



## Occurrence Details

**Occurrence Number:** 105I 012

**Occurrence Name:** XY Central

**Occurrence Type:** Hard-rock

**Status:** Deposit

**Date printed:** 6/16/2025 12:47:30 PM

## General Information

**Primary Commodities:** lead, zinc

**Aliases:** Howards Pass, Selwyn Project, Summit Lake, Xy Central, Xy West, Xy Nose

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

**Location(s):** 62°28'9" N - -129°12'49" W

**NTS Mapsheet(s):** 105I06

**Location Comments:** .5 Kilometres

**Hand Samples Available:** Yes

**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 drill 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 offshore 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 comprises 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 grey 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 comprises 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 1051 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. The XY portion of the Selwyn project consists of the XY Central, XY Nose and XY West deposits. The XY Nose deposit is located entirely in the Northwest Territories. Between 1973 and 1981 Placer Development collared 102 diamond drillholes (22,387.0 m) from surface on the XY deposits and 35 drillholes (933.0 m) on the underground. The holes targeted the XY Central, East and Nose zones. At the end of 1982 Placer Development reported a historical reserve for the XY deposit (comprised of the XY Central, East and Nose zones) of approximately 59 million tonnes grading 2.1% lead and 5.4% zinc (using a 4% lead-zinc cut-off). The company also reported an higher grade underground reserve within the deposit of approximately 8.2 million tonnes grading 5.5% lead and 10.6% zinc, (employing a 10% lead-zinc cut-off). These calculations pre-date National Instrument 43-101 standards. The acquisition of the Howard's Pass property in 2005 by Pacifica/Selwyn Resources saw the new owners concentrate on increasing the reserves in the XY Central deposit. The XY Central deposit included Placer Development's XY Central and East deposits. The XY nose deposit saw little exploration because it was located entirely in the Northwest Territories and any work performed on it required a separate work permit from the Government of Northwest Territories. Between 2005 and 2007 Pacifica/Selwyn Resources collared 68 diamond drill holes (19,448.4 m) on the XY Central deposit. The holes targeted both the surface and underground portions of the deposit. Diamond drilling carried out in 2008 and 2009 (19 holes 6,552.4 m) lead to the discovery of the XY West underground deposit located approximately 1 km northwest of the Central deposit. The XY Central deposit has a strike length of 2.5 km and strikes 295 to 300° and dips from 22 to 60° becoming steeper towards the west. The deposit is structurally controlled and is subdivided into five ore panels due to faulting. The deposit is truncated to the south by a large fault but remains open to the west east and north. The XY Central deposit is interpreted to be on the south limb of the large regional syncline defined by Placer Development in the late 1970s and early 1980s. The syncline is a relatively open fold with a wavelength of 1,500 m. The fold axis is not clearly defined but runs approximately parallel to foliation. The north limb of the syncline defines the HP deposit (Minfile Occurrence 105G 032). The XY Nose deposit represents the extension of the XY Central deposit to the east. The deposit is flat lying feature that is thought to be a surface expression of the large synclinal fold Placer Development, defined in the 1970s. The XY West deposit was discovered in 2008 through structural/stratigraphy interpretation. It is interpreted to be on the southern limb of the XY syncline. To date 19 diamond drillholes have defined a strike length of 250 m with an approximate true thickness of 6 to 24 m for the Active Member. Insufficient drilling has been carried out to adequately define the dip length of the deposit. The deposit remains open for expansion of its mineral potential. A report dated Oct 2011 by Pearson Geological Services and Kirkham Geosystems contains an updated resource for the XY Central deposit for lenses 93-94-95 only: the INDICATED resource is calculated at 29.93M tonnes grading 6.35% Zn and 2.69% Pb. This resource remains current as of March 2014. A resource estimate for the XY West deposit was produced in June 2012 by Kirkham Geosystems for Selwyn Resources. The INFERRED resource is listed at 12 754,416 tonnes grading 4.42% Zn and 1.4% Pb. 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 7.38Blbs (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.

