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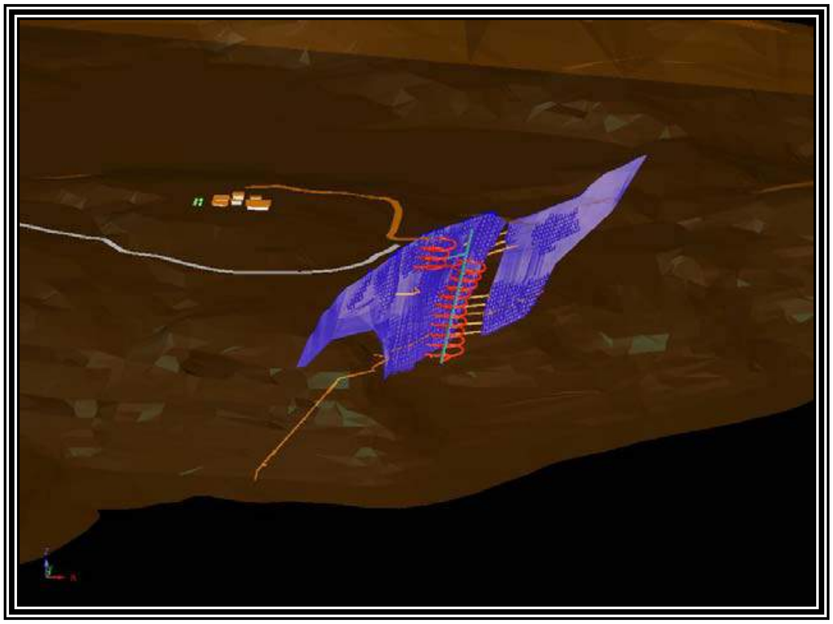
REPORT ON

PRELIMINARY ECONOMIC ASSESSMENT OF THE GREY RIVER PROPERTY NEWFOUNDLAND



Submitted to:
Playfair Mining Limited

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1.0 SUMMARY

Playfair Mining Ltd (Playfair) commissioned Wardrop Engineering Inc. (Wardrop) to produce a new NI 43-101 compliant resource estimate for the Number 10 Vein exposed on the Grey River Tungsten property.

Playfair owns 142 claims in the vicinity of the Number 10 Vein; these claims have been grouped into one mineral license (Number 012723M). The mineral license covers ground adjacent to the Village of Grey River on the south coast of Newfoundland. Granitic rocks underlie the northern part of the claim group while amphibolites, quartz-mica schists, pelites and gneisses occupy the southern part. Younger pegmatites cut all rock types and can be locally abundant. Quartz veins hosting the tungsten mineralization commonly occupy a post-tectonic north to northeast trending fault orientation. Wolframite is the dominant tungsten-bearing mineral within the Number 10 Vein although scheelite (a calcium tungstate) is present in other parts of the property.

The Number 10 Vein was discovered by a local prospector in the early-1950s. Later work by the American Smelting and Refining Company (ASARCO) consisted of diamond drilling, trenching, sampling and the development of an underground adit. This work halted in 1970 when tungsten prices dropped. Playfair bought the property in 2004 from South Coast Ventures and drilled 15 HQ size holes on the Number 6 and 10 Veins in 2006. Geological mapping and sampling of other veins on the property accompanied the drilling.

A bulk sample was taken from one of the ASARCO trenches and submitted to SGS Lakefield Research Europe for metallurgical tests. Insufficient work has been done to this stage to develop a specific flowsheet for the deposit. Further metallurgical testwork is required to demonstrate that an acceptable grade concentrate at an acceptable metallurgical recovery can be achieved. There is potential upside to the metallurgical results that have been completed to date, especially in terms of maximizing the mass pull to a 65% WO_3 concentrate. However, this must be demonstrated in the next phase of testwork.

The assessment of environmental and socio-economic considerations is preliminary at this stage and will require further study and development as project details and additional regional and site details become available.

A conceptual mineable resource of 901,911 tonnes at 0.66% WO_3 was determined from the current geological resource and obtains an overall metal recovery of 81%. Based on the estimates and assumptions used here, the Grey River property could yield a total

pre-tax cash flow of $11 Million. At the Base Case (discount rate of 7%) the Net Present Value is $314,000 (close to "break-even"). This suggests that the property is currently not economically viable for the current resource size and Base Case economic parameters.

This assessment is preliminary and includes inferred resources that are considered too speculative geologically to have economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the preliminary assessment will be realized.

The current size of the potentially mineable resource at Grey River limits the potential production rate and annual cash flow. The value per tonne of mined mineralized material is sufficient to pay for operating costs, however, in order to provide an acceptable return on initial capital expenditures, a higher production rate over a similar, or longer, mine life is required. Alternatively, a 35% increase in the price of tungsten would be needed to achieve an IRR of greater 30%.

It is recommended that future work at Grey River be focused on increasing the size of the resource along strike, and at depth, to enable increased working areas, potentially higher production rates, and longer mine life to provide an acceptable return on capital expenditures.

No technical fatal flaws have been identified at this preliminary stage of study for the Grey River property.

1.1 Resource Statement

A new National Instrument (NI) 43-101 compliant resource estimate has been produced for the Grey River Tungsten deposit:

Table 1.1 Resource Estimate for the Grey River Tungsten Number 10 Vein (May 2007)

Deposit Name	WO_3% Cut-off grade	Tonnes	WO_3% Grade	Pounds WO_3	Company
Grey River Number 10 Vein	0.2%	852,000	0.858	16.1 million	Wardrop Engineering Inc.

2.0 INTRODUCTION AND TERMS OF REFERENCE

The Grey River Tungsten property is located on the south coast of Newfoundland adjacent to the community of Grey River. The property consists of one mineral licence (Number 12723M) held by Playfair Mining Ltd of Vancouver, British Columbia, Canada. All of the claims within the licence (142 in all) are in good standing with excess credits sufficient for renewal until 25th September 2013. The tungsten deposit of interest is known as the Number 10 Vein and it is exposed in the eastern part of map sheet NTS 11P/11 (Ramea).

Tungsten mineralization was discovered on the property in 1954. Between 1954 and 1970 the ASARCO explored the Number 10 Vein using surface trenching, sampling and assaying techniques followed by surface diamond drilling and the establishment of 1703.5 metres (m) of underground workings. ASARCO also sampled 25 underground raises.

An in-house historical resource of 473,000 tonnes grading 0.97% WO_3 was estimated by ASARCO for the mineralization above the adit level of the Number 10 Vein. This historical estimate pre-dates the requirements of NI 43-101 and therefore it is not compliant with NI 43-101 and it should not be relied upon.

A diamond drilling program on the Number 10 Vein was carried out by Playfair in the summer of 2006. Twelve HQ holes (37 millimetres (mm) core diameter) were completed for a total of 2151.2 m. Eight of these holes were designed to replicate the results of the historic ASARCO drilling while the remaining four tested the exploration potential of the deposit. The data from this program, as well as that from the historic programs, is used in the current report to estimate a NI 43-101 compliant resource for Grey River.

Playfair Mining Ltd. commissioned a Preliminary Economic Assessment (Scoping Study) on the Grey River property in May 2007.

2.1 Terms of Reference

Golder Associates Ltd. was retained by Playfair Mining Ltd. to complete a Preliminary Economic Assessment (Scoping Study) of the Grey River property that is compliant with National Instrument 43-101 (NI 43-101).

The persons taking responsibility for specific sections of this report, and the extent of their responsibility for the purposes of NI 43-101 are shown in Table 2.1.

