

## **Occurrence Details**

Occurrence Number: 105I 067 Occurrence Name: HC Deposit Occurrence Type: Hard-rock

Status: Deposit

Date printed: 4/30/2025 8:53:01 AM

# **General Information**

**Primary Commodities:** lead, zinc **Aliases:** Howards Pass, Selwyn Project

Deposit Type(s): Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)

Location(s): 62°31'0" N - -129°22'11" W

NTS Mapsheet(s): 105I11

Location Comments: Location from map in 2018 technical report and digitized from satellite imagery

Hand Samples Available: No.

Last Reviewed:

### Capsule

#### Work History

Canex Placer Ltd, a wholly owned subsidiary of Placer Development Ltd, carried out extensive regional reconnaissance and grid geochemical and geological mapping programs in the Howard's Pass area in 1968, 1971 and 1972 before discovering lead-zinc mineralization on the adjoining X claims (XY Central and West deposits). The company staked Don cl 1-8 (Y64845), cl 10-135 (Y64911) and cl 136-164 (Y70201) between September and Oct/72. The claims became part of the company's larger Howard's Pass property. The announcement of widespread mineralization on the Howard's Pass property prompted a staking rush and the recording of some 4,400 claims by various other companies from Oct/1972 to Apr/1973.

Canex Placer conducted limited bulldozer trenching and sampling in late 1972, built a winter road, an airstrip and extensive tote roads on the Howard's Pass property, and carried out extensive trenching, mapping, grid soil sampling, test geophysical work and claim surveys and drilled 26 diamond drill holes (4,267.2 m) in 1973, and 12 holes (1,981.2 m) in 1974. Based on historical records it appears none of drilling tested the area around the Don or Don East deposits.

In 1975, Canex entered a joint venture with Essex Minerals Company (a wholly owned subsidiary of U.S. Steel Corporation). The joint venture continued exploring the Howard's Pass property with diamond drilling, road building, camp construction and underground mining through the late 1970s and early 1980s. Essex's Minerals interest in the property was transferred to Cygnus Mines Ltd in Apr/1982.

Placer Development and Cygnus Mines completed an economic analysis of the Howard's Pass property at the end of 1982. The study concluded that mining the various deposits identified on the property was not economically viable at that time. Placer Development Ltd was amalgamated into Placer Dome Inc in Aug/87. Placer Dome performed cleanup work on the Howard's Pass property in 1991.

In Oct/94 W4 Joint Venture restaked the occurrences within Nod cl 1-66 (YB49365). In Dec/95 the claims were sold to NDU Resources Ltd which merged with United Keno Hill Mines Ltd in Mar/98. Expatriate Resources Ltd purchased the claims from United Keno in the fall of 1998. Expatriate carried out soil and silt sampling programs in 1999 and prospecting and additional soil sampling in 2004. In Nov/94 Expatriate Resources re-organized, with the company's Finlayson Lake properties being spun off to a new company; Yukon Zinc Corporation and the Nod claims and all other non-Finlayson Lake claims being transferred to a new company called Pacifica Resources Ltd.

In May/2005 Pacifica Resources Ltd entered into a Letter of Intent to purchase a 100% interest in the Howard's Pass property for the sum of \$10,000,000 spread over 7 years and a commitment to spend a minimum of \$3,500,000 in exploration expenditures. The agreement was signed between Pacifica and Placer Dome (CLA) a wholly owned subsidiary of Placer Dome Inc (51% owner) and Cygnus Mines Ltd (49% owner). The agreement was formally approved in Aug/2005 and the Nod claims (this occurrence) were added to the project.

In 2005, Pacifica carried out an extensive regional exploration program on the Howard's Pass project which included geological mapping, geochemical sampling, camp construction and metallurgical testing. The company also collared 53 diamond drill holes (8,286.9 m) on the property. Eight of the holes (1,814 m) targeted the Don East deposit.

In Mar/2006 Barrick Gold Corporation acquired Placer Dome Inc. In May 2006, Barrick sold Placer Dome's 51% interest and other mines and exploration properties to Goldcorp Inc. In Jul/2006 Goldcorp sold Placer Dome's 51% interest in the Howard's Pass property to Terrane Metals Corp. During 2006 Pacifica completed 191 diamond drill holes (131,550.2 m) on the property. Eleven hole tested the Don deposit and ten holes tested the Don East deposit.

In Jan/2007 Pacifica released a preliminary assessment report for the development of the larger Howard's Pass project. The report indicated excellent potential for a long life mine, having large-scale, low cost zinc and lead production. The company used the results to help plan future exploration and engineering work.