## Work History

Date	Work Type	Comment
6/29/2012	Studies	Kirkham Geosystems, 2012. Two reports: June 2012 forXY West ; October 2012 for Global Selwyn resource.Both current as of March 2014.
12/31/2010	Studies	Began feasibility study .
12/31/2009	Drilling	Ten holes, 4,214 m. Tested XY west deposit.
12/31/2009	Studies	
12/31/2008	Drilling	Eight holes, 2,338.4 m. Tested XY west zone.
12/31/2008	Studies	Began enviromental studies across project area.
12/31/2007	Drilling	Eighteen holes, 7,689.3 m.
12/31/2006	Drilling	Forty-four holes, 10,980 m.
12/31/2006	Lab Work/Physical Studies	Anniv, Brodel and XY zones also Dense Media separation work.
12/31/2006	Other	258 new claims, mostly to cover northwest extension of property.
12/31/2005	Drilling	Six holes, 783 m.
12/31/2000	Studies	Copper Ridge Explorations optioned property , performed due dilligence, drilled on Don and Anniv. Dropped option end of year.

12/31/1991	Development, Surface	Removed camp and cleaned up exploration site.
12/31/1982	Lab Work/Physical Studies	Economic evaluation was done in 1982.
12/31/1981	Drilling	Thirty-four holes, 960 m - underground drilling.
12/31/1981	Development, Underground	Drove adit 713 m.
12/31/1980	Development, Underground	Drove adit 581 m.
12/31/1979	Development, Surface	
12/31/1977	Drilling	Fourteen holes, 5,059.7 m.
12/31/1977	Development, Surface	
12/31/1976	Drilling	Thirty-seven holes, 6,242 m.
12/31/1975	Drilling	Ten holes, 3,657.6 m.
12/31/1974	Drilling	Twelve holes, 1,981.2 m.
12/31/1973	Development, Surface	
12/31/1973	Drilling	Twenty-six holes, 4,267.2 m.
12/31/1973	Geology	
12/31/1973	Geochemistry	
12/31/1972	Geology	
12/31/1972	Geochemistry	
12/31/1972	Trenching	
12/31/1971	Geology	
12/31/1971	Geochemistry	
12/31/1968	Geology	
12/31/1968	Geochemistry	
12/1/2018	Development, Surface	
12/1/2017	Development, Surface	
12/1/2016	Development, Surface	
12/1/2015	Drilling	
12/1/2015	Studies	
12/1/2015	Studies	
12/1/2014	Drilling	
12/1/2014	Studies	
12/1/2014	Studies	
12/1/2014	Development, Surface	
10/1/2011	Studies	Pearson Geological Services Ltd. and Kirkham Geosystems Ltd. October 2011. Current resource for XY Central as of March 2014.

### Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
<a href="#">095356</a>	2010	2010 Assessment Report Describing Prospecting, Geochemical Sampling and Diamond Drilling on the Selwyn Project	Diamond - Drilling, Drill Core - Geochemistry, Prospecting - Other	52	17030.90
<a href="#">091187</a>	1978	[Diamond Drill Logs for Howards Pass Project]	Diamond - Drilling	4	607
<a href="#">097005</a>	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
<a href="#">097007</a>	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
<a href="#">091185</a>	1974	[Diamond Drilling on X Claims]	Diamond - Drilling	8	9369.20
<a href="#">061275</a>	1973	Report on the Geology and Mineralization Summit Lake Area, Y.T.-N.W.T.	Silt - Geochemistry, Soil - Geochemistry, Regional Bedrock Mapping - Geology		