Table 2.1 Qualified Person Responsibilities for Various Sections of Report

Responsible Person	Independent QP	Company	Primary Area of Responsibility	Relevant Sections
Christopher Moreton, P.Geo	Yes	Wardrop	Site visit, resource estimate, geological sections	Inputs to 1.0 to 3.0, 4.0 to 16.0, 17.1-17.12, 19.0 and 20.0 as indicated
David Sprott P.Eng	Yes	Golder	Study compilation, mining, mine costs, site costs, economic analysis	Inputs to 1.0 to 3.0, 17.13, 18.0 (except as indicated), 19.0 and 20.0 as indicated
Andrew Bamber, P.Eng	Yes	BC Mining Research	Metallurgy, processing and shipping costs	16.1, 18.4.2, 18.4.4, 19.0 and 20.0 as indicated

3.0 RELIANCE ON OTHER EXPERTS

3.1 Environmental and Legal

Neither Golder nor Wardrop have verified the legal status or legal title of any of the claims and has not verified the legality of any underlying agreements for the subject property.

The Environmental and Socio-economic considerations presented in this report rely on work done by Bruce Bennett of Jacques Whitford Limited.

3.2 Marketing

Marketing information in this report relies on a report by Roskill Information Services Ltd titled "The Economics of Tungsten, Ninth Edition, 2007". There was no specific marketing study done for this report.

4.0 PROPERTY DESCRIPTION AND LOCATION

The property is located adjacent to the fishing village of Grey River on the south coast of Newfoundland (Figure 4.1). The town of Grey River is situated at approximately latitude 47°34'N and longitude 57°6'W.

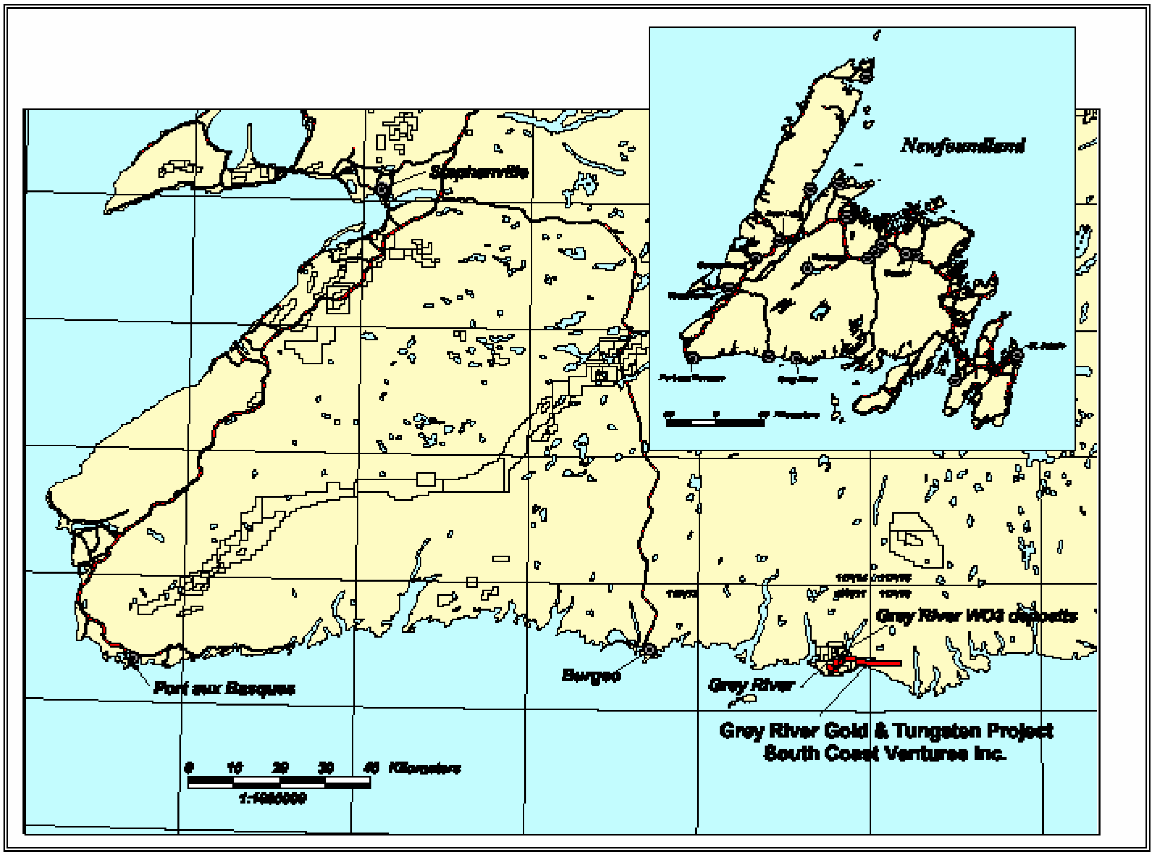


Figure 4.1 Location Map for the Grey River Tungsten Property

The Grey River Tungsten property consists of 142 contiguous mining claims grouped into one mineral licence (12723 M). This licence is held by Playfair through a purchase agreement with South Coast Ventures. A review of the Newfoundland and Labrador government website shows that the mineral licence is in good standing with the next report of work due November 24, 2008. The mineral licence overlaps the boundary of NTS map sheets 11P/10 and 11P/11 (Figure 4.2).