On January 29, 2007 Pacifica announced a plan of re-organization in which the Howard's Pass project would be spun off to a new company, Selwyn Resources Ltd and the company's remaining properties would be transferred to a new company Savant Exploration Ltd. Pacifica shareholders received shares in Savant Exploration as compensation for the transfer of assets from Pacifica to Savant. The agreement was approved on May 31, 2007 and completed on June 6, 2007 at which time control of the Howard's Pass property, commonly referred to as the Selwyn Project was transferred to Selwyn Resources.

In Apr/2007 Selwyn announced an initial National Instrument 43-101 compliant mineral resource estimates for the newly designated Don East and Don deposits. During the year the company drilled 106 diamond drill holes (37,208.6 m) on the Howard's Pass property. Thirty-six dill holes (7,968.3 m) targeted the open pit portion of the Don East deposit while fourteen drill holes (7,463.5 m) targeted a higher grade "deep" or potential underground portion of the deposit. A total of twenty drill holes (9,217.1 m) targeted the higher grade "deep" or potential underground portion of the Don deposit. The company continued environmental and engineering studies, opened a new camp in the Don Valley and closed the XY camp located to the southeast.

In Jan/2008 the company released updated 43-101 compliant mineral resource estimates for the Don East and Don deposits based on the 2007 drill results (March 2008 report by Pearson and O'Donnell). In addition the company reported a high-grade subset for both the Don East and Don deposits. These subsets are part of each deposit's overall mineral resource and represent a potential underground mining resource. The INFERRED resource for the Don EAST deposit was revised in the 2009 technical report by O'Donnell.

Selwyn completed 13 diamond drill holes (3,856.9 m) in 2008. Four drill holes (1,518.5 m) targeted the Don East deposit. In 2009 the company drilled 10 diamond drill holes (4,214 m) on the entire Selwyn project (Howard's Pass) but none of the holes targeted either of the Don deposits. In mid-2009 Selwyn opened discussions with various companies regarding the formation of a possible strategic partnership. In Dec/2009 Selwyn Resources announced that they had signed a binding Framework Agreement with Yunnan Chihong Zinc & Germanium Company Ltd (China), whereby both companies would form a joint venture company to hold all assets associated with the Selwyn project. In return for a 50% interest in the joint venture Yunnan Chihong contributed 100 million dollars to the project. As part of the agreement Yunnan Chihong agreed to fund all of Selwyn Resources direct costs incurred from July 1, 2009 on the Selwyn project.

On January 5, 2010 Selwyn Resources announced that they had engaged Wardrop Engineering Inc to start a Phase 1 work program leading to the completion of a National Instrument 43-101 compliant feasibility study on the Selwyn project. The company hopes to complete the study by the end of 2010.

On August 18, 2010 Selwyn announced the completion of the joint venture with Yunnan Chihong and the formation of a new company Selwyn Chihong Mining Ltd. Selwyn Resources transferred all Selwyn Project claims, equipment, permits and licenses to the new company. At the same time the joint management committee approved in principal a predevelopment budget of 89 million dollars for 2010 and 2011. The money will be directed to the advancement of permitting, completion of the feasibility study and related engineering and resource definition drilling from both surface and underground.

In September 2012 Kirkham Geosystems completed an updated global resource for the Selwyn Project.

In 2014, Selwyn Chihong completed 55,000 m of drilling on a number of the deposits making up the project, upgraded the Howard's Pass access Road (HPAR), conducted baseline environmental studies and completed an updated Preliminary Economic Assessment (PEA).

In 2015, the company completed a Prefeasibility Study (PFS), secured a permit to widen the HPAR, continued the environmental baseline studies, drilled 10,000 m and completed a Socio-economic Participation Agreement (SEPA) with the Kaska First Nation.

From 2016 to 2022, the company conducted reclamation on many of the exploration and camp sites and completed road and camp upgrades.

#### Capsule Geology

The project is located in Selwyn Basin, a region of deep-water offshelf sedimentation that persisted from Late Precambrian to Middle Devonian time. Its basal deposits consist of late Precambrian rift-related clastic sediments. These are overlain by rift clastics of late Devonian age. On the north-eastern side of the project are time-equivalent shallow shelf strata of Mackenzie Platform. Along its southwestern margin is a Silurian to Devonian carbonate-clastic shelf of the Cassiar Platform. Its southwestern limit is essentially the limit of the miogeocline as presently preserved in the Yukon. Regionally, Selwyn Basin stratigraphy overlies a basement of Upper Proterozoic to Lower Cambrian maroon to dark blue-grey weathering shale assigned to the Narchilla Formation of the Hyland Group. This unit is conformably overlain by the Upper Cambrian to Lower Ordovician Rabbitkettle Formation. The Rabbitkettle Formation is comprised of an Upper member consisting of grey weathering fine crystalline nodular limestone and a Lower member consisting of grey orange weathering, argillaceous to silty limestones usually limited to beds of less than 10 cm. Pacifica/Selwyn Resources report the presence of a Transition Formation between the Rabbitkettle Formation and the overlying Duo Formation. This unit, identified in drill core, consists of thin interlaminations of crev limestone and buff coloured shale and is generally well cleaved.

