MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES

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TECHNICAL REPORT AND ESTIMATE OF MINERAL RESOURCES FOR THE OSIRIS PROJECT, YUKON, CANADA

Submitted to:

ATAC RESOURCES LTD.

1016-510 West Hastings Street
Vancouver, British Columbia
V6B 1L8 Canada
www.atacresources.com

Qualified Persons:

Steven Ristorcelli, C. P. G.
Peter Ronning, P. Eng.
Chris Martin, C. Eng.
Odin Christensen, C. P. G.

775-856-5700
210 S Rock Blvd
Reno, NV 89502
www.mda.com

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775-856-5700

210 South Rock Blvd.
Reno, Nevada 89502
FAX: 775-856-6053

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APPENDICES

Appendix A Descriptive Statistics of Gold Sample Assays by Area and Domain

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1.0 SUMMARY

Mine Development Associates ("MDA") has prepared this Technical Report on the Osiris gold project, located in Yukon, Canada, at the request of ATAC Resources Ltd. ("ATAC"), the owner and operator of the project. This report and the Mineral Resource estimates reported herein have been prepared in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101"), Companion Policy 43-101CP, and Form 43-101F1, as well as with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Definition Standards - For Mineral Resources and Reserves, Definitions and Guidelines" ("CIM Standards") adopted by the CIM Council on May 10, 2014.

1.1 Property Description and Ownership

The Osiris property ("the Property"), a part of ATAC's 1,747km^2 Rackla Gold Project, is located in east-central Yukon. The property comprises 1,477 contiguous quartz mineral claims, covering an area of 301.8km^2 (30,180ha). The claims are registered with the Mayo Mining Recorder in the name of Archer, Cathro and Associates (1981) Limited ("Archer Cathro"), holding them in trust for ATAC. ATAC owns the Property 100%, with no underlying interests.

The Property lies 170km northeast of Mayo, the nearest supply centre. The closest road access is to the community of Keno City, situated 49km by road north-northeast of Mayo. Mayo and Keno City can be reached in all seasons by two-wheel-drive vehicles. Access to the Property is currently via fixed-wing aircraft to ATAC's 900m-long gravel airstrip located 8km south of the Ibis deposit near the southern boundary of the Property. Helicopters are used locally to access exploration targets within the Property and from the airstrip.

1.2 Exploration and Mining History

The earliest recorded exploration in the project area occurred between 1974 and 1978, on claims staked for McIntyre Mines on what is now the eastern edge of the Osiris Property. Work consisted of mapping, surface sampling, and drilling 32 holes.

In June 2009, ATAC staked 20 claims to follow up on anomalous arsenic in a stream-sediment sample collected by the Geological Survey of Canada ("GSC"). Additional sampling by ATAC led the company to stake additional claims and begin larger-scale exploration work. This report describes work specific to the Osiris property.

775-856-5700

210 South Rock Blvd.
Reno, Nevada 89502
FAX: 775-856-6053

1.3 Geology and Mineralization

The Osiris property is located in the east-central Yukon, a remote frontier region for which the bedrock geology is not well-defined. The broad geologic framework of the region is known, but details of the complex geologic setting are still being recognized and mapped.

The Osiris Property straddles the boundary between deep-water dominantly clastic rocks of the Selwyn Basin to the south, which are juxtaposed by the Dawson Thrust Fault against shallow-water shelf strata of the Ogilvie platform to the north.

In the southern part of the property, Selwyn Basin strata in the hanging wall of the Dawson Thrust Fault consist of Neoproterozoic to Cambrian rocks of the Hyland Group, which is further subdivided into lower coarse-grained clastic sedimentary rocks of the Yusezyu Formation, carbonate rocks of the Algae Formation, and an upper mudstone comprising the Narchilla Formation. To the west of the Osiris project, rocks of the Hyland Group were thrust northward over Paleozoic shelf- and slope-facies rocks deposited along the southern edge of the Ogilvie platform. In the Osiris area, the Dawson Thrust fault loses stratigraphic displacement, and coeval Neoproterozoic rocks of the Hyland Group and upper parts of the Windermere Supergroup are juxtaposed across the fault.

The bedrock geology of the Osiris property consists of a southward and westward younging sequence of Neoproterozoic to Cambrian slope-facies rocks. Two distinct intrusive rock units have been identified in the Osiris area, known as the Osiris Gabbro, dated at 465.6 ± 4.4Ma, and the Conrad gabbroic dikes, dated at 74.4 ± 1Ma. Both units show little evidence of deformation.

Structure imparts a significant control on the distribution of gold mineralization at the Osiris property with folding and faulting controlling the distribution and form of favorable host-rock units, and faults acting as conduits for the flow of mineralizing hydrothermal fluids.

The local structure at the Osiris cluster of gold deposits is generally characterized by steep homoclinal bedding with monoclines and isolated macroscopic (hundreds of metres in scale or larger) folds. Carbonate units are folded on the mesoscopic and macroscopic scale with only minor development of any associated cleavage and without many smaller-scale folds. Less-competent argillaceous units accommodate deformation through widespread folding and pervasive cleavage development. The Osiris area is cut by significant faults that strike generally east-west or southeast-northwest.

The gold deposits on the Osiris property can be described as carbonate-rock-hosted, disseminated, epithermal gold deposits, or Carlin-type gold deposits. Gold mineralization at Osiris is typical Carlin-type epithermal gold mineralization (Section 8.0). Mineralization occurs as replacement bodies with both structural and stratigraphic control. Zones of mineralization are frequently stratabound within favorable stratigraphic layers. Although the different mineral zones vary in detail, they all share a number of important attributes

- Mineralization occurs as replacement bodies with strong stratigraphic control.
- Deposits are preferentially hosted in carbonate rocks, particularly silty limestone.
- Deposits frequently occur along or near faults and fault zones, particularly where these zones cut favorable host carbonate rock.

- Deposits are intimately associated with host-rock alteration characterized by decarbonatization, argillization, silicification and sulphidation that results in the formation of gold-bearing arsenian pyrite.
- Deposits have elevated geochemical concentrations of Au-As-Sb-Hg-Tl.
- Gold occurs as a chemical impurity in exceedingly fine-grained arsenian pyrite, which is disseminated through the replaced rock.

The Osiris deposits are dominantly hosted in impure carbonate rocks, particularly silty limestone and along contacts between limestone and dolomite. Where these host units have been folded or faulted, the form of mineralization reflects the geometry of the favorable host rock. Mineralization and host-rock alteration are intimately associated. The primary style of alteration associated with these deposits is dissolution of carbonate minerals or decarbonatization of the host limestone or silty limestone.

Two generations of pyrite are recognized in the deposits: pre-mineral diagenetic pyrite present in the host rocks and pyrite formed during the hydrothermal process by sulfidation of reactive iron in the host rocks. Most of the gold is contained as an elemental impurity within secondary hydrothermal arsenian pyrite. Deposition of the arsenic sulphides realgar and orpiment occurred late in the sequence of mineralization. These minerals occur within late veins or filling open space in the rock mass. Stibnite and fluorite are common accessory minerals within the deposits.

Drilling by ATAC has demonstrated the existence of six defined zones of gold mineralization at the Osiris property (Table 1-1). To date, only Conrad, Osiris, Sunrise, and Ibis have defined resources.

Table 1-1 Summary of Known Mineralized Zones within the Osiris Property

Mineralized Zone	Year Discovered	Main Host Units	Comments
Osiris	2010	O-LST1, O-DST	Original location of stratabound Carlin-type mineralization discovered by prospecting.
Conrad	2010	O-LST1, O-SLC	Located 800m northeast of Osiris. Discovered during prospecting, Conrad is the most advanced Carlin-type gold zone and has been traced over a total strike length of 800m. It remains open at depth and along strike.
Ibis	2011	O-LST1, O-DST	Encouraging near-surface gold mineralization, located directly south of Osiris, discovered while following up a gold-in-soil anomaly.
Sunrise	2012	O-LST1	Structurally controlled gold mineralization, hosted within the same unit as Osiris, discovered during road building directly east of Osiris.
Atum	2010	A-DST	A large gold-in-soil anomaly 600m west of Osiris. Grab samples returned elevated gold, including a peak value of 28.9 g Au.t.
Amon	2010	A-DST	A strong arsenic-in-soil anomaly located 1,100m northwest of Atum

1.4 Metallurgical Testing and Mineral Processing

Only limited mineralogical and metallurgical testing has been conducted on the Osiris project. Table 1-2 summarizes the metallurgical test-work that has been completed to-date.

Table 1-2: Metallurgical Test Programs

Year	Company	Test
2011	ALS Canada Ltd.	Cyanide Solubility, Total Organic Carbon, Preg-robbing Tests
2012	ALS Canada Ltd.	Cyanide Solubility
2013	ALS Canada Ltd.	Cyanide Solubility
2014-2015	SGS Canada Inc.	Gold Deportment, Grindability, Flotation, Cyanide Leaching
2017	ALS Canada Ltd.	Cyanide Solubility, Total Organic Carbon

From the work conducted so far, evidence suggests that the Conrad material has metallurgical properties that are somewhat similar to several of the refractory gold ores in Nevada. Material from the other zones is probably quite similar, but the refractoriness appears to be somewhat less ubiquitous.

Four factors will probably dictate process selection:

- Presence of gold in the pyrite lattice: This necessitates the use of a sulphide pre-oxidation process to release the gold for subsequent extraction.
- Presence of arsenic, mostly as realgar: The very high As to Fe ratio probably points to the need to remove arsenic ahead of pre-oxidation, mostly likely through flotation.
- Substantial abundance of carbonates: This likely points to the need to produce a sulphide-rich, lower-carbonate flotation concentrate, if pressure or bacterial oxidation ("BIOX®") of the sulphide minerals is to be considered.
- Presence of preg-robbing material: This may necessitate the need to either roast the flotation concentrate (or realgar flotation tails), or use pressure oxidation ("POX") followed by thiosulphate leaching. Alternatively, pre-flotation of the carbon into the realgar concentrate may allow for conventional POX/BIOX® on a sulphide flotation concentrate, with cyanide leaching of the oxidized product.

No meaningful testwork has been conducted to date to develop a process that addresses each of these factors, although the technologies to do so are well proven in the industry. Accordingly, the combination of mineralogy and the limited available metallurgical data all point to a reasonable prospect that the material could be economically processed using conventional or proven technologies to achieve satisfactory gold recoveries. Additional testwork is required to test this hypothesis.

1.5 Mineral Resource Estimate

The Osiris Mineral Resource estimate is based on data derived from drilling completed to the end of 2017. The database contains records for 260 core drill holes totaling 85,215m of drilling, within which there are 26,085 intervals having gold assays. Of the 260 drill holes, 238 influence the estimate. All resources are classified as Inferred, primarily due to the early stage of development of the project and rather complicated structural deformation.

There are four deposits at the Osiris project with Mineral Resources: Conrad, Osiris, Sunrise, and Ibis. Table 1-3 presents the total resources. The resources are block-diluted and all are classified as Inferred.

Table 1-3 Osiris Project Inferred Gold Resources

All Inferred Open Pit Resources

Cutoff g Au/t	Tonnes	g Au/t	oz Au
1.3	8,045,000	4.08	1,055,000

All Inferred Underground Resources

Cutoff g Au/t	Tonnes	g Au/t	oz Au
2.6	4,335,000	4.52	630,000

All Inferred Resources

Cutoff g Au/t	Tonnes	g Au/t	oz Au
variable	12,380,000	4.23	1,685,000

Importantly, this first resource estimate provides an assessment of resources defined based on current drilling only. The deposits are open ended to the north of Osiris, to the east of Sunrise, at depth in all deposits, and along strike of Ibis and Conrad. More importantly, the Carlin-type deposit model suggests that there is good potential to increase these resources.

The Inferred classification is because the complexly deformed host-rocks make it difficult to project grades far from drill holes with much confidence. Additional drilling will be needed to upgrade the resources, but the database, sampling, geologic understanding, and quality control all support higher classification of resources.

1.6 Conclusions and Recommendations

The Conrad, Osiris, Ibis and Sunrise zones all offer potential for expansion. The next phase of work should include a minimum of 10,000m of exploration drilling to test expansion potential near to the existing defined zones and 5,000m of infill drilling to improve understanding of current resources.

Limited metallurgical work has been conducted to date on material from the Property. It is recommended that a metallurgical testing program be initiated which focuses on processing to optimize the quality of the feed to sulphide pre-oxidation, and subsequently explore oxidation processes such as roasting, pressure oxidation, bacterial oxidation.

The categorization of resources as open pit versus underground is sensitive to pit slope angles, due to relatively steep and mountainous terrain in the vicinity of the mineralized zones. A geotechnical study is recommended to be undertaken.

An approximate budget for the work described above is presented in Table 1-4.

Table 1-4: Proposed Budget

Work Task	**Cost (C$)**
Exploration Diamond Drilling - 10,000 m @ $500/m (all-in cost)	$5,000,000
Infill Diamond Drilling – 5,000 m @ $500/m (all-in cost)	$2,500,000
Metallurgical Studies	$200,000
Geotechnical Studies	$100,000
Contingency @ 5%	$390,000
Total	**$8,190,000**

The authors believe that the Osiris project is a project of merit and warrants the proposed program and level of expenditures outlined above.

2.0 INTRODUCTION AND TERMS OF REFERENCE

Mine Development Associates ("MDA") has prepared this Technical Report on the Osiris gold project, located in Yukon, Canada, at the request of ATAC Resources Ltd. ("ATAC"), the owner and operator of the project. ATAC is listed on the TSX Venture Exchange ("TSX-V"). This report has been prepared in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101"), Companion Policy 43-101CP, and Form 43-101F1, as amended.

2.1 Project Scope and Terms of Reference

The purpose of this report is to provide a technical summary of the Osiris project, including an estimate of the gold resources, in support of securities regulatory reporting requirements. The Osiris project is located in east-central Yukon. Osiris is an exploration project with no history of production. The Mineral Resource estimate described in this report is the first publicly reported estimate for the project. There have been no prior NI 43-101 Technical Reports for the Osiris project.

The Mineral Resources were estimated and classified under the supervision of Steven Ristorcelli, C.P.G., Principal Geologist with MDA. Mr. Ristorcelli is a qualified person under NI 43-101 and has no affiliations with ATAC except that of an independent consultant/client relationship. The mineral resources reported herein are estimated to the standards and requirements stipulated in NI 43-101. Co-authors Peter Ronning, P. Eng., Chris Martin, C. Eng., and Odin Christensen, C.P.G. each are qualified persons under NI 43-101 and have no affiliations with ATAC except that of an independent consultant/client relationship.

The scope of this study included a review of pertinent technical reports and data provided to MDA by ATAC relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. The authors have fully relied on the data and information provided by ATAC for the completion of this report, including the supporting data for the estimation of the mineral resources.

Mr. Ristorcelli visited the Osiris project site from August 31 through September 4, 2017 and was accompanied by MDA associated Geologist Peggy Ristorcelli. During the site visit, the project geology and drilling and sampling procedures were reviewed. This included: a) a field tour of the Osiris deposit area; b) visual inspection of core drilling in progress; c) discussion of the current geologic interpretations with on-site personnel; and d) review of all sampling procedures.

The authors have relied almost entirely on data and information derived from work done by ATAC. The authors have reviewed much of the available data, have taken reasonable and appropriate steps to verify the data, and have made judgments about the general reliability of the underlying data. The authors have made such independent investigations as they deemed necessary in their professional judgment to be able to reasonably present the conclusions discussed herein.

The Effective Date of this Technical Report is June 8, 2018.

2.2 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure

In this report, measurements are generally reported in metric units. Where information was originally reported in English units, MDA has made the conversions as shown below.

Currency, units of measure, and conversion factors used in this report include:

Linear Measure
1 centimetre = 0.3937 inch
1 metre = 3.2808 feet = 1.0936 yard
1 kilometre = 0.6214 mile
Area Measure
1 hectare = 2.471 acres = 0.0039 square mile
Capacity Measure (liquid)
1 liter = 0.2642 US gallons
Weight
1 tonne = 1.1023 short tons = 2,205 pounds
1 kilogram = 2.205 pounds

Currency

Unless otherwise indicated, all references to dollars ($) in this report refer to Canadian currency unless explicitly written as US$.

Frequently used acronyms and abbreviations

AA	atomic absorption spectrometry
Ag	silver
Au	gold
BIOX®	Outotec patented process involving bacterial leaching of sulphides under acidic conditions using agitated tanks, prior to gold extraction from the BIOX® residue by cyanidation.
cm	centimetres
core	diamond core-drilling method and the rock cylinders recovered in drilling.
°C	degrees centigrade
°F	degrees Fahrenheit
ft	foot or feet
g/t	grams per tonne
ha	hectares
ICP	inductively coupled plasma analytical method
in	inch or inches
kg	kilograms
km	kilometres
l	liter
lbs	pounds
µm	micrometres or microns (one millionth of a meter)
m	metres

Ma	million years old
mi	mile or miles
mm	millimetres
NSR	net smelter return
oz	ounce
POX	sulphuric acid pressure oxidation of sulphides, conducted in an autoclave with an overpressure of oxygen, prior to gold extraction from the oxidized residue by cyanidation.
ppm	parts per million
ppb	parts per billion
preg-robbing	in mineral processing, the potential of the sample to “rob” or remove gold from the gold-bearing or “pregnant” cyanide solution
QA/QC	quality assurance and quality control
RC	reverse-circulation drilling method
RQD	rock-quality designation
t	metric tonne or tonnes

3.0 RELIANCE ON OTHER EXPERTS

The authors of this report are not experts in legal matters, such as the assessment of the validity of mining claims, mineral rights, and property agreements in Yukon or elsewhere. Furthermore, the authors did not conduct any investigations of the environmental, social, or political issues associated with the Osiris project, and are not experts with respect to these matters. The authors have therefore relied fully upon information and opinions provided by ATAC with regards to the following topics described in Section 4:

- The nature and scope of the mineral tenures comprising the Osiris property,
- Steps and associated costs required to maintain the mineral tenures in good standing,
- The trust arrangement between Archer Cathro, and ATAC, by virtue of which the latter owns the mineral tenures,
- The lack of underlying interests or other encumbrances except those imposed by law or regulation,
- The lack of encumbrances relating to First Nations Settlement Lands, and
- Environmental liabilities.

This information was provided by ATAC to the Authors on April 13, 2018, in a draft of text for Section 4 of this report.

The authors have fully relied on ATAC to provide complete information concerning the pertinent legal status of ATAC and its affiliates, as well as current legal title, material terms of all agreements, and material environmental and permitting information that pertains to the Osiris project.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Osiris property ("the Property"), a part of ATAC's 1,747km^2 Rackla Gold Project, is located in east-central Yukon and is centered at 64.12° north latitude and 132.18° west longitude. The Property is located on National Topographic System (NTS) map sheets 106C/01, 106C/08, and 106B/04 (Figure 4-2). The deposits that are the focus of this report are on map sheet 106C/01. The Property comprises 1,477 contiguous quartz mineral claims, covering an area of 301.8km^2 (30,180ha). The claims are registered with the Mayo Mining Recorder in the name of Archer, Cathro and Associates (1981) Limited ("Archer Cathro"), holding them in trust for ATAC. ATAC owns the Property 100%, with no underlying interests. The claims and expiry dates as of June 8, 2018 are tabulated in Table 4-1 and the locations shown on Figure 4-2.

The Conrad, Osiris, Sunrise, and Ibis mineralized zones, the primary focus of this Technical Report, are located on the Sten 1, 3, 22, 24, 26, 31, 33, 35, 39, and 40 mineral claims. Figure 4-3 shows the location of these zones and other known mineral occurrences within the Property. No Mineral Resources or Reserves have been defined elsewhere on the Property. The Osiris property is located on the Mount Stenbraten Map Sheet NTS 106C/1.

The mineral claims comprising the Property can be maintained in good standing by performing approved exploration work to a dollar value of $100 per claim per year, or through payment in lieu of approved exploration work at the rate of $100 per claim per year, and an additional $5 fee per claim for an Application for a Certificate of Work. There are no overlapping Placer claims or other land registrations.

Exploration is subject to Mining Land Use Regulations of the Yukon Quartz Mining Act, and the Yukon Environmental and Socio-economic Assessment Act ("YESAA"). A Land Use Approval must be issued by the Yukon Government before large-scale exploration activities can be conducted. Under the provisions of YESAA, a review must be conducted by the Yukon Environmental and Socio-economic Assessment Board ("YESAB") before a Land Use Approval can be issued. Approval for current exploration activities has been obtained by ATAC under Class 4 Quartz Mining Land Use Approval LQ00444, which expires November 15, 2026, and was most recently assessed by YESAB under file number 2016-0034.

The claim posts defining the Property have been located by ATAC using hand-held GPS devices, and have not been formally surveyed.

The Property lies within the traditional territory of the Na-Cho Nyak Dun First Nation ("NNDFN"). To the best of the Authors' knowledge there are no encumbrances to the Property relating to First Nation Settlement Lands. ATAC and NNDFN are in the process of re-negotiating an exploration co-operation agreement through which both parties recognize and commit to a mutually beneficial approach to exploration on the Project.

Prior to production, all mineral claims must be converted to mineral leases and are subject to Territorial and Federal government taxes and royalties on production and operations where applicable including Yukon's Quartz Mining Act (http://www.gov.yk.ca/legislation/acts/qumi.pdf).

Outstanding environmental liabilities relating to the Property are limited to reclamation of exploration disturbances (clearings, drill pads, temporary camp structures, roads and trails), with final decommissioning required prior to expiration of the Mining Land Use Approval. A reclamation security deposit is held by the Yukon Government for decommissioning of roads and trails. That security deposit will be returned upon completion of reclamation activities related to these disturbances. Progressive reclamation has been conducted following each exploration season, and generally entails backfilling and re-contouring disturbed sites and leaving them in a manner conducive to re-vegetation of native plant species. Scrap materials, waste products, excess fuel and seasonal equipment are removed from site at the end of each exploration season and disposed of or stored in an appropriate facility. Final decommissioning outlined in ATAC's Land use Approval requires that:

- all vegetated areas that have been disturbed are left in a manner conducive to re-vegetation by native plant species;
- all petroleum products and hazardous substances be removed from site;
- all scrap metal, debris and general waste be disposed of;
- structures be removed; and
- the site restored to its previous level of utility.

Table 4-1: Claim List

Claim	**Numbers**	**Grants**	**District**	**Expiry**	**Count**
AT	1-206	YF44251-YF44456	Mayo	2034-04-28	206
EN	51-72	YD01451-YD01472	Mayo	2036-04-28	22
EN	111-132	YD01511-YD01532	Mayo	2036-04-28	22
EN	171-192	YD01571-YD01592	Mayo	2036-04-28	22
OS	1-576	YD69731-YD70306	Mayo	2034-04-28	576
OS	653-676	YD70383-YD70406	Mayo	2036-04-28	24
OS	749-770	YD70479-YD70500	Mayo	2036-04-28	22
OS	841-846	YD70571-YD70576	Mayo	2036-04-28	6
OS	955-956	YD70685-YD70686	Mayo	2036-04-28	2
OS	979-1076	YD70709-YD70806	Mayo	2036-04-28	98
PH	1-11	YE55701-YE55711	Mayo	2034-04-28	11
PH	12	YE55712	Mayo	2030-04-28	1
PH	13-22	YE55713-YE55722	Mayo	2034-04-28	10
ST	51-86	YD26951-YD26986	Mayo	2040-04-28	36
ST	118-253	YD27018-YD27153	Mayo	2040-04-28	136
ST	280-349	YD27180-YD27249	Mayo	2040-04-28	70
ST	362-431	YD27262-YD27331	Mayo	2040-04-28	70
Sten	1-16	YC99501-YC99516	Mayo	2045-04-28	16
Sten	21-38	YC99523-YC99540	Mayo	2043-04-28	18
Sten	39-54	YD08485-YD08500	Mayo	2043-04-28	16
Sten	55-62	YD10405-YD10412	Mayo	2043-04-28	8
T	2998-3003	YD33028-YD33033	Mayo	2040-03-01	6
T	3046-3125	YD33076-YD33155	Mayo	2040-03-01	80

The Authors do not know of any significant factors that may affect access, title, surface rights, or the ability of ATAC to perform work on the Property.

Figure 4-1
Location of the Osiris Property

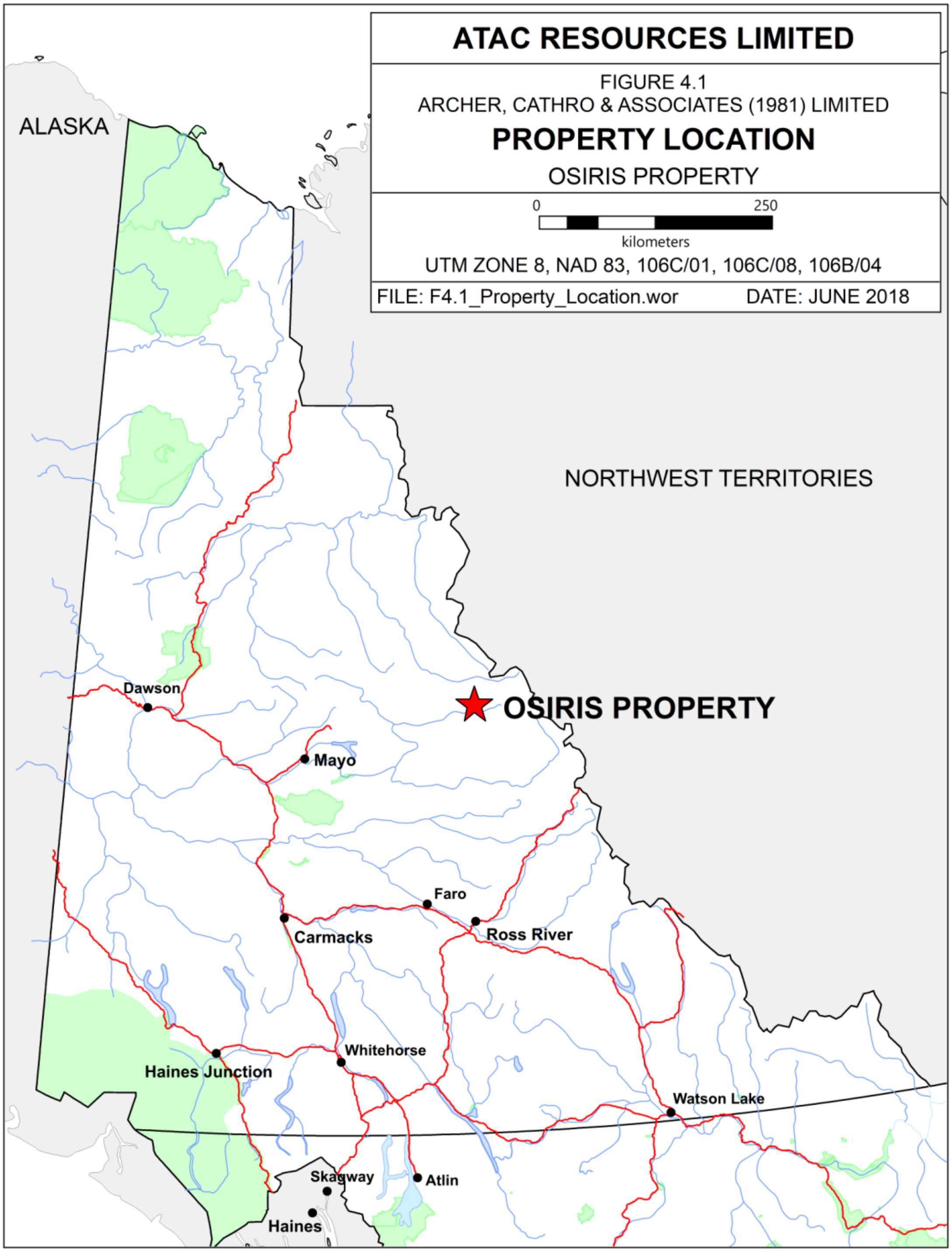


Figure 4-2 Claim Location

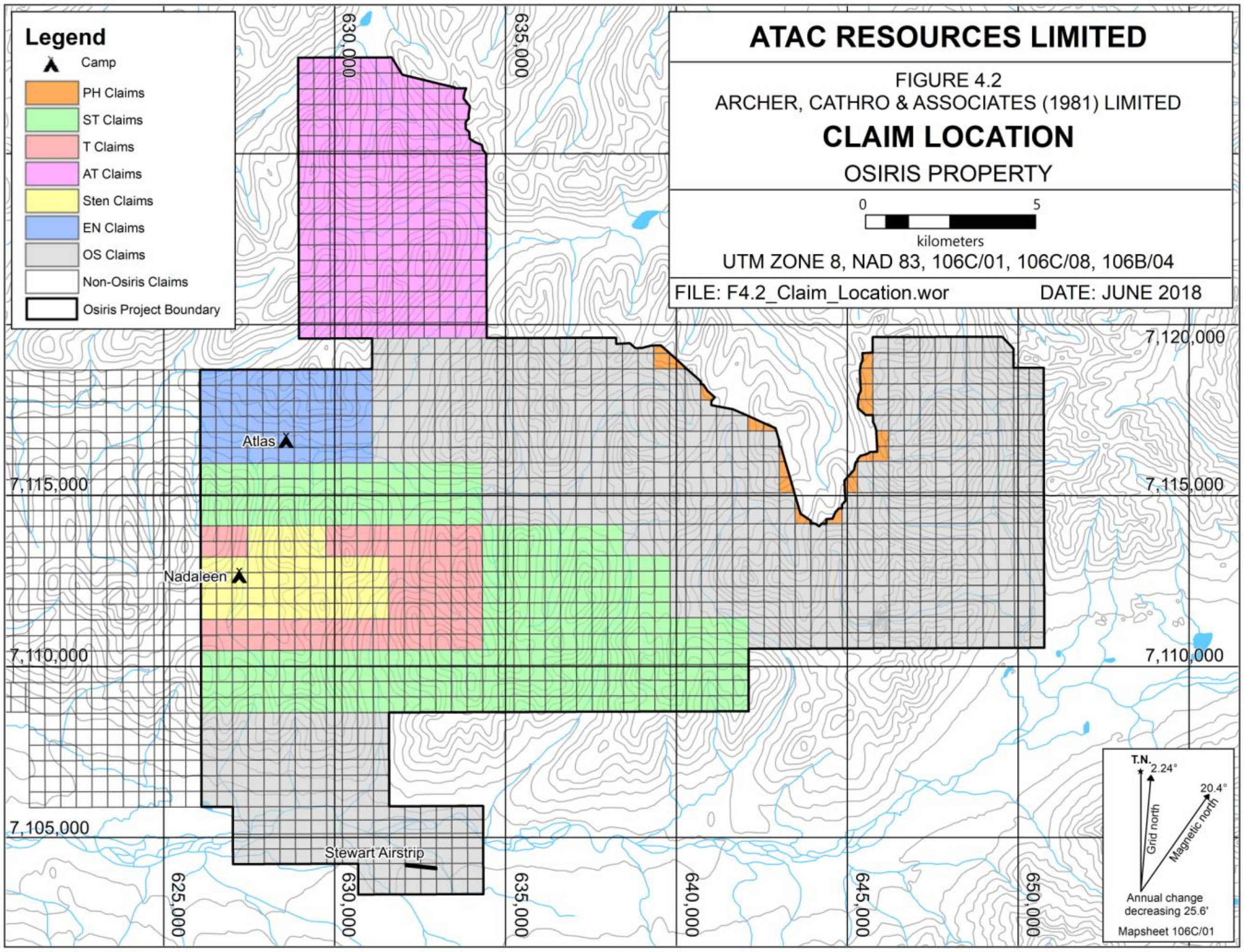
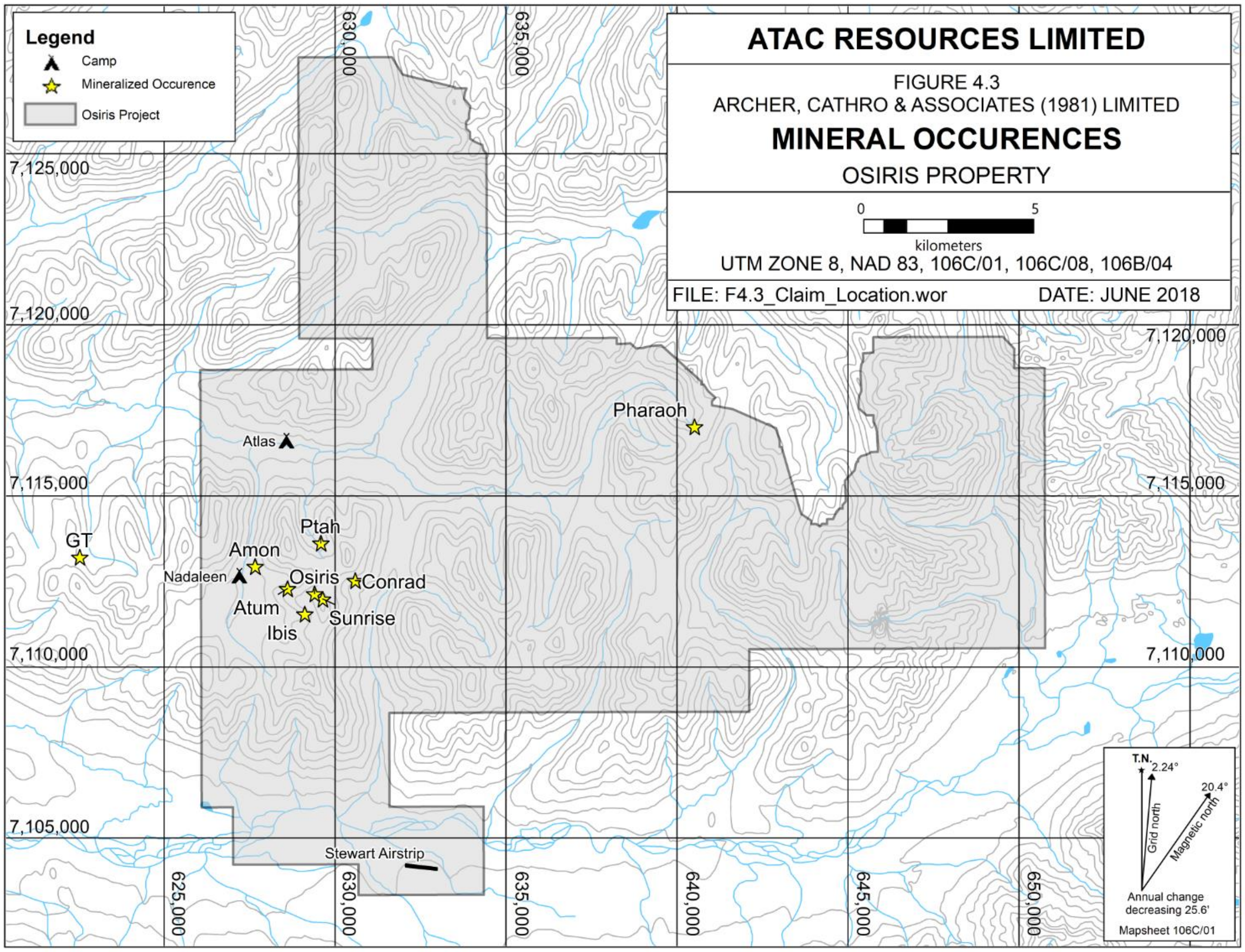


Figure 4-3 Mineral Occurrences in the Osiris Property



5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTUCTURE, AND PHYSIOGRAPHY

The information summarized in this section is derived from publicly available sources, as cited.

The Property lies 170km northeast of Mayo (Figure 4-1), the nearest supply centre. The closest road access is to the community of Keno City, situated 49km by road north-northeast of Mayo. Mayo and Keno City can be reached in all seasons by two-wheel-drive vehicles using the Yukon highway system from Whitehorse, Yukon. From Whitehorse there is daily jet service to Vancouver, British Columbia and other cities to the south. Whitehorse is a major centre of supplies, communications and a source of skilled labor for exploration diamond drilling, construction, and mining operations.

ATAC's Rackla Gold Property consists of three project areas, from west to east, the Rau project, the Orion project, and the Osiris project. Exploration activities on the Osiris and Orion projects are conducted from a seasonal camp located at the Osiris project, about 2km west of the Osiris gold deposit. Access to all three projects areas is currently by air. In March 2018, ATAC received a favorable decision from the Yukon Government and the First Nation of Na-Cho Nyak Dun (NND) to proceed with a 65km, private, all-season tote road to the Tiger gold deposit on the Rau project area.

Access to the Osiris property is currently via fixed wing aircraft to ATAC's 900m-long (2,950ft) gravel airstrip located 8km south of the Ibis deposit near the southern boundary of the Property. Helicopters are used locally to access to exploration targets within the Property and from the airstrip. A local trail system provides access within the valley containing the Osiris, Ibis and Sunrise Deposits. The trail system is accessible with the use of a four-wheel-drive all-terrain vehicle ("ATV") from the existing exploration camp.

Portable electrical generators provide sufficient power for exploration-stage programs. Local creeks provide sufficient water for camp and diamond drilling requirements on the Property. Keno City is connected to the Yukon electrical grid and is the nearest source of grid-power to the Property.

The Property covers a diverse geomorphological setting. Much of the claim block covers forested valleys to alpine terrain and generally east-west- to northwest-trending broad glaciated valleys. Sites for potential mining, camp facilities, tailings-storage, waste-disposal and processing plant areas with no conflicting surface rights exist on the Property.

The Property is situated within the Selwyn and Wernecke Mountains and is drained by creeks that flow into the Nadaleen, Rackla, and Stewart Rivers, which are both part of the Yukon River watershed. Local topography is alpine to sub-alpine and features east-west- to northwest-trending rocky spurs and valleys. Elevations range from 750m along the Stewart River along the southern edge of the Property to approximately 2,000m atop an unnamed peak to the east. Outcrop is most abundant on or near ridge crests and in actively eroding creek beds. Most hillsides are talus covered at higher elevations and are blanketed by glacial till at lower elevations. Soil development is moderate to poor in most areas.

Valley floors are covered by mature black spruce trees. The density and size of vegetation gradually decreases with increasing elevation. Undergrowth typically consists of moss and low-lying shrubs. Tree line is approximately 1,500m in elevation. Slopes above that elevation are un-vegetated with the exception of moss and lichen. South facing slopes are typically well drained and are often lightly forested with poplar. Steep, north facing slopes are usually rocky outcrop and talus. Gentler, spruce- and moss-covered terrain, mainly north-facing, exhibits widespread permafrost.

The region was glaciated in the Late Pleistocene, 22,000 years ago (Duk-Rodkin, 1999) with ice flow generally occurring from east to west.

The climate at the Property is typical of northern continental regions with long, cold winters, short fall and spring seasons and mild summers. Snowfall can occur in any month at higher elevations. The Property is mostly snow free from early June to late September. According to Environment Canada, Mayo holds the Yukon high-temperature record based on June 14, 1969, when the thermometer peaked at 36.1°C. The lowest temperature in Mayo, recorded on February 3, 1947, is -62.2°C. Mayo holds the Canadian record for the greatest range of absolute temperatures, a difference of 98.3°C between the extreme high and extreme low (Yukon Community Profiles 2016).