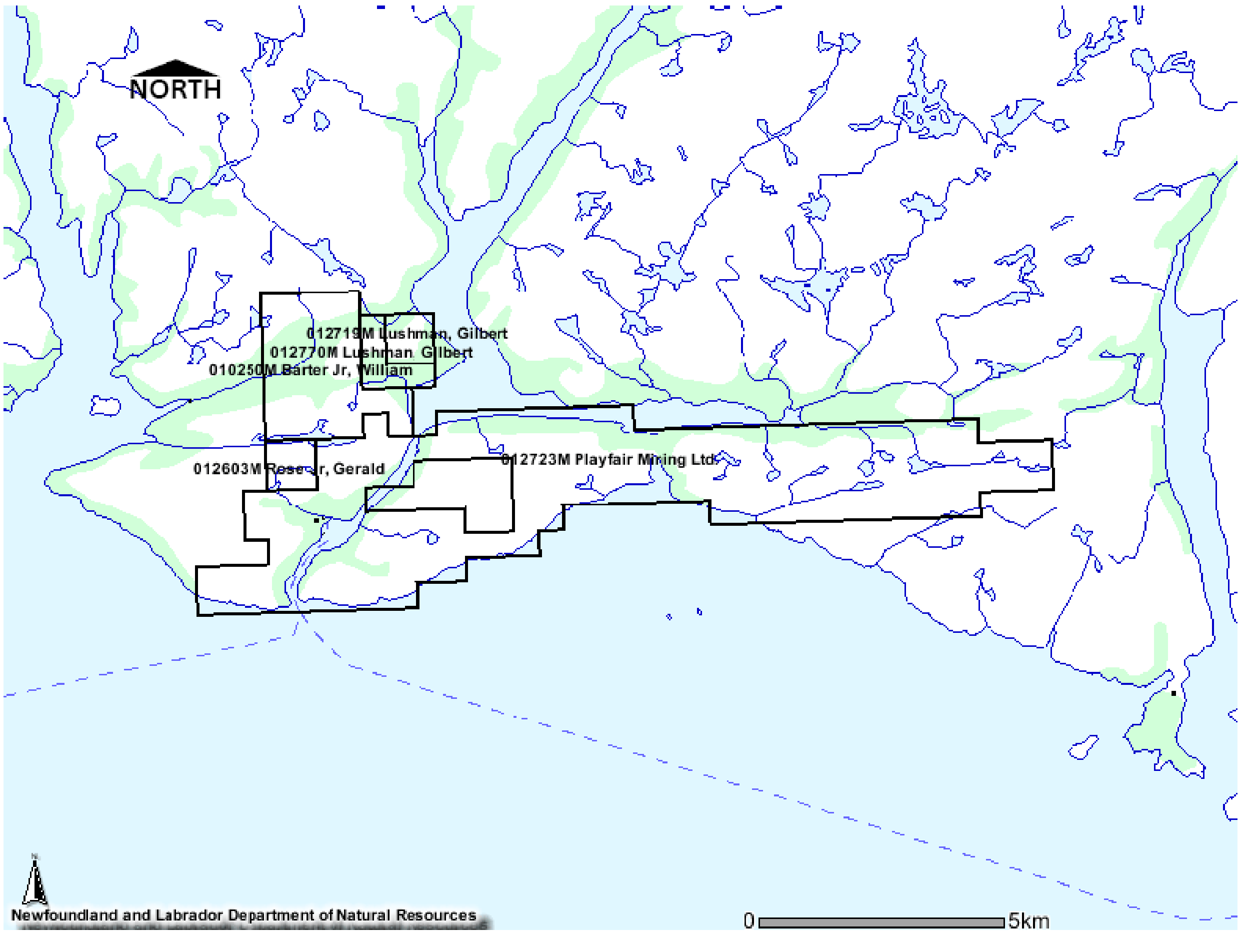


Figure 4.2 Playfair Mining Ltd. Licence 12723 M

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRPAHY

5.1 Accessibility and Infrastructure

Grey River has a daily coastal boat service and a bi-weekly car ferry service from Burgeo, Newfoundland. Burgeo is a port town located approximately 40 kilometres (km) to the west of the property that has a paved road connection to the Trans Canada Highway. The town of Stephenville is located approximately 130 km northwest of Burgeo. Both Stephenville and Deer Lake, located 170 km north of Burgeo, have airport facilities while Pasadena (20 km south of Deer Lake) is the base for two helicopter companies.

The mineral claims can be reached on foot from Grey River although a helicopter is the preferred mode of transport due to the rugged terrain in vicinity of the claims. The portal to the adit of the Number 10 Vein (developed by ASARCO) is accessible on foot using a short gravel trail from Grey River. The elevation of the portal is approximately 13 m (42 feet) above sea level.

ASARCO engineering drawings indicate that some infrastructure was designed in anticipation of mining the Number 10 Vein. None of this infrastructure was visible during the April 20 2007 site visit except for a possible waste rock pad outside the portal. Local dock facilities exist at Grey River although it is speculated that these will need to be expanded when mining commences.

Grey River has a diesel generator that supplies electricity, internet service through a satellite dish link as well as a wharf owned by the Government of Newfoundland and Labrador.

5.2 Physiography, Elevation and Climate

The central part of the Grey River Tungsten property has an average elevation of 245 m (800 feet) above sea level (ASL). Topographic relief within the immediate vicinity of the Number 10 Vein varies from 200 to 275 m (650 to 900 feet) ASL. Sheer cliffs drop off directly to sea level along the south and east sides of the property creating numerous hanging river valleys.

Scrub brush is intermixed with up to 60% outcrop in the higher elevations of the property while larger trees tend to be restricted to the valleys; the steep cliffs are virtually

100% outcrop. Overburden is less than one to five metres deep and it consists of various types of glacial tills.

The local climate for Grey River is temperate maritime (typical of the south coast of the island of Newfoundland). In general, the summers are mild although there are often days of thick fog that tend to moderate the temperature (highs of only 16°C are typical). The winters are cold but not as severe as mainland Canada with temperatures typically around the freezing mark (annual minimum temperature of -5.9°C). In contrast to the moderate temperatures the annual precipitation averages 1310 mm and this tends to fall between the months of July and November.

6.0 HISTORY

This section is taken directly from two reports supplied by Playfair (Dearin and Harris, 2006; Dadson, 2007).

The first mineral exploration in the Grey River area was carried out by the Buchans Mining Company Ltd. in 1955. Subsequent exploration by ASARCO (between 1957 and 1970) included: surface geological mapping, trenching and diamond drilling on five veins. In addition, an exploration adit was driven by ASARCO along the Number 10 Vein which permitted the development of 20 raises and the collection of a 275 ton bulk sample for metallurgical tests by both ASARCO and CANMET. During these programs the only element of interest was tungsten.

ASARCO planned to produce tungsten from the adit in 1970 but this was postponed due to a drop in world tungsten prices. After 1970, the property changed hands several times but no further work was done. The claims expired in June 2000 and were map staked by South Coast Ventures after the Newfoundland government released the ground for staking.

Summarized below (Table 6.1) is a brief history of geological and exploration work carried out since 1955.

Table 6.1 Work History

Pre-1955	Tungsten mineralization apparently was discovered by a Mr. Rose of Grey River some years previously and was submitted to the Buchans Mining Company Ltd in 1954-55 for analysis.
1955	July to October, a six man party carried out reconnaissance mapping and prospecting immediately north of Grey River and located numerous quartz-tungsten veins cutting granite gneiss. Trenching and sampling along the two more significant veins (Vein 10 and Vein 6) was carried out.
1956	June to October, a 16 man crew carried out mapping, prospecting, plane-table surveying, trenching and detailed trench sampling on Veins 10 and 6. This work formed the basis for future programs.
1957	A 25 man crew carried out a program of detailed mapping, trenching and sampling and defined the extent and grades of Veins 10 and 6. Twelve EX core holes (5913 feet) were drilled along Vein 10. Eleven of these holes in Vein 10 intersected ‘ore grade’ WO_3 values. A few parallel veins carry WO_3 values.
1958 – 1964	No work done on tungsten veins (Holes GR-17 to GR-19 were molybdenum exploration holes drilled away from the known veins).

1965	Seven EX core holes (GR-20 to GR-26 totalling 3078 feet) were drilled at the northern extremity of Vein 10 and 6 supposedly to intersect the veins near sea level in preparation for the proposed adit development.
1966	Two EX core holes (GR-27 and GR-28 totalling 1381 feet) were drilled on the northern section of Vein 10. Vein 10 extended an additional 1,200 feet to the north where it pinches out about 5,300 feet from the adit portal. WO_3 values appear to die out at the northern limit of the vein. March 30: government authorization is approved for the driving of an adit. Development expenditure of $450,000 is approved for this work. May: temporary camp set up. Topographic and triangulation survey network setup. October: Bunkhouse and mess hall built in Grey River. A 38-foot long timber portal and 54 feet of adit is advanced by December 15.
1967	January 30 to December. 20: the adit is advanced by 1,292 feet. Seven underground core test holes (TH-1 to TH-7 totalling 582 feet) are drilled. Generator building, repair shop, dry, dumping trestle, magazine and cap house completed. Cribbed wharf is started at the adit site. A mine lease application of 6.61 miles is applied for and boundaries are surveyed. The Continental Ore Corp assessed the silica unit in the Gulch Cove area where silica values range from 96.98 to 99.21%.
1968	January 4 to December 16: the adit is advanced by 1,973 feet. The adit wharf, compressor house and 240 feet of timbered dumping trestle were built. Six underground test holes (TH-8 to TH-13) are drilled horizontally. Nine adit core holes (GR-29 to GR-37) are drilled horizontally in the adit.
1969	Jan 4 to August 20: the adit is advanced 1,952 feet for a total adit length of 5,271 feet. The adit stopped as the tungsten-rich vein died out into a parallel fault zone. Four underground EX core holes (GR-38 to GR-41 totalling 1,132 feet) were drilled from the crosscuts downward to test the extent of Vein 10 below the adit (results unknown). Prior to May 15, eight raises averaging 27 feet high were driven for bulk sampling purposes along 820 feet of the southern part of Vein 10 (Section Lines 7950N to 8700N). Results ranged from 0.82% to 1.30% WO_3% with an average value of 1.07% WO_3. Seven underground EX core holes (GR-42 to GR-48 totalling 680 feet) drilled. All collared in the adit face around Section line 8960N and they were drilled to locate the vein in advance of the adit. One section of Vein 10 was sampled twice by back-channel samples and once by face chip sampling. Results were comparable. Vein 10 was also re-sampled on surface in places by 12’ by 12’ channels (locations and results are unknown). Seven surface EX drill holes (GR-49 to GR-55 totalling 1,643 feet) tested for tungsten in a series of parallel structures west of Veins 10 and 6.