The Transition Formation is overlain by the Ordovician to Middle Silurian Road River Group which is divided into the Duo Lake and Steel Formations. Various operators working in the area have locally renamed the Duo Formation the Howard's Pass Formation and have subdivided it into various units. The local operators have divided the Dou Formation into five member units measuring 300 m thick. The lowest member is a pyritic siliceous shale member, which is overlain by a calcareous mudstone member and a lower cherty mudstone member. These members are overlain by the Active member, a heterogeneous mudstone, limestone, chert that hosts the region's abundant sulphide mineralization in lamella within a poorly preserved graptolite horizon. An upper siliceous mudstone member tops the formation. The Steel Formation which measures approximately 140 m thick and consisting of a flaggy mudstone containing orange weathered siliceous argillite in beds 10-80 cm thick overlies the Howard's Pass Formation.

The Road River Group is overlain by the Lower to Upper Devonian Portrait Lake Formation of the Lower Earn Group. The Portrait Lake Formation is comprised of a Lower, Middle and Upper member. The Lower Member consists of a dark brown weathering, silty shale and shale in beds up to 420 m thick. The Middle member consists of a black weathering, massive pebble conglomerate up to 195 m thick and the Upper Member consists of a gun-blue weathering black platy siltstone up to 260 m thick.

The Portrait Lake Formation is overlain by the Upper Devonian to Middle Mississippian Prevost Formation of the Upper Earn Group. It also divided into Lower, Middle and Upper members. The Lower member consists of a grey weathering, dark grey, medium to coarse-grained chert-quartz sandstone up to 160 m thick. The Middle member consists of brown weathering, dark grey, thin bedded shale and siltstone measuring up to 90 m thick and an Upper member consisting of coarse-grained, poorly sorted, chert-quartz sandstone and conglomerate in beds up to 300 m thick. The entire sequence is intruded by various Middle to Late Cretaceous stocks and batholiths ranging in composition from intermediate to granitic assigned to the Selwyn plutonic suite.

Historical drilling and geological mapping carried out by Placer Development suggested that the Anniv and the XY (Minfile Occurrences 105I 037 and 012) sedimentary-exhalative deposits occurred in separate sub-basins along the base of a paleo-slope of the eastern Selwyn Basin. Later geological mapping and diamond drilling carried by Pacifica/Selwyn Resources indicated the lead-zinc mineralization hosted by the Selwyn project was part of a long-lived, single mineralizing event. As proof of this theory the companies reported that the sulphide textures, mineralogy and thickness are similar in each of the 15 deposits identified to date. The hydrothermal fluids that formed the different deposits are also isotopically identical throughout the property. The companies believe the strataform and tabular Active Member was affected by post-depositional structural deformation which likely accounts for the thickening and thinning of the Active Member across the property. Understanding the timing of the faults with respect to each other will aid future exploration programs in locating extensions of the known deposits and locating new resources.

Zinc and lead mineralization at the Selwyn project is hosted in the Active Member and consists of alternating layers of carbonaceous mudstone, limestone and chert, interlayered with stratabound laminated sulphide rich bands. The sulphides are fine grained and dominantly sphalerite and galena with minor pyrite. The mineralized horizon is generally 20 to 30 m thick and is texturally and mineralogically consistent throughout the property.

Metallurgical test work has confirmed that high-grade zinc and lead concentrate can be achieved. These concentrates have low levels of deleterious elements. Floatation test work indicates that a zinc concentrate grading 55 to 57% can be produced with an overall recovery of about 80% and a lead concentrate grading 65 to 70% lead with a recovery of approximately 70%. The ore will require fine grinding and floatation processing which will include the removal of carbon prior to producing high grade concentrates. Test work completed to date on the application of dense media separation indicates that simple gravity processing could provide an effective means of upgrading run-of-mine ores.

It appears Canex Placer and others carried out a cursory examination of the HC and HC West deposits and surrounding areas historically, before allowing the claims to lapse. Expatriate Resources appears to have been the first company to carry out any substantial exploration work in the area. Soil sampling carried out in 1999 and 2004 outlined high zinc and elevated nickel and lead values in the vicinity of the HC West deposit. Although various exploration companies knew that the Active Member unit was mineralized it was difficult to raise funds in the 1990s and early 2000s for exploration in the Howard's Pass area given its isolated location.