Historical weather records over the past three decades show that the average daytime temperature in January in Mayo is -20.5°C, dropping to -31°C at night (Government of Canada 2018). In July the daytime average is close to +23°C while the nighttime temperature dropping to about 9°C. Annual precipitation averages 313mm, as 205mm of rain and 147cm of snow.

6.0 HISTORY

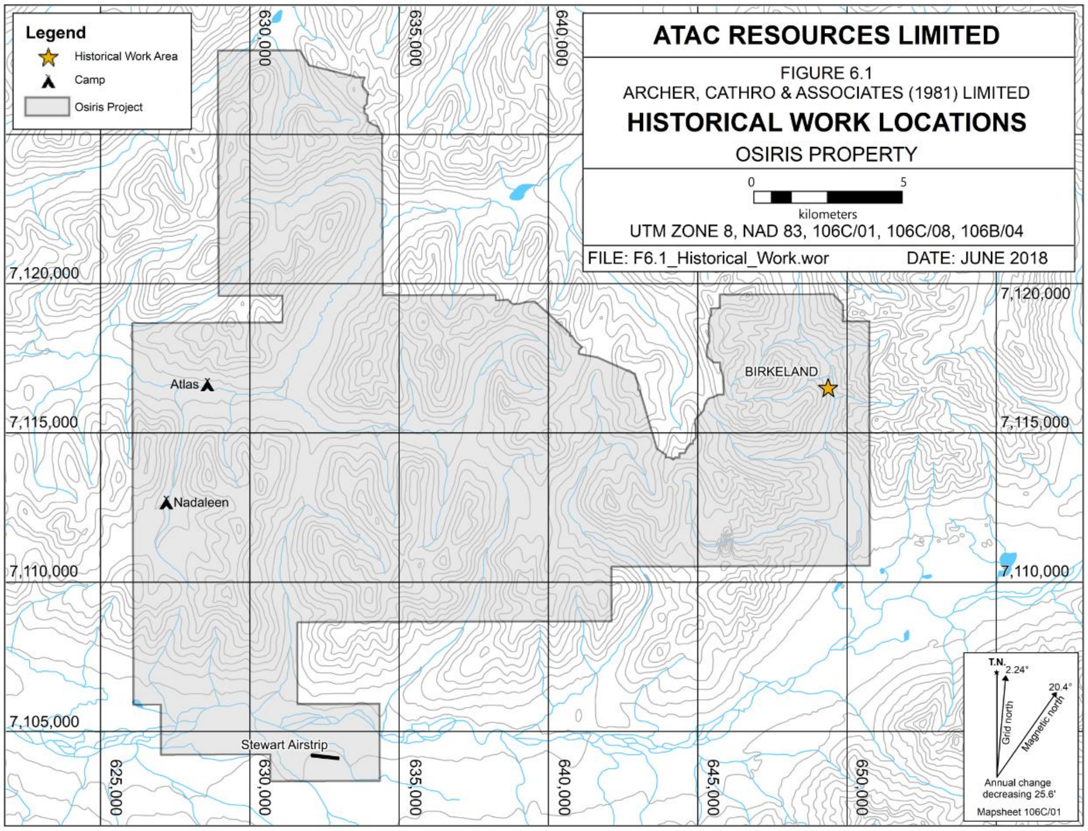
Locations of showings and historical work referred to in this report can be found on Figure 6-1.

The earliest recorded exploration in the project area occurred in 1974 when McIntyre Mines staked the Birkeland claims, then called Tom and Mom, in what is now the eastern portion of the Osiris Property. Mapping, geochemical soil sampling, trenching and the drilling of 10 BQ and 22 Winkie holes were carried out in 1975. The most significant results achieved were 4.4%Zn, 0.5%Pb and 2.7g Ag/t over 1.8m in DDH75-31 (Shearer, 1975). In 1978 McIntyre Mines entered a joint venture with Canadian Superior Exploration Ltd. No further work was reported and the Birkeland claims expired.

In 2001, the Geological Survey of Canada ("GSC") completed a regional stream-sediment sampling program (Heon, 2003), which included coverage of the current Sten claims, in an area now referred to as the Nadaleen Trend. Creeks draining this area returned weak gold and strong arsenic anomalies.

In June 2009, ATAC staked the Sten 1-20 claims to follow up on an anomalous arsenic silt sample collected by the GSC. Following staking, 89 stream sediment, 1 rock and 9 soil samples were collected during the 2009 field season. These samples returned a string of moderately to very strongly anomalous results ranging from 12 to 1,775ppb Au and 123 to 155,000ppm As (Eaton, 2009). An additional 134 claims were staked by ATAC following receipt of results.

Figure 6-1 Historical Work Locations



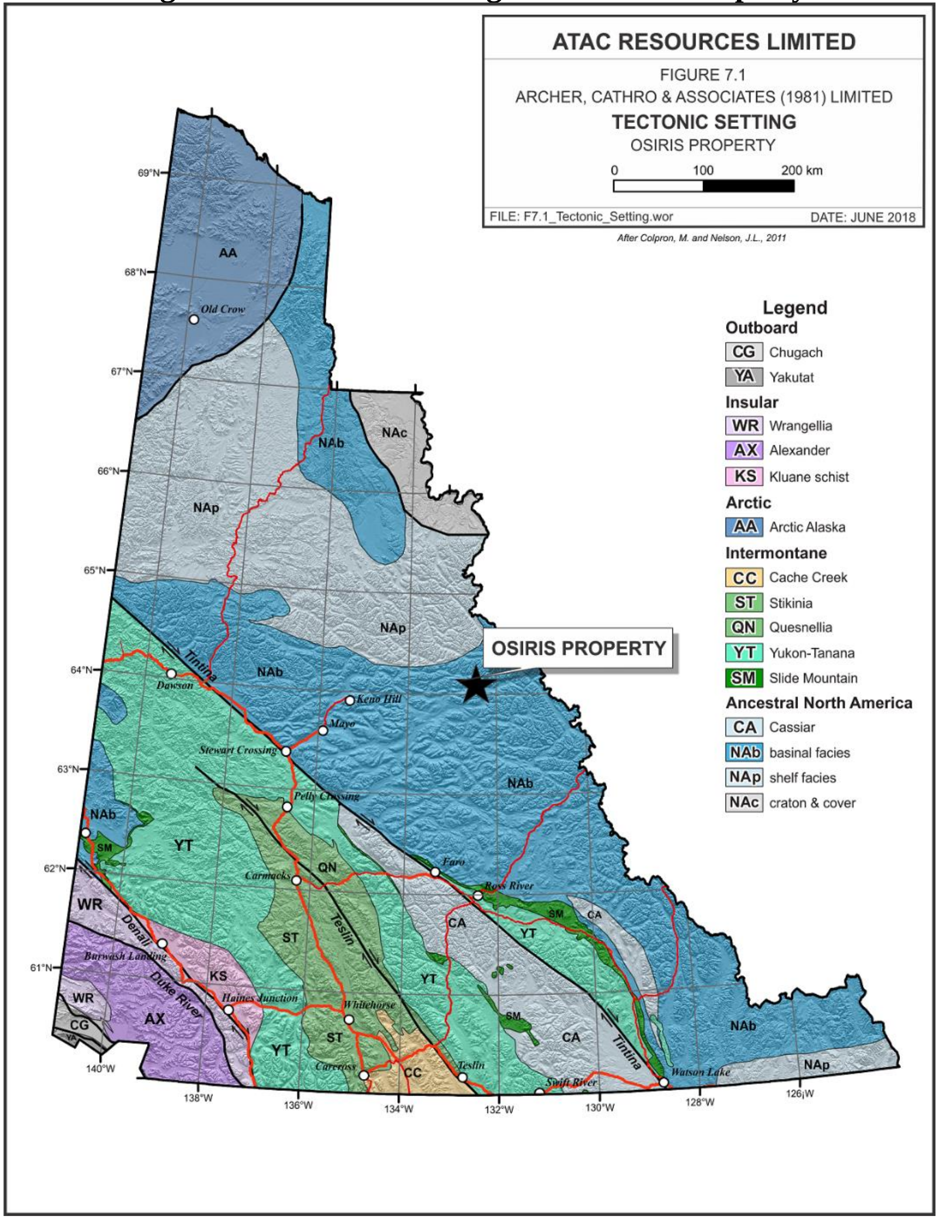
7.0 GEOLOGIC SETTING AND MINERALIZATION

The information presented in this section of the report is derived from multiple sources, as cited.

7.1 Regional Geology

The Osiris property is located in the east-central Yukon, a remote frontier region for which the bedrock geology is not well-defined. The broad geologic framework of the region is known, but details of the complex geologic setting are still being recognized and mapped. Following discovery of the gold deposits by ATAC along the Nadaleen Trend, geologists from the Geological Survey of Canada, Yukon Geological Survey and others have been actively working to refine understanding of the geology of this region. (Figure 7-1)

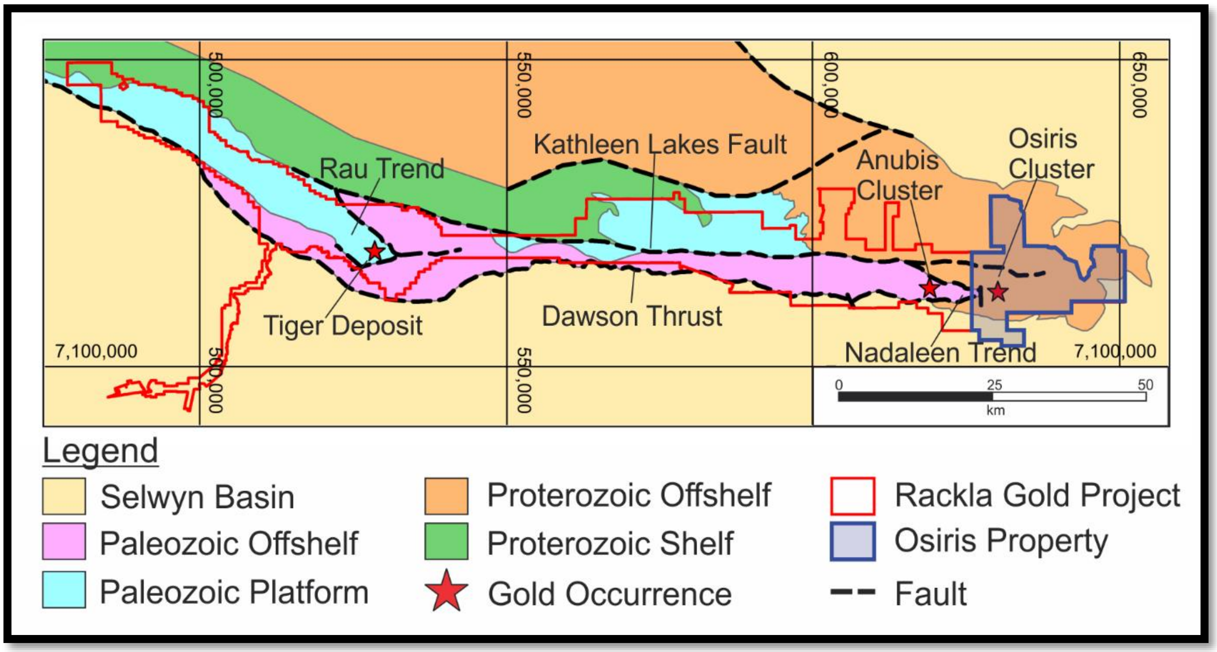
Figure 7-1 Tectonic Setting of the Osiris Property



The Geological Survey of Canada performed geological mapping in the vicinity of the Osiris Property at 1:250,000 scale in the early 1970s (Blusson, 1974). In 1999, the Geological Survey of Canada (Gordey and Makepeace, 1999) completed a compilation of Yukon-wide geology and updated the lithological units named in the Rackla area. The Yukon Geological Survey conducted mapping on the 106C/03 and 106C/04 1:50,000 map sheets in 2010 and 2011 (Colpron, 2012 and Chakungal and Bennett, 2010), completed map sheets 106D/01, 106C/01-04 in 2012 (Colpron et al., 2013), and extended coverage to the east in 2013 on map sheet 106B/04 (Moynihan, 2014). In early 2016 the Yukon Geological Survey released a revised bedrock geology map for Yukon that built upon the previous compilations (Colpron, et al., 2016).

The Osiris Property straddles the boundary between deep-water dominantly clastic rocks of the Selwyn Basin to the south and shallower-water shelf strata of the Ogilvie platform to the north (Colpron and Nelson, 2011). The Dawson Thrust Fault, which juxtaposes rocks of Selwyn Basin against rocks of Ogilvie Platform, is a crustal break that may date back to late Neoproterozoic rifting and was reactivated as a north-directed thrust in the Cretaceous (Macdonald et. al, 2011). The tectonic setting of the Osiris Property is shown in Figure 7-1, while regional relationships and the importance of the Dawson Fault system are presented in Figure 7-2.

Figure 7-2 Regional Relationships and the Importance of the Dawson Fault System



Recent mapping by the Yukon Geological Survey has refined the Proterozoic to Paleozoic sedimentary stratigraphy underlying the Nadaleen Trend. The Nadaleen Trend of mineralization is bound to the north by the Kathleen Lakes Fault and to the south by the Dawson Thrust Fault.

In the southern part of the property, Selwyn Basin strata in the hanging wall of the Dawson Thrust Fault consist of Neoproterozoic to Cambrian rocks of the Hyland Group, which is further subdivided into lower coarse-grained clastic sedimentary rocks of the Yusezyu Formation, carbonate rocks of the Algae Formation, and an upper mudstone comprising the Narchilla Formation (Gordey and Anderson, 1993;

Abbott, 1997; Roots, 2003). To the west of the Osiris project, rocks of the Selwyn Basin Hyland Group were thrust northward over Paleozoic platform shelf- and slope-facies rocks deposited along the southern edge of the Ogilvie platform (Figure 7-2).

In the Osiris area, the Dawson Thrust fault loses stratigraphic displacement, and coeval Neoproterozoic rocks of the Hyland Group and upper parts of the Windermere Supergroup are juxtaposed across the fault. The carbonate rocks of the Algae Formation and mudstone of the Narchilla Formation provide ties between the two successions; these formations are the lateral time-equivalent of the Risky and Ingta Formations of the MacKenzie Mountains (Moynihan, 2014 and Moynihan, 2016). Strata of the Windermere Supergroup include fine-grained clastic and carbonate sequences that can be correlated in part with strata described elsewhere in the Mackenzie Mountains (e.g., Narbonne and Aitken, 1995). In the Nadaleen area, Windermere strata beneath the Algae/Risky formation are assigned to the Nadaleen, Gametrail and Blueflower formations (Moynihan, 2014, Moynihan, 2016). A summary of these stratigraphic relationships is presented in Table 7-1.

Table 7-1 Proterozoic to Lower Cambrian Rocks along the Nadaleen Trend

REGIONAL LOCATION	AGE	REGIONAL UNIT NAME
North of Kathleen Lakes fault	Neoproterozoic	Windermere Supergoup and Rapitan Group stratigraphy.
Hanging wall (south) of Dawson Thrust fault.	Neoproterozoic to Cambrian	Hyland Group, Earn Group, with south eastern areas dominated by Gull Lake Formation and volcanic rocks of the Old Cabin Formation.
Between Kathleen Lakes and Dawson Thrust faults		Nadaleen and Blueflower Assemblages correlative with the uppermost portion of the Windermere Supergroup overlain by upper Hyland Group stratigraphy.

7.2 Property Geology

The Osiris property is located near the eastern end of the Dawson Thrust fault, where coeval siliciclastic and carbonate rocks of the upper Windermere Supergroup and Hyland Group are juxtaposed, and where Paleozoic platform to slope-facies carbonate rocks are no longer present (Figure 7-2; Colpron et al., 2013). The Osiris cluster of gold deposits occurs mostly within Windermere rocks.

ATAC geologists have determined a more detailed stratigraphy specific to the project area. The bedrock geology of the Osiris property is shown on Figure 7-3. A stratigraphic section illustrating the relationships between the mapped units is shown on Figure 7-4.

Figure 7-3 Bedrock Geology of the Osiris Property

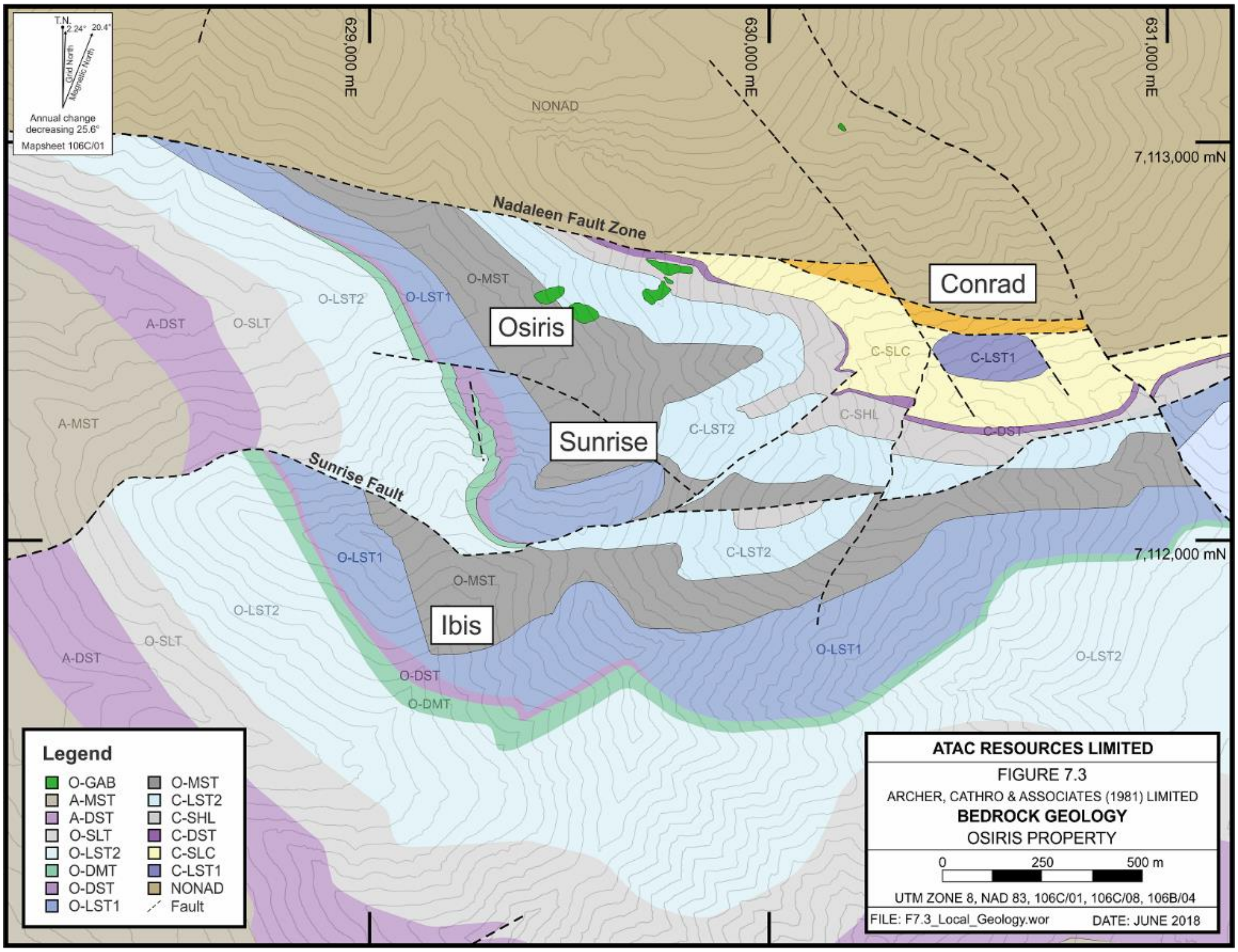
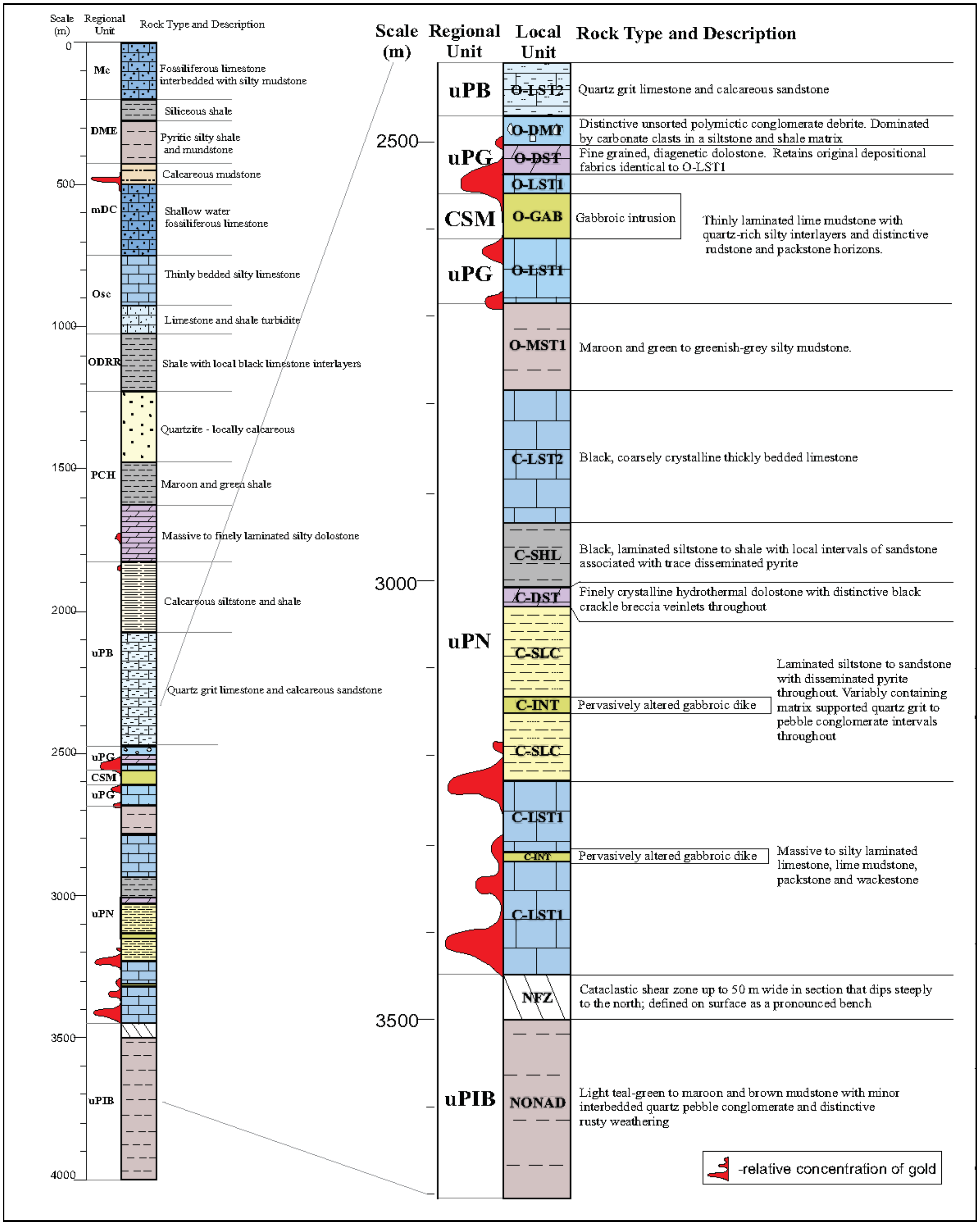


Figure 7-4 Stratigraphy of the Osiris Project



7.1.2 Stratigraphy

The bedrock geology of the Osiris property consists of a southward and westward-younging sequence of Neoproterozoic to Cambrian slope-facies rocks that are part of the Windermere Supergroup. The local geological units, as described in Table 7-2 and shown in the stratigraphic column (Figure 7-4), have been correlated with the more regional formations and map units of Colpron et al. (2013) and Moynihan (2016).

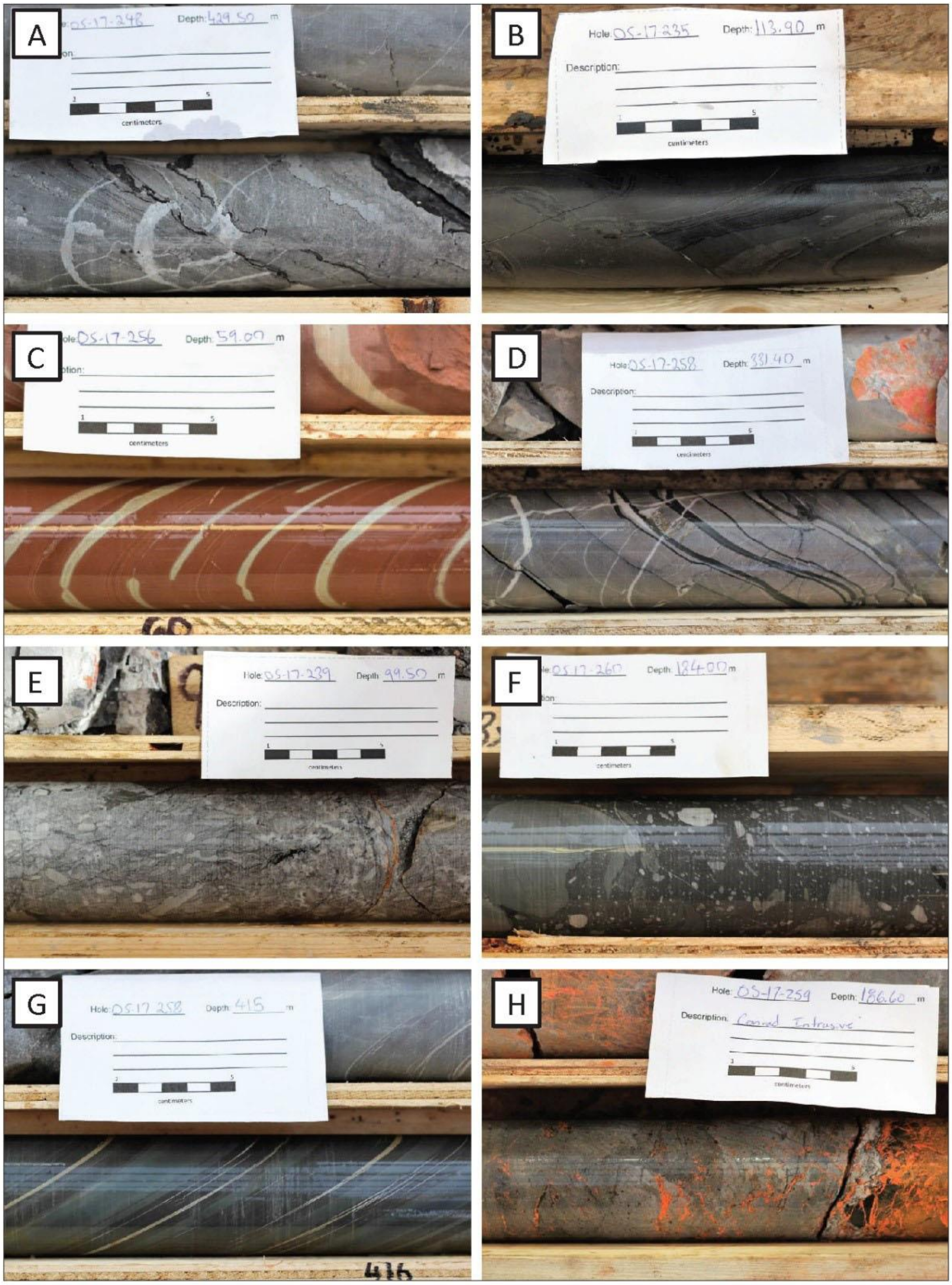
Two distinct intrusive rock units have been identified in the Osiris area, known as the Osiris Gabbro, dated at 465.6 ± 4.4Ma (Tucker, 2015), and the Conrad gabbroic dikes, dated at 74.4 ±1Ma (Tucker, 2015). Both units show little evidence of deformation. Both experienced hydrothermal alteration and are variably mineralized, indicating that they are pre-mineral in age. However, because there are so few dikes and even fewer drill intersections of mineralized dikes, the exact relationship of dikes and mineralization is not fully understood, and the resource model projected mineralized rocks across where the dikes were projected as if they had no influence on the mineralization.

Photographs of representative rock types are shown in Figure 7-5.

Table 7-2 Local Geological Units

***NONAD*:**	*The North of Nadaleen mudstone is part of the upper Ice Brook Formation and is a light teal green to maroon and brown mudstone with minor interbedded quartz pebble conglomerate. The mudstone displays distinctive rusty brown weathering.*
C-LST1:	*The Conrad limestone 1 is part of the lower Nadaleen Formation and is a light grey, silty laminated clastic limestone with cone in cone and beef calcite, and wispy fine quartz sand layers (Fig. 7-5A).*
C-SLC:	*The Conrad siliciclastic unit is part of the Nadaleen Formation and is a grey-green pyritic siltstone and mudstone, poorly sorted matrix-supported quartz pebble conglomerate with lesser grey, well sorted, weakly calcareous sandstone. The conglomerate, informally referred to as 'starry night', consists of rounded quartz pebbles floating in a mix of sand and silt with occasional larger clasts that appear to be rip up clasts of matrix material (Fig. 7-5B).*
C- DST:	*The Conrad dolostone is part of the Nadaleen Formation and is a finely crystalline hydrothermal dolostone with distinct black crackle breccia veinlets in the Conrad area. Further to the west, nearer to the Nadaleen fault, it is a non- to partially-dolomitzied limestone.*
C-SHL:	*The Conrad shale is part of the Nadaleen Formation and is a black, laminated siltstone to shale with local intervals of sandstone associated with trace disseminated pyrite.*
C-LST2:	*The Conrad limestone 2 is part of the Nadaleen Formation and is a dark, crystalline lime mudstone, calc-arenite, and lensoidal pebble to boulder conglomerates. It is interpreted as debris flows with lesser interbedded siltstone and grey to black shale. Clast composition of the conglomerate is dominated by limestone and lesser dolostone.*
O-MST:	*The Osiris mudstone is part of the upper Nadaleen Formation and is a finely laminated maroon and green to greenish grey siltstone. This unit can be subdivided into an overlying maroon and grey siltstone (Fig. 7-5C). green siltstone and a lower greenish*
O-LST1:	*The Osiris limestone 1 is part of the lower Gametrail Formation and is a well bedded, tan and grey limestone with primary sedimentary structures. Monolithic, intraclast rudstone layers, averaging 0.5 - 2m thick, are common throughout the unit. They consist of randomly oriented to imbricated, tabular to equant clasts in a carbonate mudstone matrix. Clast composition is almost exclusively the same as the enclosing carbonate mudstones (Fig. 7-5D)*
O-DST:	*The Osiris dolostone is part of the middle Gametrail Formation and is a fine-grained diagenetic dolostone. The dolostone retains many of the original depositional fabrics identical to O-LST1 (see above for further description) (Fig. 7-5E).*
O-DMT:	*The Osiris diamictite is part of the upper Gametrail Formation and is a limestone pebble to boulder conglomerate, predominantly matrix supported debrites. Clasts vary from centimetre- to metre-scale and comprise limestone that is similar to O-LST1. Matrix composition is variable comprising non to weakly calcareous green siltstone and shale and/or crystalline limestone. The bottom of the unit is consistently marked with a non-calcareous siltstone horizon that is approximately 5m in true thickness (Fig. 7-5F).*
O-LST2:	*The Osiris limestone 2 is part of the lower Blueflower Formation and is a very dark grey-black, coarsely crystalline limestone. The base of the unit is often associated with beds of polymict floatstone containing clasts of orange-weathering dolostone, limestone, rounded quartz pebbles and minor shale (Fig. 7-5G).*
O-GAB:	*The 465.6 ± 4.4Ma (Tucker, 2015) Osiris gabbro has a slight rusty coating on weathered surfaces and dark grey-green on fresh surfaces. The gabbro is composed of medium to coarse grained amphibole, plagioclase and clinopyroxene.*
C-INT:	*The 74.4 ± 1Ma (Tucker, 2015) Conrad gabbroic dikes dip approximately 60° to the north, two sub-parallel dikes trend roughly east-west and are up to 20m in true thickness. The dikes are generally competent in drill core, pale beige grey in colour and pervasively altered. The gabbro dikes are composed of coarse plagioclase, clinopyroxene and abundant secondary carbonate and pyrite (Fig. 5H).*

Figure 7-5 Photographs of Representative Rock Types



*Representative rock samples from the Osiris cluster from oldest to youngest: (**A**) C-LST1; (**B**) C-SLC; (**C**) O-MST1; (**D**) O-LST1; (**E**) O-DST with typical debrite textures; (**F**) O-DMT; (**G**) O-LST2; and (**H**) C-INT.*

7.1.3 Structure

Structure imparts a significant control on the distribution of gold mineralization at the Osiris property with folding and faulting controlling the distribution and form of favorable host-rock units, and faults acting as conduits for the flow of mineralizing hydrothermal fluids.

It is believed that the Nadaleen Trend underwent extensive deformation as part of a Mesozoic fold and thrust event, followed by a transition into a probable strike-slip regime. Two major regional fault structures transect the property: the Dawson Thrust and the Kathleen Lakes Faults (Figure 7-2). The Dawson Thrust, historically described as defining the northern edge of Selwyn basin, placed Precambrian slope and basin sedimentary rocks over Paleozoic shelf carbonates during a Jurassic to Cretaceous compressional tectonic event. This fault is likely a much older structure, possibly dating back to Precambrian rifting, which was reactivated during the later compressional regime.

The local structure at the Osiris cluster of gold deposits is generally characterized by steep homoclinal bedding with monoclines and isolated macroscopic (hundreds of metres in scale or larger) folds (Steiner et al. 2017). Carbonate units are folded on the mesoscopic and macroscopic scale with only minor development of any associated cleavage and without many smaller-scale folds. Less competent argillaceous units accommodate deformation through widespread folding and pervasive cleavage development.

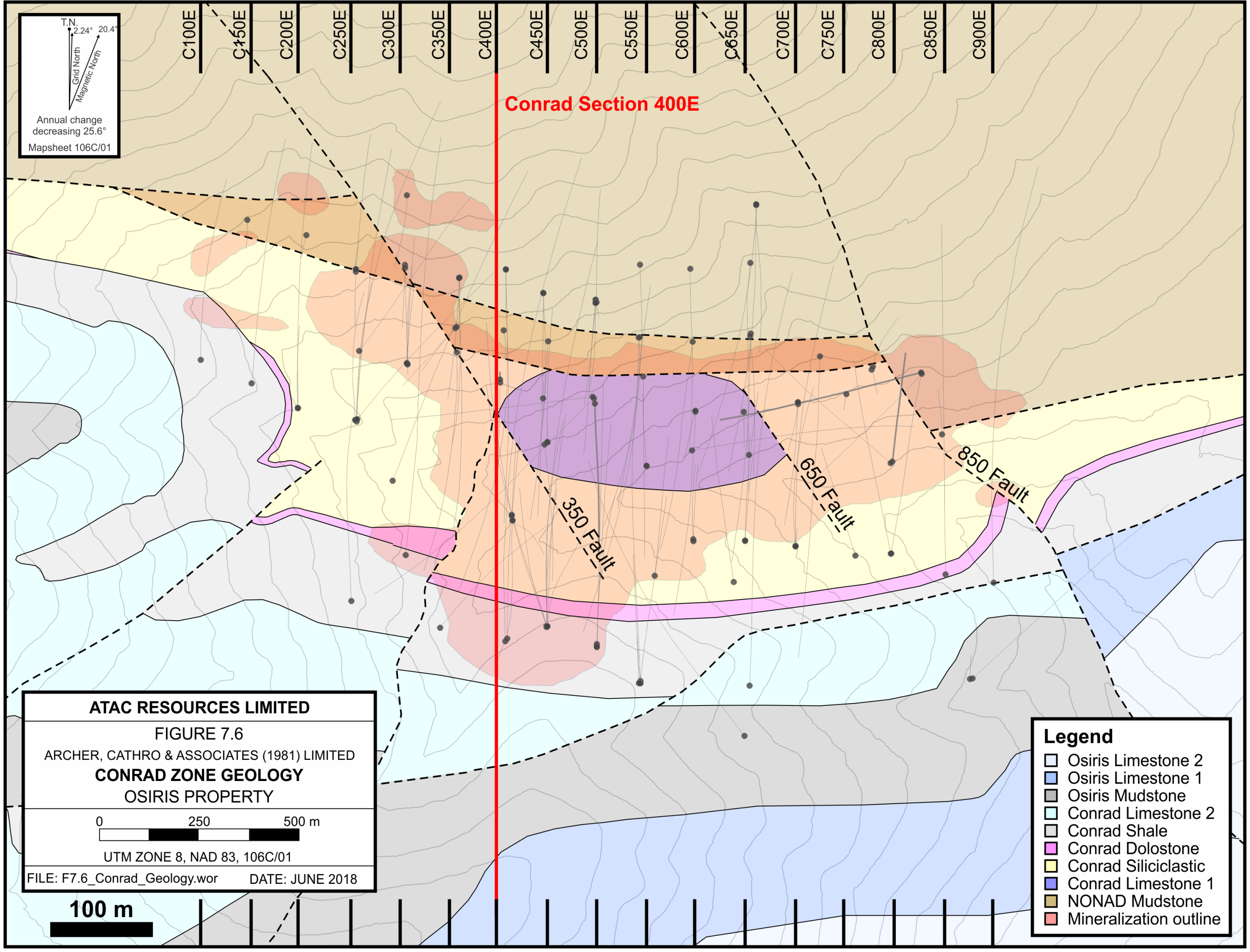
Two phases of mesoscopic to macroscopic folding have affected the rocks in the Osiris area (Steiner et al., 2017). The most prominent folds are the Osiris antiform-synform fold pair and the West Conrad anticline being the most prominent examples (Figure 7-3). These folds have steep to moderate southerly plunge and steep to moderately southeast-dipping axial planes.

The Osiris area is cut by significant faults that strike generally east-west or southeast-northwest. The largest fault in terms of lateral extent is the Nadaleen fault, which can be traced at least 16km to the west of Osiris. The fault has a net reverse displacement. Drilling in the Conrad zone has constrained the fault to dip 60° to the north and has defined a thick brittle shear zone, known as the Nadaleen fault zone. This is a zone of sheared cataclasite up to 60m thick, which occurs approximately between the 350 and 650 faults (Figure 7-6). The Nadaleen fault is not folded and is interpreted to cut all folds.

The other large fault in the area is the Sunrise fault, which is an east-west-striking fault that cuts through the cluster of gold deposits. Drilling indicates that the Sunrise fault generally dips to the south at ~70°, although this dip changes along strike. Correlation of stratigraphy and folds across the fault constrains net displacement of the fault to have been oblique with a dextral-reverse sense. Sunrise gold mineralization forms a plane that is subparallel to the Sunrise fault but is offset ~50m north in the footwall. Drill core through the Osiris fault and the Sunrise gold mineralization define a continuous brittle shear zone suggesting that Sunrise mineralization may be a zone of high-permeability that focused the flow of mineralizing fluid.