1970	January to August: no exploration or development work is carried out. September 5 to October 6: 25 six foot long raises were cut at 50 foot intervals along the vein. All broken rock, totalling 274.5 tons was carefully collected and shipped to the Mines Branch metallurgical Laboratory in Ottawa for detailed pilot plant studies.
1971	Pilot plant test work is completed at the Ottawa lab.
1976	Newfoundland Department of Mines and Energy assessed 12 million short tons of the silica unit by drilling. An average grade of 95.5% SiO_2 and 1.9% Al_2O_3 was quoted.
1979	September 10-13: channel sampling along the walls of four crosscuts ranging from 89 to 99 feet long. Some 81 channels each 5 feet long checked for low level tungsten values adjacent and away from Vein 10. Most samples are low but crosscut 8000N had one five foot assay of 1.4% WO_3 while crosscut 8400N had an assay of 0.40%. No follow-up work has been done. A low grade resource of 25 million tons grading 0.1 to 0.2% WO_3 was postulated from this work and mapping in the southern end of the adit. **This historic resource pre-dates NI 43-101 and should not be relied upon**.
1985 – 1986	BP-Selco exploring for gold, locate values >1 g/t Au, with high Bi and Sb in the "quartz vein-silica body" on the eastern claims.
1995 – 1996	Several Grey River prospectors located base metal rich quartz veins with anomalous precious metals, moderate to high base metals but low tungsten values. This first independent-type exploration indicated the existence of a separate phase of veining with significant Au and Ag values.
1996 – 1997	Copper Hill Resources and Pearl Resources Ltd. of St. John's, Newfoundland option the prospector's claims and sample a number of newly discovered quartz veins. A number of grab samples on the current claims return high Au, Ag +/- Cu, Pb, Zn plus anomalous Bi. Copper Hill carries out an airborne EM and magnetic survey over a large area including the current claims area.
2003 – 2004	The claims expire due to a lack of funding. South Coast Ventures immediately stakes the current claims covering the high-grade Au-Ag rock samples. South Coast Ventures completes the first digital compilation of the 1960's Asarco work, the BP work and the 1996-97 rock sampling results.
2004	The property was sold to Playfair Mining Ltd in 2004. During 2003-05 Fortis GeoServices Inc. compiled the 1986 to 2002 assessment work listed above and added it to the earlier digital compilation of work on the tungsten veins.
2006	Playfair Mining Ltd. completes 15 drill holes on the Number 10 and 6 veins to confirm grades and fill-in previously widely spaced drilling.

6.1 Historical Resource Estimate

Cautionary note*:* All historical resource estimates for the Grey River Tungsten property pre-date NI 43-101 criteria and they should not be relied upon. The historical resource estimates are only reported here to complete the history of the work carried out on the property. *All historical estimates are being replaced by the current mineral resource estimate presented in Section 17 of this report.*

ASARCO estimated in 1970 a proven and probable "reserve" in one vein (the Number 10 Vein) using data from surface trenching and drilling as well as underground drifting, raising and bulk sampling. These figures are for the volume of rock between the adit level (40 feet ASL) and surface.

Mineable, diluted reserves: 473,000 tons grading 0.97% WO_3.

7.0 GEOLOGICAL SETTING

The project area is underlain by the Silurian-Devonian Burgeo Intrusive Suite and an east – west trending belt of Precambrian metamorphic rocks referred to as the Grey River Enclave. The contact between the intrusion in the north and the metamorphic rocks in the south is marked by a mylonitic shear zone. The Grey River Enclave typically consists of amphibolites, quartz-mica schists, pelites and gneisses. The schists and gneisses are believed to be derived from quartzites, sandstones, felsic tuffs and gabbro (relicts of these rock types are locally observed). Any bedding, along with the metamorphic foliation/banding, generally strikes E-W and dips steeply to the north. Minor post-tectonic ultramafic or mafic plugs and dikes intrude the metasedimentary rocks.

The Devonian Francois Granite intrudes the Enclave to the east of the property. Pegmatites cut all rock types and can be locally abundant. Three prominent fault sets have been documented: an E-W set is the most visible and it brings metasedimentary rocks into contact (which is typically mylonitic) with the granitic rocks. Quartz veins hosting the tungsten mineralization commonly occupy a younger north to northeast trending fault set. Figure 7.1 is a recent geological compilation showing the mineralized veins occurring directly north of Grey River within the boundaries of the old ASARCO surface grid (the claim outline on this map is out of date).

7.1 General Geology and Structure

The following description is modified from a report written by Dearin and Harris (2006):

“The area is divided into two main zones, metamorphosed sediments in the south and granites in the north. The sediments, which have been subjected to both regional and local metamorphism, strike east-west and dip steeply to the north. They represent a transition zone grading from high quartz members at the top to the more argillaceous members at the base. The upper members consist of quartzites, grits, greywackes, hornfels, slates and narrow limestone bands. The lower zone makes up the bulk of the formation and is composed of quartz-mica schists and hornblende gneisses. Cutting these sediments are several small ultrabasic plugs, narrow basic dykes and a great number of aplitic, pegmatitic and granitic dykes. Along the south margin of the sediments the granitic dykes and pegmatites constitute over 50% of the exposed outcrops. The granite bordering the sediments to the north is a coarse-grained pink variety with a low mafic content. The contact zone is highly contaminated with partially digested sedimentary remnants.”

The metamorphic package consists of a unit of felsic tuff, (quartz–sericite schist) to the north and interlayered pelitic sediments and quartzites to the south. Amphibolite schist and meta-gabbro are evident locally, especially to the southwest. A 10 m to 400 m wide siliceous unit trends through the property from about 2.5 km west of Gulch Cove to the east end. This unit has previously been mapped as quartzite and/or quartz vein. Granular quartzite is evident locally but the unit is mainly fine-grained banded quartz with some white mica and >1% magnetite. Shearing is common and sheared pelite and mafic dyke occurs between silica ‘lenses’. The unit likely represents a sheared quartzite but some hydrothermal silicification and/or quartz veining may be present.

The most prominent structural feature of the Grey River area is faulting. It occurs in the metamorphic and igneous rocks and is characterised by both normal and reverse senses of movement. The faults in the metamorphic rocks can be grouped into two main sets: an east-west set parallel to the schistosity and a south-east set cross-cutting the schistosity. A third set occurs only in the granites. Arising from this set of faults is a prominent fissure system of tensional origin striking north to northeast. These tension fissures act as the structural control for the tungsten veins. In general there is an absence of major movement along these fissures.