The formation of Pacifica Resources and the consolidation of the entire Howard's Pass property into one property allowed for the systematic exploration of the property. In 2005 Pacifica carried out extensive soil sampling, geological mapping and prospecting programs over the area of the HC deposits which highlighted numerous potential drill targets. The company followed up this work with an extensive diamond drill program in 2006. The HC zone was discovered first; discovery hole Don-11 intersected 31 m of mineralized Active Member which returned 2.44% zinc and 0.61% lead. An additional 13 diamond drill holes intersected zinc-lead mineralization. The HC West zone was discovered later in the summer. Discovery hole Don-18 collared 2 km northwest of the HC zone intersected 10.6 m of mineralized Active Member which returned 5.19% zinc and 1.21% lead. Fourteen additional drill holes intersected this zone.

On Apr 2, 2007 Pacifica announced a initial 43-101 compliant mineral resource estimate for the HC West and HC deposits (report dated April 30 2007, by Pearson and O'Donnell). The HC West deposit hosts an INDICATED mineral resource of 4 470 000 tonnes grading 4.36% zinc and 1.16% lead and an INFERRED mineral resource of 13 930 000 tonnes grading 4.98% zinc and 1.32% lead. The HC deposit hosts an INDICATED mineral resource of 8 600 000 tonnes grading 4.01% zinc and 1.04% lead and an INFERRED mineral resource of 33 020 000 tonnes grading 3.85% zinc and 1.07% lead (employing a 2% zinc grade cut-off).

The 2007 diamond drilling program on the HC West deposit was designed to increase reserves and test for a high-grade mineralization (greater than 3% zinc) at depth. The holes intersected thicker and higher-grade mineralization then previously encountered. The single diamond drill hole collared on the HC deposit intersected very narrow Active Member mineralization at depth thus limiting the down depth potential of this deposit. The poor results obtained from this hole and the existence of higher prioritized targets elsewhere on the property led the company to curtail further drilling on the HC deposit.

On Jan 29, 2008 (report dated March 14 2008, Pearson and O'Donnell) Selwyn Resources announced updated mineral resource estimates for the HC West and HC deposits. The INDICATED resource for the HC deposit remained unchanged from the 2007 report (8 600 000 tonnes grading 4.01% zinc and 1.04% lead) but the INFERRED category was updated to 19.37M tonnes grading 3.83% Zn and 1.09% Pb, at a 2% Zn cut-off grade. The decrease in the Inferred mineral resource (approximately 13 650 000 tonnes) was attributed to the results of the single 2007 drill hole which intersected very narrow Active Member mineralization down dip thus reducing the available resource.

The HC West deposit hosts an indicated mineral resource of 19 680 000 tonnes grading 5.46% zinc and 1.56% lead and an inferred mineral resource of 10 220 000 tonnes grading 5.42% zinc and 1.5% lead (employing a 2% zinc grade cut-off). Included within this calculation was a high-grade potential inferred underground mineral resource consisting of 2 996 000 tonnes grading 9.73% zinc and 3.00% lead. This inferred resource was extracted to quantify the mineral resource available for a possible underground mine.

The HC West deposit has a strike length of 1.5 km and an overall flat orientation of 094/20°. The western extent of the deposit is cut-off by a fault but the northeast extent of the deposit is open and further infill drilling is warranted. The resource has been defined by 21 drill holes and further expansion of the resource is expected to the southeast toward the HC deposit. The HC deposit is located 2 km southeast of the HC West deposit. It has a defined strike length of 1.8 km and an overall orientation of 098/46°. The east side of the deposit is controlled by a fault and the down dip extension is likely limited based on the single 2007 drill hole. The eastern edge of the deposit is interpreted as the right lateral offset of the Brodel deposit (Minfile Occurrence 105I 066, 3 km to southeast), with a displacement of 1.9 km. Fourteen drill holes define the resource for the deposit.

The 2012 report by Kirkham Geosystems lists a global resource for the Selwyn Project, using a 2% Zn cut-off grade, of 185 570 000 tonnes grading 5.2% Zn and 1.79% Pb for a contained total of 21.26B lbs(9.64B kg) Zn and 7.3Blbs (3.3B kg) Pb in the INDICATED category and an INFERRED resource of 237 860 000 tonnes grading 4.47% Zn and 1.38% Pb for a contained total of 23.45B lbs(10.63B kg) Zn and 7.22Blbs (3.27B kg) Pb. kg) Pb.