The other dominant orientation of faults in the area is represented by the NW-striking 350, 650 and 850 faults in the Conrad deposit area (Figure 7-6). All three of these faults are associated with higher grades of gold mineralization and are hypothesized to be potential fluid conduits during mineralization. The 350 fault has a dextral strike-slip separation in map view, while the 650 and 850 faults have apparent normal offset down to the east.

Figure 7-6 Conrad Geology



7.1.4 Alteration and Mineralization

The gold deposits on the Osiris property can be described as carbonate-rock-hosted, disseminated, epithermal gold deposits, or Carlin-type gold deposits. Gold mineralization at Osiris is typical Carlin-type epithermal gold mineralization (Section 8.0). Mineralization occurs as replacement bodies with both structural and stratigraphic control. Zones of mineralization are frequently stratabound within favorable stratigraphic layers. Although the different mineral zones vary in detail, they all share common important attributes:

- Mineralization occurs as replacement bodies with strong stratigraphic control.
- Deposits are preferentially hosted in carbonate rocks, particularly silty limestone.
- Deposits frequently occur along or near faults and fault zones, particularly where these zones cut favorable host carbonate rock.
- Deposits are intimately associated with host-rock alteration characterized by decarbonatization, argillization, silicification and sulfidation that results in the formation of gold-bearing arsenian pyrite.
- Deposits have elevated geochemical concentrations of Au-As-Sb-Hg-Tl.
- Gold occurs as a chemical impurity in exceedingly fine-grained arsenian pyrite, which is disseminated through the replaced rock.

The Osiris deposits are dominantly hosted in impure carbonate rocks, particularly silty limestone and along contacts between limestone and dolomite. Where these host units have been folded or faulted, the form of mineralization reflects the geometry of the favorable host rock.

Mineralization and host-rock alteration are intimately associated. The hydrothermal fluids which introduced the gold also altered the rock. The volume of altered rock is greater than that of mineralization, and it is likely that gold was introduced into the system during a limited time interval within a more protracted period of hydrothermal activity. Images of representative alteration and mineralization are shown in Figure 7-7.

The primary style of alteration associated with these deposits is dissolution of carbonate minerals or decarbonatization of the host limestone or silty limestone. Large volumes of calcite were removed by dissolution, leaving behind a residue of insoluble material. Where decarbonatization is incomplete or concentrated along fractures, rocks are traced by stylolites. Where the process went to completion, what remains of the original limestone is a black sooty friable residue. The sooty material in this intensely altered rock is typically a mixture of detrital quartz and clay grains, very-fine-grained arsenian pyrite and carbonaceous material. Because decarbonatization involves significant volume loss, the altered and surrounding rock commonly exhibits collapse brecciation.

Aluminosilicate minerals, such as detrital feldspar in host sedimentary rocks or feldspar minerals in intrusive dikes, were altered to clay minerals in the process of argillization. The dominant clay minerals are illite, smectite and mixed-layer illite-smectite.

Decarbonatization of host limestone is frequently accompanied by replacement of carbonate minerals by silica minerals, or silicification. Quartz in silicified and mineralized zones is typically black with a distinct sugary texture. Quartz can be abundant in mineralized area, locally up to 95% by volume. Quartz crystals vary in form from euhedral to anhedral and are typically very fine-grained. Because silicification often occurred somewhat after decarbonatization, silicification can replace and preserve the broken textures of collapse breccia.

Two generations of pyrite are recognized in the deposits: pre-mineral diagenetic pyrite present in the host rocks and hydrothermal pyrite formed during the hydrothermal process by sulfidation of reactive iron in the host rocks. Pre-mineralization pyrite may be concentrated within the insoluble residue along stylolites. These pyrite crystals are very small (<0.5mm), occurring as very small framboids, euhedral crystals, or anhedral grains and masses. Pyrite content within mineralized zones can be around 5-10%. However, because this pyrite is extremely fine-grained, it may not be visible to the eye, even with the use of a loupe. Most of the gold in these deposits is contained as an elemental impurity within secondary hydrothermal arsenian pyrite. Arsenian pyrite may occur as overgrowth rims on early pre-mineral pyrite or disseminated as crystals of arsenian pyrite <~10μ in diameter.

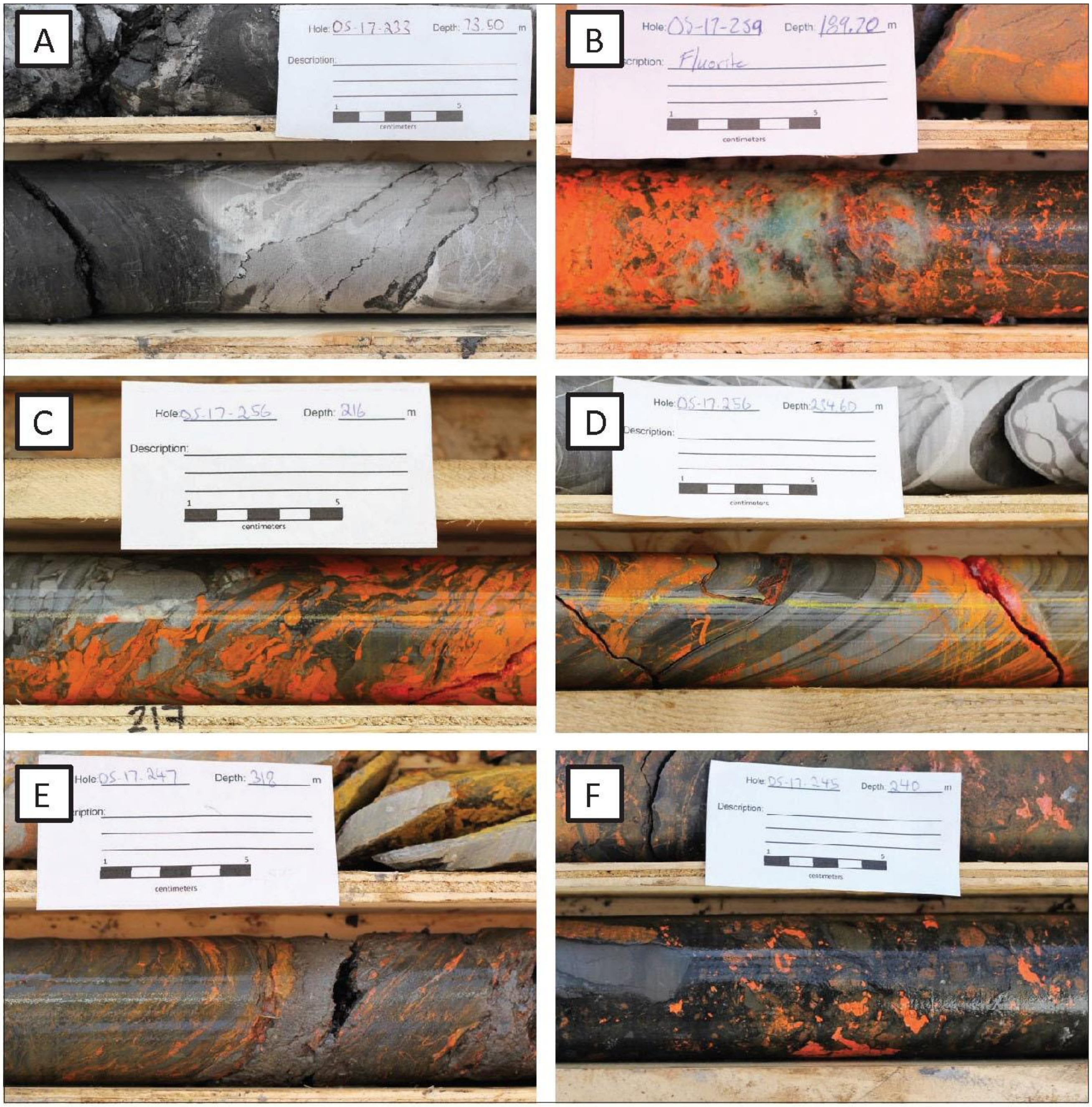
Deposition of the arsenic sulfides realgar and orpiment occurs late in the sequence of mineralization. These minerals occur within late veins or filling open space in the rock mass. Realgar and orpiment are good guides to gold mineralization, however there is considerable spatial variability in this association.

Hydrothermal decarbonatization of large volumes of rock removed a great amount of calcite in solution from the deposit. As the exhaust fluids streamed away from the area of alteration and cooled, much of the calcite was redeposited as a surrounding halo of barren white fracture-filling calcite veins. As the hydrothermal system heated and expanded, then cooled and collapsed with time, the shell of calcite veins likewise expanded then contracted. Pre-, syn- and post-mineralization calcite veining is present in the deposits. Veins containing calcite, realgar and orpiment are common and generally post-date the gold mineralization.

Stibnite and fluorite are common accessory minerals within the deposits. No consistent spatial or temporal association with gold is recognized.

The age of gold mineralization is not exactly known. Best evidence suggests the age to be constrained by pre-mineral mafic dikes dated at 74.4 ± 1Ma and thermally reset apatite fission tracks dated at ~42Ma (Tucker, 2015). The gold mineralization is much younger than the host Neoproterozoic host rocks. There are no intrusive bodies with ages in this time interval known in the immediate vicinity of the mineralization. The small granitic Rackla pluton lies about 100km to the west. It has associated aplite dikes and pegmatites that have yielded 40Ar/39Ar muscovite ages of 62.3 ± 0.7Ma, 62.4 ± 1.8Ma, 59.1 ± 2.0Ma (Kingston et al. 2011) and 62.9 ± 0.5Ma (Thiessen et al., 2009).

Figure 7-7 Representative Alteration and Mineralization Styles from the Osiris Cluster



Representative alteration and mineralization styles from the Osiris cluster. **(A)** *Black decarbonatization, silicification and stylolitic seams of C-LST1;* **(B)** *Massive realgar, fluorite and decarbonatization and silicification of C-LST1;* **(C)** *realgar preferentially replacing debrite in O-LST1;* **(D)** *realgar intruding along joint and preferentially replacing limestone beds in O-LST1;* **(E)** *sheared, decarbonatized, silicified and patchy realgar replacement of O-LST1 with black sooty seams; and* **(F)** *decarbonatization, silicification, brecciation and preferential realgar replacement of C-LST1.*

7.1.5 Deposits

Drilling has encountered six defined zones of gold mineralization at the Osiris property (Table 7-3), four of which have defined and estimated resources. The contained gold resources occur at the Conrad, Osiris, Sunrise and Ibis zones (Figure 7-3).

Table 7-3 Summary of Known Mineralized Zones within the Osiris Property

Mineralized Zone	Year Discovered	Main Host Units	Comments
Osiris	2010	O-LST1, O-DST	Original location of stratabound Carlin-type mineralization discovered by prospecting.
Conrad	2010	O-LST1, O-SLC	Located 800m northeast of Osiris. Discovered during prospecting, the Conrad Zone is the most advanced Carlin-type gold zone and has been traced over a total strike length of 800m. It remains open at depth and along strike.
Ibis	2011	O-LST1, O-DST	Encouraging near-surface gold mineralization, located directly south of Osiris, discovered while following up a gold-in-soil anomaly.
Sunrise	2012	O-LST1	Structurally controlled gold mineralization, hosted within the same unit as Osiris, discovered during road building directly east of Osiris.
Atum	2010	A-DST	A large gold-in-soil anomaly 600m west of Osiris. Grab samples returned elevated gold, including a peak value of 28.9 g Au/t.
Amon	2010	A-DST	A strong arsenic-in-soil anomaly located 1,100m northwest of Atum

The forms of the deposits reflect the geometry of the host stratigraphy and the structural framework of the particular deposit. The factors which controlled the distribution of gold were permeability and porosity: the deposits record the paleopermeability of the rock mass at the time of mineralization. Open faults and fractures focused the flow of hydrothermal fluids, which permeated and reacted with the porous, soluble, and reactive iron-bearing impure carbonate strata. Within siliciclastic rocks, mineralization generally does not extend beyond the limits of the broken zone which focused the mineralizing fluid.

7.1.5.1 Conrad

Gold mineralization in the Conrad deposit in general wraps around the upper culmination of a body of Conrad limestone (Figure 7-6). The dominant control on mineralization appears to be stratigraphy, with stratabound zones of mineralization following specific beds in both the Conrad limestone and the overlying Conrad siliciclastic unit.

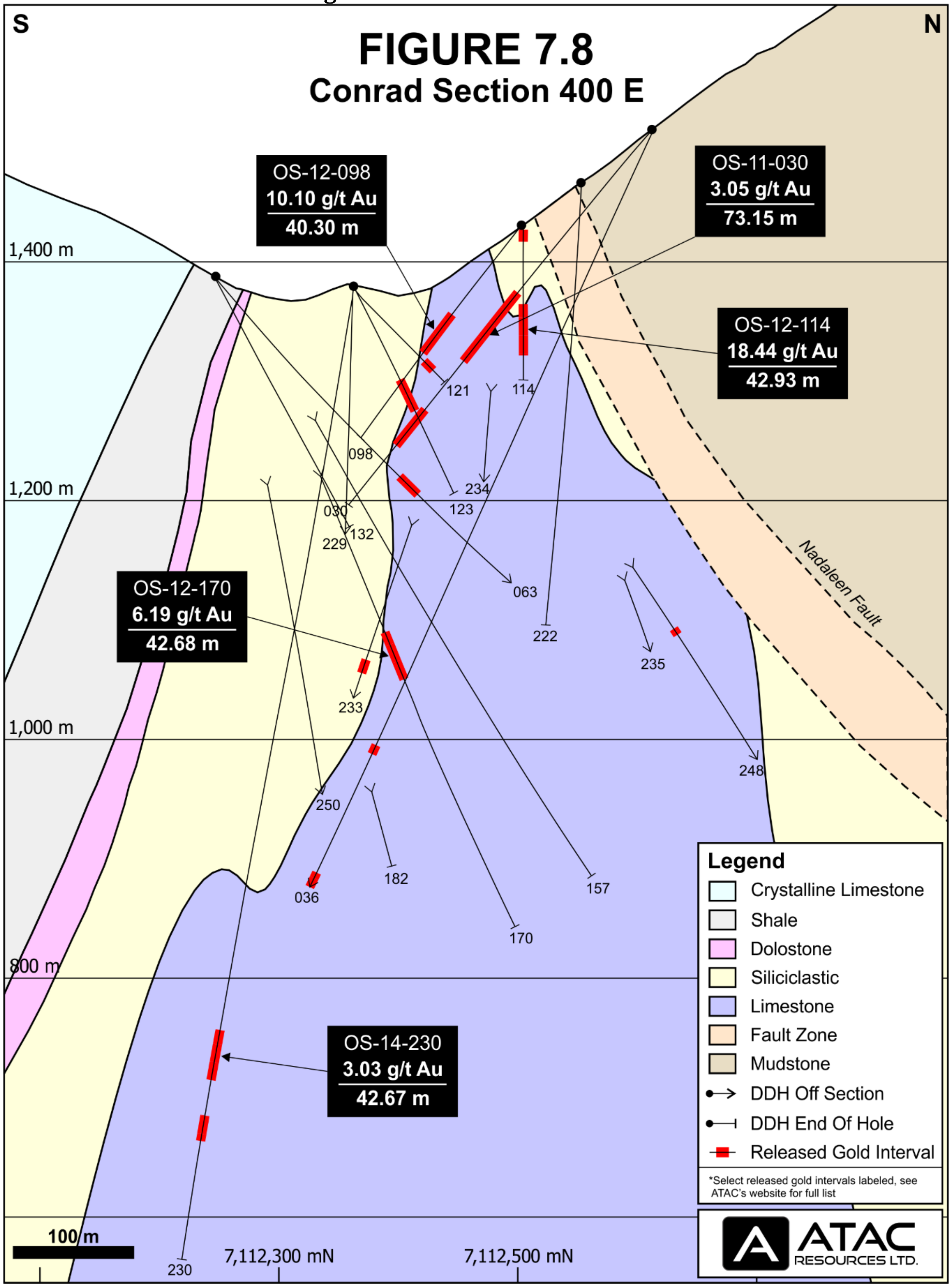
There remains some uncertainty whether the Conrad limestone is the core of an upright anticline, doubly-plunging both to the east and to the west, with a subvertical east-striking axial plane, or whether the entire mass of Conrad limestone is an olistostrome and that its geometry is primarily a function of its emplacement morphology (Steiner et al., 2018). In map view, it is apparent that some of the highest gold grades are localized along the northwest-striking high-angle 650 and 850 faults (Figure 7-6). In the Conrad deposit, gold mineralization favors receptive stratigraphy, with broader dissemination in the upper part of the favorable host unit, and the highest grades localized along a few faults that may have served as fluid conduits.

Mineralized areas at Conrad have been categorized as an Upper Zone, and a Lower Zone. Mineralization within these zones is primarily hosted in a silty limestone unit (C-LST1) however, it also occurs within a pyritic siltstone assemblage (C-SLC). A representative cross section through the Conrad deposit is shown in Figure 7-8. The best interval obtained from this zone to date was from OS-12-114, which yielded 18.44g Au/t over 42.93m.

To date, much of the drilling has focused on the Upper Zone. Mineralization in the Conrad Upper Zone occurs along the stratigraphic contact between limestone and the overlying pyritic siltstone cap unit. The Upper Zone has been continuously traced by shallow drilling over a strike length of approximately 800m between sections C100E and C900E.

At the Conrad Lower Zone, mineralization occurs in proximity to a laterally extensive, near-vertical siltstone/limestone contact, on the south limb of the east-west-trending, doubly-plunging anticline mentioned above. Mineralization has only been tested laterally for 400m and is defined to a depth of 800m by a single hole. The potential for deeper areas of similar mineralization is high and remains untested.

Figure 7-8 Conrad Section 400E



7.1.5.2 Sunrise

The Sunrise Zone is located 300m east of the Osiris anticline hinge zone. Mineralization at Sunrise has been traced over a strike length of 400m and to a depth of 375m. It occurs as sub-parallel tabular bodies that dip steeply south (Figure 7-9). The mineralization is hosted within the O-LST1 unit associated with a series of sub-parallel fracture zones developed as a result of a steeply south dipping fault. The discovery hole (OS-12-173) was collared directly within mineralization and returned 14.86m of 10.54g Au/t. The best intersection from this zone, 13.52g Au/t over 15.24m, came from OS-17-249. Figure 7-10 is a representative cross section through the Sunrise deposit.

The distribution of gold mineralization in the Sunrise Zone is distinctly planar, offset about 50m from the Sunrise fault within Osiris limestone and paralleling the contact between the Osiris limestone and a dolomite.

Figure 7-9 Sunrise and Osiris Geology

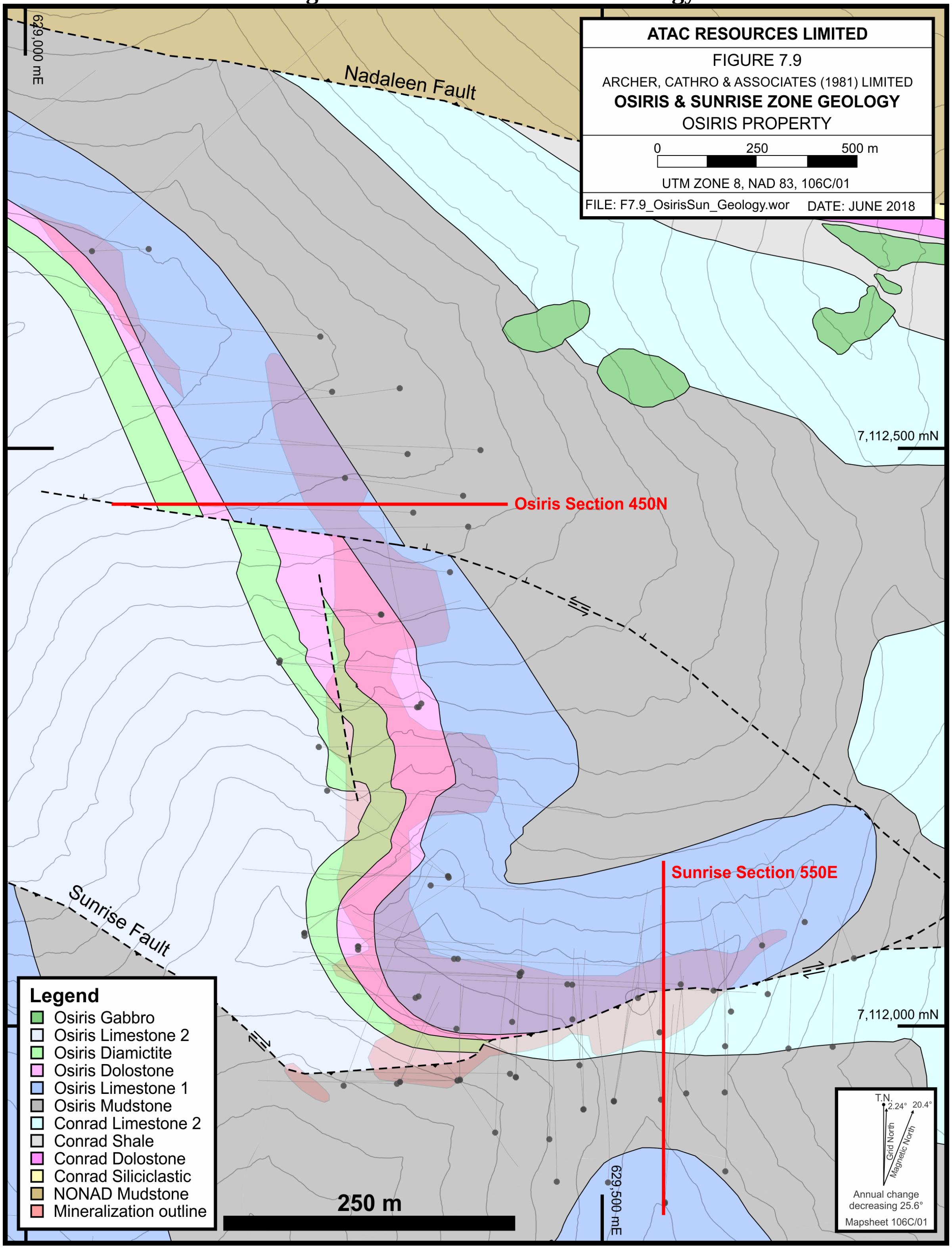
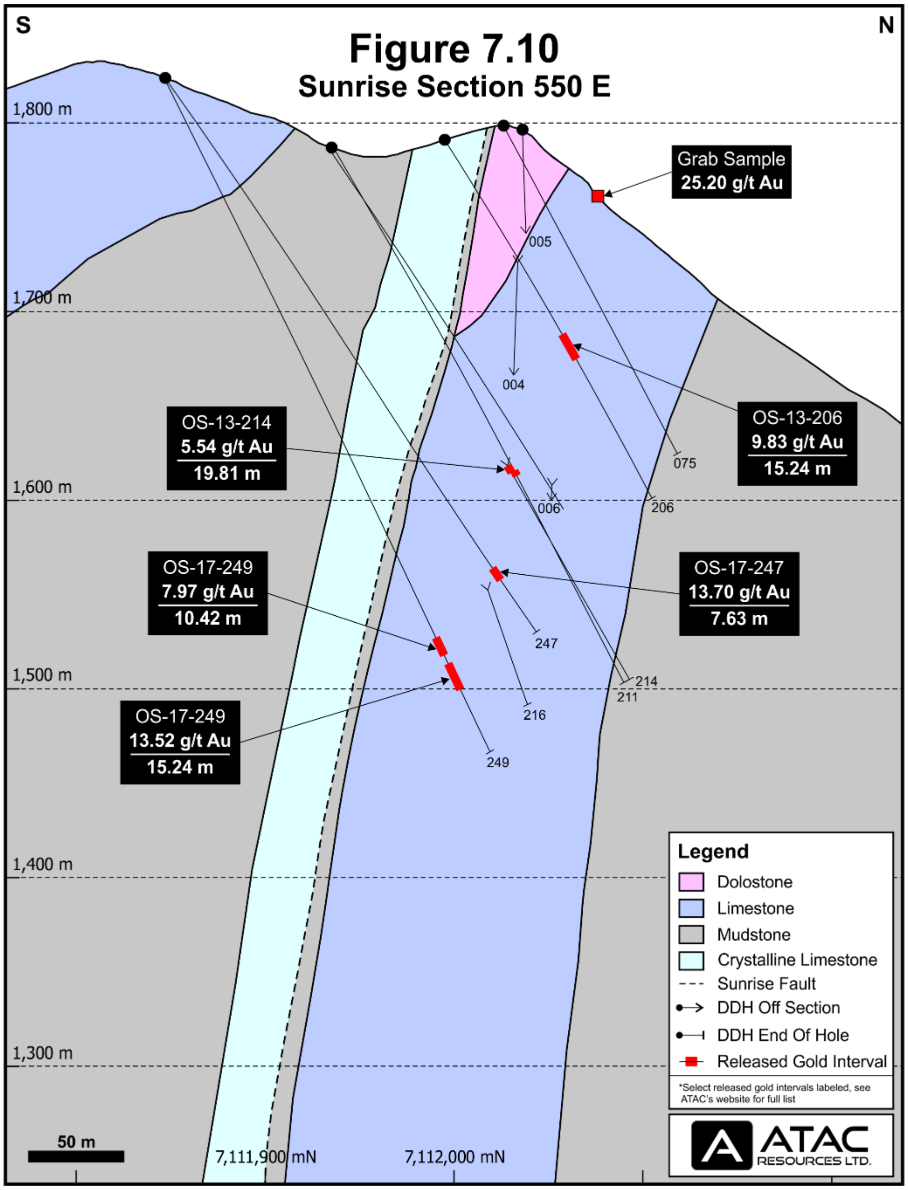


Figure 7-10 Schematic Cross Section of the Sunrise Zone



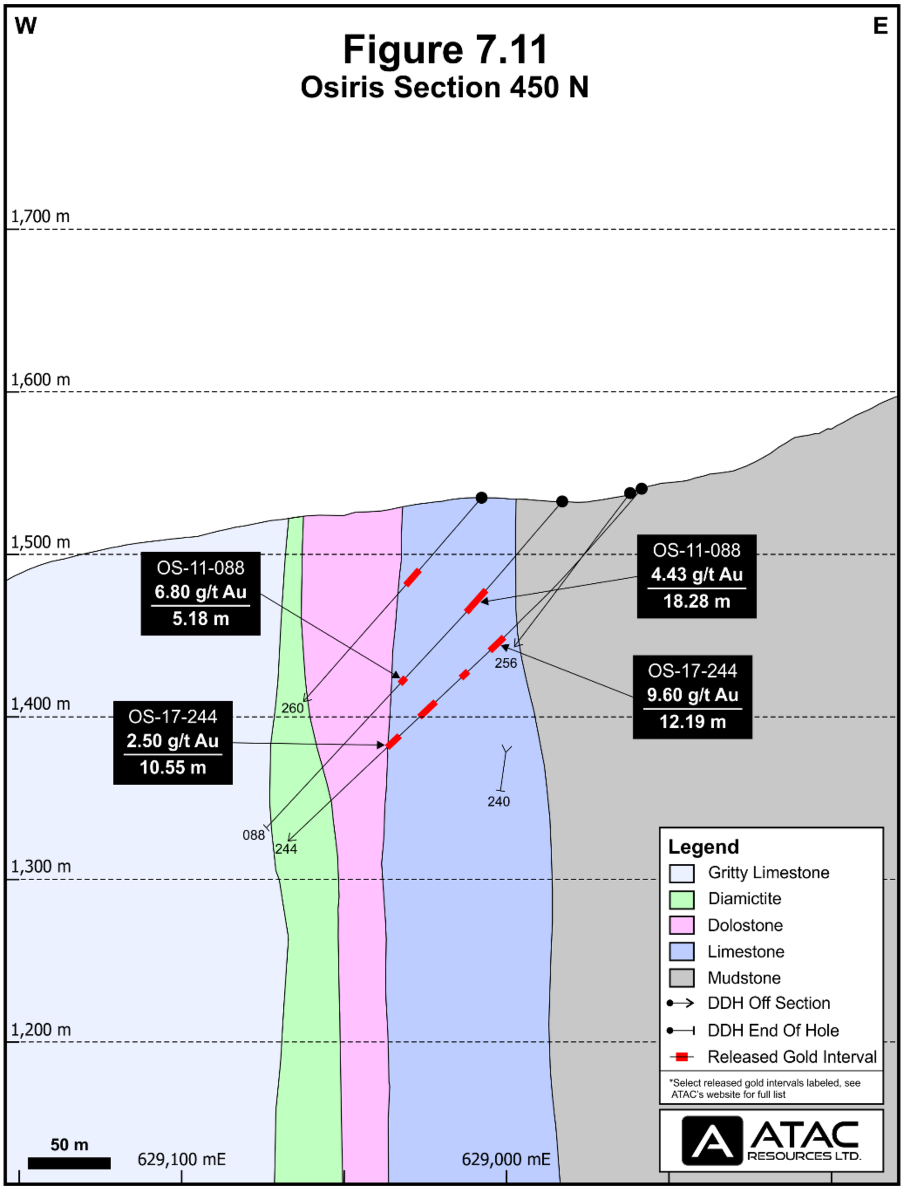
7.1.5.3 Osiris

The Osiris Zone occurs within the same stratigraphic location as Sunrise within the Osiris limestone and paralleling the contact with the dolomite. The host rocks are the same but they are the north limb of the same fold. Osiris does not have a parallel fault.

The Osiris Zone lies between the Conrad and Ibis zones (Figure 7-3) and, similar to both, gold mineralization is best developed in the crest of an anticline fold. Drilling has also outlined stratabound gold mineralization over a 900m unfolded strike length along the hinge and both limbs of the fold. Gold mineralization is hosted primarily within two units: a silty, debrite-bearing limestone unit (O-LST1) and a diagenetic and locally hydrothermally altered dolostone (O-DST). Figure 7-11 is a cross section through the Osiris deposit.

Mineralization at the Osiris Zone most commonly occurs at or near the contact between the O-LST1 and overlying O-DST units, but becomes pronounced where various other structural elements are present. Higher grade drill intersections are located in the hinge area where drill hole OS-10-001 intersected 65.20m of 4.65g Au/t. Strong exploration potential exists on the west limb of Osiris towards the north where only wide-spaced shallow intersections have been drilled.

Figure 7-11 Schematic Cross Section of the Osiris Zone



7.1.5.4 Ibis

The Ibis Zone occurs within the same stratigraphic location as Osiris and is very similar to it. The gold mineralization occurs in the Osiris limestone and paralleling the contact with the dolomite.

The Ibis Zone is located 500m south of the Osiris Zone (Figure 7-3). Drilling has outlined stratabound gold mineralization localized in the crest of an anticlinal fold at or near the favourable contact between a locally hydrothermally altered dolostone (O-DST) and underlying debrite-bearing silty limestone (O-LST1) (Figure 7-12). Mineralization near this contact has been traced over an unfolded strike length of 200m and to a depth of over 300m. The best interval from the Ibis Zone came from OS-12-012, which graded 6.28g Au/t over 27.43m. Figure 7-13 is a cross section through the Ibis deposit.

Figure 7-12 Ibis Zone Geology

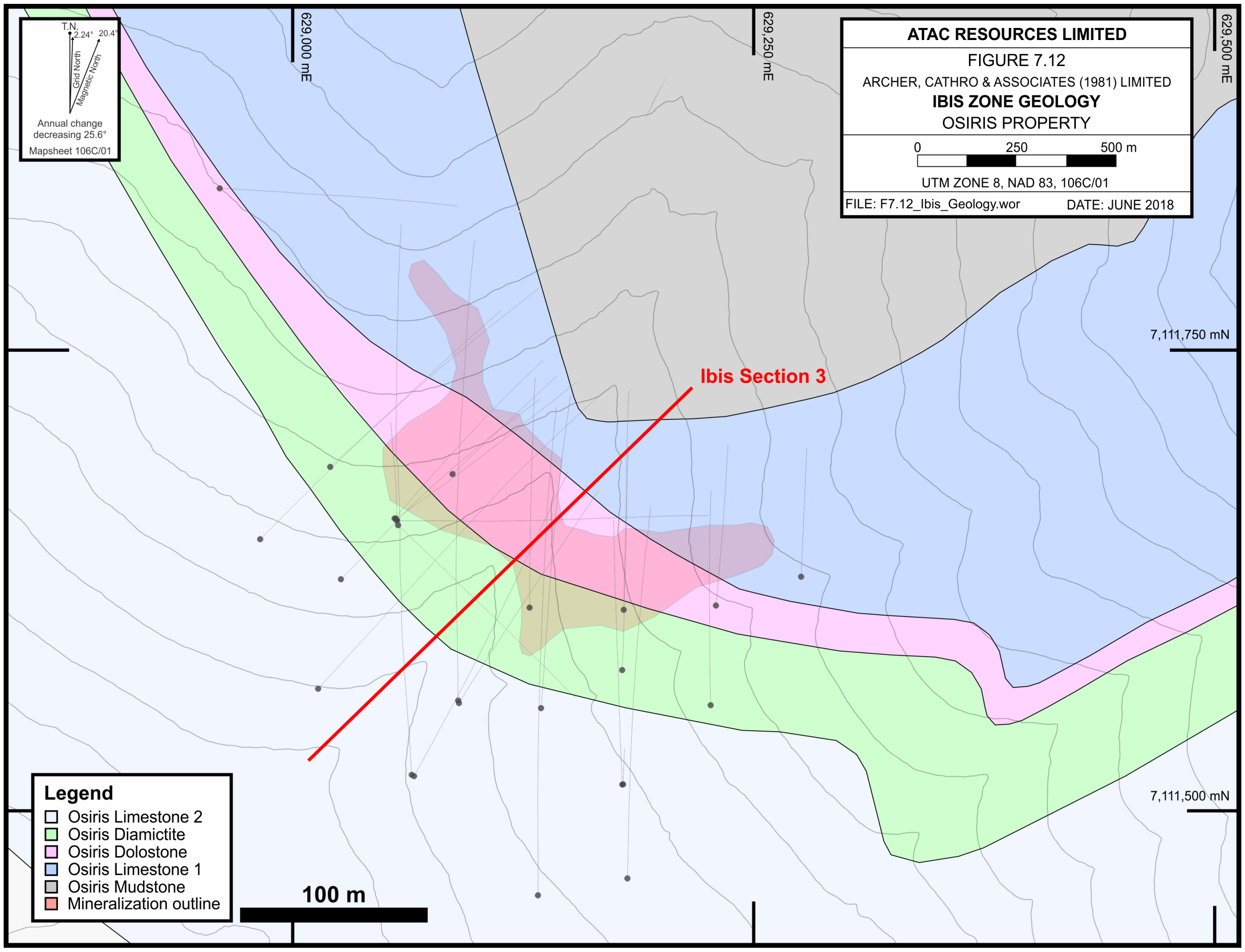
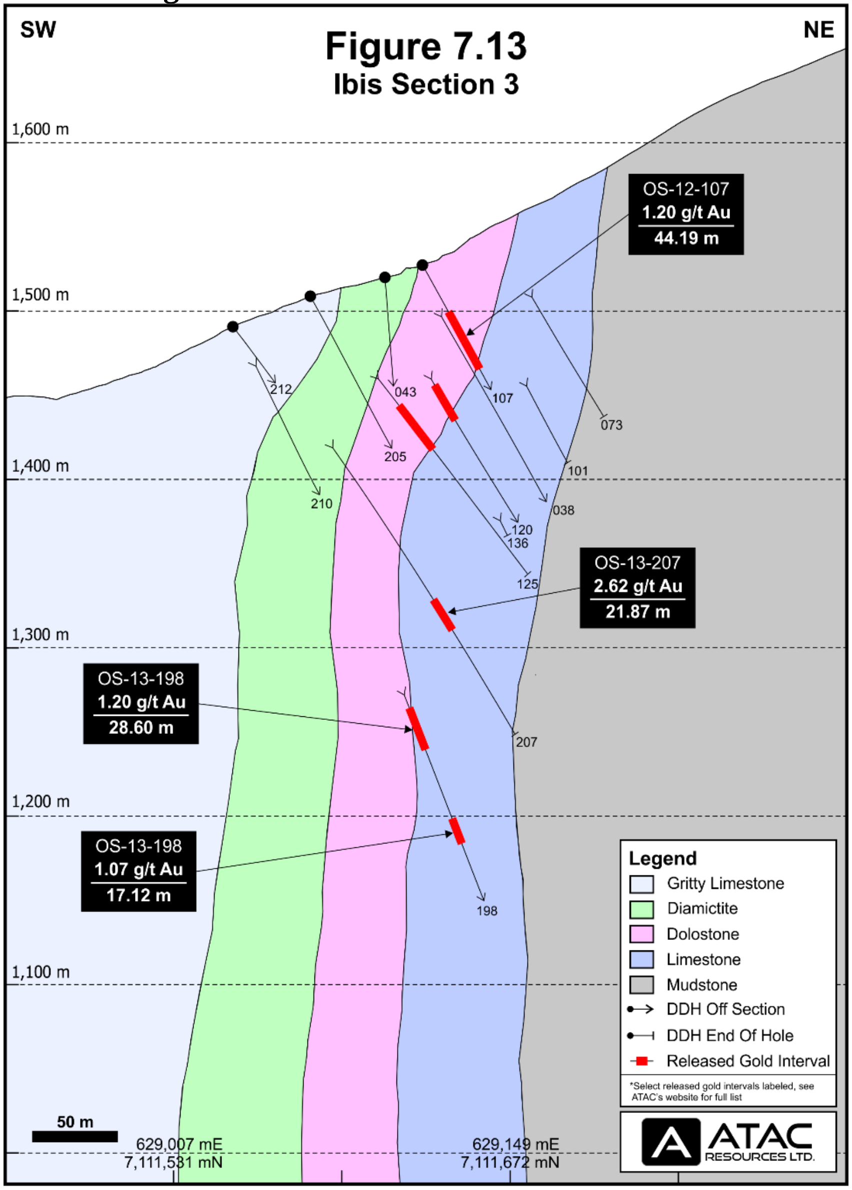


Figure 7-13 Cross Section of the Ibis Zone



8.0 DEPOSIT TYPES

Gold deposits known and being explored for in the Osiris project area are Carlin-type gold deposits. Carlin-type gold deposits ("CTDs") were first recognized in the 1960's in northern Nevada and named for the small town of Carlin, Nevada. Since then, over 100 geologically similar CTDs containing approximately 6000t (200 million ounces) of gold have been discovered in northern Nevada (Hofstra and Cline, 2000), making it one of the most significant gold regions in the world. Although a large number of deposits worldwide have been described as "Carlin-type" or "Carlin-like" deposits, no district outside of Nevada yet contains similarly large and numerous deposits.

Carlin-type deposits are epithermal deposits which exhibit characteristics sufficiently different from typical epithermal deposits that they are considered a distinct deposit type. When first discovered, these deposits were often informally referred to as "no-see-um" gold deposits or "micron" gold deposits because the gold is almost invariably not visible to the naked eye and cannot be recovered by panning. Indeed, it is because these deposits lack bold quartz veins and associated placer gold deposits that they were not discovered earlier by prospectors.