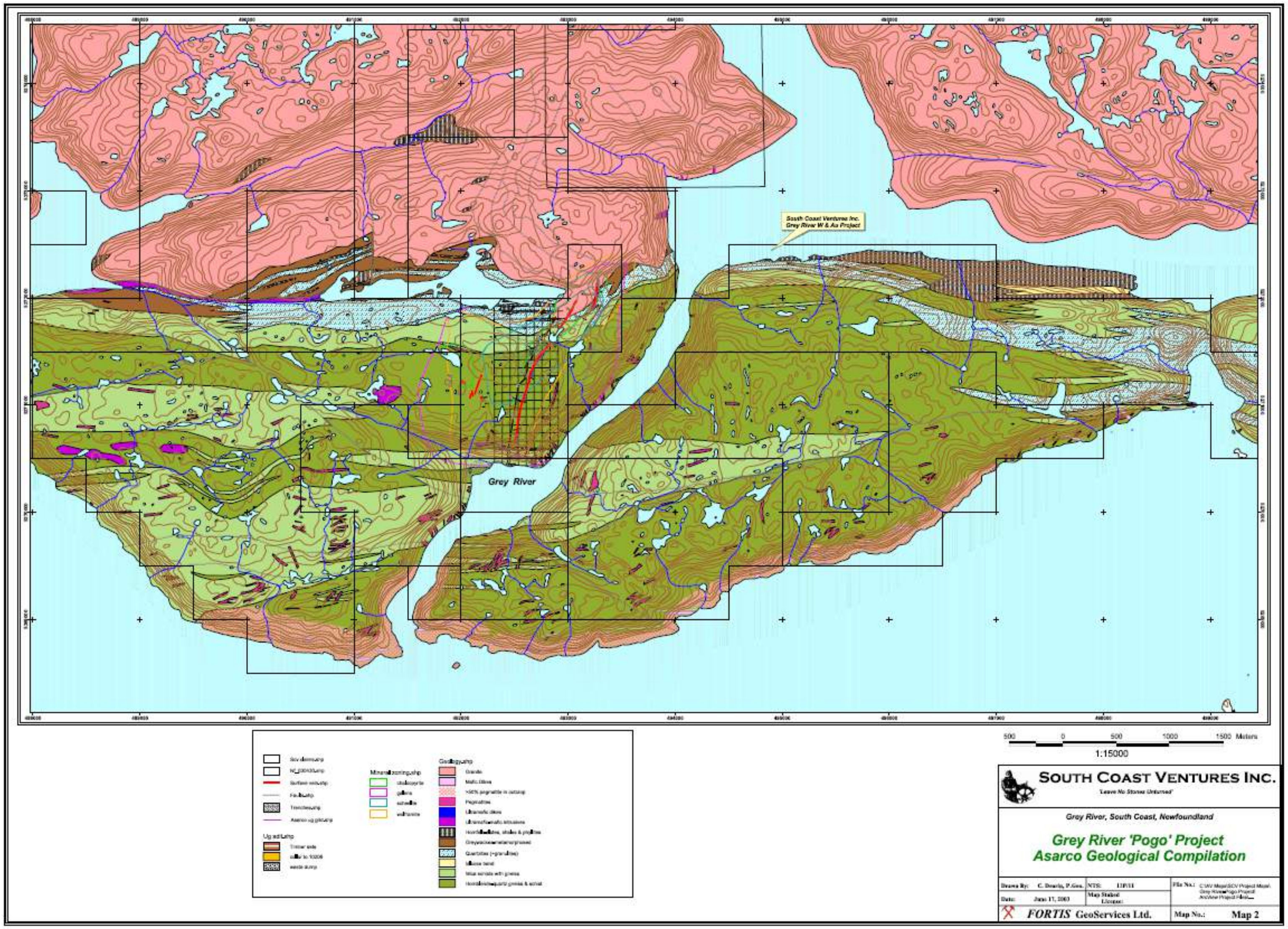


Figure 7.1 Grey River Regional Geology

8.0 DEPOSIT TYPE

The Grey River Tungsten Property contains multiple tungsten-rich quartz veins within undeformed, linear fractures. These fractures cross-cut the local metasedimentary and metavolcanic rocks and they appear to be spatially (but not necessarily genetically) associated with the northern granitic suite. All of the tungsten-carrying veins are oriented north-northeast. The better known mineralization is restricted to a couple of the veins called the Number 6 and Number 10 Veins.

Wolframite and scheelite are the dominant tungsten-bearing minerals in the veins although scheelite is better developed in the northern sections of the property where limey units are more common. Typically, wolframite crystals occur as coarse-grained, steel grey to black coloured clusters and disseminations within white-coloured quartz veining. Pyrite, pyrrhotite, chalcopyrite, bismuthinite, molybdenite, galena and fluorite may also be present. Sericitic alteration of wallrock is common on the hanging wall side of the Number 10 Vein and country rock inclusions have also been documented.

To date, the genetic model for the tungsten veins at Grey River is poorly understood. Although the deposits are in discrete veins, and appear to be spatially associated with the northern granitoids, there is no conclusive evidence that the veins are linked to the exposed granite.

9.0 MINERALIZATION

9.1 Mineralization – Tungsten Veins

The Grey River tungsten veins are typical fluorite-rich, wolframite-quartz greisen vein deposits. Wolframite is the dominant tungsten-bearing mineral although a number of small scheelite occurrences are known.

The quartz-wolframite veins cross-cut the metamorphic rocks but are also exposed within the granitic rocks to the north. Over 300 veins and lenses have been mapped on surface although only two or three have been aggressively evaluated. One of these, the Number 10 Vein, varies in width from 0.9 m to over 4.3 m, with average widths around 1.2 m (based on underground mapping). The Number 10 Vein has a strike length of at least 1600 m with the known mineralized shoot having a length of around 775 m. The vein is connected to the mineralized veins exposed on surface (giving a minimum 240 m down-dip length) and it appears to increase in width with depth.

Higgins & Swanson (1956) give a more detailed summary on the mineralization based on their mapping and detailed observations of the mineralized veins exposed in trenches:

"Tungsten bearing veins of economic interest occur in the area shaded in red as shown on plan No. 2150. In this area several hundred veins have been found of which 300 were mapped and 300 others examined. The bulk of these veins are small lenses 40 to 50 feet in length and from one to two inches in width. Nine veins, two feet or more in width were stripped and sampled and of these only numbers 6 and 10 appear to be economically significant."

"The narrow quartz veins tend to hold a uniform thickness throughout their length while wide veins are characterized by quite irregular widths. The vein walls are sharp with a band of phlogopite mica separating the veins from the country rock."

"Fluorite is the most abundant non-metallic mineral (other than quartz) in the veins and may, in some cases run as high as one percent. Other non-metallic gangue minerals noted are apatite, beryl, scapolite, orthoclase, albite, muscovite and vesuvianite. Pyrite is the most abundant sulphide and, in the major veins, may account for over one percent. Chalcopyrite occurs sporadically in the wider veins but overall they will average less than 0.1% copper. Other sulphides noted were stibnite, molybdenite, arsenopyrite, sphalerite, galena and bismuthinite."

"Wolframite (WO_3) is the only important mineral in the veins of the Grey River area. The variety is manganese-rich with the ratio of MnO to FeO, in one sampled analyzed, being 15 to 9 (Note: this would be a huebnerite type from the wolframite mineral series $(Fe,Mn)WO_4$ ranging from $FeWO_4$ (ferberite) to $MnWO_4$ (huebnerite). The wolframite crystals are coarse grained and occur as irregular masses, well-defined monoclinic crystals or in radiating groups of bladed crystals. Scheelite is present but only in small quantities. It often replaces wolframite along the crystal surfaces and cleavage planes. Secondary minerals are fairly common on the exposed surfaces of the veins; limonite from the alteration of pyrite, tungstite secondary after scheelite, powellite after molybdenite and manganese hydroxides."