## Related References

Number	Title	Page(s)	Reference Type	Document Type
<a href="#">ARMC006032</a>	Map section 110 N.W. - XY area		Property File Collection	Geoscience Map (General)
<a href="#">ARMC006033</a>	Composite plan and section maps of proposed 4880 level - Underground exploration adit - Howards Pass - XY area		Property File Collection	Geoscience Map (General)
<a href="#">ARMC006034</a>	Map section 105 N.W. to 170 N.W. - XY area		Property File Collection	Geoscience Map (General)
<a href="#">ARMC006035</a>	Mineral inventory - Central zone - XY area		Property File Collection	Miscellaneous Company Documents
<a href="#">ARMC006036</a>	Geologic plan map - Detailed central zone - Underground - XY area		Property File Collection	Geoscience Map (Geological - Bedrock)
<a href="#">ARMC006037</a>	Map section 40 N.W. - XY area		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010549</a>	Profile and assay results map - DDH 74-P2 & 3 - Selwyn project 1974 - Pas mineral claim group - NTS 105-I-6 - Figure 16		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010086</a>	Soil geochemical values map - Pas group		Property File Collection	Geochemical Map
<a href="#">ARMC010087</a>	Pas group geochem values map - Zinc contours - Outside of Pas grid area - Selwyn project - Figure 5		Property File Collection	Geochemical Map
<a href="#">ARMC010089</a>	Grid geology map - Selwyn project - Pas group - Fig. 6		Property File Collection	Geoscience Map (Geological - Bedrock)
<a href="#">ARMC010090</a>	Soil geochemical values and zinc contours grid map - Selwyn project - Pas group - Figure 3		Property File Collection	Geochemical Map
<a href="#">ARMC010091</a>	Soil geochemical values and lead contours grid map - Selwyn project - Pas group - Figure 2		Property File Collection	Geochemical Map
<a href="#">ARMC010092</a>	Geochem values map - Lead contours outside of Pas grid area - Pas group - Figure 4		Property File Collection	Geochemical Map
<a href="#">ARMC010537</a>	Bulldozer trench P-3 - Selwyn project - Pas mineral claim group - Figure 8		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010538</a>	Bulldozer trench P-7 - Selwyn project - Pas mineral claim group - Figure 11		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010539</a>	Bulldozer trench P-2, 3, 5 - Selwyn project - Pas mineral claim group - Figure 7		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010540</a>	Bulldozer trench P-6, 7, 8 - Selwyn project - Pas mineral claim group - Figure 10		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010541</a>	Bulldozer trench P-12 - Selwyn project - Pas mineral claim group - Figure 14		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010542</a>	Geology and geochemical map of area surrounding Tap group - 105I-5		Property File Collection	Geoscience Map (Geological - Bedrock)
<a href="#">ARMC010543</a>	Bulldozer trench P-9 - Selwyn project - Pas mineral claim group - Figure 13		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010544</a>	Bulldozer trench P-8 - Selwyn project - Pas mineral claim group - Figure 12		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010545</a>	Bulldozer trench P-5 - Selwyn project - Pas mineral claim group - Figure 9		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010546</a>	Profile and assay results map - DDH 74-P-4 - Selwyn project 1974 - Pas mineral claim group - Figure 17		Property File Collection	Geoscience Map (General)
<a href="#">ARMC010547</a>	Detailed rock geochemical survey map - 105I-6 - Pas group soil grid		Property File Collection	Geochemical Map
<a href="#">ARMC010548</a>	Profile and assay results map - DDH 74-P-1 - Selwyn project 1974 - Pas mineral claim group - NTS 105-I-6 - Figure 15		Property File Collection	Geoscience Map (General)
<a href="#">ARMC009055</a>	Geological map - 105H-9 - MacMillan project - Anmac		Property File Collection	Geoscience Map (Geological - Bedrock)
<a href="#">ARMC008071</a>	Compilation map outlining geology and mineral deposits in Selwyn Basin - Selwyn project		Property File Collection	Geochemical Map
<a href="#">ARMC016505</a>	Geochem samples overlay maps - 105I/6 - With Selwyn project notes		Property File Collection	Geochemical Map
<a href="#">BROCK000105</a>	Report on 1974 field work (geological, geochemical, bulldozer trenching, diamond drilling) - PAS mineral claim group		Property File Collection	Report