# **Work History**

Date	Work Type	Comment
9/27/2012	Studies	Kirkham Geosystems, Sept 27 2012.
4/20/2007	Studios	Pearson and O'Donnell 2007. Initial mineral resource calculation for HC West and HC deposits. Resource still current for HC Indicated

	7/ 30/ 2007	Juuics	category as of March 2014.
1201/2007   Defining   16 hote, 115/2007   Defining   15 hote, 115/2007   Defining	12/31/2010	Studies	Began feasability study for entire project.
10/11/2006	12/31/2008	Studies	
17/11/2015   Geology   Entire Howard Fines properly was explored by Perfica including the area around theor occurrences.     17/11/2015   Geochemistry   Entire Howard Fines properly was explored by Perfica including the area around theor occurrences.     17/11/2015   Geochemistry   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2019   Geochemistry   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2019   Geochemistry   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Geochemistry   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Geochemistry   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   Carried out by Expeliative ever occurrence area, part of large program.     17/11/2017   Development, Surface   C	12/31/2007	Drilling	16 holes, 4318.2 m
12/31/2005   Geochemistry	12/31/2006	Drilling	191 holes; 131,550.2 m
12/11/2014   Geochemistry	12/31/2005	Geology	Entire Howard's Pass property was explored by Pacifica including the area around these occurrences.
127/12/2004	12/31/2005	Geochemistry	Entire Howard's Pass property was explored by Pacifica including the area around these occurrences.
12/3/1999   Goochemistry   Carried out by Expertation over occurrence area, part of larger program.     12/3/1999   Geochemistry   Carried out by Expetitute over occurrence area, part of larger program.     12/3/1972   Geochemistry   Carried out by Expetitute over occurrence area, part of larger program.     12/3/1972   Geochemistry   Carried out by Expetitute over occurrence area, part of larger program.     12/3/1972   Geochemistry   Carried out by Expetitute over occurrence area, part of larger program.     12/3/1973   Geochemistry   Carried out by Expetitute over occurrence area, part of larger program.     12/3/1973   Geochemistry   Carried out by Expetitute over occurrence area, part of larger program.     12/3/1973   Geochemistry   Geoch	12/31/2004	Geochemistry	Carried out by Expatriate over occurrence area, part of larger program.
12/31/1999   Geochemistry   Carried out by Expatriate over occurrence area, part of larger program.	12/31/2004	Other	Carried out by Expatriate over occurrence area, part of larger program.
12/13/1972   Geochemitary   Canex Placer carried out large regional reconnoiseance exploration programs over the entire property during their ownership period but this area only recoved a cursory examination.   12/12/2072   Development, Surface	12/31/1999	Geochemistry	Carried out by Expatriate over occurrence area, part of larger program.
12/1/2017   Development, Surface	12/31/1999	Geochemistry	Carried out by Expatriate over occurrence area, part of larger program.
12/1/2017         Development, Surface           12/1/2015         Devilling           12/1/2015         Studies           12/1/2014         Drilling           12/1/2014         Studies           12/1/2014         Studies           12/1/2014         Studies           12/1/2014         Studies           12/1/2007         Geochemistry           12/1/2007         Geochemistry           12/1/2006         Geochemistry           12/1/2006         Geochemistry           12/1/2006         Geology           12/1/2006         Geology           12/1/2006         Geology           12/1/2006         Geochemistry           12/1/2006         Geochemistry           12/1/2006         Geochemistry           12/1/2007         Geochemistry           12/1/2006         Geochemistry           12/1/2007         Geochemistry           12/1/2007         Geochemistry           12/1/1976         Ground Geophysics           12/1/1976         Geochemistry           12/1/1976         Geochemistry           12/1/1975         Geochemistry           12/1/1975         Geochemistry           12/1/	12/31/1972	Geochemistry	
12/1/2016         Development, Surface           12/1/2015         Studies           12/1/2014         Drilling           12/1/2014         Studies           12/1/2014         Studies           12/1/2014         Studies           12/1/2014         Development, Surface           12/1/2007         Geochemistry           12/1/2009         Geochemistry           12/1/2006         Geochemistry           12/1/2007         Geochemistry           12/1/2006         Geochemistry           12/1/1996         Geochemistry           12/1/1997         Ground Geophysics           12/1/1997         Geochemistry           12/1/1997         Geochemistry           12/1/1997         Geochemistry           12/1/1997         Geochemistry           12/1/1997         Geochemistry           12/1/1997         Geochemistry           12/1/1997         Geochemistry     <	12/1/2017	Development, Surface	
12/1/2015   Studies     12/1/2014   Drilling     12/1/2014   Studies     12/1/2014   Studies     12/1/2014   Studies     12/1/2014   Studies     12/1/2014   Development, Surface     12/1/2007   Geochemistry     12/1/2007   Geochemistry     12/1/2006   Geochemistry     12/1/2007   Geochemistry     12/1/2006   Geochemistry     12/1/2006   Geochemistry     12/1/2006   Geochemistry     12/1/2006   Geochemistry     12/1/2006   Geochemistry     12/1/2007   Geochemistry     12/1/2007   Geochemistry     12/1/2008   Geochemistry     12/1/2009   Geochemistry     12/1/2	12/1/2017	Development, Surface	
12/1/2015   Studies     12/1/2014   Drilling     12/1/2014   Studies     12/1/2014   Studies     12/1/2014   Development, Surface     12/1/2007   Geochemistry     12/1/2007   Geochemistry     12/1/2006   Geochemistry     12/1/2007   Geochemistry     12/1/2008   Geochemistry     12/1/2009   Geochemistry	12/1/2016	Development, Surface	