In brief, CTDs are distinctive from typical epithermal deposits because they form replacement bodies with structural and stratigraphic controls, contain primary gold that is restricted to atomic substitution and sub-micron sized grains in arsenian pyrite, and exhibit alteration that is subtle but dominated by carbonate dissolution (decarbonatization) of silty calcareous host rocks (Cline, 2004) Gold did not precipitate in response to boiling or fluid cooling but instead precipitated in response to sulfidation of iron in the host rock or in a second iron-bearing fluid (Muntean et al., 2011)

Host rocks for CTDs in Nevada are mainly Paleozoic carbonate rocks, particularly silty limestone. Other host rocks include calcsilicate hornfels derived from these carbonate rocks, chert and argillite, and intrusive dikes; these latter rock types are always located in close proximity to carbonate rocks.

Most CTDs exhibit a main stage of alteration and mineralization characterized by dissolution and replacement of the calcareous host rock; a late stage that commonly includes quartz, calcite, orpiment, realgar, or stibnite; a post-mineral stage comprised mainly of calcite; and a supergene stage of oxidation and dissolution of primary minerals (Hofstra and Cline, 2000)

Main-stage alteration is dominated by decarbonatization of carbonate rocks, clay alteration (argillization) of silicate minerals, sulfidation of available reactive iron, and silicification of limestone. The initial mineralogy and fabric of the rock strongly influence the character of the alteration. For example, fine-grained permeable rocks may be uniformly and pervasively altered, while impermeable rocks may be preferentially altered only along permeable sedimentary features, fractures or stylolites. The typical alteration associated with main-stage mineralization is visually nondescript and not readily recognized except by geologists familiar with these deposits.

In mineralized zones, dissolution of carbonates and argillization of silicate minerals is accompanied by sulfidation of iron released by mineral alteration, resulting in precipitation of disseminated auriferous- and arsenian-pyrite, marcasite, or arsenopyrite. These iron sulfide minerals commonly occur as rims on preexisting barren pyrite. The most important consequence of the pyrite-forming sulfidation reaction is the coupled precipitation of gold with this pyrite (Hofstra and Cline, 2000). It is well-documented that most of the gold in CTDs resides in arsenian pyrite, arsenian marcasite, and arsenopyrite (Hofstra and Cline, 2000), occurring as sub-micron inclusions of native gold or as structurally bound gold.

A distinctive suite of late-stage minerals is commonly present in open cavities and fractures within and adjacent to main ore-stage zones. Textural relationships demonstrate that these minerals precipitated after the main-stage alteration and mineralization. In proximal zones, open cavities and fractures may be filled with orpiment and/or realgar, in places accompanied by quartz, fluorite, pyrite, marcasite, cinnabar, or thallium sulfides. More distal veins are dominantly calcite ± orpiment and realgar.

Pervasive silica-replacement (silicification) of limestone – called jasperoid – is common in CTDs, but its spatial and temporal relationship to gold mineralization is not consistent. In some deposits, jasperoid may contain significant gold, while in others it is barren. Jasperoid is abundant in some deposits and sparse or absent in others. The abundance and distribution of jasperoid is a consequence of the character of the host rock and the thermal profile of the mineralizing system.

Black carbonaceous material containing up to several percent organic carbon is locally present in many CTDs, and the role of this carbon in deposit formation has been much debated (Hofstra and Cline, 2000). In most deposits, the organic carbon was either indigenous to the rock or introduced as liquid petroleum and matured prior to gold mineralization. Organic carbon may have played a role is establishing a favorable chemical environment for ore deposition as a source of H_2S or by serving as a reductant to produce H_2S from sulfate. The presence of organic carbon is not a primary characteristic of CTDs.

CTDs in Nevada vary greatly in size and contained gold. Areal footprints of district deposit clusters range from about 20 to 120km^2. Mineralization within a deposit can extend over a vertical interval of 1,000m, and within a district can extend over vertical intervals greater than 1,500m (Hofstra and Cline, 2000). The larger CTDs in Nevada occur within linear districts, or "trends" extending up to more than 20km and controlled by mappable surface structures. Some of these structures probably resulted from reactivation of much older basement normal faults that originated during Proterozoic rifting of western North America. These old faults served as conduits for deep crustal hydrothermal fluids responsible for formation of CTDs.

The varied forms of individual deposits reflect local zones of porosity and permeability that result from favorable lithologic and structural features. Deposits are three-dimensional maps of paleo-permeability. Permeable features frequently associated with orebodies include high-angle faults, thrust faults, low-angle normal faults, hinge zones of anticlines, lithologic contacts, reactive carbonate units, debris flow facies carbonate rocks, lithologic facies changes, breccia zones of all types, and contacts of sedimentary rock with metamorphic aureoles (Cline et al., 2005)

The geochemistry of CTDs is characterized by a distinctive suite of strongly introduced elements: Au, As, Sb, Tl, Hg ± Te ± W (Hofstra and Cline, 2000). These elements are frequently used as pathfinder elements for surface geochemical surveys and as vectors toward ore in drill-hole geochemical studies.

CTDs in the major trends in Nevada have been dated in the Eocene time interval between 42 and 36Ma. (Cline, 2004). The deposits are coeval with spatially associated silicic to intermediate dikes and epizonal intrusives. The critical association of igneous rocks with the Nevada CTDs, however, was not readily apparent. Many deposits have no igneous rocks present at shallow levels, and frequently the igneous dikes are strongly altered. It was some 30 years after these deposits were first discovered that the connection between CTDs and intrusive rocks was firmly established through geochronology. The role of igneous rocks in the genesis of CTDs – whether they were a source of metals or simply a source of heat – remains contested.

Over the years, a number of genetic models have been proposed for the origin of CTDs, including shallow hot spring deposits, mesothermal deposits that formed at several kilometres depth, deposits related to large meteoric-water convection cells, deposits resulting from leaching of proximal gold-enriched host rocks (e.g., lateral secretion), deposits related to the release of deep metamorphic ± magmatic fluids, and deposits distal to porphyry systems associated with epizonal plutons (Muntean et al., 2011). Most recent studies and papers favor a model in which deep magma bodies are the source of heat and metals, which are moved by meteoric waters from the deep magma source to shallow structural and/or stratigraphic deposition sites in a favorable carbonate host-rock.

To date, working deposit models for CTDs are based on the largest and best-documented examples in Nevada. Despite differences imposed upon by the local geology of individual deposits, the deposits share many features in common, that include (Muntean et al., 2011):

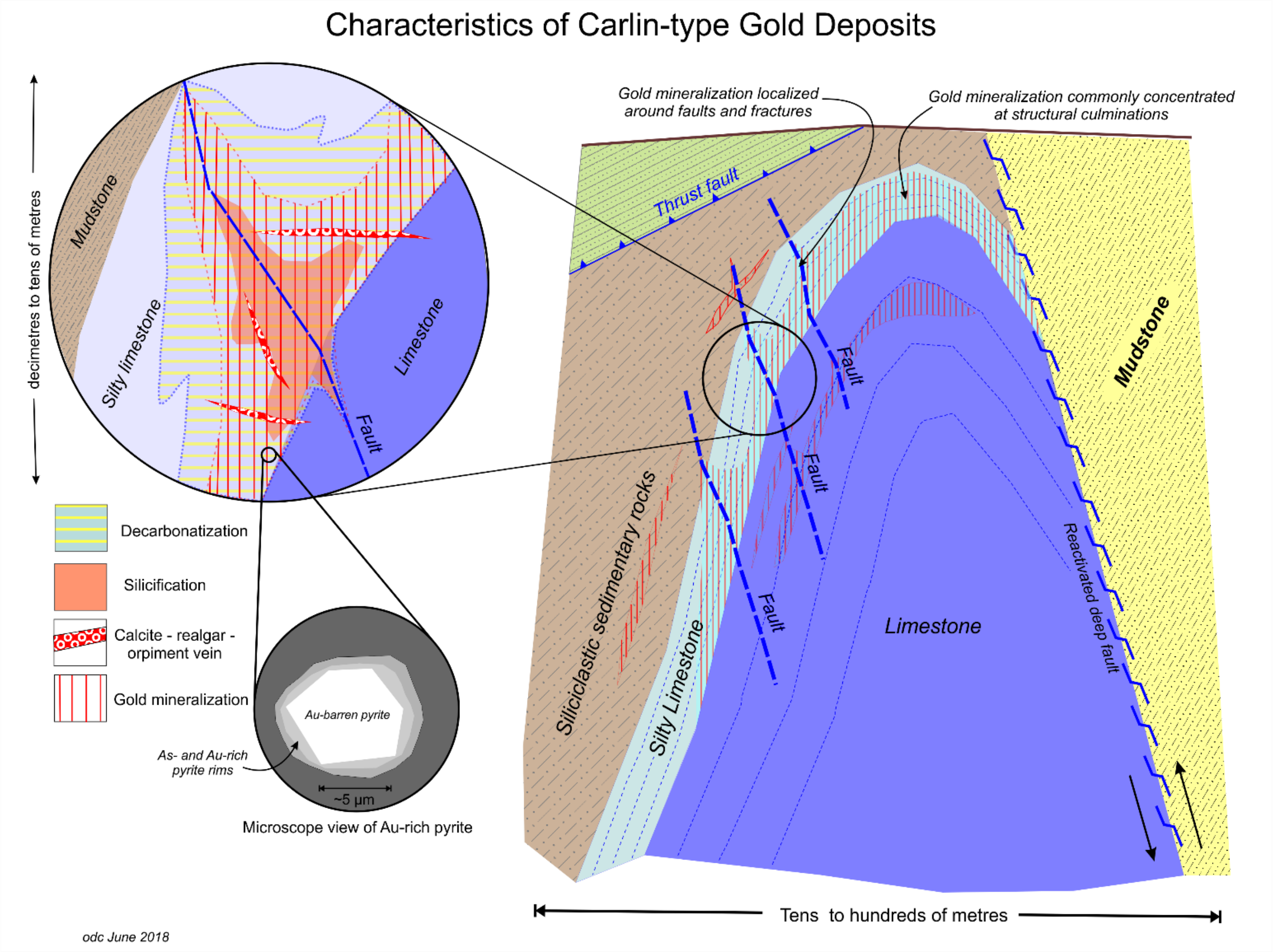
1. Deposits have a middle to late Eocene age, a time that corresponds to a change from tectonic compression to extension and renewed felsic to intermediate magmatism.
2. Deposits occur in linear clusters along old reactivated structures that are probably linked at depth to crustal-scale Proterozoic basement rift structures.
3. Deposits are preferentially hosted in carbonate rocks within or adjacent to structures in the lower plate of a regional thrust fault;
4. Deposits exhibit very similar paragenesis, characterized by decarbonatization, argillization, silicification, and sulfidation that results in the formation of gold-bearing arsenian pyrite, which hosts the vast majority of the gold in the deposits. The replacement mineralization was followed by open space deposition of minor amounts of drusy quartz with pyrite, followed by orpiment, realgar, stibnite and other sulfides.
5. Deposits lack silver and base metals and have an elemental signature of predominantly Au-Tl-As-Hg-Sb-(Te).
6. Deposits were formed by non-boiling ore-forming fluids that ranged from 180 to 240°C during mineralization, were of low to moderate salinity (mostly $\leq$6wt% NaCl equivalent), CO_2-bearing (<4mol%); kaolinite and illite indicate that fluids were acidic.
7. There is a lack of mineral or elemental zoning at the district scale that suggest minor temperature gradients. There are no coeval associated porphyry copper, skarn, or distal Au-Pb-Zn-Mn zones.
8. Evidence suggests deposit formation by largely fracture-controlled fluid flow from multiple upwelling zones with little evidence for significant lateral fluid flow or spaced convection cells.

These features strongly suggest Carlin-type deposits, which formed over a broad region of northern Nevada during a narrow time interval, shared common underlying processes for the formation and transport of gold-bearing hydrothermal fluids and the deposition of gold.

Carlin-type gold deposits of the Osiris district, although less intensively studied than the Nevada deposits and hosted in rocks of Proterozoic age, possess fundamental characteristics with striking similarity to those of the Nevada deposits.

CTDs are attractive exploration targets. By analogy to the Nevada districts, CTDs can be large deposits with high gold grades and potential depth continuity as great as 1000m. Deposits frequently occur in clusters of deposits. CTDs can occur at depth with subtle or no surface evidence of their presence at depth. It is notable that, although the original Carlin deposit in Nevada was discovered in 1960, exploration there continues, and discoveries continue to be made.

Figure 8-1 Characteristics of Carlin-type Gold Deposits



9.0 EXPLORATION

Exploration programs performed by ATAC on the Osiris property are described below. Diamond-drilling programs (Section 10.0) conducted between 2010 and 2017 are the basis for the Mineral Resource estimation reported herein (Section 14.0).

9.1 Geological Mapping

Between 2010 and 2017, ATAC has conducted mapping and prospecting across the Property, the most detailed of which was completed around the Osiris cluster of deposits. Data obtained from mapping, prospecting, geochemical sampling, and diamond drilling has been used to create geological maps of the Property (Section 7).

9.2 Silt Sampling

A total of 1,098 silt geochemical samples were collected on the Property between 2009 and 2012. Samples were collected at 100m intervals along the majority of creeks draining the property. The relative positions were established using a handheld GPS. Sample sites were marked with orange flagging tape with the corresponding sample number.

An initial 32 silt samples were collected in 2009 to follow up anomalous regional geochemical samples in the Yukon Geological Survey dataset. Results from this 2009 silt sampling yielded very strongly anomalous arsenic and gold, including one sample that yielded 15.5% arsenic and another that yielded 1.775 g Au/t. This sampling program lead to the discovery of the Osiris showing in 2010.

9.3 Soil Sampling

Soil geochemical sampling was conducted between 2009 and 2014 on the Property. The majority of the samples were taken from a 5km by 3km grid covering the known mineralized showings, including the Conrad, Osiris, and Sunrise deposits. A total of 10,451 soil samples have been collected on the Property.

Grid samples were collected at 50m intervals along lines spaced 100m apart over the deposit area, with a more detailed 50m by 50m grid established over the known showings. Elsewhere on the Property, soil samples were collected along ridge and spurs, and contour lines, at 50m intervals, in areas where there were no known showings. The relative line positions were established using a handheld GPS. Sample sites were marked by wooden lath bearing aluminum tags inscribed with the corresponding sample number and the grid coordinates, where appropriate.

All soil samples were collected from holes that were dug with a mattock or hand auger to depths of 20cm to 50cm below surface. Soil was taken from the bottom of the holes and placed in pre-numbered Kraft paper bags. Above tree line, the samples consisted of poorly developed soils mixed with talus fines. At lower elevations, the sampled material mostly comprised residual soils mixed with glacially transported material.

Background and anomalous values for gold and arsenic are summarized in Table 9-1. Background averages, weak, moderate, and strong anomalous thresholds were chosen based on the known characteristics of the target mineralization and host geology.

Table 9-1 Geochemical Characteristics for Soil Samples, Osiris Property

Level	Gold (ppb)	Arsenic (ppm)
Background	5	50
Low	10	300
Moderate	25	500
Strong	100	2,000
Peak	18.2 ppm	6.88%

Integrated soil geochemical results for gold and arsenic are illustrated on Figure 9-1 and Figure 9-2, respectively.

Figure 9-1 Soil Geochemical Results for Gold

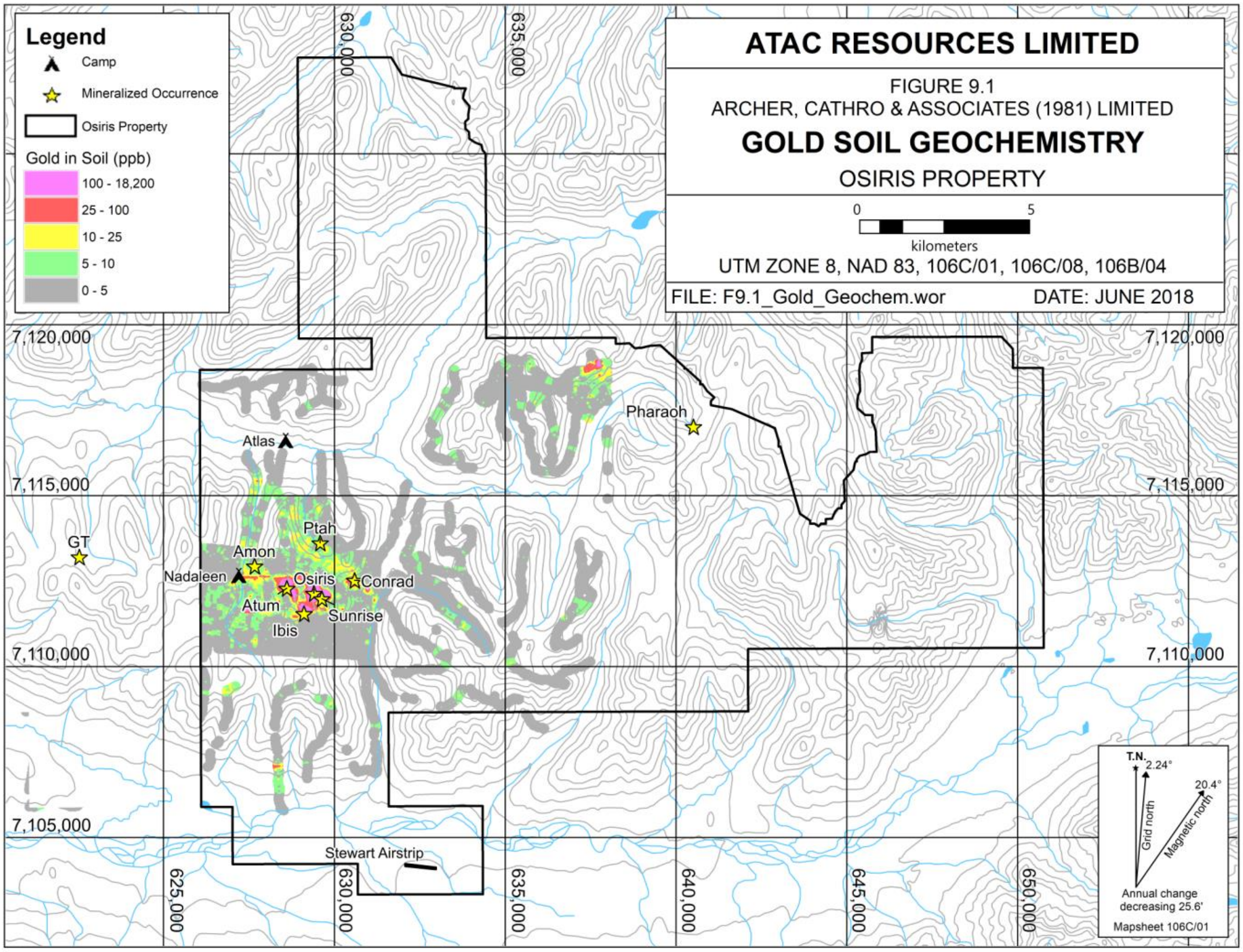
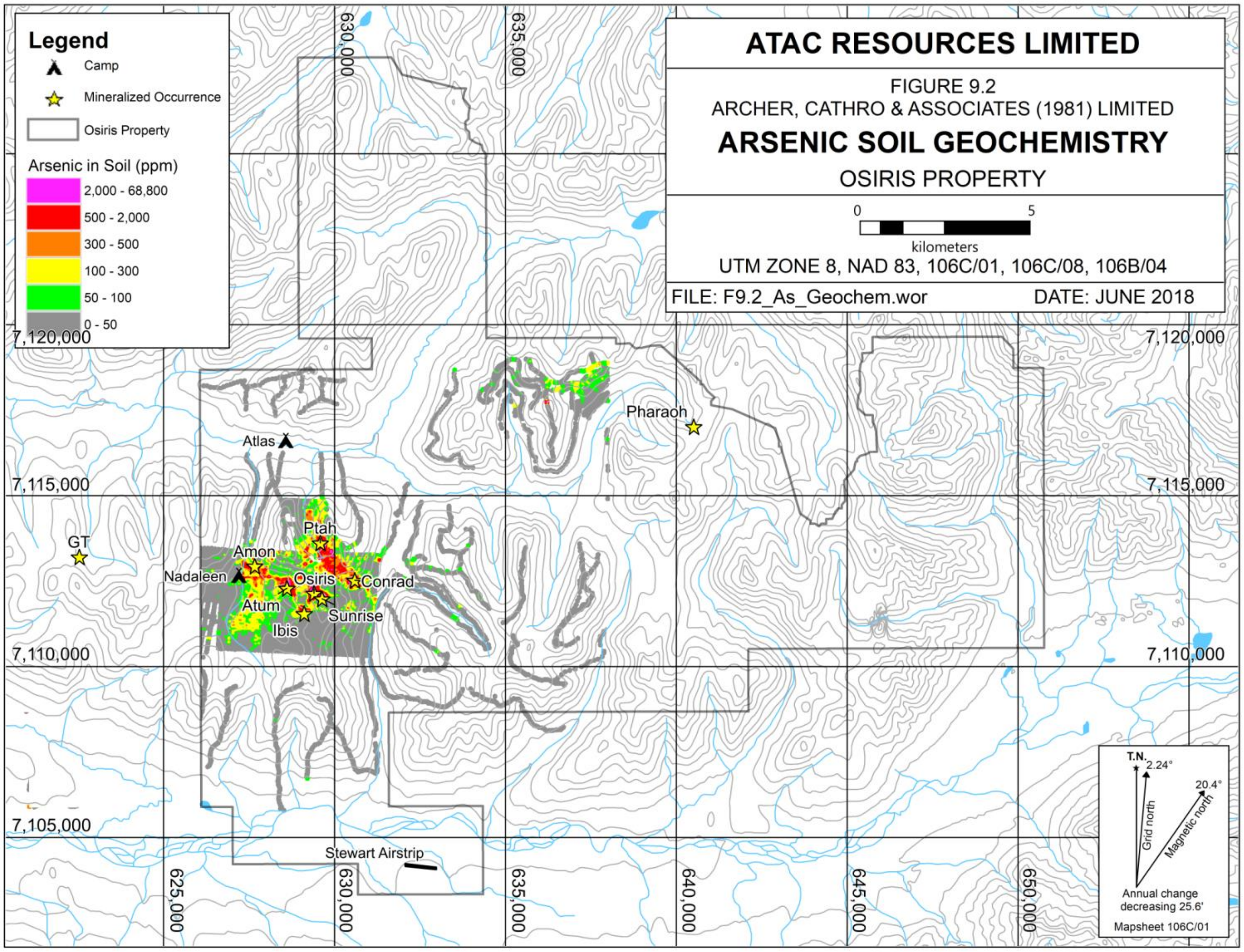


Figure 9-2 Soil Geochemical Results for Arsenic



9.4 Surface Rock Sampling

A total of 1,125 rock samples were collected from various targets on the Property between 2009 and 2017.

Rock samples include measured chip samples, grab samples, and float samples. Rock geochemical sample sites on the property were marked with orange flagging tape labeled with the sample number. The location of each sample was determined using a handheld GPS unit.

In 2010, follow up prospecting conducted along drainages which yielded anomalous silt samples collected in 2009 lead to the discovery of the Osiris deposit. Float containing significant orpiment and realgar was discovered at what is now the Osiris deposit.

Additional property-wide prospecting ensued between 2010 and 2014 following up anomalous soil and silt geochemistry, most of which occurred near the Osiris and Conrad Zones. Of the 569 rock samples collected from the deposit areas since 2009, 25 returned greater than 10g Au/t, with a peak value of 66.6g Au/t.

9.5 Geophysics

Helicopter borne magnetic and Z-axis Tipper Electromagnetic ("ZTEM") surveys were carried out over the Property in 2010 by Geotech Ltd. of Aurora, Ontario. A total of 923.1 line-kilometres were flown on north-south lines spaced 200m apart.

Condor Consulting Inc. ("Condor") was retained to complete processing, analysis, and interpretation of the ZTEM and magnetic surveys. Condor's work did not outline any distinctive anomalies that are associated with known mineralized areas. However, this work did identify a number of broader regional features.

There is a distinct east-west-trending magnetic boundary extending across the Property, with more magnetic rocks to the north and less magnetic to the south. Near the Conrad deposit, this boundary is coincident with the Nadaleen fault (Figure 9-3). To the southwest of the Osiris and Sunrise deposits, lies a major northwest-southeast trending conductive boundary (Figure 9.4). The significance of this feature is not clear (Condor, 2010).

Figure 9-3 Airborne Magnetic Survey

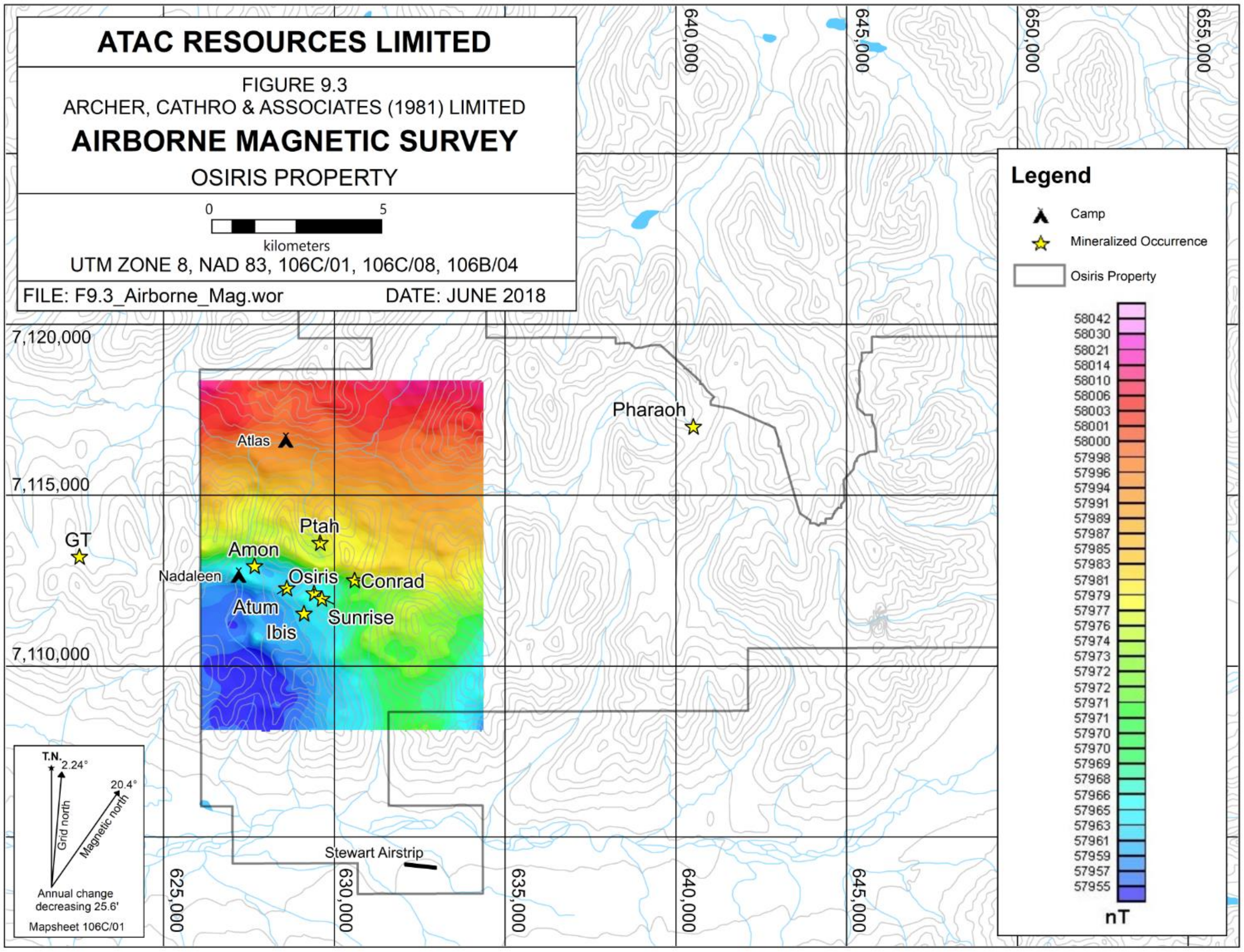
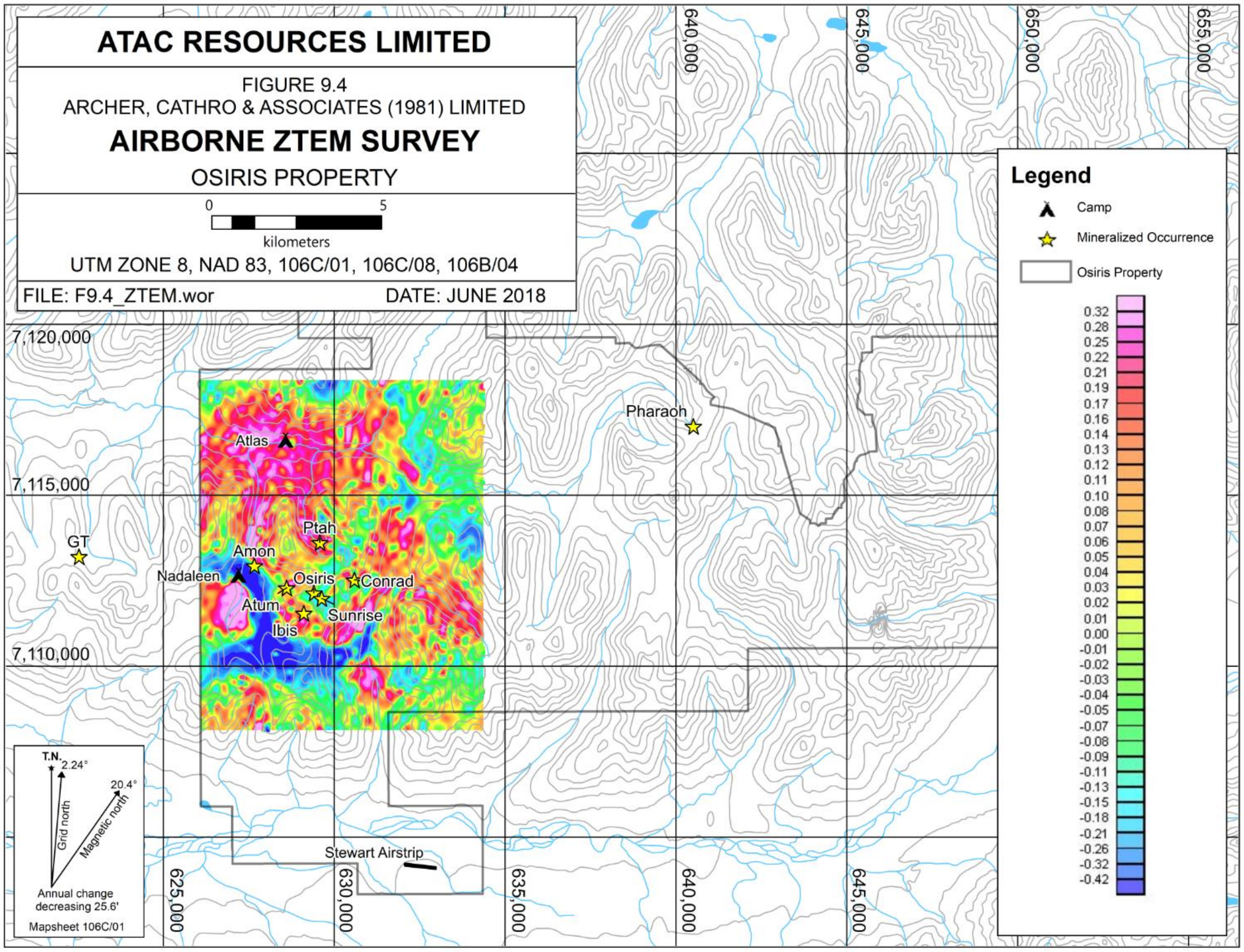


Figure 9-4 Airborne ZTEM Survey



10.0 DRILLING

The Mineral Resource discussed in this report was estimated using the diamond drilling data collected between 2010 and 2017, which was provided by ATAC.

10.1 Diamond Drilling Summary

Between 2010 and 2017, a total of 85,898m of exploration and definition drilling was completed by ATAC in 261 diamond drill holes on the Property. Figure 10-1 shows the location of all 261 of the diamond drill holes.

Due to the steep terrain, diamond drill holes were collared at dips ranging from -45° to -90° and various azimuths to reach their respective targets. Most of the drilling was completed on section lines spaced 50m apart. Downhole depths ranged from 26.29m to 819.91m, with an average depth of 329.10m. Core recovery averaged 92%, excluding the top 10m of the holes where surface weathering affects core competency.

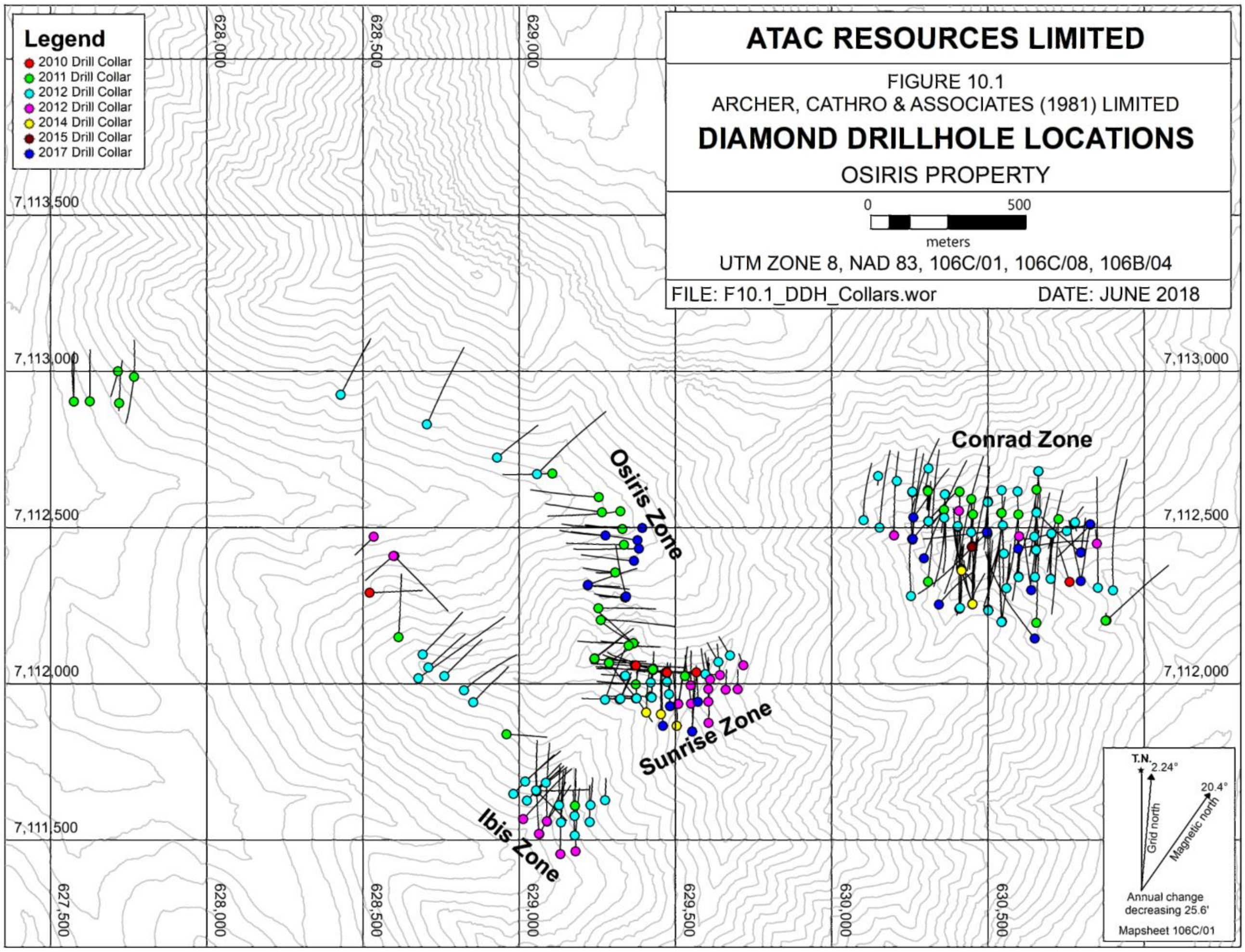
The number of holes drilled on the Property, by zone, each year between 2010 and 2017 are listed in Table 10-1. No diamond drilling was conducted in 2016.

Table 10-1 Diamond Drill Hole Summary

Zone	Total	2010	2011	2012	2013	2014	2015	2017
Amon	**8**		8					
Conrad	**123**	2	29	68	4	4	1	15
Atum	**11**	1	1	6	3			
Ibis	**26**		6	14	6			
Osiris	**63**	4	36	14		1		8
Ptah	**1**		1					
Sunrise	**29**	2	1	5	13	2		6

Although encouraging results were found in most of the zones listed above, the majority of the most recent exploration has been on Conrad, Ibis, Osiris, and Sunrise. These four zones are the focus of this report and the Mineral Resource estimation. Ibis, Osiris, and Sunrise remain open for extension along strike and down dip, while Conrad remains open along strike and at depth.

Figure 10-1 Drill-Hole Locations



10.2 Diamond Drilling Specifications

Drill campaigns were contracted to Beaudoin Diamond Drilling in 2010, and Superior Diamond Drilling from 2011 to 2017. Both contractors conducted all work on behalf of ATAC.

During 2010, diamond drilling at the Property was completed with a Mandrill 1200 diesel-powered drill using NTW (5.60cm core diameter), and BTW (4.20cm core diameter) equipment. Between 2011 and 2017, drilling was performed with up to six Multi-Power diesel powered drills using a combination of BTW, NQ2 (5.06cm core diameter), and HQ3 (6.11cm core diameter) equipment.

In general, drill holes were started using wider diameter tooling and reduced to a smaller diameter to increase efficiency at greater depths from surface. BTW and NTW equipment was used primarily for reconnaissance and exploration drilling.

10.3 Core Logging Procedures

Core logging started in 2010 using a generic logging form that was filled out in hardcopy during the day and entered into Microsoft Excel® spreadsheets during the evening. As the project evolved, a site-specific core assessment manual with a project-specific drill log was created for the Property and included fields for rock type and modifiers for lithology, minerals, alteration, textures, structure, hardness, weathering and concentrations.

Starting in 2011, logging was recorded as hardcopy and then entered into a Microsoft-SQL Server® database ("the Database"). All 2010 data were transferred to the Database. In 2017, drill logs were entered directly into the database using laptop computers in the core shed

Drill core was processed using the following procedures:

1) Core was reassembled, lightly washed and measured.
2) Core was photographed.
3) Core was geotechnically logged.
4) Core was geologically logged and sample intervals were designated. Sample intervals were set at geological boundaries, drill blocks or sharp changes in visual mineral content.
5) Core recovery was calculated for each sample interval in addition to the drill block-to-drill block geotechnical logging.
6) Core was sampled (see below for a description of the procedures used).

Geotechnical and geological logging was performed on all drill core. A geotechnical log was filled out prior to geological logging of drill core and included the conversion of drill marker blocks from imperial to metric and determinations of recovery, rock quality designations ("RQD"), hardness and weathering.

