggests than a lower density, and lesser magnetic unit may potentially under lay this area of mapped volcanic cover with similar characteristics to that of the resource rich Bethsaida phase.



Mean Specific Gravity of phases within the Guichon Batholith,

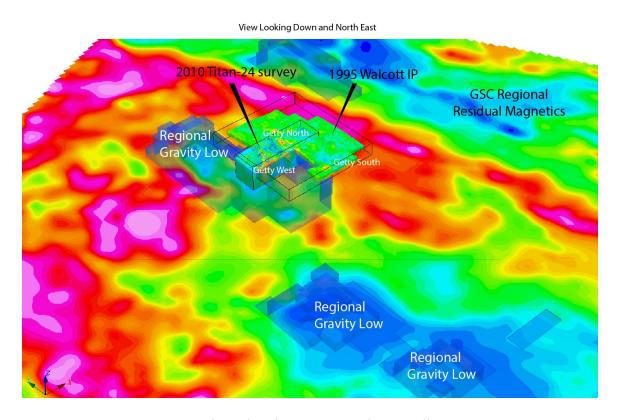
After Northcote, 1969

The area on trend with the aforementioned anomaly has received only limited exploration to date.

As part of the review two geophysical induced polarization datasets which covered the southern end of the anomaly were also inverted in 3D.

While results of the inversion of the 1995 induced polarization survey clearly identify the shallower targets at the Getty North, South and West, its limited depth of investigation yielded little insight into a deeper target.

3D inversion was then carried out on the using the 2010 Titan-24 data and the results show a number of features of interests.



3D View Showing Survey and Anomalies

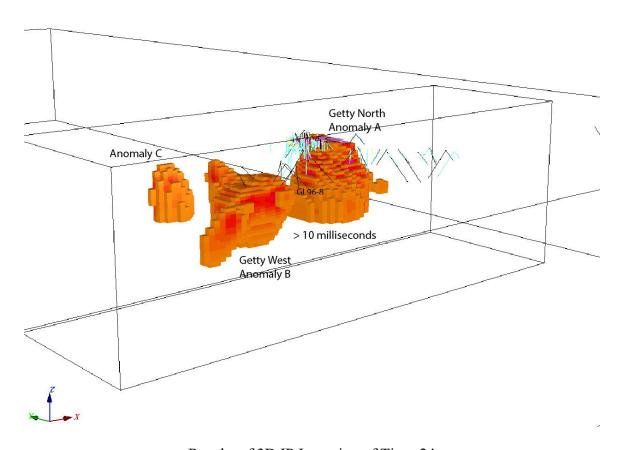
The inversion shows three main chargeability features;

Anomaly A is associated with the core of the Getty North Deposit, and encompasses the known sulphide envelope.

Anomaly B is deeper anomaly associated with the Getty West zone of which only the southern end of the anomaly partially tested by drilling. GL96-08 (-45), which reported 0.26% Cu with 0.02% Mo between 232-274 meters is situated on eastern edge of this feature, however there may be some discrepancy in the documented coordinates.

Anomaly C is a deep anomaly situated on the northern end of the survey, the anomaly is open to the north, and has received no drill testing to date.

Both anomalies B and C are situated within the corridor of interest.



Results of 3D IP Inversion of Titan-24

#### **SUMMARY, CONCLUSIONS & RECOMMENDATIONS.**

Between May 1st and 5<sup>th</sup>, 2014, Peter E. Walcott & Associates Limited undertook inversion of historic induced polarization data, along with regional compilation over parts of the Getty property, located in the Logan Lake area of British Columbia, for Getty Copper Inc.

The review and compilation of the regional data identified a potential corridor of interest within the regional gravity and magnetic dataset. The feature is characterized by a regional gravity and magnetic low similar to that of the resource rich Bethsaida phase of the Guichon batholith with an observed right lateral offset.

Within this feature two relatively untested chargeability anomalies – anomaly B & C - can be readily identified with the Titan-24 dataset with Anomaly B being situated immediately to the west of hole GL96-08, which yielded 48 meters of 0.26 Cu and 0.02% Mo at depth

A deep induced polarization surveying should also be undertaken over the aforementioned corridor utilizing a 100 - 150 meter a-spacing and measuring the first to tenth separation to ensure adequate depth of investigation, along with broad line spacing. Other geophysical techniques should also be considered in to test the thickness of the volcanic cover.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LTD.

Alexander Walcott, B.Sc. Geophysicist

Peter E. Walcott, P.Eng. Geophysicist

Coquitlam, B.C.

**April 2015** 

# **APPENDIX I**

## **COST OF PROJECT.**

Peter E. Walcott & Associates Limited undertook the inversion and project on an hourly basis, thus total cost for this project was \$2800.00

# PERSONNEL EMPLOYED ON PROJECT.

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Unit 111- 17 Fawcett Rd. Coquitlam, B.C. V3K 6V2	May 5 <sup>th</sup> , 2014
Alexander Walcott	"	u	May 1 <sup>st</sup> - 5 <sup>th</sup> , 2014

## **CERTIFICATION.**

I, Peter E. Walcott, of 605 Rutland Court, Coquitlam, British Columbia, hereby certify that:

- 1. I am a graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
- 2. I have been practicing my profession for the last fifty two years.
- 3. I am a member of the Association of Professional Engineers of British Columbia and Ontario.
- 4. I hold no interest, direct or indirect, in the property, nor do I expect to receive any.

Peter E.Walcott, P.Eng.