"Early in the field season a zonal arrangement of the mineralization was apparent; particularly the wolframite-molybdenite distribution. After several hundred veins had been examined the distribution of the wolframite, scheelite, molybdenite, chalcopyrite and galena were plotted and zonal curves calculated" (note that this data has never been updated and the various mineral distributions [tungsten, molybdenum, chalcopyrite in addition to relatively newly discovered gold mineralization] are now known to occur at significant distances from this 1956-era plot). "Pyrite, which is the most abundant metallic mineral, occurs everywhere and therefore has not been included in the zoning. It can be seen from the sketch that clear-cut zoning based on the temperature of formation of different minerals is not well defined as individual distribution curves cross each other. However, it appears that the high temperature mineralization decreases away from the centre of the mineralized area taken to be just west of vein number 10. The zonal arrangement also suggests that the mineralization is not directly related to the northern granite but to a source directly below the mineralized area."

9.2 Number 10 Vein

"This is by far the most important vein found in the area. It occurs in a three thousand foot long fissure and has been exposed by intermittent trenches for approximately 2,000 feet. One hundred and sixteen channel samples were taken from the vein on the exposed sections between coordinates N593 & N1920".

9.3 Number 6 Vein

"This vein lies two thousand feet northeast of vein number 10. Two sections of the vein were stripped; a 50 foot section and a 125 foot section separated by a gap of forty feet."

9.4 Other Gold and Silver Rich Veins

During 1956 ASARCO located a quartz vein with high gold values (although no tungsten) in the Dog Cove Brook-Beaver Brook vicinity approximately 3.5 km north of Grey River (Bahyrycz, 1956). This showing, referred to as the Galena Vein Number 1, occurs in a shear zone cutting granitic rocks. Channel sampling of the vein returned values of up to 2.90 ounces per tonne gold (oz/t Au), 4.2 ounces per tonne silver (oz/t Ag), and averages of less than 0.5% copper (Cu), 15% lead (Pb) and 3% zinc (Zn) over a vein width of 2’ 2”. Later re-sampling of this vein by ASARCO-Abitibi Price returned gold values of 0.74 oz/t Au.

A graduate thesis by Gray (1958) noted occurrences of galena mineralization (with significant amounts of silver, gold and bismuth) in quartz veins cutting granitic rocks immediately east of Long Pond. No further exploration work was ever reported in this area. During 1995-97 and 2001 local prospectors located a number of high-grade sulphide-rich quartz veins, with assays exceeding 30 grams per tonne gold (g /t Au), cutting intrusive rocks immediately north of Long Pond.

Between 1995 and 1997 Grey River prospectors located sulphide-rich (10 to 15%) quartz veins west and south of Grey River. Precious metal values exceeded 9 to 21 g /t Au and 200 to 332 grams per tonne silver (g/t Ag) with high bismuth (greater than 440 parts per million) and anomalous to high base metal values (Jacobs, 1997). The following is modified from Jacobs (1997) who summarized the *rock sampling* results on and adjacent to the property as follows:

“Assays for gold showed slightly anomalous to highly anomalous results, including ten samples in the range of 17 parts per billion (ppb) to 251 ppb Au, two samples between 541 ppb (GR-2) and 755 ppb Au (GR-29) and four samples with values of 1,530 ppb (GR-9), 9,008 ppb (GR-26), 13,280 ppb (GR-24) and 21,355 ppb Au (GR-27). All anomalous gold values showed a general correlation with either of the base metals (Cu, Pb, Zn) and/or Ag; the best values, however, corresponded with the higher Pb and Ag values.”

Conclusions drawn on sample results, regarding maximum values and element correlations, are premature as complete assay determinations have not yet been made for many samples. As well, assay correlations, in this sense, have only limited value due to the fact most samples are taken of veins where mineralization is often inconsistent and of generally localized nature.

10.0 EXPLORATION

In 2006 the Issuer completed 12 HQ size holes (including one wedge hole) on the Number 10 Vein. In addition, Playfair re-sampled the ASARCO trenches on the Number 10 Vein (119 samples taken). Data from the 2006 drilling and trench re-sampling have been used for the current resource estimate.

11.0 DRILLING

Playfair carried out a diamond drilling program on the Grey River Tungsten property in the summer of 2006. Twelve holes, including one wedged hole, tested the Number 10 Vein while four other holes tested the Number 6 Vein to the north. A summary of all drilling on the Grey River Tungsten property is shown in Table 11.1 below and in Figure 11.1.

Table 11.1 Diamond Drill Hole Summary for Grey River

Hole	UTM Coordinates		Elevation (m)/ Dip/Azimuth			Length (m)	Comments
	East	North					
GR-1	492773	5271593	239.6	-60	120	143.6	Vein 10
GR-2	492584	5271296	270.4	-57	120	136.2	Vein 10
GR-3	492678	5271385	259.1	-57	120	30.2	Vein 10
GR-4	492744	5271485	264.6	-56	120	18.3	Vein 10
GR-5	492624	5271272	264.6	-57	120	23.2	Vein 10
GR-6	492715	5271502	262.1	-57	120	107.0	Vein 10
GR-7	492667	5271365	258.5	-70	120	23.2	Vein 10
GR-8	492648	5271403	265.5	-58	120	96.9	Vein 10
GR-9	492553	5271314	274.3	-62.5	120	136.2	Vein 10
GR-10	492609	5271562	263.7	-60	120	354.2	Vein 10
GR-11	492198	5271057	251.5	-64	55	19.5	Exploration
GR-12	491970	5271110	279.8	-45	90	26.8	Exploration
GR-13	NA	NA	258.5	-45	90	12.8	Not on map
GR-14	492468	5271075	264.3	-45	110	190.5	Vein 10
GR-15	493199	5271855	234.7	-37	292	23.8	Vein 6 area
GR-16	492729	5271624	240.2	-79	120	335.6	Vein 10
GR-17	491930	5270218	NA	-30	45	30.5	Moly hole
GR-18	491892	5271210	NA	-40	45	30.5	Moly hole
GR-19	491900	5271265	NA	-30	300	27.4	Moly hole
GR-20	493234	5272040	NA	-60	83	54.0	Vein 6
GR-21	493233	5272040	NA	-90	-	89.3	Vein 6
GR-22	493134	5272046	NA	-65	90	183.5	Vein 6