12/1/2014         Studies           12/1/2014         Studies           12/1/2014         Studies           12/1/2014         Development, Surface           12/1/2007         Geochemistry           12/1/2007         Geochemistry           12/1/2006         Geochemistry           12/1/2006         Geochemistry           12/1/2006         Geochemistry           12/1/2005         Geochemistry           12/1/2005         Geochemistry           12/1/2006         Geochemistry           12/1/1908         Geochemistry           12/1/1994         Geochemistry           12/1/1995         Ground Geophysics           12/1/1996         Ground Geophysics           12/1/1996         Geochemistry           12/1/1996         Geochemistry           12/1/1996         Geochemistry           12/1/1997         Geology           12/1/1997         Geochemistry	12/1/2015	Drilling	
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12/1/2014 Studies 12/1/2014 Development, Surface 12/1/2007 Geochemistry 12/1/2007 Geochemistry 12/1/2006 Geochemistry 12/1/2006 Geochemistry 12/1/2006 Geology 12/1/2006 Geology 12/1/2006 Geology 12/1/2006 Geology 12/1/2006 Geology 12/1/2005 Geochemistry 12/1/2005 Geochemistry 12/1/2005 Geochemistry 12/1/2005 Geochemistry 12/1/1906 Geology 12/1/1906 Geology 12/1/1906 Geology 12/1/1906 Ground Geophysics 12/1/1906 Geology 12/1/1906 Geology 12/1/1906 Geology 12/1/1906 Geochemistry 12/1/1909 Geochemistry	12/1/2014	Drilling	
12/1/2014         Development, Surface           12/1/2007         Geochemistry           12/1/2006         Geochemistry           12/1/2006         Geochemistry           12/1/2006         Geology           12/1/2006         Geochemistry           12/1/2005         Geochemistry           12/1/2005         Geochemistry           12/1/1994         Geochemistry           12/1/1976         Ground Geophysics           12/1/1976         Geology           12/1/1976         Geochemistry           12/1/1976         Geochemistry           12/1/1976         Geology           12/1/1976         Development, Surface           12/1/1975         Geology           12/1/1975         Geology           12/1/1975         Geochemistry           12/1/1973         Geochemistry           12/1/1973         Geochemistry           12/1/1973         Geochemistry	12/1/2014	Studies	
12/1/2007       Geochemistry         12/1/2006       Geochemistry         12/1/2006       Geochemistry         12/1/2006       Geochemistry         12/1/2006       Geochemistry         12/1/2005       Geochemistry         12/1/2005       Geochemistry         12/1/1994       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Geology         12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Ground Geophysics         12/1/1976       Ground Geophysics         12/1/1975       Geology         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1975       Other         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/2014	Studies	
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12/1/2006       Geochemistry         12/1/2005       Geochemistry         12/1/2005       Geochemistry         12/1/1994       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Geology         12/1/1976       Geochemistry         12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1975       Geochemistry         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/2006	Geochemistry	
12/1/2006       Geology         12/1/2005       Geochemistry         12/1/2006       Geochemistry         12/1/1994       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Geology         12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1973       Geochemistry         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/2006	Geology	
12/1/2005 Geochemistry 12/1/1994 Geochemistry 12/1/1976 Ground Geophysics 12/1/1976 Geochemistry 12/1/1976 Geochemistry 12/1/1976 Geochemistry 12/1/1976 Geochemistry 12/1/1976 Ground Geophysics 12/1/1976 Ground Geophysics 12/1/1976 Ground Geophysics 12/1/1976 Development, Surface 12/1/1975 Geology 12/1/1975 Geochemistry 12/1/1975 Geochemistry 12/1/1973 Geochemistry 12/1/1973 Geochemistry	12/1/2006	Geochemistry	
12/1/2005       Geochemistry         12/1/1994       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1975       Other         12/1/1973       Geochemistry         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/2006	Geology	
12/1/1994       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Geology         12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1975       Other         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/2005	Geochemistry	
12/1/1976       Ground Geophysics         12/1/1976       Geology         12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1973       Other         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/2005	Geochemistry	
12/1/1976       Geology         12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1973       Geochemistry         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/1994	Geochemistry	
12/1/1976       Geochemistry         12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1975       Other         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/1976	Ground Geophysics	
12/1/1976       Ground Geophysics         12/1/1976       Development, Surface         12/1/1975       Geology         12/1/1975       Geochemistry         12/1/1975       Other         12/1/1973       Geochemistry         12/1/1973       Geochemistry	12/1/1976	Geology	
12/1/1976     Development, Surface       12/1/1975     Geology       12/1/1975     Geochemistry       12/1/1975     Other       12/1/1973     Geochemistry       12/1/1973     Geochemistry	12/1/1976	Geochemistry	
12/1/1975     Geology       12/1/1975     Geochemistry       12/1/1975     Other       12/1/1973     Geochemistry       12/1/1973     Geochemistry	12/1/1976	Ground Geophysics	
12/1/1975 Geochemistry  12/1/1975 Other  12/1/1973 Geochemistry  12/1/1973 Geochemistry	12/1/1976	Development, Surface	
12/1/1975     Other       12/1/1973     Geochemistry       12/1/1973     Geochemistry	12/1/1975	Geology	
12/1/1973 Geochemistry 12/1/1973 Geochemistry	12/1/1975	Geochemistry	
12/1/1973 Geochemistry	12/1/1975	Other	
	12/1/1973	Geochemistry	
12/1/1973 Geology	12/1/1973	Geochemistry	
	12/1/1973	Geology	