A total of 43 drill holes drilled between 2012 and 2017 were oriented using a Reflex ACT II down-hole digital core orientation system. Within oriented intervals, alpha and beta angles were recorded for bedding and veins.

Drill core was sampled using the following procedures:

1) In 2010, visually promising core intervals were split with an impact core splitter. In 2011 through 2017, intervals of core deemed to hold promise of gold mineralization were sawn in half using a rock saw and the remainder left unsampled. All drill intervals not sawn had chips sampled every ten centimetres for up to six-metre long intervals of core.
2) Samples were double bagged in 6mm plastic bags, a sample tag was placed in each sample bag, then two or three samples were placed in a durable fiber bag sealed with a metal clasp and sample numbers were written on the outside of that bag with permanent felt pen. The fiber bag was sealed with a numbered security tag.
3) Two blank and two standard samples were randomly included in every batch of core samples. Prior to 2012, sample batches comprised 31 core samples. Subsequently, batches comprised 30 core samples.
4) One quarter-split duplicate sample was included in every batch of samples.
5) From 2012 to 2017, one coarse-reject (laboratory) duplicate sample was included in every batch of samples.

10.4 Density Measurements

Random samples were collected for density measurements using both wet and dry evaluation methods to provide base-level density data for resource evaluation. Samples were also dried and weighed to determine moisture content.

The first method determined sample densities by cutting a 10cm long section of core and then determining its weight dry and its weight immersed in water. These measurements were used in the following formula to calculate the density of each interval.

$$\text{Density} = \text{weight in air} / [\text{Pi} * (\text{diameter of core} / 2)^2 * \text{length of core}]$$

As a quality control check Specific gravity was also calculated, using the formula shown below.

$$\text{Specific Gravity} = \text{weight in air} / [\text{weight in air} - \text{weight in water}]$$

To determine the approximate moisture content, after first determining the initial density and specific gravity, samples were placed in a toaster oven set to 90°C and allowed to dry. Samples were periodically weighed until no significant change in weight was noticed between successive measurements. Drying time ranged from 3 hours to more than 24 hours, averaging approximately 10 hours.

10.5 Drill-Collar and Down-Hole Surveys

Prior to 2017, all drill-hole collars were surveyed by Archer Cathro employees using a Trimble SPS882 and SPS852 base and rover Real Time Kinematic (RTK) GPS system. In 2017, drill collars were surveyed using a Leica GS15 base and rover RTK GPS. The collars were marked by a drill rod securely cemented into each hole. A metal tag identifying the drill-hole number was affixed to each drill-hole marker.

Between 2010 and 2014, drill collars were aligned at surface using a Brunton compass. Beginning in 2015, a Reflex North Finder Azimuth Pointing System (“APS”), a GPS-based compass, was used to align the drill holes.

To determine the deflection of each drill hole, the orientation was measured at various intervals down the hole using a magnetic multi-shot survey tool. Holes completed between 2012 and 2017 were surveyed using Reflex EZ-Trac down-hole multi-shot magnetic survey instrument. In 2011, all surveys were completed using a “Ranger Explorer” system provided by Ranger Survey Systems. Only a single end-of-hole acid test was conducted on holes completed in 2010.

When the multi-shot survey tool was used, shots were taken every 50 feet (15m). Measurements recorded were azimuth, inclination, temperature, roll angle (gravity and magnetic) plus magnetic intensity, magnetic dip and gravity intensity (for quality assurance). All readings were reviewed and erroneous data were not used when plotting the final drill-hole traces.

10.6 Summary Statement

Mr. Ristorcelli believes that the drilling sampling procedures provided samples that are representative and of sufficient quality for use in the resource estimations discussed in Section 14.0. The authors are unaware of any sampling or recovery factors that materially impact the mineral resources discussed in Section 14.0.

11.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

This section describes the sample procedures followed during the diamond drilling exploration programs supervised by Archer Cathro for ATAC. Also described are sample-handling and analytical procedures followed during the exploration programs. A project-specific sample-handling manual was designed in conjunction with the field operations manual specific to core processing. The information in this section was provided to MDA by Archer Cathro. MDA has a copy of the field operations and sample-handling manual. To the extent that the authors observed aspects of sample preparation, analysis and security in the field or while working with the data, the descriptions in this section of this Technical Report are consistent with the authors' observations.

11.1 Sample Shipment and Security

All drill core was flown by helicopter to a processing facility at the Nadaleen exploration camp (Figure 4-3) where the core was logged and sawn or split. All samples were flown by helicopter from camp to an airstrip on the Property where they were transferred to fixed-wing aircraft and flown to Mayo or directly to Whitehorse. From there they were loaded onto a truck and transported to ALS Minerals' Whitehorse preparation facility.

ALS Minerals was responsible for shipping the prepared sample splits from Whitehorse to its North Vancouver laboratory, where they were analyzed. All samples were controlled by employees of Archer Cathro until they were delivered to a commercial courier or directly to ALS Minerals in Whitehorse.

Archer Cathro ensured that a chain of custody form accompanied all batches of drill core during transportation from the Property to the preparation facility. A unique security tag was attached to each individual fiberglass bag when the bag was sealed. The bags and security tags had to be intact to be accepted by ALS Minerals. If a security tag or bag arrived at the laboratory damaged, an investigation into the transportation and handling of that sample bag was undertaken by ALS Minerals and Archer Cathro and any affected samples were not processed until a resolution was reached regarding the security of the samples.

Prior to shipping, individual samples were weighed. These weights were compared to weights recorded by ALS Minerals upon receiving the samples. Any discrepancies between the two weights were investigated.

11.2 Sample Preparation and Analysis

All samples were sent to ALS Minerals for preparation and analysis. ALS Minerals, a wholly owned subsidiary of ALS Limited, is an independent commercial laboratory specializing in analytical geochemistry services. Between 2009 and 2010, samples were sent to ALS Minerals' laboratory in North Vancouver for preparation and analysis. Starting in 2011, samples were prepared at ALS Minerals' laboratory in Whitehorse before being sent to North Vancouver for analysis. Both ALS Minerals' Whitehorse and North Vancouver laboratories are individually certified to standards within International Organization for Standardization ("ISO") 9001:2008.

Soil samples were dried and screened to −35mesh to produce a fine fraction, which was then pulverized to 85% passing 75µm. Splits of the pulverized fraction were routinely dissolved in aqua regia and analyzed for 35 elements using the inductively coupled plasma ("ICP")-atomic emission spectroscopy ("AES") technique (ME-ICP41). All samples were also analyzed for gold using fire assay and ICP-AES (Au-ICP21).

Core and rock samples were dried and crushed to 70% passing 2mm, before a 250g split was taken and pulverized to better than 85% passing 75µm. To reduce cross contamination between core samples during preparation, the equipment was "washed" twice with quartz silica sand. Splits of the pulverized fraction were routinely dissolved in aqua regia and analyzed for 48 elements using technique ME-MS61m, which combined ICP with mass spectroscopy ("MS") and AES. Samples were analyzed for gold by fire assay finished with atomic absorption spectroscopy (Au-AA26 or Au-AA25).

All mineralized drill core was split/sawn for assay. For all unsampled intervals, chip samples were collected every 10cm for up to six-metre long intervals of core. Chip sample intervals returning anomalous values for gold or other pathfinder elements were sawn and sampled.

11.3 Quality Assurance and Quality Control

For all of its exploration programs, ATAC routinely inserted Certified Reference Materials ("CRM"s), blanks and duplicates into each batch. Prior to 2013, CRMs used in the drill programs were purchased from CDN Resource Laboratories Ltd. ("CDN Resource") of Delta, British Columbia. Starting in 2013, the CRMs were prepared from coarse reject material from core samples collected on the Property. These custom CRMs were prepared, homogenized and packaged by CDN Resource. All CRMs were certified by Smee & Associates Consulting Ltd. of North Vancouver, British Columbia.

Table 11-1 shows the recommended values for the CRMs used during all of the drill programs on the Osiris Property. A CRM fails when the assay value is outside three standard deviations of the mean. A warning occurs when a CRM falls outside two standard deviations of the mean. When a single CRM assay fails or there are two warnings within a batch, the assay batch is re-run.

From 2012, batches comprised 30 core samples. Two standards and blanks were inserted into the sample sequence in each batch. Standards were placed randomly, while blanks were placed following visually mineralized intervals where possible. One quarter-core duplicate was also inserted into each batch at random locations chosen by the geologist while logging. One sample in each batch was selected at random and a duplicate pulp sample was created from the original coarse reject material and analyzed at the same time as the rest of the batch. Coarse-reject duplicates were not included in sample batches prior to 2012.

Table 11-1 Recommended Values of Certified Reference Materials

CRM Name	Au (g/t)	Standard Deviation
CDN-GS-15A	14.83	0.305
CDN-GS-15B	15.98	0.355
CDN-GS-2G	2.26	0.095
CDN-GS-3G	2.59	0.09
CDN-GS-4C	4.26	0.11
CDN-GS-4D	3.81	0.125
CDN-GS-8B	7.76	0.21
CDN-GS-P3A	0.34	0.011
CDN-GS-P3B	0.41	0.021
CDN-GS-P3C	0.26	0.01
OS-CS1	0.49	0.015
OS-CS10	1.45	0.024
OS-CS11	2.89	0.064
OS-CS12	5.23	0.095
OS-CS2	2.54	0.079
OS-CS3	7.75	0.22
OS-CS4	12.80	0.195
OS-CS5	0.54	0.02
OS-CS6	2.67	0.045
OS-CS7	8.24	0.12
OS-CS8	12.86	0.3
OS-CS9	1.09	0.02
Rau Standard 2	1.53	0.067

Table 11-2 summarizes the number of quality assurance QA/ QC samples analyzed each year during drilling on the Property by ATAC. See Section 12.3 for a detailed evaluation of the QA/QC data.

Table 11-2 QA/QC Samples by Year

Year	All Samples	Core Samples	Chip Samples	Standards	Blanks	Quarter-core Duplicates	Coarse Reject Duplicates
2010	819	687	15	45	46	23	3
2011	8,822	7,332	158	479	485	240	0
2012	13,203	9,913	839	689	686	354	338
2013	2,147	1,335	423	96	96	47	47
2014	1,346	865	246	62	60	31	31
2015	208	173	0	12	12	5	6
2017	4,381	3,289	225	232	233	115	115
Total	30,088	23,594	1,906	1,615	1,618	815	540

Note: Coarse-reject duplicates, as defined in this report, are a second pulp prepared from the same coarse-reject material as the main sample. In 2017, additional sampling was conducted on 2010 core. These samples were included in 2017 batches and subject to the current QA/QC procedures.

Results from the QA/QC program are reviewed immediately upon receipt. Over time as data were accumulated, results are reviewed to identify potential biases, errors or other issues.

In 2011, 2012, 2013, 2014, and 2017, 5% of the pulp reject samples were randomly selected from that year's exploration program and submitted to an external laboratory for re-analysis. Samples were submitted to either ACME Analytical Laboratories ("ACME") in Vancouver, BC, SGS Canada Inc. ("SGS") in North Vancouver, BC, or MetSolve Analytical Laboratories ("MetSolve") in Langley, BC.

These pulp samples were selected using a random number generator in Microsoft Excel®. Table 11-3 outlines the number of samples selected in each year and the laboratory where the re-analysis was completed.

Table 11-3 Samples for External Re-Analysis

Year	Samples	Laboratory
2011	128	ACME
2012	384	SGS
2013	103	SGS
2014	51	MetSolve
2015	N/A	N/A
2017	172	SGS
Total	838	-

11.4 Summary Statement on Sample Preparation, Security and Analytical Procedures

Based on MDA's observations during the site visit and working with the data, as well as the Data Verification described in Section 12, the authors believe that the sample preparation, security and analytical procedures employed by ATAC are adequate so support the Resource Estimate.

12.0 DATA VERIFICATION

MDA has verified the Osiris project database and evaluated available quality control and quality assurance ("QA/QC") data collected by ATAC.

Data verification, as defined in NI 43-101, is the process of confirming that data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used. ATAC placed no limitations on MDA's ability to conduct data verification to MDA's satisfaction. Additional confirmation on the drill data's suitability for use are the analyses of the Osiris project QA/QC procedures and results as described in Section 12.3.

12.1 Site Visit

Steve Ristorcelli visited the Osiris project site from August 31 through September 4, 2017 and was accompanied by MDA associated Geologist Peggy Ristorcelli. During the site visit, the project geology and drilling and sampling procedures were reviewed. This included: a) a field tour of the Osiris project area; b) visual inspection of core drilling in progress; c) discussion of the current geologic interpretations with ATAC and Archer Cathro personnel; and d) review of all sampling procedures.

Drill site and mineralization verification procedures were conducted, and core drilling and sampling procedures were appraised, and some independent sampling was done. Mr. Ristorcelli has also maintained a relatively continual line of communication through telephone calls and emails with project personnel in which the project status, procedures, and geologic ideas and concepts have been discussed. The result of the site visit and communications is that the author has no significant concerns with the project procedures.

12.2 Database Audit

MDA formally audited the data in ATAC's collar, downhole survey and assay tables for Osiris.

12.2.1 Drill-Collar Location Audit

ATAC surveyed drill-hole collar locations during the period 2011 – 2015 using a Trimble RTK GPS instrument. The locations of the collars of the holes drilled in 2010 were surveyed in 2011. In 2017 ATAC used a Leica RTK GPS.

ATAC gave MDA a set of human-readable location data files, as produced by software specific to each instrument. MDA used these data files to construct its own table of surveyed locations. MDA then used query tools in Microsoft Access™ to compare its independently-constructed location table to the collar locations in ATAC's database. MDA compared two fields, the "Easting" and "Northing".

MDA did not compare the GPS elevations to the elevations in the collar table, because a digital topographic model ("DTM") supplied by ATAC is used while modeling the deposit and estimating resources. Discrepancies between any drill collar elevations and the DTM would be observed while modeling. No significant elevation discrepancies were observed.

The location table that MDA constructed was used only for checking the locations of the collars in ATAC's collar table. The latter table was used for all modeling and estimation.

The collar table that MDA checked was received from ATAC on November 17, 2017. It contains records for 260 collars. MDA was able to check the locations of 197 of the collars against original GPS source data. To investigate the remaining 63 collars for which MDA did not find an original GPS source, MDA looked in a file named "OSIRIS GPS Surveys.xlsx". In 61 cases, there is no GPS source listed in the latter file. In the other two cases, the collars were apparently surveyed on July 27, 2012, but MDA has no original GPS data file of that date.

MDA found no significant differences between the GPS collar locations and the locations recorded in ATAC's database.

12.2.2 Down-Hole Survey Audit

Beginning with the 2011 program, ATAC collected drill-hole orientation data using down-hole survey instruments which measure the azimuth of the drill hole relative to magnetic north and the inclination of the drill hole using a clinometer. These data are recorded in digital data files, processed to human-readable form using the manufacturers' software. In 2011 ATAC used a down-hole instrument from Ranger Survey Systems, and from 2012 through 2017 ATAC used an instrument from Reflex.

As original sources for checking drill-hole orientations MDA used the data files produced by the manufacturers' software. ATAC provided these files. MDA compiled them into a new down-hole survey table and then used query tools in Microsoft Access™ to compare MDA's down-hole survey table to ATAC's. MDA's down-hole survey table was not used for modeling the deposits; its only purpose was to serve for checking ATAC's table, which was used in modeling. The ATAC table contains 5,288 records.

The inclinations put out by the instruments can be used with no further processing. MDA was able to check 4,593 inclination readings in 231 of the 260 drill holes in the database and found no significant errors. Of the records MDA did not check, 257 were collar measurements at zero-depth, which were probably not measured using the down-hole instruments.

The instruments put out azimuths relative to magnetic north. This must be adjusted for magnetic declination to obtain azimuths relative to true north. To obtain declination adjustments for the appropriate locations and dates to use in its independently compiled survey table, MDA used an online calculator provided by Natural Resources Canada ("NRCan"), which in April of 2018 had the URL "http://www.geomag.nrcan.gc.ca/calc/mdcal-en.php". MDA understands that ATAC uses the same online calculator.

ATAC does one final adjustment to the drill-hole azimuth data, before using it for modeling the deposit. Drill-hole coordinates are recorded in the UTM grid system, for UTM zone 8 based on NAD83. In the Osiris area UTM grid north differs from true north by a bit under 2.5 degrees. The exact difference varies within the project area. ATAC uses a default correction of 2.47 degrees. For its independent down-hole survey table, MDA used adjustments obtained from the NRCan online calculator described in the preceding paragraph. The downhole survey table used by MDA and ATAC for modeling the deposits was issued by ATAC in November of 2017. In early May of 2018, ATAC issued a revised down-hole survey table, adjusted to correct a sign (±) error that had affected the true-north to UTM-north adjustments in the table of November 17. The difference between azimuths in the tables of November 2017 and May 2018 is slightly less than 5°. For a discussion of this difference in the context of the deposit model, see Section 14.8 of this report.

MDA audited the azimuths in the table of May 2018, in which the sign error had already been corrected. MDA was able to check 4,524 azimuth measurements in 231 of the 260 drill holes and found no significant errors in data entry. Fewer azimuths than inclinations were checked because, as is often the case when using a magnetic instrument, some azimuth readings are not usable while the associated inclination readings are usable.

12.2.3 Drill Core Assay Table Audit

ATAC arranged for the primary assay lab to send copies of assay certificates and data files directly to MDA, thus providing MDA with original assay certificates and assay data files that had not been under the direct control of ATAC. MDA used the assay data files received from the lab to construct a new assay data table, independent of ATAC's assay data table. MDA used query tools in Microsoft Access™ to compare the gold assays in its independently-constructed table to the gold assays in ATAC's table. MDA's assay table was used only for this purpose. MDA used ATAC's assay table for all deposit modeling and resource estimation.

MDA did a first pass of checks on the assay table received from ATAC on November 17, 2017. These were followed up by checks on an assay table received on February 21, 2018. MDA checked all the 26,084 gold assays in ATAC's drill core assay table. No differences between the gold assays in MDA's table and those in ATAC's table were found. The quality of data entry in ATAC's assay table is very good.

12.2.4 Geological Data Audit

MDA did not specifically audit any geological data tables. However, when modelling a deposit, MDA works with the database, with drill logs, and with core photos. Significant discrepancies between geological information in the database, the logs and the photos would come to light during this process. No significant discrepancies were found.

12.3 Quality Control and Quality Assurance

MDA undertook a review of analytical QA/QC data provided by ATAC in the drill-hole database which MDA received on November 17, 2017. ATAC implements a QA/QC program that includes the use of certified reference materials ("CRMs" or "standards") and coarse blank material ("blanks"), the collection and analysis of field duplicates for a subset of the drill-core samples, and obtaining, preparing and analyzing a second split of coarse crush material for a subset of the drill core samples. The related procedures and protocols are described in a document named "Manual for Handling Core". This document is updated as necessary. The latest revision made available to MDA was dated June 14, 2017.

In addition to the near real-time QA/QC processes described above, after all the assays from each field season have been received ATAC selects a subset of the sample pulps to be sent to a second laboratory for check assays. The subset of pulps is selected to include the full range of assay grades from the field season, with a grade distribution approximately similar to the grade distribution in the complete data set.

12.3.1 Standards

ATAC uses standards prepared by independent suppliers. The current protocol calls for two standards to be inserted in every batch of 30 core samples. The database used for this evaluation contains records for 1,724 analyses of standards, obtained during the period 2010 through 2017. Eighteen individual standards are involved, having expected gold grades ranging from 0.263g Au/t to 15.98g Au/t. The number of different standards used in any given year ranges from three to eight.

ATAC has advised MDA that the assay table contains data only from accepted analytical batches. Therefore, it should be expected that assays of standards found in the database should be within the acceptable ranges.

MDA prepared control charts for each of the eighteen standards, using Excel™ with the add-in "SPC ('Statistical Process Control') for Excel™". Only one control chart is presented in this report, to illustrate the method. Figure 12-1 shows an example control chart for CDN-GS-4C. The data illustrated in this example show that the results obtained for this standard are very close to the expected value and expected dispersion, based on the statistics reported by the supplier of the standard. There are no analytical failures. There was a period, marked on the chart by red data points, when eleven analyses in sequence fell above the mean value, suggesting that for a brief period the lab had a slightly higher than usual analytical bias. This is of no concern in this data set.

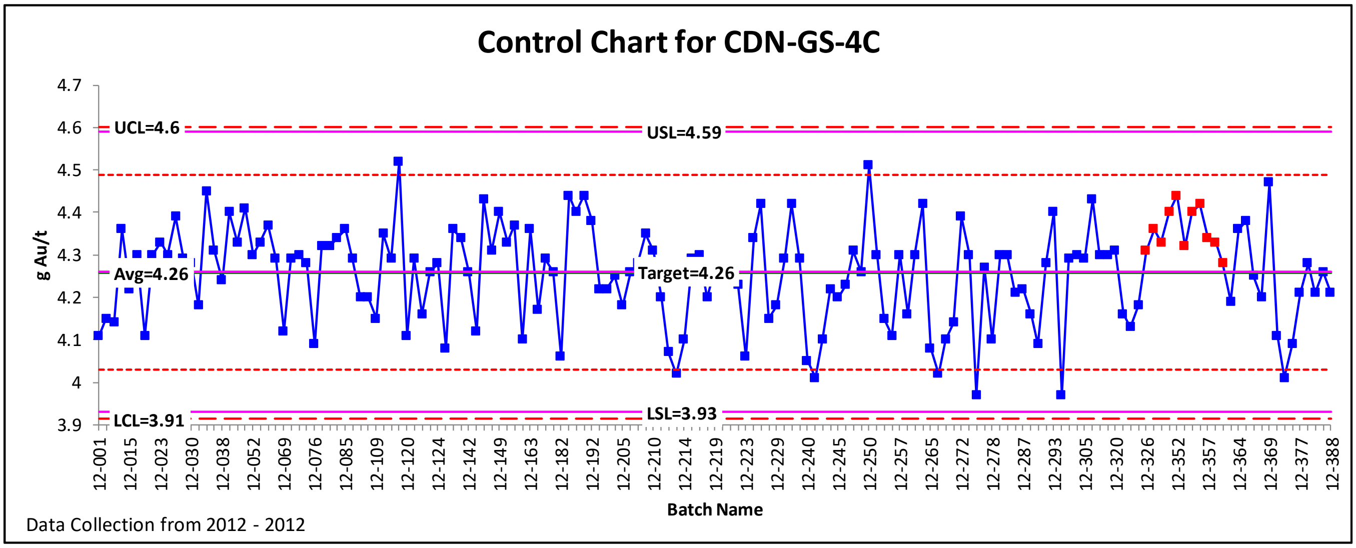
The last column in Table 12-2 shows the biases obtained from the analyses of each standard. The biases are calculated as:

$$\textbf{Equation 1} \qquad 100\,x\,\frac{average\ obtained - target\ value}{target\ value}$$

A group of analyses of a standard by any lab will almost always show some bias relative to the target value. The biases listed in Table 12-2 are within the range of biases that MDA typically sees in such data sets and are not a cause for concern.

Four high and one low failure are listed in Table 12-2. Details of these are listed in Table 12-1. All are at or within 0.01g Au/t of the respective failure limits. None of them are significant or of concern.

Figure 12-1 Control Chart for CDN-GS-4C



Explanations for Figure 12-1:

Items Obtained from Certificate for Standard

USL	Upper Specification Limit	Target + 3 Std Dev
Target	Expected Value	
LSL	Lower Specification Limit	Target - 3 Std Dev

MDA considers analyses at or above/below the USL/LSL to be “failures”.

Items Calculated using ATAC Data

UCL	Upper Control Limit	Avg + 3 Std Dev
Avg	Mean Value	
LCL	Lower Control Limit	Avg - 3 Std Dev

Table 12-2 summarizes the results obtained for the standards.

Table 12-1 Details of Failed Standards

Standard ID	Sample ID	Target for Std g Au/t	Fail Type High/Low	Fail Limit g Au/t	Failed Value g Au/t
CDN-GS-3G	K298088	2.59	High	2.86	2.87
CDN-GS-3G	K296810	2.59	Low	2.32	2.32
CDN-GS-P3A	K298054	0.338	High	0.371	0.38
CDN-GS-P3A	K298213	0.338	High	0.371	0.38
ATC OS CS-6	W230877	2.67	High	2.82	2.82

The results obtained for the standards show no indications of problems that would preclude the use of the gold assays in ATAC’s database in the resource estimate.

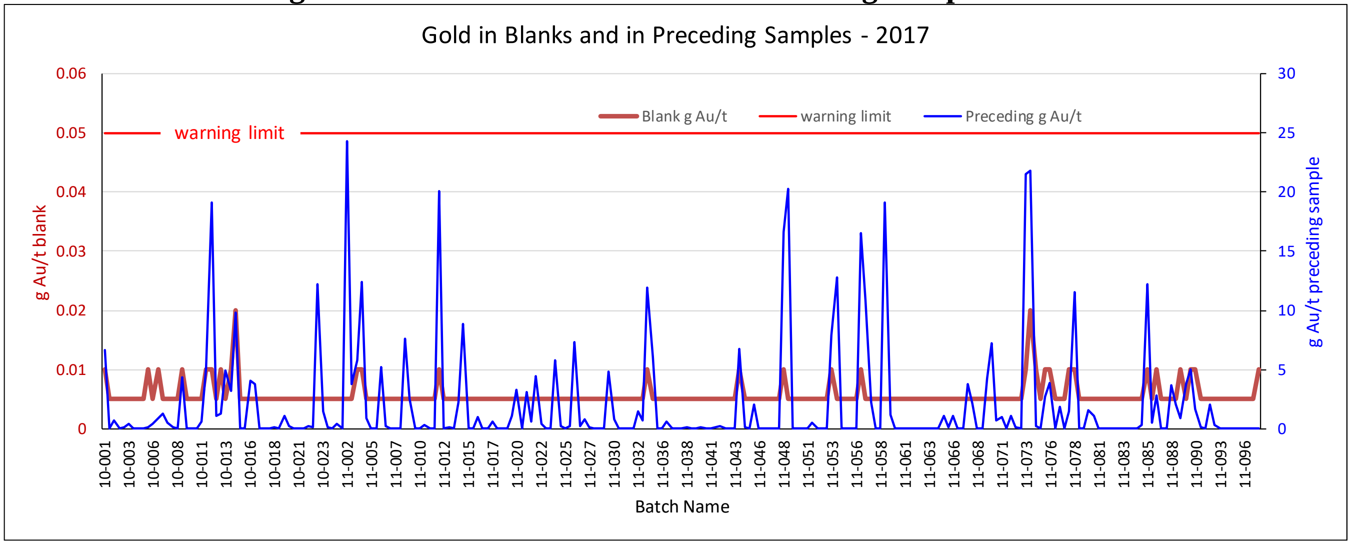
Table 12-2 Summary of Results Obtained for Standards

Standard ID	Target	Grades in g Au/t			Count	Years Used		Failure Counts		Bias pct
		Average	Maximum	Minimum		First	Last	High	Low	
CDN-GS-3G	2.59	2.63	2.87	2.32	211	2011	2012	1	1	1.54
CDN-GS-8B	7.76	7.79	8.15	7.14	83	2011	2011	0	0	0.39
CDN-GS-4C	4.26	4.26	4.52	3.97	161	2012	2012	0	0	0.00
ATC OS CS 1	0.49	0.497	0.52	0.45	140	2013	2017	0	0	1.43
ATC OS CS 2	2.544	2.566	2.74	2.45	118	2011	2017	0	0	0.86
ATC OS CS 3	7.75	7.844	8.14	7.55	53	2011	2017	0	0	1.21
ATC OS CS 4	12.8	12.78	13.15	12.25	12	2013	2017	0	0	-0.16
CDN-GS-P3A	0.338	0.339	0.38	0.31	295	2011	2012	2	0	0.30
CDN-GS-P3B	0.409	0.420	0.460	0.35	300	2012	2012	0	0	2.69
CDN-GS-P3C	0.263	0.267	0.29	0.24	115	2012	2012	0	0	1.52
CDN-GS-15A	14.83	14.77	15.55	13.95	16	2010	2010	0	0	-0.40
CDN-GS-15B	15.98	16.06	16.95	15.05	92	2010	2012	0	0	0.50
CDN-GS-2G	2.26	2.31	2.45	2.09	15	2010	2014	0	0	2.21
ATC OS CS-5	0.539	0.552	0.590	0.500	22	2017	2017	0	0	2.41
ATC OS CS-6	2.67	2.70	2.82	2.54	55	2017	2017	1	0	1.12
ATC OS CS-7	8.24	8.26	8.5	8.05	21	2017	2017	0	0	0.24
ATC OS CS-8	12.86	12.85	13.05	12.65	7	2017	2017	0	0	-0.08
Rau 2	1.527	1.59	1.7	1.48	8	2010	2010	0	0	4.13
Sum					**1,724**			**4**	**1**	
Percent					**100**			**0.23**	**0.06**	

12.3.2 Blanks

The assay table of November 17, 2017 contains 1,726 analyses of barren landscaping marble, which ATAC uses as a coarse blank. MDA prepared run charts for gold analyses of the blanks for each year that there was drilling at Osiris, from 2010 through 2017. On the same charts, MDA plotted the gold analyses of the samples immediately preceding each blank in the numerical sequence. Figure 12-2 is an example of one such chart, using the data for 2017.

Figure 12-2 Gold in Blanks and in Preceding Samples - 2017



The "warning limit" in Figure 12-2 is set at five time the lower detection limit for gold. Practitioners commonly set the warning limits for analyses of blanks at somewhere between three and six times the lower detection limit. No analyses of blanks in 2017 came near the warning limit in Figure 12-2. For the entire 2010 through 2017 period, only four analyses of blanks exceeded 0.05g Au/t. The highest analysis of a blank was 0.08g Au/t.

The purpose of plotting the gold analyses for the preceding samples on the run chart for gold in blanks is to gain a visual impression as to whether a blank that immediately follows a higher-grade sample through the sample preparation process tends to have a higher reported gold grade than blanks that follow low-grade samples. If there is such a tendency, it may imply that equipment in the lab is not adequately cleaned between samples. This is a useful test only if the samples in a batch are processed in numerical sequence through the same crushing and grinding circuit. ATAC advised MDA that this is the case for most of their samples.

In Figure 12-2 there is a visual impression of a weak tendency for blanks to have slightly higher gold analyses if they follow a relatively high-grade sample in numerical sequence. None of the "spikes" in the gold grades of the blanks are high enough to be of concern.

As an additional test for any tendency of blanks processed immediately after high-grade samples to have higher grades, MDA looked at the proportion of blanks having analyses exceeding 0.01g Au/t in relation to grade subsets of the preceding samples. This is shown in Table 12-3.

Table 12-3 Relationship of Gold Grades in Blanks to Grades in Preceding Samples

Preceding Sample Set	Count of Samples	Percent of Following Blanks Above 0.01 ppm Au
all data	1,726	2.9
grades exceeding 0.1 ppm Au	597	7.2
grades exceeding 1.0 ppm Au	331	12.1
grades exceeding 10 ppm Au	72	30.6

Table 12-3 suggests that there is more of a tendency for blanks that immediately follow high-grade samples through the preparation process in the lab to contain gold above the lower detection limit, than there is for blanks that follow lower-grade samples to contain such gold. If this does indicate contamination, it is important to note that the degree of such contamination is too low to cause concern about using the assays in the Resource Estimate.

12.3.3 Duplicates

ATAC collects quarter-core field duplicates, and instructs the lab to take coarse crush duplicates, at a rate of one each per batch of 30 core samples. The assay table of November 17, 2017 contains records for 872 field duplicates (labelled as “duplicate” in the database), and 569 coarse crush duplicates (labelled as “coarse duplicate”).

It does not appear that ATAC obtains assays of pulp duplicates (sometimes called replicates), as part of the initial set of analyses in the primary lab. It would be useful to obtain the laboratory’s in-house QA/QC data, which likely does contain analyses of replicates.

For each of the two sets of duplicates, MDA prepared three types of charts:

- A scatterplot, showing an RMA regression,
- A quantile/quantile plot, and
- Several relative difference plots (see explanation, below).

MDA uses a relative difference expressed as a percentage for each duplicate pair calculated as follows:

Equation 2

$$100\ x\ \frac{(Duplicate - Original)}{Lesser\ of\ (Duplicate, Original)}$$

An alternative calculation, which MDA also uses, but whose results are not listed in Table 12-4, is:

Equation 3

$$100\ x\ \frac{(Duplicate - Original)}{Mean\ of\ (Duplicate, Original)}$$

Table 12-4 summarizes the results for the field duplicates and the coarse duplicates. The averages of the relative differences listed in the Table 12-4 are based on Equation 2 and are indications of the biases between the duplicates and the originals. The “Abs Rel Pct Diff” is the average of the absolute relative differences and gives an indication of the degree of variability between the duplicates and originals.

Table 12-4 Summary of Results for Duplicates

Type	Period	Corr. Coeff.*	Counts			RMA Regression	Averages as Percent	
			All	Used	Outliers	(y = dup, x = orig)	Rel Pct Diff	Abs Rel Pct Dif
Field Dup	2010 - 17	0.97	872	358	5	y = 0.983x + 0.007	-3.1	30.3
Coarse Dup	2010 - 17	1.00	569	258	5	y = 1.007x + 0.001	-1.6	11.8

Note: *Correlation coefficients are calculated using all the data, not the subset in the "Used" column.
Relative differences in this table are averages of those calculated using Equation 2.

The disparity in Table 12-4 between the total numbers of pairs ("All") and the numbers of pairs used ("Used") exists because MDA did not include in calculations those pairs in which one or both analyses fell below the analytical detection limit. In both types of duplicates, five "outlier" pairs were also excluded because their differences were so great as to skew the statistics of the data set. Note that the averages reported in the table are for all grades above the detection limit, excluding the outliers. Reporting single averages for each data set masks different responses in different grade ranges. See the charts in Figure 12-3 and Figure 12-4 for a more complete view of the data. In both charts, there are many extreme relative differences at mean grades below about 0.1 ppm Au, whereas at the higher grades which are of economic interest the magnitudes of the relative differences are much more subdued.

For both sets of pairs, the average relative differences are slightly negative; that is; the duplicate has a slight tendency to be lower grade than the original, with average relative differences of -3.1% for the field duplicates and -1.6% for the coarse duplicates. Note however that the average relative differences vary by grade ranges, as shown by the red moving average line in Figure 12-3.

As expected, the absolute relative differences are significantly greater in the field duplicates than in the coarse duplicates. This reflects natural geological heterogeneity plus any field "sampling error" that may exist.

Figure 12-3 Gold Relative Differences - Field Duplicates

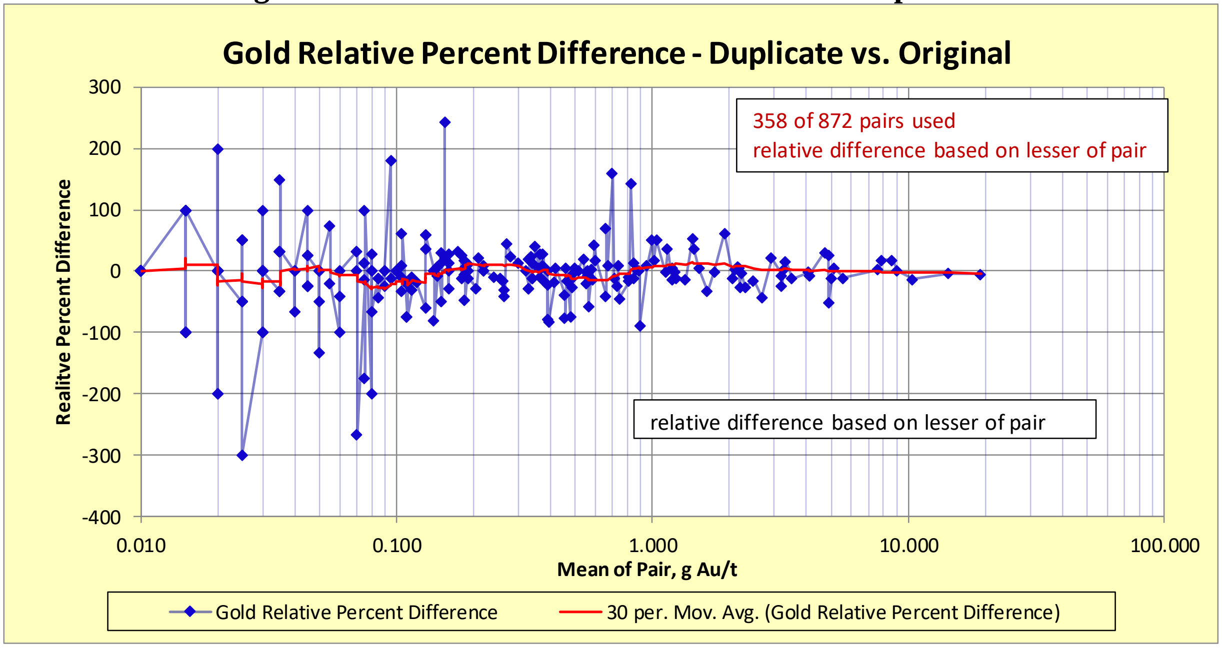
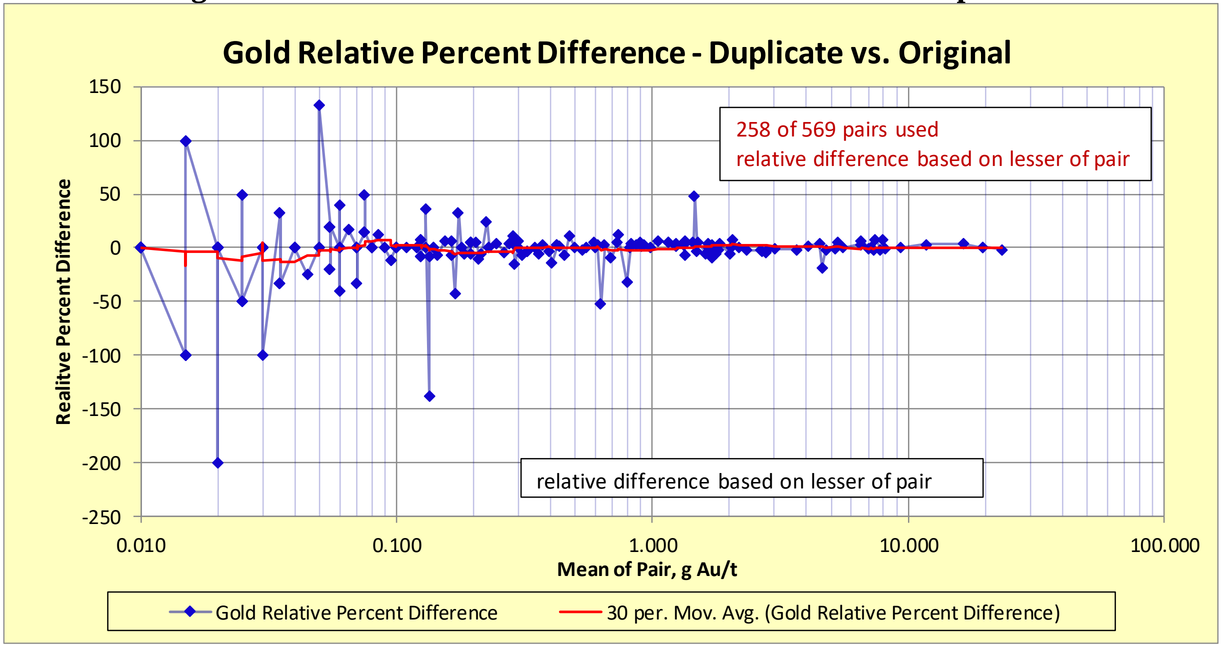


Figure 12-4 Gold Relative Differences – Coarse Crush Duplicates



12.3.4 Check Assays

The primary assays for ATAC's projects are done by ALS Minerals. In the data provided to MDA are check assays conducted by a second lab for the years 2011 through 2014 and 2017. MDA evaluated the results of the check assays using charts similar to those described for the duplicate samples. A summary of the results is set out in Table 12-5.