Hole	UTM Coordinates		Elevation (m)/ Dip/Azimuth			Length (m)	Comments
	East	North					
GR-23	493135	5272046	NA	-83	88	253.3	Vein 6
GR-24	493069	5271834	265	-60	93	136.9	Vein 6 area
GR-25	492992	5271909	NA	-60	120	74.7	Vein 6
GR-26	492992	5271909	NA	-90	-	146.6	Vein 6
GR-27	492811?	5271763?	NA	-45	120	182.9	Vein 10
GR-28	492811	5271763	NA	-70	120	238	Vein 10
No name	492676	5271822	NA	-45	120	NA	GR-27?
GR-06-100	492566	5271372	276	-50	120	156.2	Vein 10
GR-06-101	492566	5271372	276	-70	120	242.0	Vein 10
GR-06-102	492625	5271487	274	-50	120	125.0	Vein 10
GR-06-103	492625	5271487	274	-70	120	179.0	Vein 10
GR-06-104	492684	5271578	260	-52	120	153.0	Vein 10
GR-06-105	492684	5271578	260	-75	120	194.0	Vein 10
GR-06-106	492776	5271670	240	-60	120	179.0	Vein 10
GR-06-106W	492776	5271670	240	-60	120	33.20	Wedge
GR-06-107	492776	5271670	240	-85	120	224.0	Vein 10
GR-06-108	493139	5271989	277	-50	90	153.0	Vein 6
GR-06-109	493139	5271989	277	-70	90	233.0	Vein 6
GR-06-110	493161	5272094	265	-51	90	164.0	Vein 6
GR-06-111	493161	5272094	265	-69	90	221.0	Vein 6
GR-06-112	492514	5271262	283	-50	120	196.0	Vein 10
GR-06-113	492514	5271262	283	-70	120	236.0	Vein 10
GR-06-114	492612	5271429	272	-64	120	149.0	Vein 10
			Total Metres for 2006			**2837.4**	

11.1 Number 10 Vein

Drill holes GR-06-100 to 107 and GR-06-112 to GR-06-114 tested the tungsten mineralization in Vein 10. These holes were planned to intersect the vein at approximately 100 m and 200 m below surface in a position approximately half way between the sections drill-tested by ASARCO. The Number 10 Vein structure was intersected in all holes. From the drill logs the vein widths along the core varied from 0.5 m to 4.8 m and WO3 assays varied from a low of 0.0003% (3 ppm) over 0.5 m to a high of 1.70% over 1.5 m.

11.2 Number 6 Vein

Holes GR-06-109 to 111 tested the down dip portion of the surface mineralization exposed in the Number 6 Vein area. Previous EX size drilling on the Number 6 Vein returned lower grade results than the trenches which may be due to low core recoveries (grinding of the core is common with standard drilling). Although alteration and veining was intersected in all four holes the results were disappointing with a high value of 0.40% WO_3 over 0.4 m.

11.3 Adit

A brief inspection (by Playfair personnel) of the adit on the Number 10 Vein was carried out during the 2006 drill program. The following comments are from the Playfair staff:

“The workings are in surprisingly good shape with only minor falls of loose material from the back. A small stream of water runs along the adit to a sump where it disappears underground. The inside part of the adit where the bulk sample raises were blasted from the back has more loose material. The debris is locally pushed along the wall and obviously fell during the sampling program. The adit can be rehabilitated with some minor scaling, rock bolting and clean up. About a dozen ore cars, a cache of sample drums and galvanized ducting remains in the workings.”

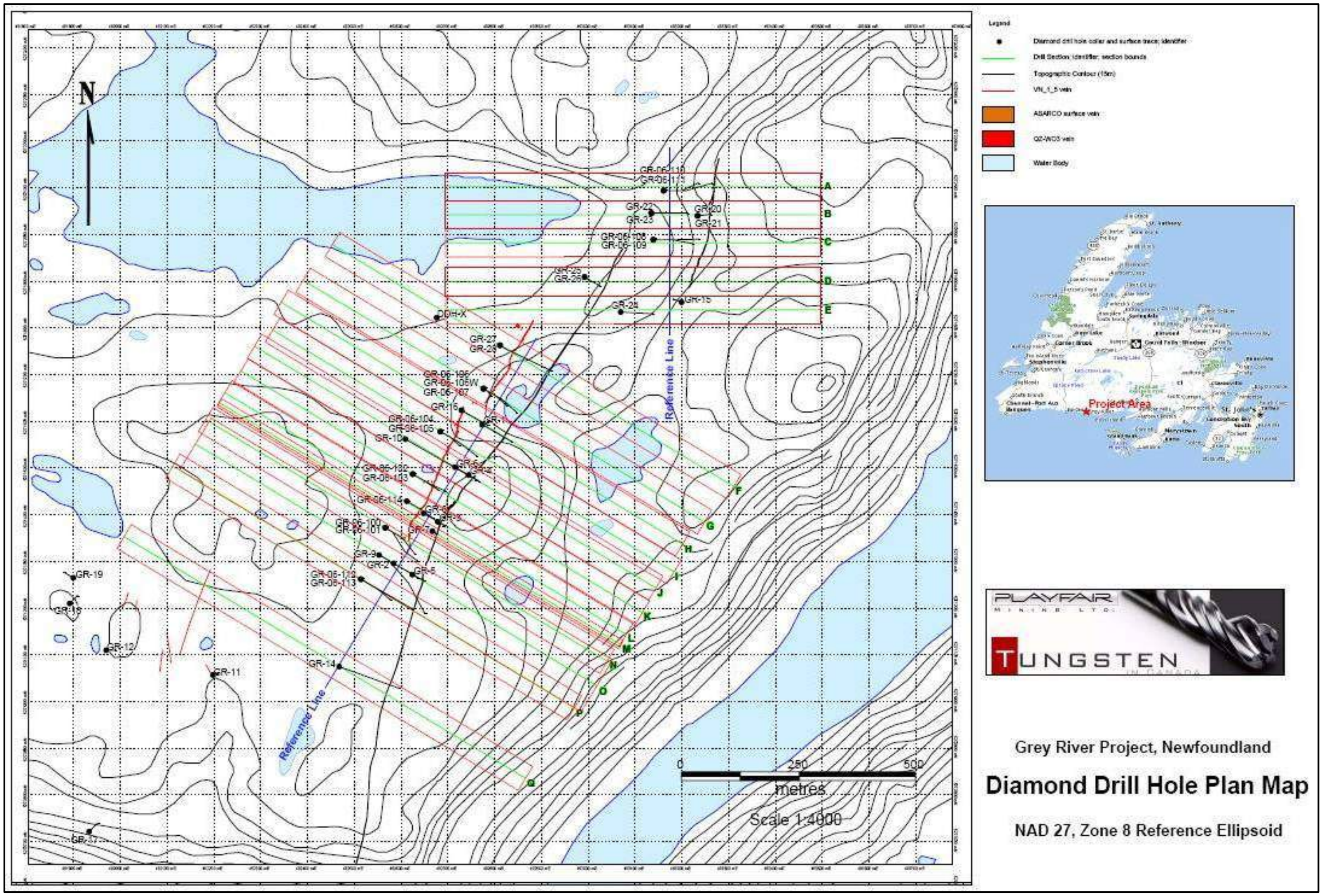


Figure 11.1 Drill Hole Plan Map for the Number 6 and Number 10 Veins

12.0 SAMPLING METHOD AND APPROACH

Data from various sample types have been used to create the block model resource for the Grey River Tungsten property:

a) Samples from the pre-1970s drilling.
b) Samples from the 2006 drilling program.
c) Surface trench samples (channel samples).
d) Surface grab samples.
e) Underground face samples.
f) Underground back samples (two campaigns).
g) Raise samples.

Pre-1970 drilling: ASARCO drilled 28 surface holes on the Grey River Tungsten property although only 16 holes tested the Number 10 Vein. EX size core was recovered using standard drilling (that is, non-wireline) techniques. According to information supplied by Playfair, ASARCO analysed the tungsten samples using a colorimetric thiocyanate method. This procedure is explained in Appendix A.

An examination of the preserved drill core in Buchans showed that the complete core from the mineralized sections was taken for the samples. Consequently, there is no representative sample to check for any of the mineralized zones tested by the pre-1970s holes.

2006 drilling: Playfair completed a drilling program on the Number 10 Vein that tested the vein above the adit level and replicated some of the ASARCO drill holes. All core samples were collected under the supervision of Mr. James Harris, P.Geo of Playfair. HQ diameter core was descriptively logged on site, aligned, marked for sampling and then split in half, longitudinally, using a diamond saw blade. One-half of the drill core is preserved on site in core boxes for verification and future reference.