# **Assessment Reports that overlap occurrence**

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
005022	2007	Assessment Report Describing Prospecting, Geochemical Sampling	Diamond - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil -	76	23201 20

UJJUZZ	2007	and Diamond Drilling on the Selwyn Project Geochemistry, Prospecting - Other		70	ZJZ71.ZU
<u>094637</u>	2006	Assessment Report Describing Prospecting, Geochemical Sampling and Diamond Drilling on the Selwyn Project	Diamond - Drilling, Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Regional Surficial Mapping - Geology	150	30994.70
<u>094572</u>	Assessment Report Describing Prospecting and Soil Sampling on the NOD Claims		Rock - Geochemistry, Soil - Geochemistry, Prospecting - Other		
<u>094092</u>	Assessment Report Describing Geology and Geochemical Surveys on the Nod Claims  Assessment Report Describing Geology and Geochemical Surveys on the Nod Claims		Silt - Geochemistry, Soil - Geochemistry		
<u>093314</u>	1994	Assessment Report Describing Geology and Geochemical Surveys on the Nod 1-66 Claims	Silt - Geochemistry		
<u>097005</u>	1976	Final Report on the 1976 Exploration Program at Howards Pass, Yukon	Access Road - Development, Surface, Diamond - Drilling, Soil - Geochemistry, Bedrock Mapping - Geology, EM - Ground Geophysics, Gravity Survey - Ground Geophysics, Surveying - Other, Mechanical - Trenching	70	9501.23
097007	1975	Final Report on the 1975 Exploration Program at Howards Pass, Yukon	Air Strip - Development, Surface, Diamond - Drilling, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other, Mechanical - Trenching	19	4013.45
<u>061275</u>	1973	Report on the Geology and Mineralization Summit Lake Area, Y.TN.W.T.	Silt - Geochemistry, Soil - Geochemistry, Regional Bedrock Mapping - Geology		

Number Title Page(s) Reference Type Document Type	Related Ref	eferences eferences							
	Number	Title	Page(s)	Reference Type	Document Type				
ARMC009055 Geological map - 105H-9 - MacMillan project - Anmac Property File Collection Geoscience Map (Geological - Bedrock)	ARMC009055	Geological map - 105H-9 - MacMillan project - Anmac		Property File Collection	Geoscience Map (Geological - Bedrock)				