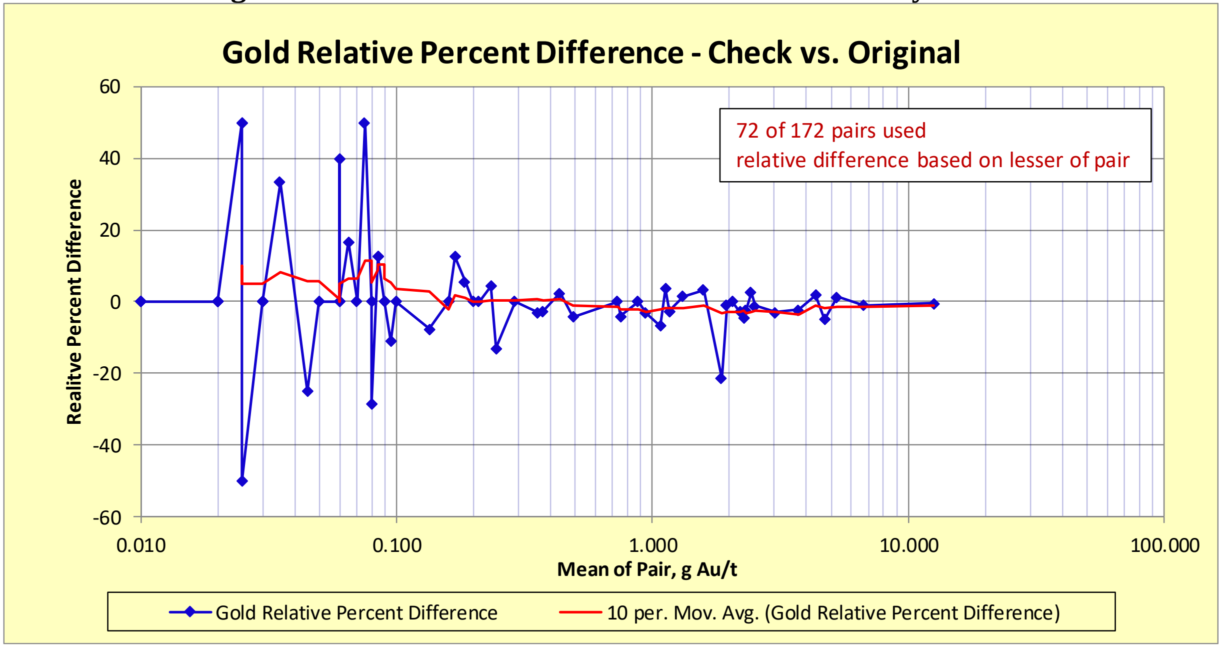
Table 12-5 Summary of Results for Check Assays

Type	Check Lab	Year	Corr. Coef.	Counts			RMA Regression	Averages as Percent	
				All	Used	Outliers	(y = check, x = orig)	Rel Pct Diff	Abs Rel Pct Dif
pulp check	**Acme**	2011	0.996	135	86	12	y = 1.015x - 0.075	-5.2	8.5
coarse check	**Acme**	2011	0.995	135	87	7	y = 1.002x - 0.02	2.3	14.6
pulp check	**SGS**	2012	0.999	429	139	1	y = 1.025x - 0.128	-2.4	10.0
pulp check	**SGS**	2013	0.999	79	27	9	y = 0.997x + 0.004	2.1	6.5
pulp check	**MetSolve**	2014	0.999	36	12	1	y = 1.052x - 0.008	3.4	4.7
pulp check	**SGS**	2017[1]	1	172	72	7	y = 0.992x - 0.006	1.3	7.1
pulp check	**SGS**	2017[2]	1	172	45	7	y = 0.993x - 0.012	-0.9	3.8

Note: [1]For this first row summarizing 2017 results, no pairs are excluded based on mean grades.
[2]For this second row summarizing 2017 results, all pairs having a mean grade of 0.08 ppm Au or less are excluded.
Relative differences in this table are averages of those calculated using Equation 2.

The results shown in the table are reasonable, for comparisons between two different labs. As was the case with the same-lab duplicates, MDA excluded large parts of the data sets from the calculations of averages. Some outliers were excluded, but most of the exclusions are due to the grades being so low that small absolute differences produce large relative differences. This is shown on a relative difference plot for the 2017 check assays, in Figure 12-5. The data in the graph correspond to the data used to generate the row "2017[1]" in Table 12-5. Note the much larger relative differences at mean-of-pair grades below about 0.08 ppm Au.

Figure 12-5 Gold Relative Differences - Check Assays 2017



The results of the check assays reveal no causes for concern about using the original assays in the Resource Estimate.

12.3.5 Conclusions and Recommendations Respecting QA/QC

ATAC's QA/QC procedures are very good, and the results support the use of ATAC's gold assays in the resource estimate. MDA offers the following recommendations for consideration:

- ATAC's protocol for selecting samples for duplicate analyses calls for selecting samples from "… all mineralization styles and unit types". This is correct, but one consequence is, many and in some cases most of the duplicates are from unmineralized or very low-grade material. It is absolutely necessary to have some duplicate analyses from such material, but MDA suggests that the selection of duplicate samples could be biased more towards mineralized material, in order to have more duplicate data available for grade ranges of economic interest.
- ATAC's data set does not contain any same-lab pulp duplicate (replicate) analyses. Such duplicate analyses could be obtained for ATAC's data set at no significant additional cost, by obtaining the laboratory's internal QA/QC data, and including the lab's replicates in the project database.

12.4 Summary Statement on Data Verification

Based on MDA's observations during the site visit described in section 12.1, the database audit described in section 12.2 and the review of QA/QC data described in section 12.3, MDA believes that the input data for the Resource Estimate described in this report are adequate to support the Resource Estimate.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Only limited mineralogical and metallurgical testing has been conducted on the Osiris project. Table 13-1 summarizes the metallurgical test-work that has been completed to-date.

Table 13-1: Metallurgical Test Programs

Year	Company	Test
2011	ALS Canada Ltd.	Cyanide Solubility, Total Organic Carbon, Preg-robbing Tests
2012	ALS Canada Ltd.	Cyanide Solubility
2013	ALS Canada Ltd.	Cyanide Solubility
2014-2015	SGS Canada Inc.	Gold Deportment, Grindability, Flotation, Cyanide Leaching
2017	ALS Canada Ltd.	Cyanide Solubility, Total Organic Carbon

13.1 Cyanide Solubility, Total Organic Carbon, Preg-robbing Tests

Preliminary metallurgical diagnostic tests were performed on samples from different zones within the Osiris project by ALS. This work has been conducted in four sets (2011, 2012, 2013 and 2017) and has consisted of cyanide soluble assays, total organic carbon assays, and gold spike (preg-robbing) assays.

13.1.1 2011 Testwork

Testwork in 2011 was conducted on 30 composites, each comprised of coarse rejects from between one and four samples. Composites were prepared by ALS in their Whitehorse, YT, prep facility, with assays conducted at their North Vancouver, BC, laboratory.

Composites were selected to evaluate different areas of each main zone explored in 2011 drilling (Conrad, Osiris, Ibis), and were assayed for gold by fire assay with atomic absorption spectrometry (“AAS”) finish (Au-AA26), organic carbon content using a Leco furnace (C-IR06), and by a standard 48-element four acid inductively coupled plasma-atomic emission spectrometry and mass spectrometry (ME-MS61) analysis.

A hot cyanide leach with AAS finish (Au-AA13h) was run to assess cyanide solubility. Gold spike tests, where a known amount of gold (in this case, 3.43g Au/t) is added to the sample prior to leaching, were also run to assess preg-robbing potential.

Table 13-2 thru Table 13-4 detail the composite head grades and results of the cyanide solubility and gold spike tests for each zone. In cases where the cyanide soluble assay after the spike is less than the spike amount (3.43g Au/t), potential preg-robbing conditions are indicated.

Overall, the tests point to most samples from all three zones containing gold that is refractory to direct cyanidation. The cause of this refractoriness varies by zone and is a combination of poor liberation of gold from the host sulphides, and/or preg-robbing of the gold from solution.

Table 13-2: Conrad Zone Cyanide Solubility and Gold Spike Results

Composite	Au by FA (g/t)	Au by CN		Organic Carbon (%)	Au Spike Test		
		Assay (g/t)	Recovery (%)		Total Grade (g/t)	CN Assay (g/t)	Recovery (%)
C1	0.51	<0.03	0.00	0.19	3.94	1.38	35.04
C2	0.50	0.03	6.00	0.21	3.93	0.85	21.64
C3	1.43	0.05	3.50	0.12	4.86	2.11	43.43
C4	0.93	0.10	10.75	0.13	4.36	2.65	60.81
C5	2.24	<0.03	0.00	0.15	5.67	1.98	34.93
C6	2.60	0.07	2.69	0.20	6.03	1.32	21.90
C7	5.17	0.14	2.71	0.18	8.60	2.54	29.54
C8	5.50	0.17	3.09	0.34	8.93	1.66	18.59
C9	10.35	0.42	4.06	0.25	13.78	1.98	14.37
C10	11.25	0.18	1.60	0.27	14.68	0.76	5.18
C11	20.20	0.37	1.83	0.26	23.63	1.96	8.30
C12	19.30	0.71	3.68	0.29	22.73	1.18	5.19

Table 13-3: Orion Zone Cyanide Solubility and Gold Spike Results

Composite	Au by FA (g/t)	Au by CN		Organic Carbon (%)	Au Spike Test		
		Assay (g/t)	Recovery (%)		Total Grade (g/t)	CN Assay (g/t)	Recovery (%)
O1*	0.49	0.51	104.08	0.02	3.92	3.73	95.15
O2	0.52	0.03	5.77	0.04	3.95	2.97	75.19
O3*	1.18	1.12	94.92	0.03	4.61	4.26	92.41
O4	1.02	0.11	10.78	0.04	4.45	3.27	73.48
O5*	2.75	2.20	80.00	0.04	6.18	5.08	82.20
O6	2.27	0.18	7.93	0.04	5.70	3.47	60.88
O7*	5.35	2.83	52.90	0.04	8.78	5.46	62.19
O8	5.28	0.24	4.55	0.06	8.71	3.36	38.58
O9*	11.10	3.98	35.86	0.07	14.53	6.05	41.64
O10	11.25	0.48	4.27	0.08	14.68	3.62	24.66
O11*	24.00	4.08	17.00	0.10	27.43	7.85	28.62
O12	18.60	0.42	2.26	0.04	22.03	3.74	16.98

** Composite of near surface material with visible oxidation*

Table 13-4: Ibis Zone Cyanide Solubility and Gold Spike Results

Composite	Au by FA (g/t)	Au by CN		Organic Carbon (%)	Au Spike Test		
		Assay (g/t)	Recovery (%)		Total Grade (g/t)	CN Assay (g/t)	Recovery (%)
IE1	0.50	0.18	36.00	0.02	3.93	3.46	88.04
IE2	1.00	0.53	53.00	0.06	4.43	3.76	84.88
IE3	2.41	0.60	24.90	0.02	5.84	3.72	63.70
IE4	5.88	2.10	35.71	0.03	9.31	5.17	55.53
IE5	10.65	0.32	3.00	0.05	14.08	3.49	24.79
IE6	23.20	0.54	2.33	0.05	26.63	3.66	13.74

13.1.2 2012 and 2013 Testwork

Follow-up cyanide soluble assays were conducted in 2012 and 2013 to assess leachability of samples from the newly discovered Sunrise zone. Tests were conducted on samples from holes OS-12-273, OS-13-217, OS-13-206, and from a surface trench. Gold was assayed by fire assay with AAS finish (Au-AA26) and by cyanide leach with AAS finish (Au-AA13). Table 13-5 and Table 13-6 summarize the results of these tests for the drill and trench samples, respectively.

Table 13-5: Sunrise Drill-Hole Cyanide Solubility Results

Hole	From (m)	To (m)	Sample #	Au by FA (g/t)	Au by CN (g/t)	Recovery (%)
OS-12-273	0.99	3.66	K311405	25.00	14.45	57.8
OS-12-273	3.66	6.71	K311407	5.54	3.50	63.2
OS-12-273	6.71	9.75	K311408	4.37	3.10	70.9
OS-12-273	9.75	12.8	K311409	18.45	14.80	80.2
OS-12-273	12.8	15.85	K311411	2.58	1.30	50.4
OS-13-217	218.85	221.89	K308832	3.24	0.07	2.2
OS-13-217	221.89	223.42	K308833	9.23	0.38	4.1
OS-13-217	223.42	226.47	K308834	10.75	0.64	6.0
OS-13-217	226.47	229.51	K308835	10.65	0.44	4.1
OS-13-217	229.51	232.56	K308836	5.59	0.34	6.1
OS-13-217	232.56	235.61	K308838	2.31	0.31	13.4
OS-13-206	120.70	123.75	M399812	0.91	0.34	37.4
OS-13-206	123.75	126.69	M399813	0.37	0.08	21.6
OS-13-206	126.69	127.75	M399815	1.18	0.19	16.1
OS-13-206	127.75	128.32	M399816	19.35	0.41	2.1
OS-13-206	128.32	129.84	M399817	32.90	0.39	1.2
OS-13-206	129.84	131.37	M399818	32.50	1.10	3.4
OS-13-206	131.37	133.29	M399820	16.75	3.42	20.4
OS-13-206	133.29	135.94	M399821	0.66	0.12	18.2

Table 13-6: Sunrise Trench Cyanide Solubility Results

Sample #	Au by FA (g/t)	Au by CN (g/t)	Recovery (%)
N831876	31.10	26.90	86.5
N831877	31.30	25.30	80.8
N831878	25.80	16.65	64.5
N831879	13.85	10.45	75.5
N831880	11.55	9.19	79.6
N831881	35.70	32.60	91.3
N831882	27.80	23.90	86.0
N831883	33.30	22.70	68.2
N831884	24.60	18.70	76.0
N831885	17.10	12.95	75.7
N831886	6.49	6.27	96.6
N831887	16.10	12.20	75.8

13.1.3 2017 Testwork

Additional cyanide soluble and total organic carbon analysis were conducted in 2017 on samples collected from a well-developed fault zone within the Conrad zone area to assess whether there was any difference in leachability response. Table 13-7 details results of the analyses. These showed very poor cyanide recoveries, with the specific cause of the poor cyanidation results being unclear from this work.

Table 13-7: Conrad Cyanide Soluble and Total Organic Carbon Assays

Hole	From (m)	To (m)	Sample #	Au by FA (g/t)	Au by CN (g/t)	Recovery (%)	Organic Carbon (%)
OS -17-238	54.86	57.91	W228656	20.10	0.44	2.2	0.14
OS -17-238	57.91	60.96	W228658	11.75	0.53	4.5	0.16
OS -17-238	60.96	64.01	W228659	14.20	0.21	1.5	0.17
OS -17-238	64.01	67.36	W228660	35.60	0.54	1.5	0.11
OS -17-259	73.15	74.68	W231152	7.10	0.03	0.4	0.35
OS -17-259	74.68	76.2	W231153	13.20	0.09	0.7	0.28
OS -17-259	79.25	80.77	W231157	3.06	0.11	3.6	0.37
OS -17-259	80.77	82.29	W231158	8.39	0.06	0.7	0.26
OS -17-238	259.08	262.13	W228736	1.09	<0.03	0.0	0.12
OS -17-238	262.13	264.77	W228737	14.60	0.14	1.0	0.16
OS -17-238	264.77	267.21	W228738	8.84	0.14	1.6	0.22
OS -17-241	276.34	278.09	W228878	5.78	0.10	1.7	0.52
OS -17-241	278.09	280.74	W228880	16.60	0.16	1.0	0.32
OS -17-241	280.74	281.94	W228881	22.40	0.03	0.1	0.30

13.2 Gold Deportment, Grindability, Flotation & Cyanidation

From 2014 to 2015 SGS Canada Ltd. ("SGS"), through their Burnaby, BC, laboratory, undertook a testwork program comprising gold deportment, grindability testing, sulphide flotation, and cyanide leaching.

Testwork was conducted on a single composite made up of five contiguous samples from hole OS-13-219, which is located within the Conrad zone. To minimize oxidation, samples were sent directly to SGS from the field where they were submitted for assay and subsequent testing. Table 13-8 shows the head grade of this composite.

Table 13-8: Conrad Metallurgical Composite Head Grade

Au (g/t)	Ag (g/t)	Fe (%)	As (%)	S (%)
7.95	<0.3	2.251	2.998	3.65

13.2.1 Gold Deportment and Mineralogy

Mineralogical characterization was conducted on a split taken from the Conrad composite using a variety of analyses, including Quantitative Evaluation of Minerals by Scanning Electron Microscopy ("QEMSCAN"), x-Ray diffraction, optical microscopy, and dynamic-secondary ion mass spectroscopy.

This work evaluated the distribution, size, liberation, association and exposure of key mineral species, and overall deportment of gold.

Modal mineralogy data from QEMSCAN demonstrated that the primary constituents of the composite were quartz, carbonates, micas, and feldspars. Sulphide minerals primarily consisted of pyrite and realgar, with the vast majority of the arsenic present in realgar. Table 13-9 shows the proportion of primary minerals, as well as their median particle sizes.

Table 13-9: Modal Mineralogy Data

	Quartz	**Carbonates**	**Micas**	**Feldspars**	**Pyrite**	**Realgar**
Proportion (wt%)	56%	15%	9%	6%	7%	3%
Median size (µm)	37	38	16	37	16	18

Liberation of sulphides was poor. Mineral release calculations showed only 2% of pyrite is liberated at 304µm, 5% at 75µm, and 46% at 13µm. Realgar was slightly coarser-grained, with 47% being liberated at 75µm, and 89% at 13µm.

Gold deportment work found the majority of gold (88%) occurs in sub-microscopic form within pyrite, predominantly in fine, disseminated pyrite. There was no evidence from this study that realgar hosted significant gold. The gold content in the pyrite is closely correlated to the arsenic content in the pyrite, with 1ppm Au present for every ~200ppm As; however, no arsenopyrite was found.

13.2.2 Grindability

A single Bond ball mill grindability test was performed on the Conrad composite, with a product size of 80%-passing 150µm. The test resulted in a Bond Ball Mill Work Index of 8.1kWh/t, which is considered to be very soft.

13.2.3 Flotation

Three batch rougher flotation tests and one batch cleaner flotation test were conducted on the Conrad composite. Rougher tests focused on evaluating initial gold recovery through bulk sulphide flotation, and evaluated three primary grind sizes. The cleaner test investigated removal of barren arsenic sulphides from the bulk sulphide concentrate. Table 13-10 summarizes the results of these tests.

Gold recoveries were up to 87%, to concentrates assaying 12g Au/t and 6% sulphur, albeit at mass pull levels of up to 50%. Recoveries improved with finer grind sizes, as the very fine-grained pyrite becomes increasingly liberated.

Table 13-10: Flotation Test Results

Test	Product	Mass Pull (%)	Concentrate Grade			Recovery		
			Au (g/t)	S (%)	As (%)	Au (%)	S (%)	As (%)
F1 (Rougher) P80=85µm, pH=6.76	Bulk Ro Con 1-4	31.3	15.2	8.47	8.00	61.1	77.8	94.3
	Ro Tail	68.7	4.40	1.10	0.22	38.9	22.2	5.7
F2 (Rougher) P80=69µm, pH=6.71	Bulk Ro Con 1-4	35.5	13.8	7.85	7.04	68.0	82.4	93.7
	Ro Tail	64.5	3.59	0.92	0.26	32.0	17.6	6.3
F3 (Rougher) P80=42µm, pH=6.84	Bulk Ro Con 1-4	56.0	12.3	5.81	4.63	87.2	94.0	98.2
	Ro Tail	44.0	2.29	0.47	0.11	12.8	6.0	1.8
F4 (Cleaner) P80=51µm, pH=6.69	Cln Con 1-3	24.7	13.8	9.38	10.2	46.9	67.9	92.5
	Bulk Ro Con	50.5	11.7	6.21	5.25	81.4	92.0	97.8
	Ro Tail	49.5	2.72	0.55	0.12	18.6	8.0	2.2

The cleaner test was successful in floating off an arsenic-rich product from the bulk sulphide concentrate; however, a significant amount of gold was lost in this process associated with considerable pyrite misplacement to the arsenic concentrate. No further flotation testing has been conducted.

13.2.4 Cyanide Leach Tests

A single 48hr cyanide leach test was performed on rougher tailings from the F4 flotation test. The calculated head grade of the rougher tailings was 2.64 g Au/t, and a final gold recovery of 15.6% was achieved (or 6% of the initial flotation feed). Table 13-11 outlines the gold recovery over time.

Table 13-11 F4 Rougher Tails Leach Results

Au Recovery (%)			
3 hr	7 hr	24 hr	48 hr
17.2	13.8	12.8	15.6

It is unknown whether this is due to poor liberation of residual gold after the sulphide float, or preg-robbing of the soluble gold by the carbon in the sample.

14.0 MINERAL RESOURCE ESTIMATES

14.1 General Classification and Reporting Cutoffs

The Osiris Mineral Resource estimate was completed on May 4, 2018 and is based on data derived from drilling completed to the end of 2017. Drilling analyses, database verification, and resource modeling were prepared following the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines" ("CIM Standards") modified in 2014 and reported in accordance with the disclosure and reporting requirements of Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101"), Companion Policy 43-101CP, and Form 43-101F1. All Mineral Resources are classified as Inferred, primarily due to the early stages of development of the project and rather complicated structural deformation. With more drilling, and because the quality of the data is high and the deposit geology is well understood, increased classification of the resources is probable in the future. CIM mineral resource definitions are given below, with CIM's explanatory material shown in italics:

> **Mineral Resource**
>
> *Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.*
>
> A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.
>
> *Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals.*
>
> *The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of Modifying Factors. The phrase 'reasonable prospects for eventual economic extraction' implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. The Qualified Person should consider and clearly state the basis for determining that the material has reasonable prospects for eventual economic extraction. Assumptions should include estimates of cutoff grade and geological continuity at the selected cut-off, metallurgical recovery, smelter payments, commodity price or product value, mining and processing method and mining, processing and general and administrative costs. The Qualified Person should state if the assessment is based on any direct evidence and testing.*

Interpretation of the word 'eventual' in this context may vary depending on the commodity or mineral involved. For example, for some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage 'eventual economic extraction' as covering time periods in excess of 50 years. However, for many gold deposits, application of the concept would normally be restricted to perhaps 10 to 15 years, and frequently to much shorter periods of time.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow

> *confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Pre-Feasibility Study which can serve as the basis for major development decisions.*
>
> **Measured Mineral Resource**
>
> A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.
>
> *Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.*
>
> **Modifying Factors**
>
> Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

MDA reports resources at cutoffs that are reasonable for deposits like those at Osiris, given anticipated mining methods and plant processing costs. Economic conditions are also considered because of the regulatory requirements that a resource exists "*in such form and quantity and of such a grade or quality that it has reasonable prospects for eventual economic extraction*." Although some evaluation with respect to economics has been performed to make this determination, the Mineral Resources reported herein are not mineral reserves and do not have demonstrated economic viability.

MDA is not an expert with respect to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political matters, however, MDA is not aware of any related factors that may materially affect the Osiris project Mineral Resources as of the date of this report. For more details on these topics see Section 4.0.

There are four main deposits at the Osiris project: Conrad, Osiris, Sunrise, and Ibis. Each area will be discussed separately in this report. Osiris and Sunrise are oriented sub-perpendicular to each other, however mineralization is contiguous along a structural fold between them.

14.2 Resource Database

14.2.1 Osiris Resource Database

The database on which this resource is based has 260 diamond core drill holes with a total of 85,215m of drilling (Table 14-1, Figure 14-1). In addition to the drill data, surface samples were also loaded into the database, however, surface samples were used to help guide the definition of the gold domains, but nothing more. Of the 260 drill holes, 22 did not impact the estimate the estimate, so the estimate is based on 238 of the 260 drill holes in the Osiris resource database.

Table 14-1 Resource Database

	Valid	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	27,347					0.00	816.86	m
To	27,347					0.10	819.91	m
Length	27,347	3.05	3.12			0.01	109.73	m
Au	26,085	0.006	0.398	2.028	5.1	0.005	111.5	g/t
Ag	26,085	0.05	0.31	11.58	37.9	0.01	1390.0	g/t
Density	649	2.71	2.73	0.18	0.06	1.93	4.11	g/cm^3

14.2.2 Resource Database by Deposit Area

The Conrad, Osiris, Sunrise, and Ibis drilling databases contain 15,939, 6,657, and 1,983 assay records[1], respectively, used for resource estimation; no data were excluded. Table 14-2, Table 14-3, and Table 14-4 present descriptive statistics of the drill sample data for these deposit areas. The database, as received from ATAC and imported into MineSight, also contains logged lithology, density measurements, trace element geochemistry, geotechnical data, and magnetic susceptibility data. All drilling data was used in the estimate, but only collar locations, downhole surveys, and gold analyses were audited (see section 12.2).

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[1] These numbers do not add up to the total shown in **Error! Reference source not found.** because that table includes drill holes that are not within these three deposit areas.

Table 14-2 Conrad Resource Database Descriptive Statistics

	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Au	**15,939**	**0.005**	**0.477**	**2.334**	**4.895**	**0.005**	**111.5**	**g/t**
Au capped	**15,939**	**0.005**	**0.462**	**2.043**	**4.421**	**0.005**	**40.0**	**g/t**
Ag	15,939	0.054	0.300	10.891	36.361	0.005	1190.0	g/t
As	15,939	86.6	2262.2	14715.8	6.5	1.5	494000	ppm
Sb	15,939	0.79	7.95	43.64	5.49	0.0	2440	ppm
Hg	15,939	0.80	2.44	6.85	2.81	0.0	339	ppm
Cu	15,939	32.61	38.31	39.12	1.02	0.5	1830	ppm
Pb	15,939	10.80	12.36	18.84	1.52	0.3	2720	ppm
Zz	15,939	56.19	61.18	67.60	1.10	1.0	2930	ppm
Mo	15,939	0.52	0.92	3.19	3.49	0.03	277	ppm
Fe	15,939	3.10	3.06	2.11	0.69	0.02	30.1	%
S	15,939	1.20	1.91	1.75	0.92	0.00	10.5	%
Density	372	2.74	2.76	0.23	0.08	1.85	3.65	g/cm3
Core rec.	15,835	97.0	92.9	12.3	0.1	0.0	100.0	%
RQD	15,835	65.6	59.9	27.3	0.5	0.0	100.0	%

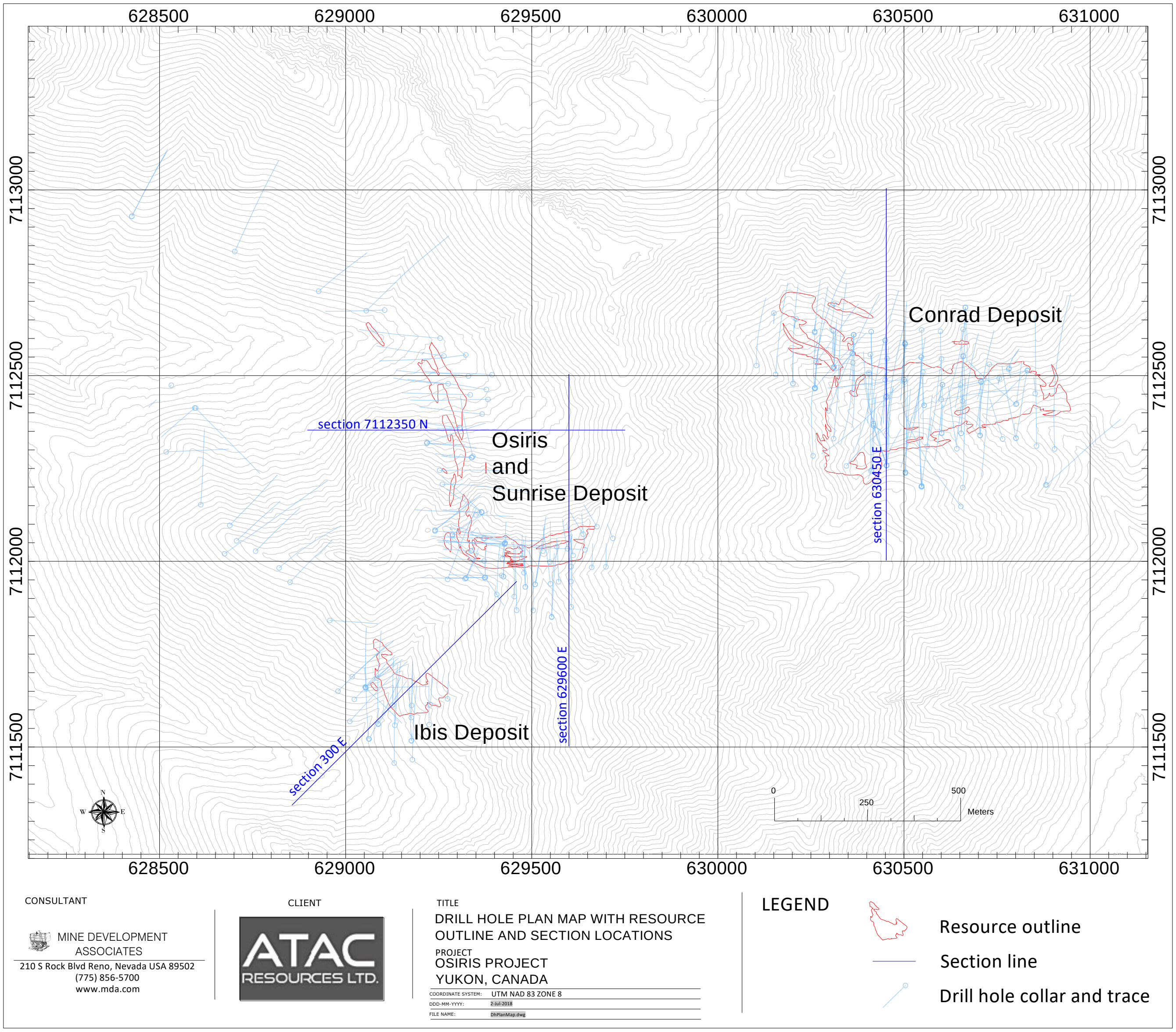
Table 14-3 Osiris/Sunrise Resource Database Descriptive Statistics

	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Au	**6,657**	**0.010**	**0.353**	**1.810**	**5.125**	**0.005**	**46.4**	**g/t**
Au capped	**6,657**	**0.010**	**0.339**	**1.717**	**5.063**	**0.005**	**30.0**	**g/t**
Ag	6,657	0.054	0.439	15.708	35.745	0.005	1390.0	g/t
As	6,657	116.2	2585.3	15763.0	6.1	0.1	437000	ppm
Sb	6,657	0.72	8.41	63.03	7.50	0.0	3500	ppm
Hg	6,657	0.30	2.00	10.47	5.23	0.0	373	ppm
Cu	6,657	12.71	16.69	41.10	2.46	0.1	3110	ppm
Pb	6,657	7.92	10.72	15.24	1.42	0.6	739	ppm
Zz	6,657	29.70	45.47	85.28	1.88	1.0	2210	ppm
Mo	6,657	0.49	0.65	2.76	4.27	0.03	322	ppm
Fe	6,657	1.15	1.54	1.29	0.84	0.05	12.3	%
S	6,657	0.30	0.68	1.24	1.82	0.00	10.5	%
Density	170	2.75	2.83	0.27	0.10	2.29	4.19	g/cm3
Core rec.	6,575	95.4	91.8	10.9	0.1	0.0	100.0	%
RQD	6,575	47.9	47.9	27.4	0.6	0.0	100.0	%

Table 14-4 Ibis Resource Database Descriptive Statistics

	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Au	**1,983**	**0.010**	**0.298**	**1.378**	**4.617**	**0.005**	**23.5**	**g/t**
Au capped	**1,983**	**0.010**	**0.293**	**1.370**	**4.673**	**0.005**	**23.5**	**g/t**
Ag	1,983	0.054	0.082	0.137	1.665	0.005	5.8	g/t
As	1,983	91.5	925.0	3710.2	4.0	0.1	72000	ppm
Sb	1,983	0.40	1.04	3.33	3.19	0.0	81	ppm
Hg	1,983	0.40	2.93	11.14	3.80	0.0	221	ppm
Cu	1,983	13.80	17.45	27.82	1.59	1.2	1280	ppm
Pb	1,983	8.42	11.06	20.56	1.86	0.5	1250	ppm
Zz	1,983	30.58	79.59	422.08	5.30	1.0	9180	ppm
Mo	1,983	0.47	0.57	0.55	0.96	0.05	13	ppm
Fe	1,983	1.31	1.58	1.39	0.88	0.17	40.3	%
S	1,983	0.30	0.53	0.71	1.35	0.00	10.5	%
Density	45	2.74	2.75	0.23	0.08	2.46	4.13	g/cm3
Core rec.	1,904	93.1	89.7	11.5	0.1	0.0	100.0	%
RQD	1,904	47.5	47.5	25.2	0.5	0.0	100.0	%

Figure 14-1 Locations of Drill Holes, Resources, and Cross Sections



14.3 Density

The mean values assigned to the units in the model are summarized in Table 14-5. Densities were assigned first by lithology, then overwritten where gold domains are present.

Table 14-5 Density Measurements and Values Applied to the Block Model

Lithology	Mudstone/ shale	Lime-stone	Clastic	Dolo-stone	Nadaleen flt zone	Intrusive rock	Overburden	default	Gold Domain*
density g/cm³	2.769	2.697	2.717	2.822	2.749	2.743	NA	2.722	2.706
Assigned Average g/cm³	2.77	2.70	2.72	2.82	2.75	2.74	1.80	2.72	2.70*
Valid samples	34	146	17	80	16	4	NA	118	158

(*Weighted by the percent of each block within a gold domain)

14.4 Geologic Model

A comprehensive geologic model, consisting primarily of stratigraphic lithologies, was made by ATAC's geologists, and was used as the foundation for this Resource Estimate. Solids of rock type were received, which were cut by vertical cross sections spaced 50m apart in each area. The geologic model, which is described in Section 7.0, has proven to be reliable in general. However, because of the strong and pervasive deformation, local variations in strike and dip are very difficult to predict.

The limits of oxidation were not modelled because the depth of oxidation is only a few metres below the surface and is basically insignificant.

There is some indication that intrusive dikes are associated with structure and gold mineralization, although there are few drill intersections of intrusive, and even fewer that are mineralized. Because these relationships are poorly understood, the gold model did not consider any effect of the intrusive dikes.

14.5 Mineral Domains

The mineralization in all four deposit areas is similar in style, as described in general terms below:

- Low-grade from ~0.1g Au/t to ~1g Au/t: Rare gold-bearing stylolites, may have calcite veining, sometimes with weak realgar and/or orpiment within calcite veins or on fracture surfaces;
- Mid-grade from ~1g Au/t to ~10g Au/t: More dense gold-bearing stylolites and concentrations of dark clay-pyrite-gold replacement zones, may have some calcite veining. Realgar and/or orpiment can be both fracture controlled and disseminated.
- Higher-grade greater than ~10g Au/t: Replacement and alteration with high concentration of clays and pyrite generally associated with at least some realgar and/or orpiment. The rock is black and there are no calcite veins/stylolites. Water soaks into this rock easily. It is decalcified limestone with weakly disseminated realgar and orpiment.

Using the geologic model described in Section 14.4 as a control, gold domains were interpreted based on drill-sample grades on the 50m-spaced sections. The sections are oriented north-south at Conrad and Sunrise, east-west at Osiris, and N45°E at Ibis. The domains were defined separately for each area based on population breaks for gold on cumulative probability plots ("CPP"). The general characteristics of the mineralization, as described above, were also referenced during modelling.

Core photos for all intercepts with significant grade were reviewed to determine the geological characteristics specific to domains in each area. These photos also provided guidance with respect to orientation of mineralization.

During modelling, the mid- and high-grade mineralization in the general description above was combined into a single high-grade domain, because the >~10g Au/t material does not form cohesive modellable units.