## Resource/Reserve

Year	Zone	Type	Commodity	Grade	Tonnage	Amount	Reported Amount	43-101 Compliant	Cut-off
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2012	Selwyn Global Resource (Open Pit & Underground)	Indicated	zinc	5.2 %	185,570,000	9643373786	Yes	Yes	2% Zn
Kirkham Geosystems, Sept 27 2012.									
2012	Selwyn Global Resource (Open Pit & Underground)	Inferred	zinc	4.47 %	237,860,000	10636741076	Yes	Yes	2% Zn
Kirkham Geosystems, Sept 27 2012.									
2012	Selwyn Global Resource (Open Pit & Underground)	Indicated	lead	1.79 %	185,570,000	3311224301	Yes	Yes	2% Zn
Kirkham Geosystems, Sept 27 2012.									
2012	Selwyn Global Resource (Open Pit & Underground)	Inferred	lead	1.38 %	237,860,000	3274936911	Yes	Yes	2% Zn
Kirkham Geosystems, Sept 27 2012.									
2012	XY West (Open Pit & Underground)	Inferred	zinc	4.42 %	12,754,416	562454539	Yes	Yes	2% Zn
Kirkham Geosystems, June and Sept 2012.									
2012	XY West (Open Pit & Underground)	Inferred	lead	1.4 %	12,754,416	176901024	Yes	Yes	2% Zn
Kirkham Geosystems, June and Sept 2012.									
2011	XY Central- Lenses 93-94-95 only (Open Pit & Underground)	Indicated	zinc	6.35 %	29,935,960		No	Yes	2% Zn
Pearson Geological Services Ltd. and Kirkham Geosystems Ltd. October 2011.									
2011	XY Central- Lenses 93-94-95 only (Open Pit & Underground)	Indicated	lead	2.69 %	29,935,960		No	Yes	2% Zn
Pearson Geological Services Ltd. and Kirkham Geosystems Ltd. October 2011.									
2011	XY Central Global- lenses 91 to 96 (Open Pit & Underground)	Indicated	zinc	5.7 %	45,114,500	2571868738	Yes	Yes	2% Zn
Reported in Kirkham Geosystems, Sept 27 2012. pp 6-24,25.									
2011	XY Central Global- lenses 91 to 96 (Open Pit & Underground)	Indicated	lead	2.4 %	45,114,500	1084085764	Yes	Yes	2% Zn
Reported in Kirkham Geosystems, Sept 27 2012. pp 6-24,25.									
2009	HOWARDS PASS - TOTAL RESERVES (OPEN PIT & UNDERGROUND)	Inferred	lead	1.41 %	234,150,000		No	Unknown	Unknown
This is a global resource for entire Howard's Pass or Selwyn project. Using 2% zinc cut-off. Unknown if deposit is economic as feasibility study not completed.; Selwyn Resources Press Release and various other sources, including web site.									
2009	HOWARDS PASS - TOTAL RESERVES (OPEN PIT & UNDERGROUND)	Indicated	lead	1.86 %	154,350,000		No	Unknown	Unknown
This is a global resource for entire Howard's Pass or Selwyn project. Using 2% zinc cut-off. Unknown if deposit is economic as feasibility study not completed.; Selwyn Resources Press Release and various other sources, including web site.									
2009	HOWARDS PASS - TOTAL RESERVES (OPEN PIT & UNDERGROUND)	Inferred	zinc	4.5 %	234,150,000		No	Unknown	Unknown
This is a global resource for entire Howard's Pass or Selwyn project. Using 2% zinc cut-off. Unknown if deposit is economic as feasibility study not completed.; Selwyn Resources Press Release and various other sources, including web site.									
2009	HOWARDS PASS - TOTAL RESERVES (OPEN PIT & UNDERGROUND)	Indicated	zinc	5.35 %	154,350,000		No	Unknown	Unknown
This is a global resource for entire Howard's Pass or Selwyn project. Using 2% zinc cut-off. Unknown if deposit is economic as feasibility study not completed.; Selwyn Resources Press Release and various other sources, including web site.									