/ear	Zone	Туре	Commodity	Grade	Tonnage	A mount	Reported Amount	43-101 Compliant	Cut-off
012	Selwyn Global Resource (Open Pit & Underground)	Indicated	zinc	5.2 %	185,570,000	9643373786	Yes	Yes	2% Zn
irkha	n Geosystems, Sept 27 2012.								
2012	Selwyn Global Resource (Open Pit & Underground)	Indicated	lead	1.79 %	185,570,000	3311224301	Yes	Yes	2% Zn
Kirkha	n Geosystems, Sept 27 2012.								
2012	Selwyn Global Resource (Open Pit & Underground)	Inferred	zinc	4.47 %	237,860,000	10636741076	Yes	Yes	2% Zn
(irkha	n Geosystems, Sept 27 2012.								
2012	Selwyn Global Resource (Open Pit & Underground)	Inferred	lead	1.38 %	237,860,000	3274936911	Yes	Yes	2% Zn
Kirkha	n Geosystems, Sept 27 2012.								
2008	HC DEPOSIT (OPEN PIT)	Inferred	zinc	3.83 %	19,370,000	739355563	Yes	Yes	2% Zn
Pearso	n and O'Donnell, March 2008.								
2008	HC DEPOSIT (OPEN PIT)	Indicated	zinc	4.01 %	8,600,000	344730201	Yes	Unknown	2% Zn
Origina	illy in Pearson and O'Donnell, April 2007, bur re-sated in March 2008.								
2008	HC WEST - HIGH GRADE CORE (UNDERGROUND)	Inferred	zinc	9.73 %	2,996,000		No	Unknown	Unknowr
	ed by J.J. O'Donnel onsite Qualified person for Selwyn and C. Pearso tion of higher grade core of HC West deposit. Potential underground							es prepared re	source
2008	HC WEST DEPOSIT (OPEN PIT)	Inferred	zinc	5.42 %	10,220,000		Yes	Yes	2% Zn
Pearso	n and O'Donnell, March 2008.								
2008	HC WEST DEPOSIT (OPEN PIT)	Indicated	zinc	5.46 %	19,680,000	1075013917	Yes	Yes	2% Zn
Pearso	n and O'Donnell, March 2008.								
2008	HC WEST - HIGH GRADE CORE (UNDERGROUND)	Inferred	lead	3 %	2,996,000		No	Unknown	Unknowr
	ed by J.J. O'Donnel onsite Qualified person for Selwyn and C. Pearso tion of higher grade core of HC West deposit. Potential underground							es prepared re	source
2008	HC DEPOSIT (OPEN PIT)	Inferred	lead	1.09 %	19,370,000	208652490	Yes	Yes	2% Zn
Pearso	n and O'Donnell 2008.								
2008	HC DEPOSIT (OPEN PIT)	Indicated	lead	1.04 %	8,600,000	90718474	Yes	Yes	2% Zn
Pearso	n and O'Donnell, April 2007. Re-stated in Pearson and O'Donnell 2008	3.							
2008	HC WEST DEPOSIT (OPEN PIT)	Inferred	lead	1.5 %	10,220,000	154221405	Yes	Yes	2% Zn
Pearso	n and O'Donnell, March 2008.								
2008	HC WEST DEPOSIT (OPEN PIT)	Indicated	lead	1.56 %	19,680,000	308442811	Yes	Yes	2%Zn
Pearso	n and O'Donnell, March 2008.								

resourc	e calculations prepared March 30, 2007 published in Pacifica Resources Apr	2, 2007 press re	lease. Initial Ni 4	3-101 calcula	ations for HC depos	it. Using 2% z	inc cut-off.		
2007	HC DEPOSIT (OPEN PIT)	Indicated	lead	1.04 %	8,600,000		No	Yes	Unknown
	ed by J.J. O'Donnel onsite Qualified Person for Pacifica and C. Pearson, Pea te calculations prepared March 30, 2007 published in Pacifica Resources Apr		, ,					6 drill holes.; l	Jpdated mineral
2007	HC WEST DEPOSIT (OPEN PIT)	Inferred	lead	1.32 %	13,930,000		No	Yes	Unknown
	ed by J.J. O'Donnel onsite Qualified Person for Pacifica and C. Pearson, Pea te calculations prepared March 30, 2007 published in Pacifica Resources Apr		, ,	-				,	Jpdated mineral
2007	HC WEST DEPOSIT (OPEN PIT)	Indicated	lead	1.16 %	4,470,000		No	Yes	Unknown
	ed by J.J. O'Donnel onsite Qualified Person for Pacifica and C. Pearson, Pea te calculations prepared March 30, 2007 published in Pacifica Resources Apr		, ,					,	Jpdated mineral
2007	HC DEPOSIT (OPEN PIT)	Inferred	zinc	3.85 %	33,020,000		No	Yes	Unknown
	ed by J.J. O'Donnel onsite Qualified Person for Pacifica and C. Pearson, Pea te calculations prepared March 30, 2007 published in Pacifica Resources Apr		, ,	-				6 drill holes.; l	Jpdated mineral
2007	HC DEPOSIT (OPEN PIT)	Indicated	zinc	4.01 %	8,600,000		No	Yes	Unknown
	ed by J.J. O'Donnel onsite Qualified Person for Pacifica and C. Pearson, Pea te calculations prepared March 30, 2007 published in Pacifica Resources Apr		, ,	-				6 drill holes.; l	Jpdated mineral
2007	HC WEST DEPOSIT (OPEN PIT)	Inferred	zinc	4.98 %	13,930,000		No	Yes	Unknown
	ed by J.J. O'Donnel onsite Qualified Person for Pacifica and C. Pearson, Pea te calculations prepared March 30, 2007 published in Pacifica Resources Apr								Jpdated mineral
2007	HC WEST DEPOSIT (OPEN PIT)	Indicated	zinc	4.36 %	4,470,000		No	Yes	Unknown
	ed by J.J. O'Donnel onsite Qualified Person for Pacifica and C. Pearson, Pea te calculations prepared March 30, 2007 published in Pacifica Resources Apr		, ,	-				,	Jpdated mineral