14.5.1 Conrad

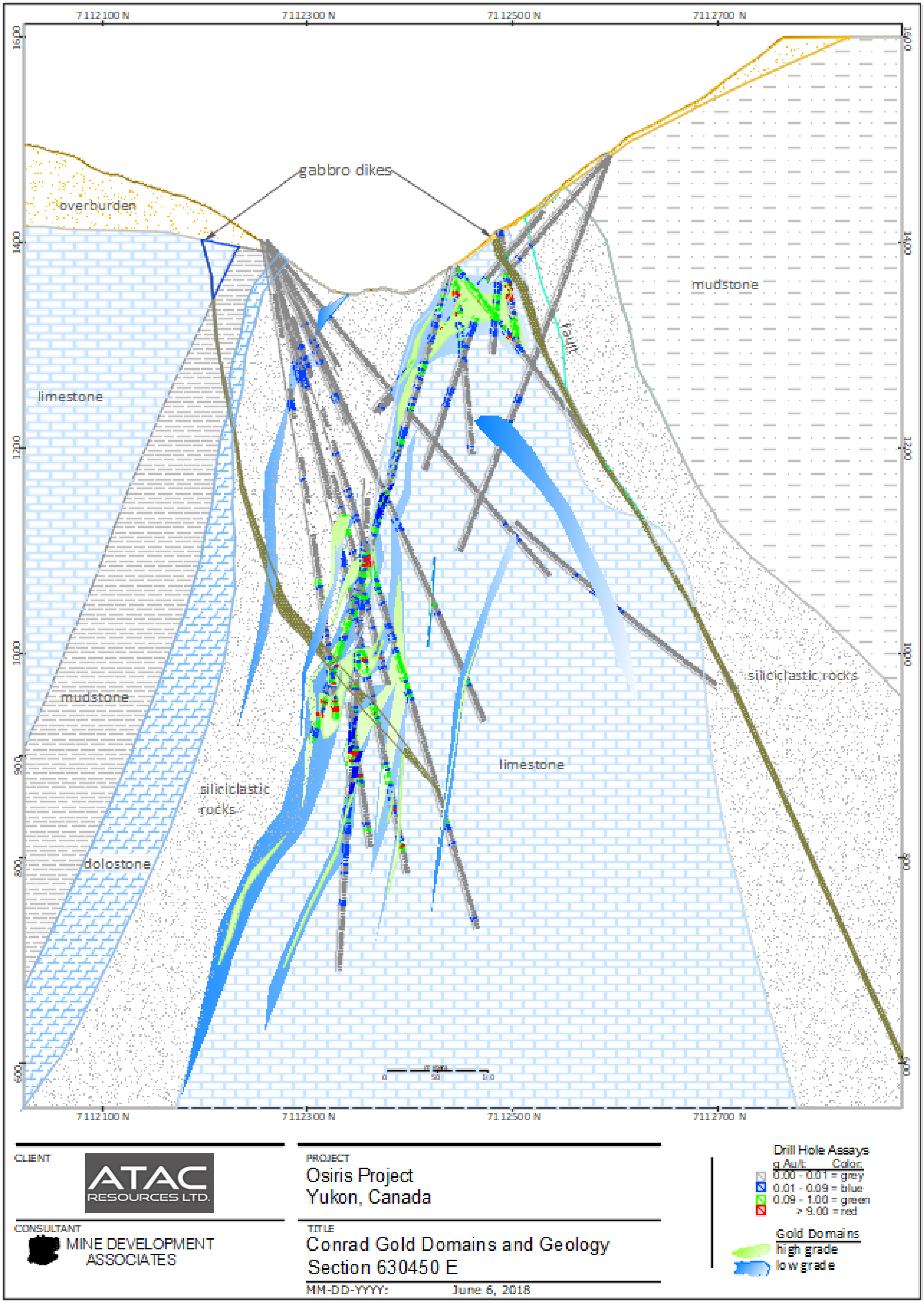
Domains as defined from CPP’s at Conrad are as follows:

- Low-Grade domain - ~0.09 to ~1g Au/t, and
- High-grade domain - >~1g Au/t

At Conrad, most of the mineralization lies within the Conrad limestone 1 unit, and to a lesser extent in the overlying fine-grained clastic unit. Figure 14-2 shows a geologic cross section with the mineral domains at Conrad. Stratigraphically, from lowest to highest, the mineralization occurs in:

1. The core of the limestone-hosted zone - Reported to be within collapse-type breccias formed by the dissolution of limestone, forming voids that host gold mineralization.
2. Limestone parallel to the upper contact of the Conrad limestone - Related to styolites and dissolution, possibly in part explained by the difference in the competency of the Conrad limestone and the overlying mudstone.
3. Upper siliciclastic unit parallel to the lower contact with the Conrad limestone - Clastic-hosted and fracture-related mineralization.

Figure 14-2 Conrad Gold Domains and Geology –Section 630450E



see Figure 14-1 for the location of this cross-section

14.5.2 Osiris/Sunrise

Domains as defined from CPP's at Osiris/Sunrise are as follows:

- Low-Grade domain - ~0.1 to ~2g Au/t, as described above for Conrad but with a few mineralized stylolites;
- High-grade domain - >~2g Au/t, as described above, highest grades associated with thick, massive replacement by grayish-greenish-brownish, siliceous pyritic material, with texture suggestive of high-fluid pressure.

At both Osiris and Sunrise, almost all the mineralization lies within the Osiris limestone 1 unit, although at Osiris, some occurs in the overlying dolostone. Mineralization generally parallels the contact of the dolostone and the limestone. Figure 14-3 and Figure 14-4 show cross sections of the geology and gold domains at Osiris and Sunrise, respectively.

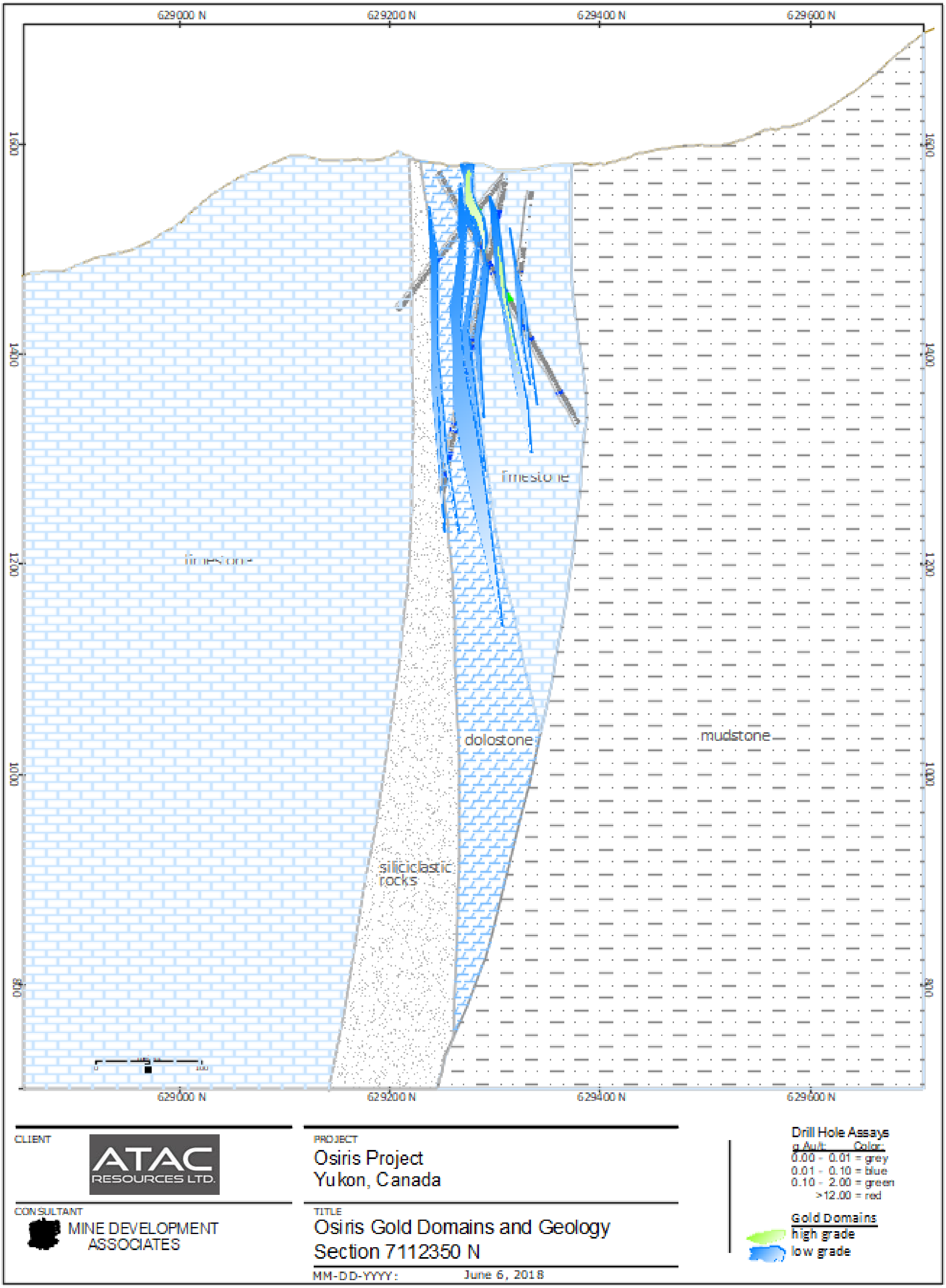
14.5.3 Ibis

Domains as defined from CPP's at Ibis are as follows:

- Low-Grade domain - ~0.09 to ~0.8g Au/t, and
- High-Grade domain - >~0.8g Au/t, with the highest grades over 8g Au/t.

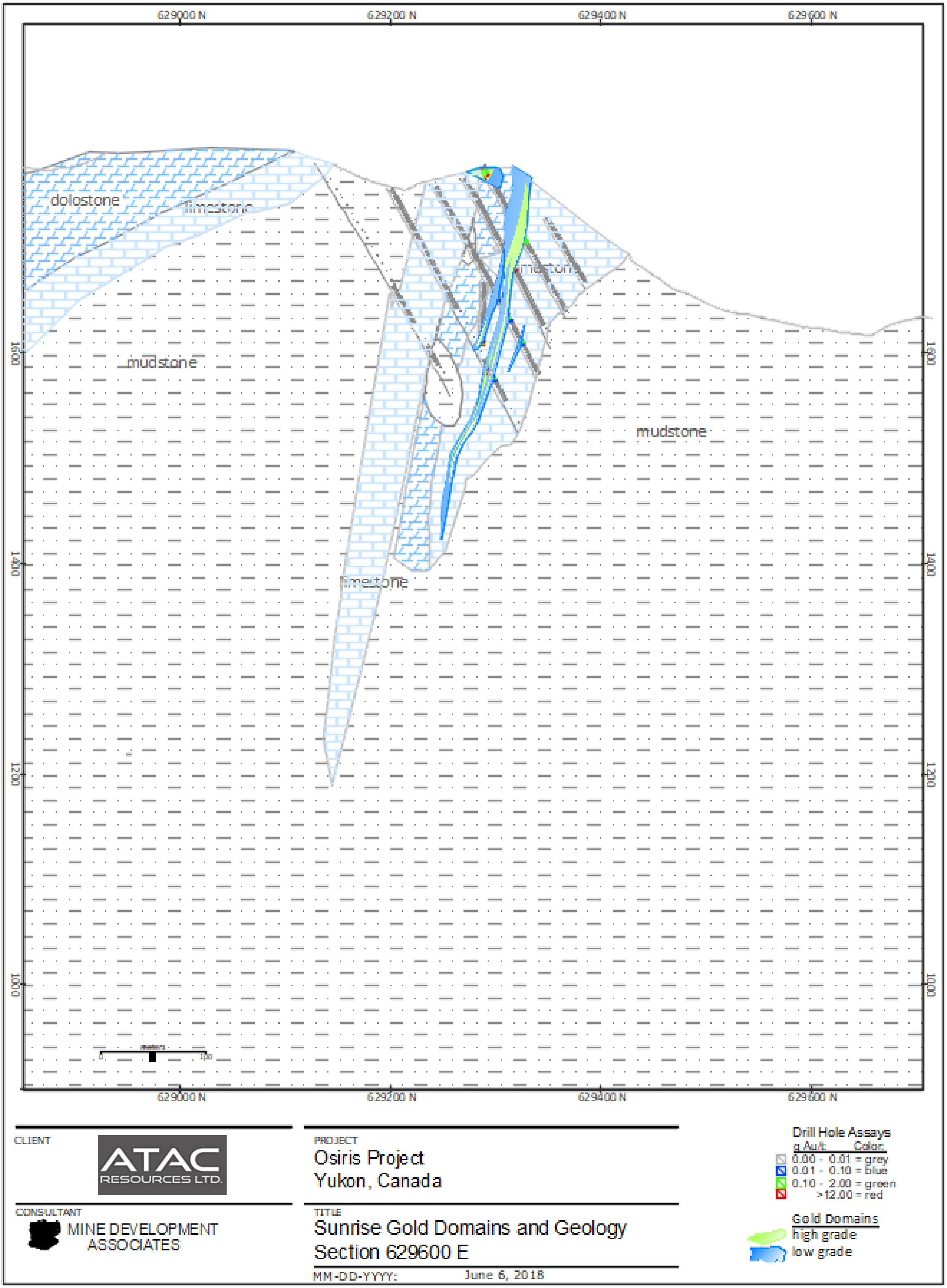
At Ibis, most of the mineralization lies within the Osiris limestone 1 unit, near the contact with, and sometimes within the overlying dolostone. Figure 14-5 is a cross section showing the geology and gold domains at Ibis.

Figure 14-3 Osiris Gold Domains and Geology – Section 7112350N



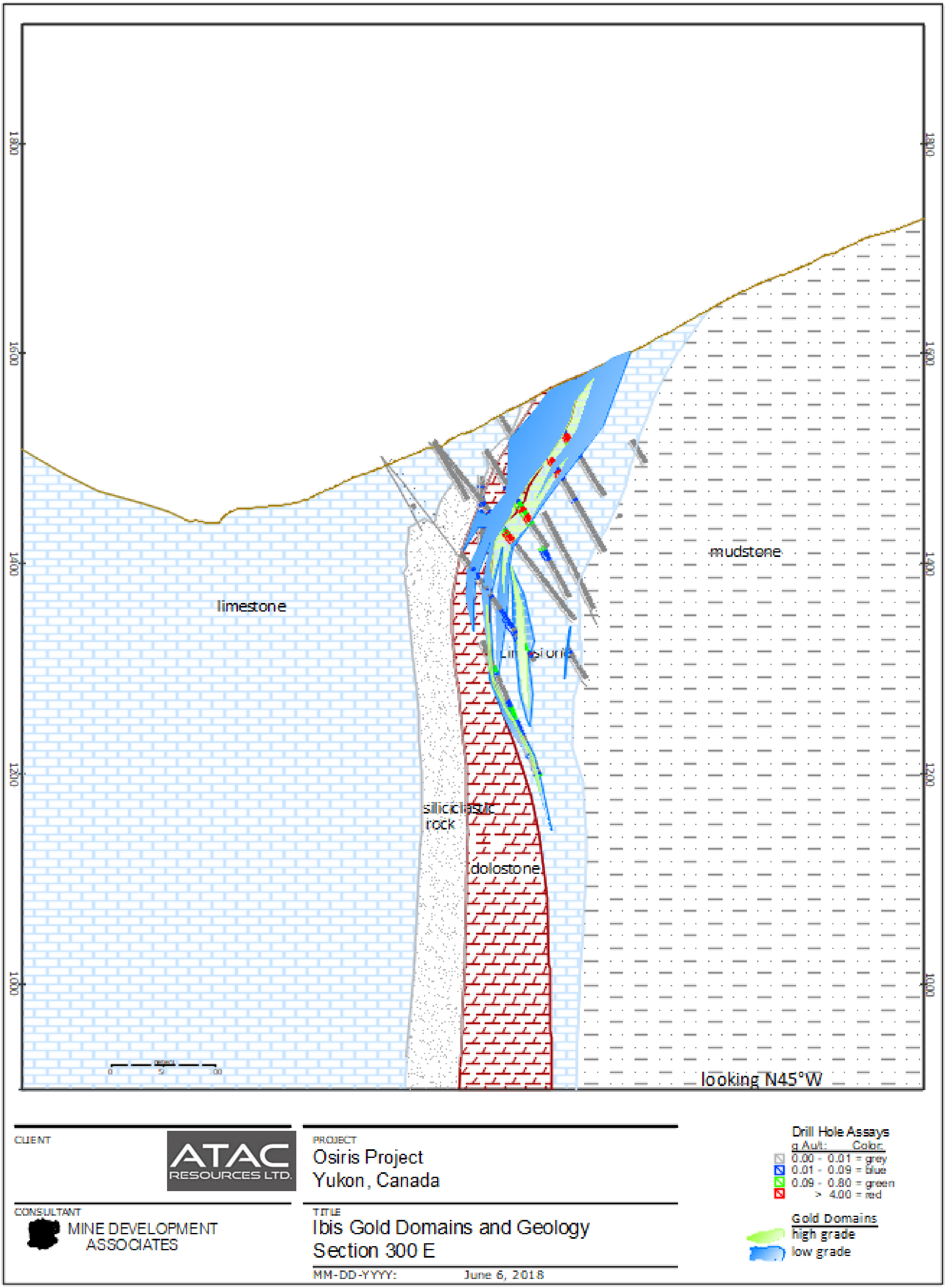
see Figure 14-1 for the location of this cross-section

Figure 14-4 Sunrise Gold Domains and Geology – Section 629600E



see Figure 14-1 for the location of this cross-section

Figure 14-5 Ibis Gold Domains and Geology – Section 300E



see Figure 14-1 for the location of this cross-section

14.6 Capping and Compositing

Once mineral domains were defined and modelled on vertical cross sections, the domains were used to code drill-hole samples. CPPs were made of the coded assays and descriptive statistics were generated (Appendix A). Capping values were determined within each of the gold domains in each area separately, as well as for assays outside modelled mineral domains. Capping for each domain was determined by first assessing the grade above which the outliers occur. Then those outlier grades were reviewed in context with surrounding drilling to determine materiality, general location, and grade and proximity of the closest samples. Capping levels are given in Table 14-6.

Table 14-6 Capping Levels for Gold by Domain and Area

Conrad		
Domain	**g Au/t**	**# Samples Capped**
Low grade	5	6
High grade	40	7
Osiris/Sunrise		
Domain	**g Au/t**	**# Samples Capped**
Low grade	4	2
High grade	30	7
Ibis		
Domain	**g Au/t**	**# Samples Capped**
Low grade	N/A	0
High grade	N/A	0
Outside Modelled Domains		
Domain	**g Au/t**	**# Samples Capped**
N/A	1	>100

Once the capping was completed, the drill holes were down-hole composited to 3m intervals, honoring gold domain boundaries. Three metres was chosen because the majority of samples are 1.5m long. The descriptive statistics of the composite database are given in Appendix A.

Correlograms were built for gold in order to evaluate grade continuity. The same correlogram parameters were applied to the kriged estimate for all areas, and are summarized as follows:

> <u>Low-grade gold domain</u> - The nugget is 60% of the total sill and the first sill is 30% of the total sill with a range of 15 to 27m depending on direction. The remaining sill (10%) has a range of around 34 to 70m depending on direction.
>
> <u>High-grade gold domain</u> - The nugget is 45% of the total sill and the first sill is 45% of the total sill with a range of 20 to 25m depending on direction. The remaining sill (10%) has a range of around 30 to 35m depending on direction.

Correlograms outside modelled gold domains were not generated.

14.7 Estimation and Resources

The block model is not rotated, and the blocks are 5m north-south by 5m vertical by 5m east-west. Four estimates were completed: polygonal, nearest neighbor ("NN"), inverse distance to the third power ("ID^3"), and kriged. With the exception of the polygonal method, these estimates were run several times in order to evaluate results and to determine sensitivity to estimation parameters.

The Osiris project was divided into ten estimation areas ("ESTAR") to control the search orientation and anisotropy in estimation (see Table 14-7, Table 14-8, and Table 14-9). The ten broad estimation areas generated by MDA to guide the estimate provide only a generalized orientation of stratigraphy and mineralization.

One single estimation pass was run for each of the low- and high-grade domains in each of the ten estimation areas. The maximum number of samples for each block to receive an estimate was adjusted to be sufficiently low so that block grades would not be influenced by unreasonably distant composites. However, where data was limited, the influence of more distant composites was unavoidable. The areas outside modelled domains were estimated separately for each estimation area, although the maximum search distance allowed was 50m from composites in all areas. A minimum of two composites was required to estimate a block outside domains, compared to one within domains. All estimation parameters are given in Table 14-7, Table 14-8, Table 14-9, and Appendix B.

For reporting, technical and economic factors likely to influence the "*reasonable prospects for eventual economic extraction*" were evaluated using the best judgement of the author responsible for this section of the report. For evaluating the open-pit potential, MDA ran a series of optimized pits using variable gold prices, mining costs, processing costs, and anticipated metallurgical recoveries. For evaluating the potential for underground mineability, MDA ran a series of stope optimizations using variable gold prices, mining costs, processing costs, and anticipated metallurgical recoveries. MDA used costs appropriate for open-pit mining and underground mining in remote regions, estimated processing costs and metallurgical recoveries related to roasting/autoclave, and G&A costs for remote camp-supported facilities. The factors used in defining cutoff grades are based on US$1400/oz Au.

The Osiris Project reported Mineral Resource is the fully block diluted ID^3 estimate. The resources are reported at a cutoff of 1.3g Au/t for open pit mining and 2.6g Au/t for underground mining. Table 14-10 gives the combined total resources for all areas in the Osiris project. Table 14-11 gives the resources most likely minable by open pit methods. Table 14-12 presents the resources most likely minable by underground. Cross sections of the gold block model are given in Figure 14-6, Figure 14-7, Figure 14-8, and Figure 14-9. These same resource tables for each individual deposit are presented in Appendix C.

Table 14-7 Estimation Areas – Search Ellipse Orientations

ESTAR	Description	Rotation	Dip	Plunge
1	Ibis (NW)	60	-90	0
2	Ibis (E)	215	-50	0
3	Sunrise	350	-90	0
4	Osiris (S)	90	-85	0
5	Osiris (N)	70	-85	0
6	Conrad (NW)	30	-90	0
7	Conrad (E)	100	-70	0
8	Conrad (Central)	0	-90	0
9	Conrad (SW)	260	-70	0
10	Conrad (S)	135	-75	0

Table 14-8 Estimation Areas – Low-Grade Search Ellipse Distances

ESTAR	Description	Major Axis	Minor Axis	Vertical Axis
1	Ibis (NW)	250	250	63
2	Ibis (E)	100	100	25
3	Sunrise	200	200	75
4	Osiris (S)	240	240	60
5	Osiris (N)	240	240	60
6	Conrad (NW)	300	300	75
7	Conrad (E)	200	200	50
8	Conrad (Central)	320	320	80
9	Conrad (SW)	350	350	40
10	Conrad (S)	350	350	40

Table 14-9 Estimation Areas – High-Grade Search Ellipse Distances

ESTAR	Description	Major Axis	Minor Axis	Vertical Axis
1	Ibis (NW)	200	200	50
2	Ibis (E)	100	100	25
3	Sunrise	160	160	40
4	Osiris (S)	192	192	48
5	Osiris (N)	192	192	48
6	Conrad (NW)	240	240	60
7	Conrad (E)	115	115	30
8	Conrad (Central)	256	256	64
9	Conrad (SW)	280	280	32
10	Conrad (S)	280	280	32

Table 14-10 Osiris Total Inferred Gold Resources

All Inferred Resources

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	27,235,000	2.60	2,273,000
1.0	20,794,000	3.17	2,122,000
1.2	18,835,000	3.39	2,053,000
1.3	17,905,000	3.50	2,015,000
1.4	17,009,000	3.62	1,977,000
1.6	15,272,000	3.85	1,892,000
1.8	13,725,000	4.10	1,808,000
variable	**12,380,000**	**4.23**	**1,685,000**
2.0	12,367,000	4.34	1,725,000
2.5	9,497,000	4.98	1,520,000
2.6	9,024,000	5.10	1,481,000
3.0	7,390,000	5.61	1,333,000
4.0	4,665,000	6.88	1,032,000
5.0	3,157,000	8.04	816,000

Table 14-11 Osiris Open-Pit Inferred Gold Resources

All Inferred Open Pit Resources

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	12,664,000	2.89	1,176,000
1.0	9,091,000	3.74	1,094,000
1.2	8,370,000	3.97	1,069,000
1.3	**8,045,000**	**4.08**	**1,055,000**
1.4	7,740,000	4.19	1,043,000
1.6	7,115,000	4.42	1,012,000
1.8	6,553,000	4.66	982,000
2.0	6,030,000	4.90	949,000
2.5	4,885,000	5.53	868,000
2.6	4,689,000	5.64	851,000
3.0	3,997,000	6.14	789,000
4.0	2,788,000	7.30	654,000
5.0	2,011,000	8.40	543,000

Table 14-12 Osiris “Underground Mineable” Inferred Gold Resources

All Inferred Underground Resources

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	14,571,000	2.34	1,097,000
1.0	11,703,000	2.73	1,028,000
1.2	10,465,000	2.92	984,000
1.3	9,860,000	3.03	960,000
1.4	9,269,000	3.13	934,000
1.6	8,157,000	3.36	880,000
1.8	7,172,000	3.58	826,000
2.0	6,337,000	3.81	776,000
2.5	4,612,000	4.40	652,000
2.6	**4,335,000**	**4.52**	**630,000**
3.0	3,393,000	4.99	544,000
4.0	1,877,000	6.26	378,000
5.0	1,146,000	7.41	273,000

Figure 14-6 Conrad Gold Domains, Geology and Gold Block Model – Section 630450E

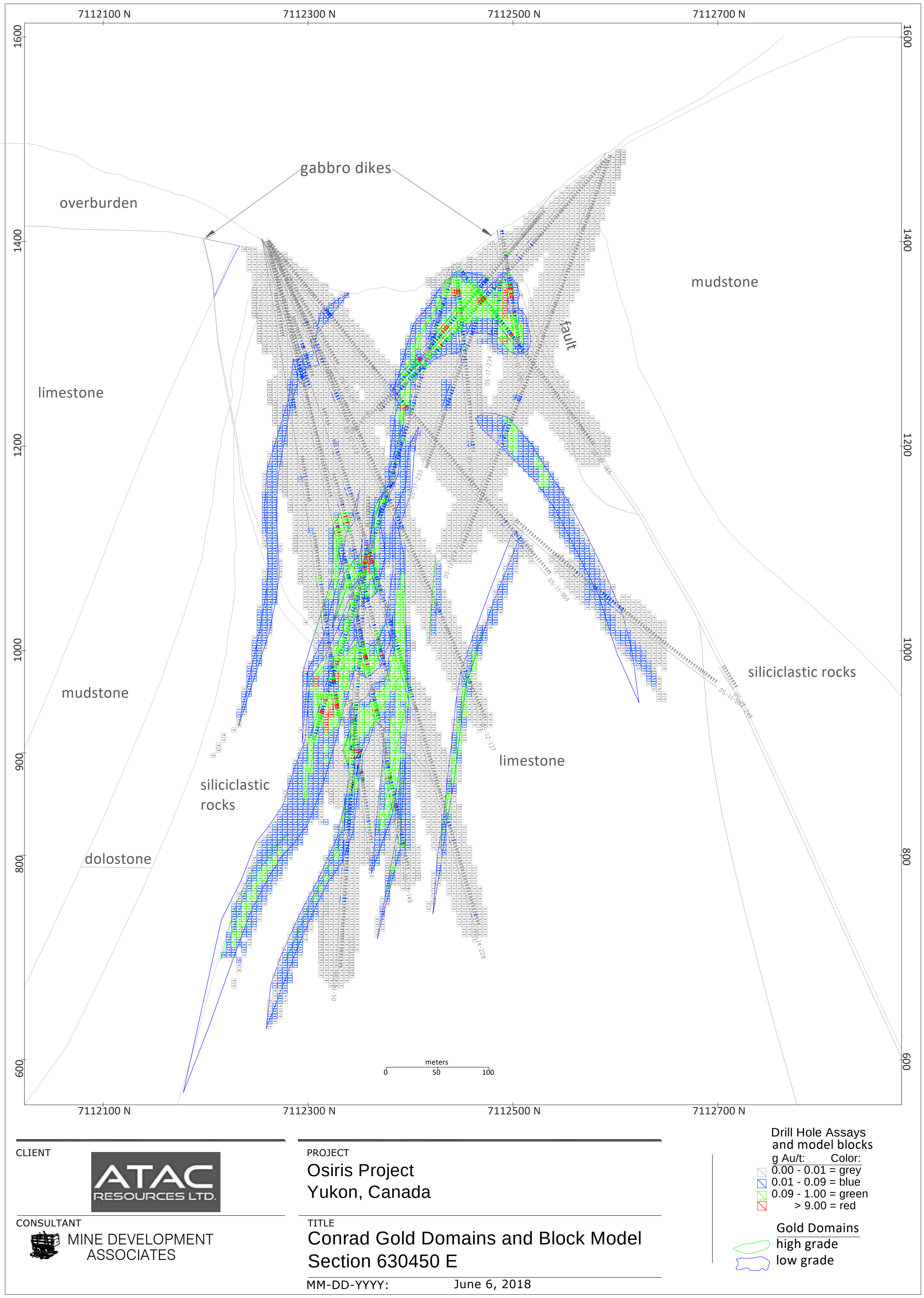
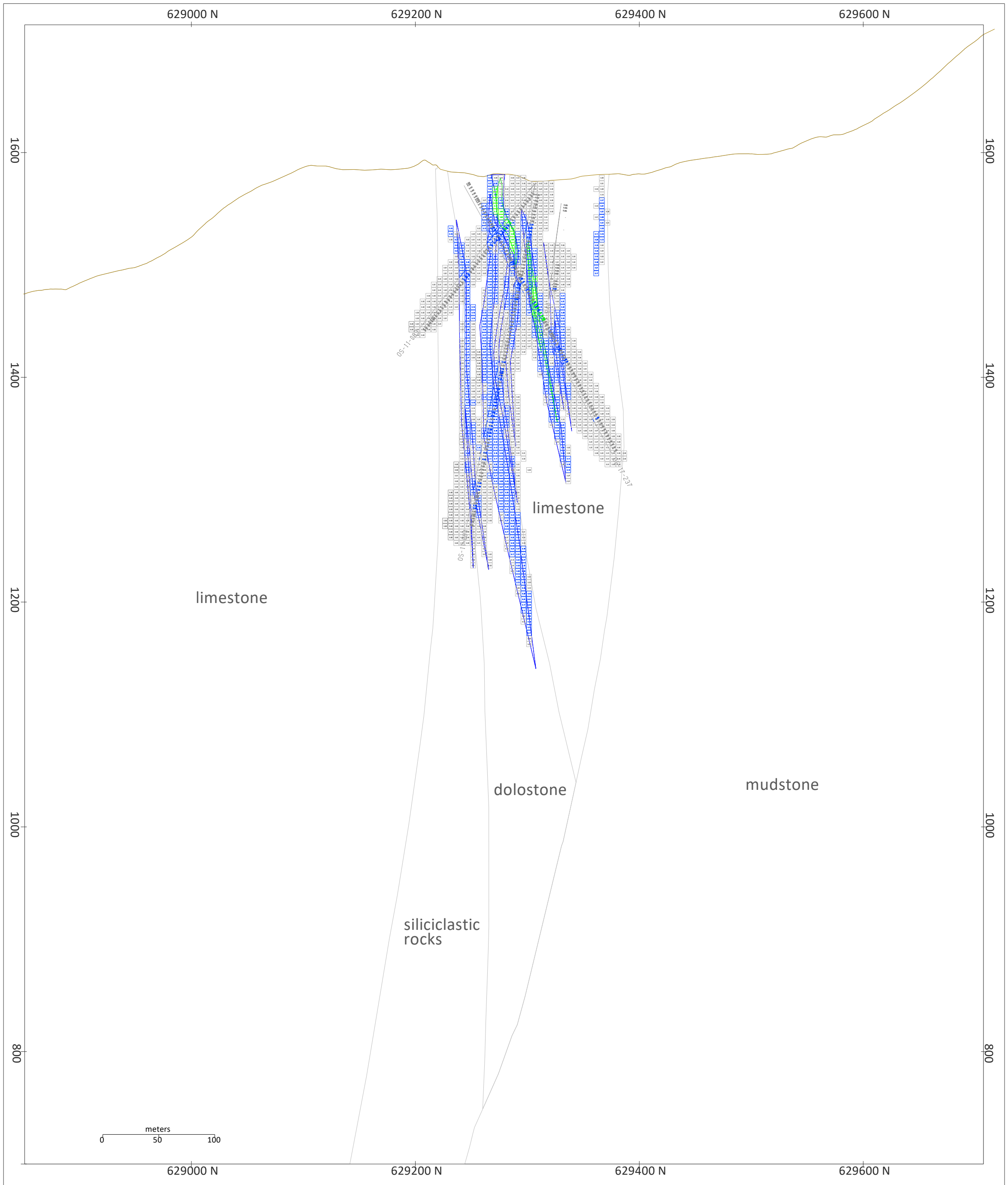


Figure 14-7 Osiris Gold Domains, Geology and Gold Block Model – Section 7112350N



CLIENT

ATAC RESOURCES LTD.

CONSULTANT

MINE DEVELOPMENT ASSOCIATES

PROJECT

Osiris Project
Yukon, Canada

TITLE

Osiris Gold Domains and Block Model
Section 7112350 N

MM-DD-YYYY: June 6, 2018

Drill Hole Assays

g Au/t:	Color:
▨ 0.00 - 0.01	= grey
▨ 0.01 - 0.10	= blue
▨ 0.10 - 2.00	= green
▨ >12.00	= red

Gold Domains

high grade

low grade

Figure 14-8 Sunrise Gold Domains, Geology and Gold Block Model – Section 629600E

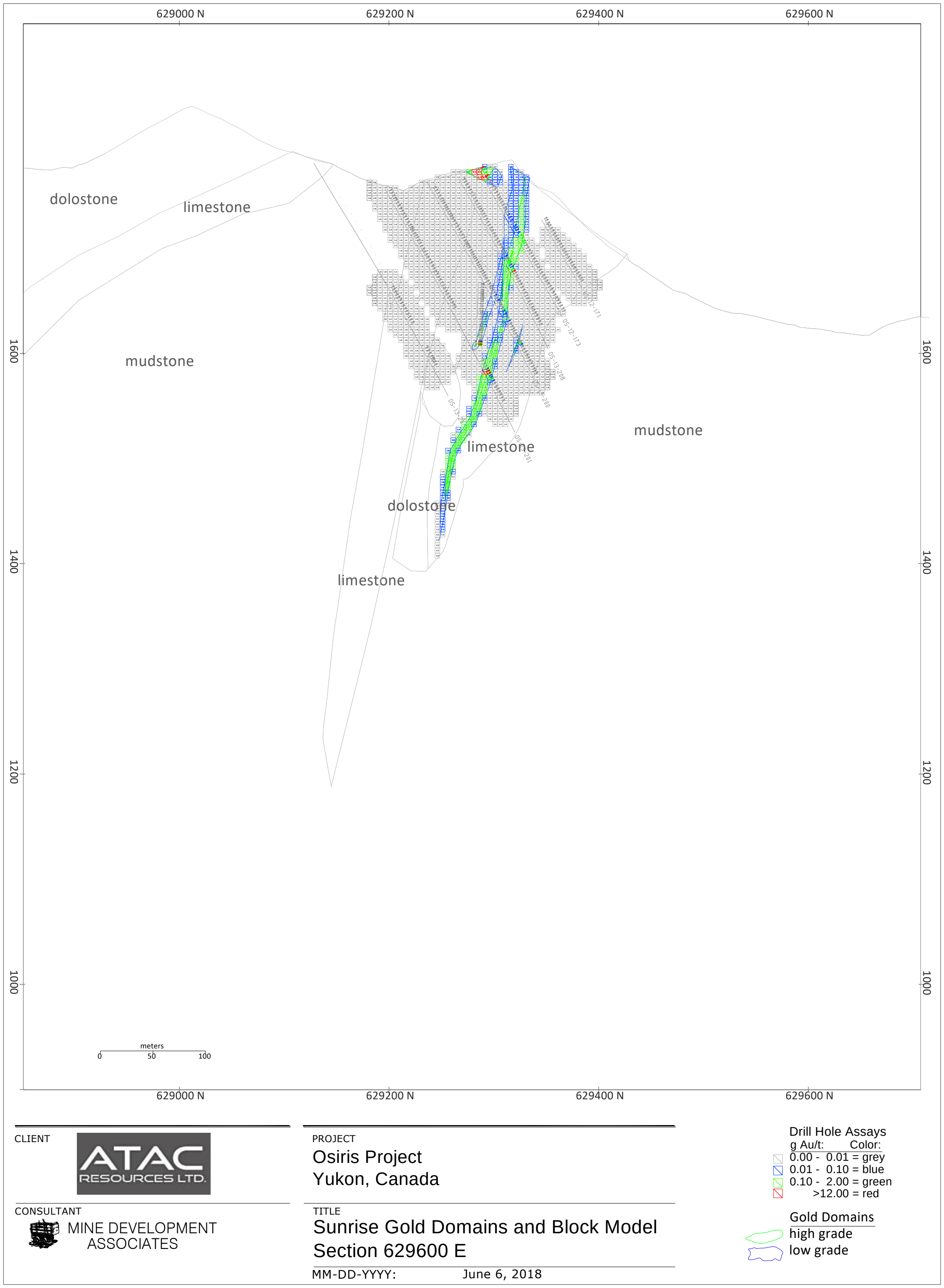
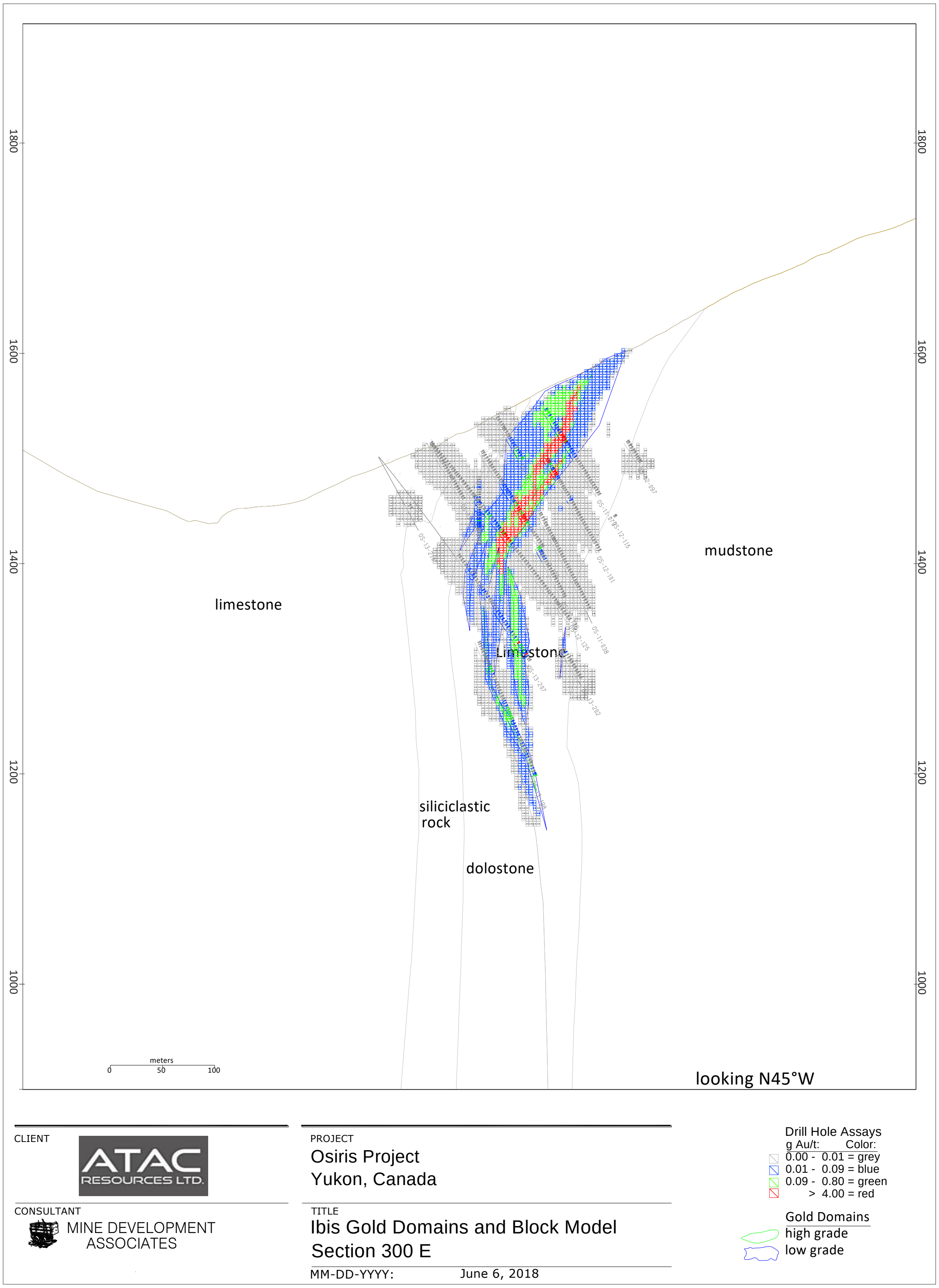


Figure 14-9 Ibis Gold Domains, Geology and Gold Block Model – Section 300E



14.8 Discussion of Resources

This first Mineral Resource estimate provides an accurate assessment of resources presently defined at Osiris. Within the high-grade cap at Conrad, higher classification can be had readily with minimal additional drilling. Elsewhere, where complexly deformed host-rocks make it difficult to project grades far from drill holes with much confidence, there will need to be much more drilling. The database, sampling, geology, and quality control all support higher classification of resources.