2008	HOWARDS PASS - XY NOSE DEPOSIT (OPEN PIT)	Inferred	lead	2.2 %	7,320,000		No	Unknown	Unknown
Using 2% Zinc cut-off. Larger resource figures exist for the whole project. Figures given here only relate to XY Nose resources.; Update Resource Estimate Report for the Selwyn Project Yukon-NWT, Canada by C. Pearson of Pearson Geological Services and J. O'Donnell Selwyn Resources.									
2008	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Inferred	lead	4.41 %	2,849,000		No	Unknown	Unknown
Using 2% Zinc cut-off. Larger resources figures exist for the whole project. Figures given here only relate to XY underground resources.; Update Resource Estimate Report for the Selwyn Project Yukon-NWT, Canada by C. Pearson of Pearson Geological Services and J. O'Donnell Selwyn Resources.									
2008	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Indicated	lead	4.41 %	10,738,000		No	Unknown	Unknown
Using 2% Zinc cut-off. Larger resources figures exist for the whole project. Figures given here only relate to XY underground resources.; Update Resource Estimate Report for the Selwyn Project Yukon-NWT, Canada by C. Pearson of Pearson Geological Services and J. O'Donnell Selwyn Resources.									
2008	HOWARDS PASS - XY NOSE DEPOSIT (OPEN PIT)	Inferred	zinc	4.08 %	7,320,000		No	Unknown	Unknown
Using 2% Zinc cut-off. Larger resource figures exist for the whole project. Figures given here only relate to XY Nose resources.; Update Resource Estimate Report for the Selwyn Project Yukon-NWT, Canada by C. Pearson of Pearson Geological Services and J. O'Donnell Selwyn Resources.									
2008	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Inferred	zinc	10.86 %	2,849,000		No	Unknown	Unknown
Using 2% Zinc cut-off. Larger resources figures exist for the whole project. Figures given here only relate to XY underground resources.; Update Resource Estimate Report for the Selwyn Project Yukon-NWT, Canada by C. Pearson of Pearson Geological Services and J. O'Donnell Selwyn Resources.									
2008	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Indicated	zinc	10.38 %	10,738,000		No	Unknown	Unknown
Using 2% Zinc cut-off. Larger resources figures exist for the whole project. Figures given here only relate to XY underground resources.; Update Resource Estimate Report for the Selwyn Project Yukon-NWT, Canada by C. Pearson of Pearson Geological Services and J. O'Donnell Selwyn Resources.									
2007	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Inferred	lead	3.71 %	1,856,500		No	Yes	Unknown
Using 2% zinc cut-off. This resource is a high grade underground resource that is part of the resource calculated for the XY Central deposit. Formerly called XY deposit now called XY Central underground deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2007	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Indicated	lead	4.32 %	7,394,860		No	Yes	Unknown
Using 2% zinc cut-off. This resource is a high grade underground resource that is part of the resource calculated for the XY Central deposit. Formerly called XY deposit now called XY Central underground deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2007	HOWARDS PASS - XY Open Pit (OPEN PIT)	Inferred	lead	2.08 %	46,640,000		No	Yes	Unknown