Coquitlam, B.C. April 2015

# **CERTIFICATION.**

I, Alexander Walcott, of 38-181 Ravine Dr., Port Moody, British Columbia, hereby certify that:

- 1. I am a graduate of the University of Alberta with a B.Sc. Earth Sciences Major, with a Physics Minor.
- 2. I have been active in mineral exploration for the past 20 years.
- 3. I hold no interest, direct or indirect, in the property, nor do I expect to receive any.

**Alexander Walcott** 

Coquitlam, B.C. April 2015

# **CLAIM LIST**

Tenure Number	Owner Name	Size	Claim Name	Expire Date
218508	GETTY COPPER INC.	25.0000	GETTY #80	2020/5/12
218509	GETTY COPPER INC.	25.0000	GETTY #81	2020/5/12
218511	GETTY COPPER INC.	25.0000	GETTY #83 FR.	2020/5/12
221561	GETTY COPPER INC.	25.0000	GETTY #1	2020/5/12
221562	GETTY COPPER INC.	25.0000	GETTY #2	2020/5/12
221563	GETTY COPPER INC.	25.0000	GETTY #3	2020/5/12
221564	GETTY COPPER INC.	25.0000	GETTY #4	2020/5/12
221565	GETTY COPPER INC.	25.0000	GETTY #5	2020/5/12
221566	GETTY COPPER INC.	25.0000	GETTY #6	2020/5/12
221567	GETTY COPPER INC.	25.0000	GETTY #7	2020/5/12
221568	GETTY COPPER INC.	25.0000	GETTY #8	2020/5/12
221570	GETTY COPPER INC.	25.0000	GETTY #10	2020/5/12
221571	GETTY COPPER INC.	25.0000	GETTY #11	2020/5/12
221572	GETTY COPPER INC.	25.0000	GETTY #12	2020/5/12
221573	GETTY COPPER INC.	25.0000	GETTY #13	2020/5/12
221574	GETTY COPPER INC.	25.0000	GETTY #14	2020/5/12
221576	GETTY COPPER INC.	25.0000	GETTY #16	2020/5/12
221577	GETTY COPPER INC.	25.0000	GETTY #17	2020/5/12
221578	GETTY COPPER INC.	25.0000	GETTY #18	2020/5/12
221579	GETTY COPPER INC.	25.0000	GETTY #19	2020/5/12
221580	GETTY COPPER INC.	25.0000	GETTY #20	2020/5/12
221581	GETTY COPPER INC.	25.0000	GETTY #21	2020/5/12
221582	GETTY COPPER INC.	25.0000	GETTY #22	2020/5/12
221585	GETTY COPPER INC.	25.0000	GETTY A FR	2020/5/12
543766	GETTY COPPER INC.	307.9246	<b>GETTY WEST</b>	2016/5/31
759482	GETTY COPPER INC.	615.5534		2016/5/31
758963	GETTY COPPER INC.	840.8336		2015/5/31
768162	GETTY COPPER INC.	512.4484		2015/8/1
759522	GETTY COPPER INC.	902.8978		2016/5/31
759562	GETTY COPPER INC.	1108.6576		2015/5/31
758882	GETTY COPPER INC.	1663.0362		2015/5/31
758902	GETTY COPPER INC.	553.6774		2015/5/31
766082	GETTY COPPER INC.	41.0435		2020/5/12
				2015/4/22
	GETTY COPPER INC.	737.6507	GETTY BT2	

<b>Tenure Number</b>	<b>Owner Name</b>	Size	<b>Claim Name</b>	<b>Expire Date</b>
1027752	GETTY COPPER INC.	409.8020	GETTY BT3	2015/4/22
1027750	GETTY COPPER INC.	840.4262	GETTY BT1	2015/4/22
844516	GETTY COPPER INC.	20.5125		2015/1/26
917949	GETTY COPPER INC.	246.0917		2015/5/31
937922	GETTY COPPER INC.	266.6964		2015/1/26
1011732	GETTY COPPER INC.	266.7121		2015/5/31
1011733	GETTY COPPER INC.	205.1034		2015/5/31
1011734	GETTY COPPER INC.	41.0250		2015/8/2

#### REFERENCES.

Ager, C.A, McMillan, W.J., Ulrych, T.J, Bulletin 62: Gravity, Magnetics and Geology of the Guichon Creek Batholith, 1972 British Columbia Department of Mines and Petroleum Resources

Bond, L., Graden, R. – Diamond Drilling Report on the Highland Valley Copper Getty Copper Option, 2005, BC Assessment Report 28084

Evans, G. Hewson, C. – 2005 Assessment Report, Geological Mapping, Line Cutting and Induced Polarization Geophysics on the Getty Copper Option, 2005, BC Assessment Report 28072

Geoscience BC, - Quest South Airborne Gravity Dataset, 2010

Northcote, K.E., Bulletin 56: Geology and Geochronology of the Guichon Creek Batholith, 1969 British Columbia Department of Mines and Petroleum Resources

Perry, Bruce J, - Report on Diamond Drilling At The Getty North (Krain), Getty South (Trojan (South Seas), and Getty West (Transvaal) Areas, Highland Valley, 1996, BC Assessment Report 24692

Tournerie, B., Verweerd, A., Metcalfe, J. – Titan 24 DC/IP/MT Survey Geophysical Report, Getty Project, 2011, BC Assessment Report 32370

Walcott, Peter E., - A Geophysical Report on Induced Polarization Surveying, Getty Property, 1996, BC. Assessment Report 24476