In all areas, there is a definite correlation of mineralization with rock type, and consequently, the geological modeling by ATAC formed the basis for defining the mineralized domains. The same complexities in structural deformation that impact classification outside the upper Conrad zone make it difficult to project grades properly in all areas of the deposit.

The impact on the Mineral Resource estimate caused by the incorrect true-north to UTM-north adjustments, described in section 12.2.2 was evaluated. MDA found that for the majority of the Mineral Resources, which occur at Conrad and near the surface, the impact is minimal. For deep resources the impact of a 5^{o} difference is more material. Most of the correctly adjusted locations fell within one to two 5m-by-5m-by-5m model blocks of the locations used while modeling. Drill holes oriented nearly-perpendicular to the mineralized zones showed differences in location only along strike and therefore did not materially change the locations of the defined mineral domains; they would only change the location of the estimated grades within the domain. Drill holes oriented parallel to the mineralized zone, a situation which inevitably arises in a folded structural terrain, impart changes in location of one to three 5m-by-5m-by-5m model blocks of the mineralized zone. This happened less than half-a-dozen times, which is not significant when compared to the >400 high-grade zone intersections. Furthermore, no mine design is being done on this model. It has been MDA's experience that one should not expect down-hole survey accuracies to be within a few metres at depths of hundreds of metres, and errors of tens of metres would not be unexpected.

MDA has accepted the azimuths as were presented in November 2017 as sufficient for this Inferred Resource Estimate. Any future work must incorporate the survey data with correct adjustments to azimuths.

The deposits are open ended to the north of Osiris, to the east of Sunrise, at depth in all deposits, and along strike of Ibis. Conrad is open along strike and at depth

15.0 MINERAL RESERVE ESTIMATES

There are no mineral reserves on the Osiris property.

16.0 MINING METHODS

This section is not applicable for this Technical Report.

17.0 RECOVERY METHODS

This section is not applicable for this Technical Report.

18.0 PROJECT INFRASTRUCTURE

This section is not applicable for this Technical Report.

19.0 MARKET STUDIES AND CONTRACTS

This section is not applicable for this Technical Report.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable for this Technical Report.

21.0 CAPITAL AND OPERATING COSTS

This section is not applicable for this Technical Report.

22.0 ECONOMIC ANALYSIS

This section is not applicable for this Technical Report.

23.0 ADJACENT PROPERTIES

The Property forms the eastern part of ATAC's Rackla Gold Property, with the Orion Project located at the western side. The Orion Project is currently being explored by ATAC in partnership with Barrick Gold Corp. Adjacent claims are also held by Carlincore Resources, Strategic Metals Ltd., and Anthill Resources Ltd.

No Mineral Resources or Reserves have been identified on any of these adjacent properties.

24.0 OTHER RELEVANT DATA AND INFORMATION

The author is not aware of any other data or information, not included in this report, which is relevant to the Mineral Resource estimate described in this report.

25.0 INTERPRETATION AND CONCLUSIONS

The authors have worked with and reviewed the project data, including the Osiris drill-hole database, and visited the project site. MDA believes that the data provided by ATAC, as well as the geological interpretations are an accurate and reasonable representation of the Osiris project.

25.1 Geology and Implications of Carlin-Type Mineralization

The Osiris property is located in the remote frontier regions of east-central Yukon. The property comprises 1,477 contiguous quartz mineral claims covering an area of about 302 km^2. ATAC first staked claims in the area in 2009, based upon anomalous stream-sediment samples collected and reported by the Geological Survey of Canada. Drill-testing of the property in 2010 resulted in discovery of the Conrad, Osiris, Sunrise and Ibis zones of gold mineralization. In subsequent years, ATAC completed complementary geological, geochemical, geophysical and drilling exploration programs to discover and partly define seven zones of gold mineralization on the property. Four of these zones: Conrad, Osiris, Sunrise and Ibis have been modeled and resources estimated, which are presented in this Technical Report.

The gold deposits known and being explored for in the Osiris project area are Carlin-type gold deposits, similar in geologic setting and deposit characteristics with the numerous, and often large, Carlin-type gold deposits in Nevada. The Osiris deposits present alteration, mineralogy and geochemical characteristics diagnostic of this type of deposit.

The regional geological setting of the Osiris property is complex. The property straddles the boundary between deep water dominantly clastic rocks of the Selwyn Basin to the south and shallow-water shelf rock of the Ogilvie platform to the north. The margin of the platform is a fundamental deep crustal break dating to Neoproterozoic rifting along the western margin of the North American continent. The Osiris property is located along and between several regional-scale faults, the Kathleen Lakes fault to the north and the Dawson Thrust fault to the south. These faults formed during a period of compressional tectonics beginning in Cretaceous time that resulted in Selwyn Basin rocks being thrust northward over shelf rocks along the old continental margin. This unique tectonic setting is similar to the tectonic setting of Nevada and was likely important in the location of these deposits.

Mineralization within the Osiris gold deposits is controlled by both stratigraphy and structure. Mineralization occurs dominantly as stratabound replacement bodies in favorable rock layers, particularly within silty limestone beds. Deposits, and higher-grade portions of deposits, occur along or near faults and fault zones, which likely acted as conduits for the flow of hydrothermal fluids. The forms of the deposits reflect the geometry of the host geology.

Because mineralization is so strongly controlled by stratigraphy and structure, accurate observation and interpretation of geology is critical both for successful exploration and for reliable deposit modeling and resource estimation. It is our finding that ATAC has conducted an exploration program that fully meets those needs.

25.2 Project Data

The data on which the Osiris resource estimate depends are stored in a digital database maintained by ATAC. Data generated in the field are typically entered in the field as well, either in real time or within a few hours or at most within a few days of being generated. Data received from other sources, such as assays from a laboratory, are entered once they have been received and checked by ATAC personnel. MDA audited the collar location, downhole orientation and assay tables in the database, and found that they accurately reflect the data as received from the original sources. MDA and ATAC investigated a small systematic azimuth conversion error and concluded that it did not have a material effect on the resource model and estimate.

ATAC has had QA/QC programs in place since drilling commenced at Osiris. QA/QC protocols were adequate at the outset, have evolved over time, and meet or exceed industry standards. ATAC evaluates the QA/QC results as the assays are received, following up and obtaining resolution of any issues before assays are accepted. MDA reviewed ATAC's QA/QC data and concluded that the assays in the Osiris database provide a reliable basis for the resource estimate.

25.3 Mineral Processing

From the work conducted so far, evidence suggests that the Conrad material has metallurgical properties that are somewhat similar to several of the refractory gold ores in Nevada. Material from the other zones is probably quite similar, but the refractoriness appears to be somewhat less ubiquitous.

Four factors will probably dictate process selection:

- Presence of gold in the pyrite lattice: This necessitates the use of a sulphide pre-oxidation process to release the gold for subsequent extraction.
- Presence of arsenic, mostly as realgar: The very high As to Fe ratio probably points to the need to remove arsenic ahead of pre-oxidation, mostly likely through flotation.
- Substantial abundance of carbonates: This likely points to the need to produce a sulphide-rich, lower-carbonate flotation concentrate, if pressure or bacterial oxidation of the sulphide minerals is to be considered.
- Presence of preg-robbing material: This may necessitate the need to either roast the flotation concentrate (or realgar flotation tails), or use POX/BIOX® followed by thiosulphate leaching. Alternatively, pre-flotation of the carbon into the realgar concentrate may allow for conventional POX/BIOX® on a sulphide flotation concentrate, with cyanide leaching of the oxidation product.

No meaningful metallurgical testwork has been conducted to date to explore any of these options. However, the combination of mineralogy and the limited available metallurgical data all point to a reasonable prospect that the material could be economically processed using conventional or proven technologies to achieve satisfactory gold recoveries.

25.4 Resources

The high quality of the work and of the geologic interpretation has allowed for a realistic and reliable estimate to be completed. The quality of the data and interpretations that are the basis for the Resource Estimate could support classification higher than the present Inferred classification. It is the underlying structural complications recognized and characterized by ATAC that allowed MDA to make the estimate. It is likely that much of the resources could be re-classified as Indicated in a future estimate, with a small amount of additional well-targeted drilling, particularly in the upper Conrad zone. Those resources defined in deeper parts of Conrad, Sunrise, Osiris and Ibis will need relatively more drilling to upgrade most of the resources to Indicated, or higher.

The relatively high-success rate of intersecting mineralization in the drilling – 238 of 260 drill holes affect the resource estimate in some manner – paired with these deposits being Carlin-type suggest that the estimate presented in this report will be the first of what will likely be a sequence of future estimates in the project. Additional estimates will be justified at least for upgrading the resources to higher classification, if not also to estimate additional resources, given that the deposits are open ended to the north of Osiris, to the east of Sunrise, at depth in all deposits, along strike of Ibis and Conrad, but plunging. Coupled with these being Carlin-type deposits, MDA anticipates that the resources stated herein may well expand with continued exploration, and parts will be upgraded to higher classification.

25.5 Concluding Statement

The Osiris project is subject to the normal risks of any exploration project in the early stages of outlining resources. These risks are reduced by the high quality of the data generated by ATAC, by having a deposit belonging to the recognized and reasonably well-understood Carlin type, and by having a solid early-stage explicitly-modeled resource model to build on. While there is no certainty that continued exploration will lead to the discovery of additional mineralization having quality similar to or better than the mineralization identified to date, indications are that the potential is good.

The remote location of the project means that deposits are likely to be costlier to exploit than similar deposits in regions closer to infrastructure. Consequently, higher grades will be needed for economic production, but also less of the estimated mineralization can be reported.

The authors have no expertise to assess political and social risks for mining projects in Yukon.

Osiris is a high-quality project that merits continued exploration as described in Section 26.0.

26.0 RECOMMENDATIONS

The Conrad, Osiris, Ibis and Sunrise zones all offer significant potential for expansion. Definition of the deposits is largely constrained by the extents of current drilling, and relatively modest amounts of targeted exploration could extend mineralization along strike and at depth. A minimum of 10,000 m of exploration drilling is recommended to test expansion potential near to the existing defined zones:

- Priority drilling areas at the Conrad Zone should include systematic step-out drilling to test for additional near-surface potential along the 650 fault zone. High-grade samples were encountered during late-2017 drilling in this area, and the zone remains untested to the east and at depth. Total drilling of 4,000m is recommended for this area.
- The Sunrise Zone shows potential both along-strike and at depth, with numerous high-grade intersections encountered in the 2017 drilling. Total drilling of 3,000m is recommended for this area with focus at depth and along strike to the east.
- The Osiris Zone remains open to the north, and at depth. Previous drilling has identified isolated high-grade intersections to the north which lack drill support necessary to be integrated into the current model. Additional drilling in this area may provide the support necessary for incorporation into a future model. To test adjacent section lines as well as to trace the zone down at depth 1,500m of drilling is recommended.
- The Ibis Zone is currently limited to the east by a lack of drilling. Favorable stratigraphy extends some distance farther to the east, and surface geochemical anomalies have been noted in this area. Wide-spaced step-out drilling is recommended to provide an initial test of extension potential. Total drilling of 1,500m is recommended for this area with focus at depth and along strike to the east.

The majority of the Conrad resource areas would likely be upgraded from Inferred classification with relatively little drilling. A total of 5,000m of infill drilling should target areas within the existing drill patterns where the drill holes are widely spaced.

Limited metallurgical work has been conducted to-date on material from the Property. An appropriately selected sulphide pre-oxidation and downstream cyanidation or thiosulphate leaching process will likely yield good gold recoveries; however, the nature of the feed to this pre-oxidation process is key to the selection of the process, optimization of the process conditions and the associated process economics.

Therefore, it is recommended that a metallurgical testing program be initiated which focuses on processing to optimize the quality of the feed to sulphide pre-oxidation. This program should include:

1. Laboratory testing to develop a realgar pre-flotation step, removing the arsenic-rich realgar ahead of bulk sulphide flotation. Subsequent sulphide flotation should be conducted to evaluate the resulting mass ratio of iron to arsenic in the concentrate, with the aim of achieving a ratio of at least 3:1.
2. Monitoring and optimization of the pre-flotation of carbon to the realgar concentrate. Where the removal of carbon to the realgar concentrate is optimal, preg-robbing tests should be conducted on the downstream sulphide concentrate to evaluate if enough of the carbon has been removed to address the preg-robbing problem.

3. Testing finer primary grind sizes to 80% passing 25µm. Current comminution technologies easily allow for such grind sizes to be achieved, especially with soft ores, and current flotation and mineralogical work both point to the potential for substantial further improvements in gold flotation recovery through fine grinding.
4. Development of cleaner flotation to explore the potential for dropping the mass pulled to the pre-oxidation circuit feed. Previous testwork yielded a 50% mass pull to concentrate, likely leaving carbonate contents that are too high for either pressure oxidation or bacterial leaching. The initial aim should be to achieve a carbonate:sulphur mass ratio of less than 1.3:1.

Once the process required to prepare the feed for sulphide oxidation is optimized, testwork exploring roasting, pressure oxidation, bacterial oxidation and perhaps selected other process (e.g. Albion, Platsol) should be conducted. Where candidate processes are successful, an engineering trade-off study should be conducted to evaluate the different candidates. It is suggested that this exercise should be taken to a satisfactory solution prior to initiating any formal economic studies of the project as a whole.

The categorization of resources as open pit versus underground is highly sensitive to pit slope angles, due to relatively steep and mountainous terrain in the vicinity of the mineralized zones. As no geotechnical analysis work has yet been conducted for the project, a modest slope angle of 45° was used for the purposes of this report. A geotechnical study is recommended to be undertaken to review existing data, make recommendations on future data collection, and provide scoping-level pit slope recommendations.

An approximate budget for the work described above is presented in Table 26-1.

Table 26-1: Proposed Budget

Work Task	**Cost (C$)**
Exploration Diamond Drilling - 10,000 m @ $500/m (all-in cost)	$5,000,000
Infill Diamond Drilling – 5,000 m @ $500/m (all-in cost)	$2,500,000
Metallurgical Studies	$200,000
Geotechnical Studies	$100,000
Contingency @ 5%	$390,000
Total	**$8,190,000**

The authors believe that the Osiris project is a project of merit and warrants the proposed program and level of expenditures outlined above.

Since Osiris has Carlin-type deposits, if this program is even mildly successful, additional exploration of similar magnitude will still be justified in a follow-up program.

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28.0 DATE AND SIGNATURE PAGE

Effective Date of report: June 8, 2018

The data on which the contained resource estimates are based was current as of the Effective Date.

Completion Date of report: July 2, 2018

“S. Ristorcelli”
Steven Ristorcelli, C.P.G.

Date Signed:
July 2, 2018

“Peter Ronning”
Peter Ronning, P.Eng.

Date Signed:
July 2, 2018

“Chris Martin”
Chris Martin, C. Eng.

Date Signed:
July 2, 2018

“Odin Christensen”
Odin Christensen, C.P.G.

Date Signed:
July 2, 2018

29.0 CERTIFICATE OF QUALIFIED PERSONS

STEVEN RISTORCELLI, C. P. G.

I, Steven Ristorcelli, C. P. G., do hereby certify that I am currently employed as Principal Geologist by: Mine Development Associates, Inc., 210 South Rock Blvd., Reno, Nevada 89502.

1. I am co-author of the report entitled “Technical Report and Estimate of Mineral Resources for the Osiris Project, Yukon, Canada” prepared for ATAC Resources Ltd. with an Effective Date of June 8, 2018 and dated July 2, 2018. I am the principal author for all sections of this report except Section 12 and Section 13 of this Technical Report. I have reviewed and participated in the editing of the remaining sections of the report, and I concur with their contents. I have relied on other experts as described in Section 3.

2. I graduated with a Bachelor of Science degree in Geology from Colorado State University in 1977 and a Master of Science degree in Geology from the University of New Mexico in 1980. I am a Registered Professional Geologist in the state of California (#3964) and a Certified Professional Geologist (#10257) with the American Institute of Professional Geologists.

3. I have worked as a geologist continuously for 40 years since graduation from undergraduate university. During that time I have been engaged in the exploration, definition, and modeling of more than a dozen porphyry deposits in North America and South America, and have estimated the mineral resources for those deposits.

4. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.

5. I had not had prior involvement with the property before the work initiated in 2017. I visited the project and worked with company files and reviewed core during the period from the 31st of August through the 4th of September, 2017.

6. I am independent of ATAC Resources Ltd. and all their subsidiaries as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.

7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

8. As of the Effective Date of this report, to the best of my knowledge, information and belief, this Technical Report contains all the scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

Dated this 2nd day of July, 2018

“*S. Ristorcelli*”
Signature of Qualified Person
Steven Ristorcelli, C. P. G.

PETER A. RONNING, P. ENG.

I, Peter Arthur Ronning, P.Eng. of 1450 Davidson Road, Gibsons, B.C., Canada, V0N 1V6, hereby certify that:

1. I am a consulting geological engineer, doing business under the registered name New Caledonian Geological Consulting, at the address set out above.
2. I am one of the authors of and have read the report entitled "*Technical Report and Estimate of Mineral Resources for the Osiris Project, Yukon, Canada*" ("the report") prepared for ATAC Resources Ltd. ("ATAC") and having an Effective Date of June 8, 2018. I have sole responsibility for Section 12 and joint responsibility for Section 1. Having read National Instrument 43-101, I affirm that these sections for which I am responsible have been prepared in accordance with the instrument.
3. As of the effective date of the report, to the best of my knowledge, information and belief, those parts of the report for which I have responsibility contain all scientific and technical information that is required to be disclosed to make the report not misleading.
4. I am a graduate of the University of British Columbia in geological engineering, with the degree of B.A.Sc. granted in 1973. I also hold the degree of M.Sc. (applied) in geology, granted by Queen's University in Kingston, Ontario, in 1983. I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia, Registration Number 16,883.
5. I have worked as a geologist and latterly as a Professional Engineer in the field of mineral exploration since 1973, in many parts of the world. Since 2006 I have participated in or conducted numerous audits of exploration data, reviews and evaluations of mining and mineral exploration project quality control and quality assurance ("QA/QC") data, including data derived from many gold deposits. I have studied QA/QC topics relating to the sampling and analysis of mineralized material independently and in formal continuing education sessions.
6. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association as defined in NI 43-101 and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101 with respect to the contents of those parts of the report for which I take responsibility.
7. I have not done a field examination of the Osiris project site.
8. The work described in section 12 of this report constitutes the first and only involvement I have had with ATAC.
9. I am independent of ATAC and all its subsidiaries as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.

"Peter Ronning "
Peter A. Ronning, P.Eng.
Dated this 2nd day of July, 2018

ODIN D. CHRISTENSEN, PhD, C.P.G.

I, Odin D. Christensen, PhD, C.P.G., do hereby certify that:

I am a consulting mineral exploration geologist, doing business as Hardrock Mineral Exploration Inc. at 2192 N Fremont Blvd, Flagstaff Arizona, 86001 USA.

I am one of the authors of the report entitled "*Technical Report and Estimate of Mineral Resources for the Osiris Project, Yukon, Canada"* prepared for ATAC Resources Ltd. with an Effective Date of June 8, 2018 and dated July 2, 2018.

I graduated from the University of Minnesota, Duluth, with a Bachelor of Arts degree in Geology in 1970, and from Stanford University, Stanford California, with a Doctor of Philosophy degree in Geology in 1975.

I am a Certified Professional Geologist (CPG #8676) with the American Institute of Professional Geologists (AIPG). I am a Fellow of the Society of Economic Geologists, a Fellow of the Geological Society of America and a Registered Member of the Society for Mining, Metallurgy and Exploration (#555470).

I have been employed as a professional geologist for 42 years since graduation, including 36 years in mineral exploration and mining. I have explored for and worked as a mine geologist on gold deposits in North America, South America, Asia, Africa, Europe, and the Pacific Islands.

I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

I visited the Osiris Project during the period July 26 - August10, 2012.

I am independent of ATAC Resources Ltd and all their subsidiaries as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.

I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

As of the Effective Date of this report, to the best of my knowledge, information and belief, this Technical Report contains all the scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

"*Odin D. Christensen*"

Odin D. Christensen
Signature of Qualified Person
Dated this 2nd day of July, 2018

CHRIS MARTIN

I, Christopher John Martin, C. Eng., do hereby certify that I am currently employed as Principal Metallurgist by Blue Coast Metallurgy, Ltd. 1020 Herring Gull Way, Parksville, British Columbia V9P 1R2.

1. I am co-author of the report entitled "Technical Report and Estimate of Mineral Resources for the Osiris Project, Yukon, Canada" prepared for ATAC Resources Ltd. with an Effective Date of June 8, 2018 and dated July 2, 2018. I am the principal author for Section 13 of this Technical Report. I have relied on other experts as described in Section 3.
2. I graduated with a Bachelor of Science degree in Mineral Processing Technology from Camborne School of Mines in 1984 and a Master of Engineering degree in Metallurgical Engineering from McGill University in 1988. I am a Registered Chartered Engineer in the United Kingdom (#46116) and have been a Corporate Member of the Institution of Materials, Minerals and Mining, in good standing since 1990.
3. I have worked as a metallurgist continuously for 34 years since graduation from undergraduate university, mostly in the field of precious metal mineral processing. During that time I have commissioned and operated plants in the United States, Canada and South Africa. I have also been engaged in the development of process flowsheets for more than 300 development projects, including more than 100 primary gold projects, located worldwide.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I had not had prior involvement with the Osiris Project before the work initiated in 2017. I have not visited the project.
6. I am independent of ATAC Resources Ltd and all their subsidiaries as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.
7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
8. As of the Effective Date of this report, to the best of my knowledge, information and belief, this Technical Report contains all the scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

"*Chris Martin*"
Signature of Qualified Person
Christopher John Martin, C.Eng.
Dated this 2nd day of July, 2018

APPENDIX A

DESCRIPTIVE STATISTICS OF GOLD SAMPLE ASSAYS BY AREA AND DOMAIN

Descriptive Sample Grades by Domain – Conrad

AREA	**1**	**ZONE**	**1**		**Low-Grade**		**Conrad**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	2,351					0.5	4.6	m
AU	**2,350**	**0.200**	**0.382**	**0.555**	**1.454**	**0.005**	**9.620**	**g/t**
AUC	**2,350**	**0.200**	**0.379**	**0.518**	**1.366**	**0.005**	**5.000**	**g/t**
AREA	**1**	**ZONE**	**2**		**High-Grade**		**Conrad**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	1,515					0.4	7.6	m
AU	**1,514**	**2.830**	**4.976**	**6.509**	**1.308**	**0.005**	**111.500**	**g/t**
AUC	**1,514**	**2.830**	**4.874**	**5.459**	**1.120**	**0.005**	**40.000**	**g/t**
AREA	**1**	**ZONE**	**99**		**Outside Domains**		**Conrad**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	12,637					0.0	109.7	m
AU	**12,075**	**0.005**	**0.027**	**0.494**	**18.334**	**0.005**	**66.600**	**g/t**
AUC	**12,075**	**0.005**	**0.019**	**0.070**	**3.645**	**0.005**	**1.000**	**g/t**

Descriptive Sample Grades by Domain – Osiris/Sunrise

AREA	**4,5**	**ZONE**	**11**		**Low-Grade**		**Osiris/Sunrise**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	909					0.4	4.2	m
AU	**900**	**0.319**	**0.477**	**0.473**	**0.992**	**0.005**	**7.090**	**g/t**
AUC	**900**	**0.320**	**0.475**	**0.456**	**0.961**	**0.005**	**4.000**	**g/t**
AREA	**4,5**	**ZONE**	**12**		**High-Grade**		**Osiris/Sunrise**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	390					0.5	3.1	m
AU	**390**	**3.900**	**6.050**	**6.002**	**0.992**	**0.005**	**46.400**	**g/t**
AUC	**390**	**3.900**	**6.008**	**5.798**	**0.965**	**0.005**	**30.000**	**g/t**
AREA	**4,5**	**ZONE**	**99**		**Outside Domains**		**Osiris/Sunrise**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	5,795					0.0	40.8	m
AU	**5,367**	**0.005**	**0.039**	**0.510**	**12.934**	**0.005**	**39.200**	**g/t**
AUC	**5,367**	**0.005**	**0.025**	**0.081**	**3.254**	**0.005**	**1.000**	**g/t**

Descriptive Sample Grades by Domain – Ibis

AREA	**3**	**ZONE**	**21**		**Low-Grade**		**Ibis**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	352					0.6	3.1	m
AU	**352**	**0.240**	**0.373**	**0.349**	**0.935**	**0.005**	**2.190**	**g/t**
AUC	**352**	**0.240**	**0.373**	**0.349**	**0.935**	**0.005**	**2.190**	**g/t**

AREA	**3**	**ZONE**	**22**		**High-Grade**		**Ibis**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	100					0.7	3.1	m
AU	**100**	**3.110**	**4.888**	**4.644**	**0.950**	**0.180**	**23.500**	**g/t**
AUC	**100**	**3.110**	**4.888**	**4.644**	**0.950**	**0.180**	**23.500**	**g/t**

AREA	**3**	**ZONE**	**99**		**Outside Domains**		**Ibis**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	1,671					0.5	22.7	m
AU	**1,531**	**0.005**	**0.033**	**0.202**	**6.110**	**0.005**	**6.320**	**g/t**
AUC	**1,531**	**0.005**	**0.026**	**0.088**	**3.382**	**0.005**	**1.000**	**g/t**

DESCRIPTIVE STATISTICS OF GOLD COMPOSITES BY AREA AND DOMAIN

Descriptive Composite Grades by Domain – Conrad

AREA	1	ZONE	1		Low-Grade		Conrad	
	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Length	2,515					0.0	3.0	m
AU	2,515	0.228	0.380	0.449	1.183	0.005	5.264	g/t
AUC	2,515	0.228	0.377	0.432	1.145	0.005	4.404	g/t
AREA	1	ZONE	2		High-Grade		Conrad	
	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Length	1,385					0.0	3.0	m
AU	1,384	2.940	4.905	5.930	1.209	0.131	89.571	g/t
AUC	1,384	2.940	4.786	4.866	1.017	0.131	40.000	g/t
AREA	1	ZONE	99		Outside Domains		Conrad	
	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Length	13,818					0.0	3.0	m
AU	11,833	0.005	0.021	0.090	4.377	0.005	3.365	g/t
AUC	11,833	0.005	0.019	0.056	3.004	0.005	1.000	g/t

Descriptive Composite Grades by Domain – Osiris/Sunrise

AREA	4,5	ZONE	11		Low-Grade		Osiris/Sunrise	
	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Length	937					0.0	3.0	m
AU	935	0.350	0.483	0.424	0.879	0.005	3.089	g/t
AUC	935	0.350	0.482	0.419	0.869	0.005	2.766	g/t
AREA	4,5	ZONE	12		High-Grade		Osiris/Sunrise	
	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Length	328					0.0	3.0	m
AU	328	4.143	5.972	5.408	0.906	0.680	30.204	g/t
AUC	328	4.143	5.939	5.303	0.893	0.680	28.300	g/t
AREA	4,5	ZONE	99		Outside Domains		Osiris/Sunrise	
	Valid	Median	Mean	Std. Devn.	Co. of Variation	Minimum	Maximum	Units
Length	6,494					0.0	3.0	m
AU	5,203	0.007	0.025	0.106	4.210	0.005	4.554	g/t
AUC	5,203	0.007	0.023	0.064	2.732	0.005	1.000	g/t

Descriptive Composite Grades by Domain – Ibis

AREA	**3**	**ZONE**	**21**		**Low-Grade**		**Ibis**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	367					0.1	3.0	m
AU	**367**	**0.250**	**0.378**	**0.336**	**0.888**	**0.012**	**2.163**	**g/t**
AUC	**367**	**0.250**	**0.378**	**0.336**	**0.888**	**0.012**	**2.163**	**g/t**
AREA	**3**	**ZONE**	**22**		**High-Grade**		**Ibis**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	90					0.0	3.0	m
AU	**90**	**3.134**	**4.542**	**3.963**	**0.873**	**0.268**	**23.133**	**g/t**
AUC	**90**	**3.134**	**4.542**	**3.963**	**0.873**	**0.268**	**23.133**	**g/t**
AREA	**3**	**ZONE**	**99**		**Outside Domains**		**Ibis**	
	Valid	**Median**	**Mean**	**Std. Devn.**	**Co. of Variation**	**Minimum**	**Maximum**	**Units**
Length	1,914					0.0	3.0	m
AU	**1,431**	**0.006**	**0.031**	**0.205**	**6.579**	**0.005**	**6.320**	**g/t**
AUC	**1,431**	**0.006**	**0.025**	**0.074**	**3.032**	**0.005**	**1.000**	**g/t**

APPENDIX B
ESTIMATION PARAMETERS

Estimation Parameters for Conrad

(for all rotations/dip/tilt and search distance values, see Table 14-7, Table 14-8, and Table 14-9 in Section 14.7)

Description	**Parameter**
Conrad Low-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 12 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	2 / -50*
Conrad High-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	4.5 / -60*^
Outside Conrad Gold Domains	
Samples: minimum/maximum/maximum per hole	2 / 10 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	50 / 50 / 12.5
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	0.15 / 5
* Negative distance value indicates high-grade restriction grade is used beyond search restriction distance ^ High-grade restriction distance in ESTAR 7 is -30m	

Estimation Parameters for Osiris

(for all rotations/dip/tilt and search distance values, see Table 14-7, Table 14-8, and Table 14-9 in Section 14.7)

Description	**Parameter**
Osiris Low-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	none
Osiris High-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	none
Outside Osiris Gold Domains	
Samples: minimum/maximum/maximum per hole	2 / 10 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	50 / 50 / 12.5
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	0.15 / 5

Estimation Parameters for Sunrise

(for all rotations/dip/tilt values and search distance, see Table 14-7, Table 14-8, and Table 14-9 in Section 14.7)

Description	**Parameter**
Sunrise Low-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 6 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	none
Sunrise High-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	9 / -40*
Outside Sunrise Gold Domains	
Samples: minimum/maximum/maximum per hole	2 / 10 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	50 / 50 / 12.5
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	0.15 / 5
* Negative distance value indicates high-grade restriction grade is used beyond search restriction distance	

Estimation Parameters for Ibis

(for all rotations/dip/tilt and search distance values, see Table 14-7, Table 14-8, and Table 14-9 in Section 14.7)

Description	**Parameter**
Ibis Low-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 12 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	none
Ibis High-Grade Gold Domain	
Samples: minimum/maximum/maximum per hole	1 / 8 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	varies by estimation area
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	none
Outside Ibis Gold Domains	
Samples: minimum/maximum/maximum per hole	2 / 10 / 2
Rotation/Dip/Tilt (variogram and searches):	varies by estimation area
Search (m): major/semimajor/minor (vertical)	50 / 50 / 12.5
Inverse distance power	3
High-grade restrictions (grade in g/t and distance in m)	0.15 / 5

APPENDIX C
OSIRIS PROJECT OPEN PIT AND UNDERGROUND INFERRED GOLD RESOURCES – BY AREA

Conrad

Conrad - 2018 Block-Diluted, Inferred, ID

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	19,832,000	2.66	1,696,000
1.0	15,549,000	3.19	1,597,000
1.2	14,228,000	3.39	1,550,000
1.3	13,559,000	3.49	1,523,000
1.4	12,896,000	3.60	1,494,000
1.6	11,583,000	3.84	1,431,000
1.8	10,405,000	4.08	1,366,000
variable	**9,661,000**	**4.15**	**1,290,000**
2.0	9,390,000	4.32	1,305,000
2.5	7,190,000	4.96	1,146,000
2.6	6,819,000	5.09	1,116,000
3.0	5,551,000	5.61	1,002,000
4.0	3,447,000	6.95	770,000
5.0	2,336,000	8.12	610,000

Conrad - 2018 Block-Diluted, Inferred, ID - In Pit

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	9,765,000	2.93	920,000
1.0	7,269,000	3.70	864,000
1.2	6,743,000	3.90	845,000
1.3	**6,487,000**	**4.00**	**835,000**
1.4	6,236,000	4.11	824,000
1.6	5,718,000	4.35	799,000
1.8	5,246,000	4.59	773,000
2.0	4,804,000	4.83	746,000
2.5	3,818,000	5.50	675,000
2.6	3,645,000	5.64	661,000
3.0	3,065,000	6.18	609,000
4.0	2,083,000	7.47	500,000
5.0	1,504,000	8.62	417,000

Conrad - 2018 Block-Diluted, Inferred, ID - UG

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	10,067,000	2.40	776,000
1.0	8,280,000	2.75	733,000
1.2	7,485,000	2.93	705,000
1.3	7,072,000	3.03	688,000
1.4	6,660,000	3.13	670,000
1.6	5,865,000	3.35	632,000
1.8	5,159,000	3.58	593,000
2.0	4,586,000	3.79	559,000
2.5	3,372,000	4.35	471,000
2.6	**3,174,000**	**4.46**	**455,000**
3.0	2,486,000	4.92	393,000
4.0	1,364,000	6.15	270,000
5.0	832,000	7.23	193,000

Osiris

Osiris - 2018 Block-Diluted, Inferred, ID

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	2,816,000	2.21	200,000
1.0	2,027,000	2.78	181,000
1.2	1,772,000	3.02	172,000
1.3	1,655,000	3.14	167,000
1.4	1,555,000	3.26	163,000
1.6	1,378,000	3.48	154,000
1.8	1,214,000	3.71	145,000
variable	**901,000**	**4.21**	**122,000**
2.0	1,067,000	3.96	136,000
2.5	795,000	4.58	117,000
2.6	749,000	4.69	113,000
3.0	604,000	5.15	100,000
4.0	352,000	6.36	72,000
5.0	218,000	7.56	53,000

Osiris - 2018 Block-Diluted, Inferred, ID - In Pit

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	799,000	3.06	79,000
1.0	545,000	4.16	73,000
1.2	492,000	4.49	71,000
1.3	**474,000**	**4.61**	**70,000**
1.4	461,000	4.70	70,000
1.6	433,000	4.91	68,000
1.8	406,000	5.12	67,000
2.0	382,000	5.32	65,000
2.5	331,000	5.79	62,000
2.6	322,000	5.89	61,000
3.0	289,000	6.23	58,000
4.0	216,000	7.18	50,000
5.0	161,000	8.09	42,000

Osiris - 2018 Block-Diluted, Inferred, ID - UG

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	2,017,000	1.86	121,000
1.0	1,482,000	2.26	108,000
1.2	1,280,000	2.45	101,000
1.3	1,181,000	2.55	97,000
1.4	1,094,000	2.64	93,000
1.6	945,000	2.82	86,000
1.8	808,000	3.02	78,000
2.0	685,000	3.22	71,000
2.5	464,000	3.69	55,000
2.6	**427,000**	**3.79**	**52,000**
3.0	315,000	4.14	42,000
4.0	136,000	5.09	22,000
5.0	57,000	5.96	11,000

Sunrise

Sunrise - 2018 Block-Diluted, Inferred, ID

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	2,176,000	2.80	196,000
1.0	1,732,000	3.32	185,000
1.2	1,547,000	3.58	178,000
1.3	1,476,000	3.69	175,000
1.4	1,406,000	3.83	173,000
1.6	1,269,000	4.04	165,000
1.8	1,142,000	4.33	159,000
variable	**840,000**	**5.07**	**137,000**
2.0	1,018,000	4.61	151,000
2.5	758,000	5.46	133,000
2.6	725,000	5.58	130,000
3.0	594,000	6.18	118,000
4.0	401,000	7.45	96,000
5.0	288,000	8.75	81,000

Sunrise - 2018 Block-Diluted, Inferred, ID - In Pit

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	508,000	2.91	48,000
1.0	364,000	3.77	44,000
1.2	327,000	4.07	43,000
1.3	**309,000**	**4.23**	**42,000**
1.4	297,000	4.35	42,000
1.6	273,000	4.61	40,000
1.8	246,000	4.93	39,000
2.0	228,000	5.16	38,000
2.5	197,000	5.62	36,000
2.6	194,000	5.67	35,000
3.0	166,000	6.15	33,000
4.0	118,000	7.26	27,000
5.0	85,000	8.34	23,000

Sunrise - 2018 Block-Diluted, Inferred, ID - UG

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	1,668,000	2.76	148,000
1.0	1,368,000	3.20	141,000
1.2	1,220,000	3.45	135,000
1.3	1,167,000	3.55	133,000
1.4	1,109,000	3.67	131,000
1.6	996,000	3.92	125,000
1.8	896,000	4.16	120,000
2.0	790,000	4.46	113,000
2.5	561,000	5.38	97,000
2.6	**531,000**	**5.53**	**95,000**
3.0	428,000	6.20	85,000
4.0	283,000	7.61	69,000
5.0	203,000	8.84	58,000

Ibis

Ibis - 2018 Block-Diluted, Inferred, ID

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	2,411,000	2.34	181,000
1.0	1,486,000	3.33	159,000
1.2	1,288,000	3.69	153,000
1.3	1,215,000	3.84	150,000
1.4	1,152,000	3.97	147,000
1.6	1,042,000	4.24	142,000
1.8	964,000	4.45	138,000
variable	**978,000**	**4.33**	**136,000**
2.0	892,000	4.64	133,000
2.5	754,000	5.12	124,000
2.6	731,000	5.19	122,000
3.0	641,000	5.48	113,000
4.0	465,000	6.29	94,000
5.0	315,000	7.11	72,000

Ibis - 2018 Block-Diluted, Inferred, ID - In Pit

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	1,592,000	2.52	129,000
1.0	913,000	3.86	113,000
1.2	808,000	4.22	110,000
1.3	**775,000**	**4.35**	**108,000**
1.4	746,000	4.47	107,000
1.6	691,000	4.71	105,000
1.8	655,000	4.87	103,000
2.0	616,000	5.06	100,000
2.5	539,000	5.46	95,000
2.6	528,000	5.52	94,000
3.0	477,000	5.81	89,000
4.0	371,000	6.49	77,000
5.0	261,000	7.31	61,000

Ibis - 2018 Block-Diluted, Inferred, ID - UG

Cutoff g Au/t	Tonnes	g Au/t	oz Au
0.5	819,000	1.99	52,000
1.0	573,000	2.52	46,000
1.2	480,000	2.80	43,000
1.3	440,000	2.94	42,000
1.4	406,000	3.07	40,000
1.6	351,000	3.32	37,000
1.8	309,000	3.54	35,000
2.0	276,000	3.74	33,000
2.5	215,000	4.18	29,000
2.6	**203,000**	**4.27**	**28,000**
3.0	164,000	4.61	24,000
4.0	94,000	5.48	17,000
5.0	54,000	6.23	11,000