Using 2% zinc cut-off. These figures relate to YX Central deposit. Underground high grade resource is a portion of this deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2007	HOWARDS PASS - XY Open Pit (OPEN PIT)	Indicated	lead	2.35 %	36,270,000		No	Yes	Unknown
Using 2% zinc cut-off. These figures relate to YX Central deposit. Underground high grade resource is a portion of this deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2007	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Inferred	zinc	10.41 %	1,856,500		No	Yes	Unknown
Using 2% zinc cut-off. This resource is a high grade underground resource that is part of the resource calculated for the XY Central deposit. Formerly called XY deposit now called XY Central underground deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2007	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Indicated	zinc	9.88 %	7,394,860		No	Yes	Unknown
Using 2% zinc cut-off. This resource is a high grade underground resource that is part of the resource calculated for the XY Central deposit. Formerly called XY deposit now called XY Central underground deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2007	HOWARDS PASS - XY Open Pit (OPEN PIT)	Inferred	zinc	5.38 %	46,640,000		No	Yes	Unknown
Using 2% zinc cut-off. These figures relate to YX Central deposit. Underground high grade resource is a portion of this deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2007	HOWARDS PASS - XY Open Pit (OPEN PIT)	Indicated	zinc	5.77 %	36,270,000		No	Yes	Unknown
Using 2% zinc cut-off. These figures relate to YX Central deposit. Underground high grade resource is a portion of this deposit.; Calculations prepared by J.J. O'Donnell, the onsite Qualified Person for Pacifica, under audit by Cliff Pearson of Pearson Geological Ltd, Independent Person under NI 43-101 standards.									
2006	HOWARDS PASS - XY NOSE DEPOSIT (OPEN PIT)	Inferred	lead	2.2 %	7,320,000		No	Unknown	Unknown
Based on 2% zinc cut-off. XY Nose deposit is located entirely in NWT. First resource figure to meet National Instrument 43-101 standards.; Resource Estimate Summary Report for the Howard's Pass Project, Yukon-NWT Canada (NTS-105I/06,11,12) by J. Nilsson and J. O'Donnell. Available on SEDAR.									
2006	HOWARDS PASS - XY Open Pit (OPEN PIT)	Inferred	lead	2.77 %	54,130,000		No	Unknown	Unknown
At 2.0% Zinc cut-off grade. Reserves are for what Pacifica/Selwyn Resources renamed as XY Central deposit. YX Nose has separate mineral Resource. First resource calculation which meet National Instrument 43-101 standards.; Resource Estimate Summary Report for the Howard's Pass Project, Yukon-NWT Canada (NTS-105I/06,11,12) by J. Nilsson and J. O'Donnell. Available on SEDAR.									
2006	HOWARDS PASS - XY Open Pit (OPEN PIT)	Indicated	lead	2.37 %	20,910,000		No	Unknown	Unknown
At 2.0% Zinc cut-off grade. Reserves are for what Pacifica/Selwyn Resources renamed as XY Central deposit. YX Nose has separate mineral Resource. First resource calculation which meet National Instrument 43-101 standards.; Resource Estimate Summary Report for the Howard's Pass Project, Yukon-NWT Canada (NTS-105I/06,11,12) by J. Nilsson and J. O'Donnell. Available on SEDAR.									
2006	HOWARDS PASS - XY NOSE DEPOSIT (OPEN PIT)	Inferred	zinc	4.08 %	7,320,000		No	Unknown	Unknown
Based on 2% zinc cut-off. XY Nose deposit is located entirely in NWT. First resource figure to meet National Instrument 43-101 standards.; Resource Estimate Summary Report for the Howard's Pass Project, Yukon-NWT Canada (NTS-105I/06,11,12) by J. Nilsson and J. O'Donnell. Available on SEDAR.									
2006	HOWARDS PASS - XY Open Pit (OPEN PIT)	Inferred	zinc	6.15 %	54,130,000		No	Unknown	Unknown
At 2.0% Zinc cut-off grade. Reserves are for what Pacifica/Selwyn Resources renamed as XY Central deposit. YX Nose has separate mineral Resource. First resource calculation which meet National Instrument 43-101 standards.; Resource Estimate Summary Report for the Howard's Pass Project, Yukon-NWT Canada (NTS-105I/06,11,12) by J. Nilsson and J. O'Donnell. Available on SEDAR.									
2006	HOWARDS PASS - XY Open Pit (OPEN PIT)	Indicated	zinc	5.9 %	20,910,000		No	Unknown	Unknown
At 2.0% Zinc cut-off grade. Reserves are for what Pacifica/Selwyn Resources renamed as XY Central deposit. YX Nose has separate mineral Resource. First resource calculation which meet National Instrument 43-101 standards.; Resource Estimate Summary Report for the Howard's Pass Project, Yukon-NWT Canada (NTS-105I/06,11,12) by J. Nilsson and J. O'Donnell. Available on SEDAR.									
2005	HOWARDS PASS - XY Open Pit (OPEN PIT)	Inferred	lead	2.32 %	107,089,000		No	Yes	Unknown
4% zinc - lead cut-off. XY open pit indicated mineral inventory comprised of Central, East and Nose zones. Inferred Mineral Inventory comprised of NE XY Central, NW XY Central, XY East, Nose and NE Nose zones.; Technical Evaluation Report for Pacifica Resources Ltd on the Howards Pass Project, Yukon-Northwest Territory Border, Canada. By A.A. Burgoyne. Figures based on work performed by Morganti (1983), who authored an in house report for Placer Development.									
2005	HOWARDS PASS - XY Open Pit (OPEN PIT)	Indicated	lead	2.36 %	60,002,000		No	Yes	Unknown
4% zinc - lead cut-off. XY open pit indicated mineral inventory comprised of Central, East and Nose zones. Inferred Mineral Inventory comprised of NE XY Central, NW XY Central, XY East, Nose and NE Nose zones.; Technical Evaluation Report for Pacifica Resources Ltd on the Howards Pass Project, Yukon-Northwest Territory Border, Canada. By A.A. Burgoyne. Figures based on work performed by Morganti (1983), who authored an in house report for Placer Development.									
2005	HOWARDS PASS - XY Open Pit (OPEN PIT)	Indicated	zinc	5.46 %	60,002,000		No	Yes	Unknown
4% zinc - lead cut-off. XY open pit indicated mineral inventory comprised of Central, East and Nose zones. Inferred Mineral Inventory comprised of NE XY Central, NW XY Central, XY East, Nose and NE Nose zones.; Technical Evaluation Report for Pacifica Resources Ltd on the Howards Pass Project, Yukon-Northwest Territory Border, Canada. By A.A. Burgoyne. Figures based on work performed by Morganti (1983), who authored an in house report for Placer Development.									
1983	HOWARDS PASS - XY Open Pit (OPEN PIT)	Historical Estimate	lead	2.1 %	59,000,000		No	No	Unknown
Historical Calculation. Does not meet current National Instrument 43-101 standards. Placer labeled these drill indicated reserves. Uses 4% lead-zinc cutoff. Open pit includes XY Central, East and Nose areas. Host substantial inferred resources.; Mines and Mineral Activities 1982, p. 35. Also Canadian Mineral Deposits Not being Mined in 1986 - Mineral Bulletin MR 213, p. 313. Original figures are from written communications from Placer Development Ltd. No details on how figures calculated.									
1983	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Historical Estimate	lead	5.5 %	8,200,000		No	No	Unknown
Placer Development defined these figures as drill indicated reserves. Does not meet National Instrument 43-101 standards. Tonnage and grade are approximate and were calculated using 10% lead-zinc cutoff. Part of larger XY deposit.; Mines and Mineral Activities 1982, p. 35. Also Canadian Mineral Deposits Not Being Mined in 1986 - Mineral Bulletin MR 213, p. 313. Original figures came from Placer Development Ltd.									
1983	HOWARDS PASS - XY Open Pit (OPEN PIT)	Historical Estimate	zinc	5.4 %	59,000,000		No	No	Unknown
Historical Calculation. Does not meet current National Instrument 43-101 standards. Placer labeled these drill indicated reserves. Uses 4% lead-zinc cutoff. Open pit includes XY Central, East and Nose areas. Host substantial inferred resources.; Mines and Mineral Activities 1982, p. 35. Also Canadian Mineral Deposits Not being Mined in 1986 - Mineral Bulletin MR 213, p. 313. Original figures are from written communications from Placer Development Ltd. No details on how figures calculated.									
1983	HOWARDS PASS - XY High Grade (Underground) (UNDERGROUND)	Historical Estimate	zinc	10.6 %	8,200,000		No	No	Unknown
Placer Development defined these figures as drill indicated reserves. Does not meet National Instrument 43-101 standards. Tonnage and grade are approximate and were calculated using 10% lead-zinc cutoff. Part of larger XY deposit.; Mines and Mineral Activities 1982, p. 35. Also Canadian Mineral Deposits Not Being Mined in 1986 - Mineral Bulletin MR 213, p. 313. Original figures came from Placer Development Ltd.									

Drill core at YGS core library					
Number	Property	Year Drilled	Core Size	Photos	Data
<a href="#">DDH-2</a>	Howard's Pass	1979	NQ	14	0
<a href="#">DDH-3</a>	Howard's Pass	1979	NQ	16	0
<a href="#">DDH-4</a>	Howard's Pass	1979	NQ	6	0
<a href="#">DDH-5</a>	Howard's Pass	1979	NQ	14	0
<a href="#">DDH-6</a>	Howard's Pass	1979	NQ	9	0
<a href="#">Y-130-1</a>	Howard's Pass	1979	NQ	16	0