These two drilling campaigns (pre-1970 and 2006) contribute 235 sample points to the dataset. Of this number, 70 points lie within the Number 10 Vein (before compositing).

Surface trench samples: ASARCO excavated a total of 26 trenches over the Number 6 and 10 Veins. Seventeen of these trenches tested the mineralization in the Number 10 Vein. A single value summarising the WO_3% content for each trench has been used in the block model. The method of sample collection and/or aggregation is unknown.

Surface grab-samples: Playfair re-sampled portions of the Number 10 Vein for WO_3% and these individual values have been used in the current block model.

Underground face, back and raise samples: ASARCO collected face and back samples for some sections of the vein exposed in the adit. According to the data supplied by Playfair the face samples were spaced every 2.5 m while the back samples were spaced at narrower intervals (median sample interval: 1 m). Raise samples were also collected from underground (37 in total); there is no data for 25 of these samples. For the remaining 12 samples a single value per raise has been used for the block model.

During the 2006 drilling program a bulk sample of approximately 4,550 kilogram (kg) was collected from the trench on the Number 10 Vein. The sample is stored on site in large tote bags for future metallurgical test work. The values determined from this sample are not included in the current block model.

13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

2006 drilling*:* One half of the sampled drill core was bagged, sealed and delivered to Eastern Analytical Ltd. in Springdale, Newfoundland where it was dried, crushed and pulped. Samples were crushed to -10 mesh and split using a riffle splitter to approximately 300 grams. A sample split was pulverized using a ring-mill to approximately 98% passing minus 150 mesh. The resulting pulp was then shipped to Acme Analytical Laboratories Ltd. of Vancouver, British Columbia, an ISO 9001:2000 accredited laboratory, where a 0.5 gm split was subjected to a phosphoric acid leach followed by tungsten analysis of the leachate by ICP-ES (Induced Couple Plasma Emission Spectroscopy). Any values higher than 100 ppm were assayed for tungsten. All coarse rejects are currently stored at Eastern Analytical Ltd. facilities and sample pulps are currently stored at the Acme Analytical Laboratories Ltd. (Acme) facilities in Vancouver.

Blanks, certified reference materials or field duplicates were not inserted into the sample stream so there is no independent way to monitor any quality control issues for the 2006 drilling program. Nevertheless, new pulps of the drill hole samples were created from the Acme coarse rejects and re-analysed by SGS laboratories. A review of the data from the two laboratories shows that 7% (19 out of 285) of the samples have significantly different values. This is attributed to the nugget effect in this type of deposit. Only the Acme dataset was used for the current resource estimate.

Pre-2006 drilling: The available documentation indicates that all of the samples for the pre-1970’s drilling program, the trenching program and the underground sampling program, were shipped to, and analysed by, the ASARCO laboratory in Buchans, central Newfoundland. Some check samples were also assayed at an ASARCO laboratory in New Jersey (USA). A description of the method of analysis used in Buchans is given in Appendix A. The available documentation does not mention the use of blanks or Certified Reference Materials although there are a few comments on duplicate analyses. Pulps and/or sample rejects are not available for examination.

ASARCO invested significant amounts of money into the Grey River Tungsten property based on the quality of the tungsten data supplied by their laboratories. A great deal of preliminary work was performed by ASARCO on the property including diamond drilling, the development of an adit, the extraction of raise samples and the development of some of the infrastructure around the portal. Although the laboratories supplying the tungsten data are not commercial institutions Wardrop believes that the supplied data are valid.

For the 2006 drilling program the samples were analysed by a reputable commercial laboratory. Although field blanks, duplicates or certified reference materials were not used Wardrop believes that the data supplied by the laboratory are valid.

14.0 DATA VERIFICATION

Wardrop has examined the records from the historical exploration and development work carried out on the Grey River Tungsten property. These records, which were made available by Playfair, consist of printed and digital data pertaining to exploration work carried out between 1954 and 2006.

14.1 Drill Hole Verification by Wardrop

Wardrop visited the Newfoundland government core storage facility in Buchans, Newfoundland to examine the historical ASARCO drill core. Holes GR-1, GR-2, GR-8 and GR-10 were reviewed and it was also confirmed that the remaining holes were present in the storage facility. A variety of mineralized sections were checked and two issues are apparent:

1. The entire drill core within the mineralized zones was used for the ASARCO sample. This was the common practice for EX core due to its small diameter.

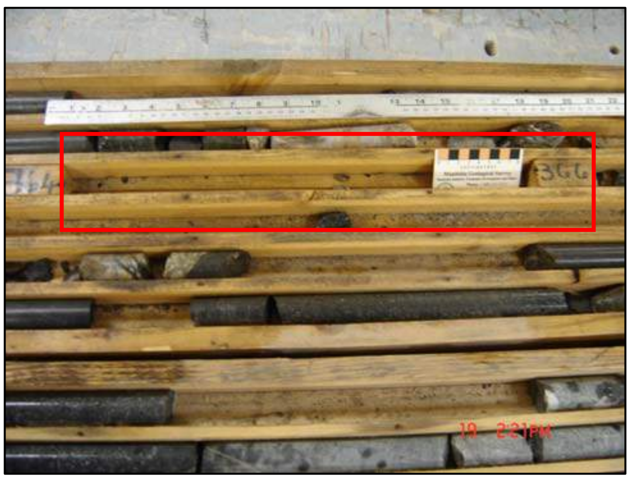
2. Re-drilling and grinding of the core is relatively common. This is a function of the standard drilling (non-wireline) technique used at the time. It is easily identified by footage tags that do not have the appropriate amount of drill core between them. This feature lowers the confidence level for the location of the Number 10 Vein since the downhole footages are suspect; this may contribute to the variance in the geological model (Section 17 of this report).

Wardrop also visited the Grey River Tungsten property to establish the coordinates of the drill collars for the 2006 program. In addition, the coordinates of the adit and one trench were determined and an attempt was made to gather the coordinates of the ASARCO drill pads. It was not possible to examine the Number 10 Vein on surface due to snow coverage.

Tungsten mineralization in Vein 10 (GR-1)

Ground core (GR-10: 635 to 636 feet)

Drill core sampled (GR-2: 364 to 366 feet)



2006 HQ core in boxes on site

HQ core with visible tungsten and pyrite(GR-06-103)

Drill collar GR-06-106

Figure 14.1 Site Visit Photographs

Table 14.1 Comparison of Coordinates for Drill Holes, Trench 14 and the Portal

Hole Number	Wardrop Easting	Playfair Easting	Wardrop Northing	Playfair Northing	Wardrop Elevation	Playfair Elevation
GR-06-102 GR-06-103	492625	492625	5271485	5271487	272 m	274 m
GR-06-114	492612	492612	5271424	5271429	269 m	272 m
Trench 14	492750	NA	5271414	NA	266 m	NA
GR-06-104 GR-06-105	492684	492684	5271576	5271578	266 m	260 m
GR-16	492731	492729	5271625	5271624	240 m	240.2 m
GR-06-106 GR-06-107	492781	492776	5271670	5271670	238 m	240 m
GR-27 GR-28	492819	492811	5271755	5271763	260 m	NA
GR-1	492775	492773	5271596	5271593	240 m	239.6 m
PORTAL	492422	492435	5270471	5270475	9 m	12.8 m

There is good agreement between the historical drill collar coordinates and the coordinates determined during the site visit. This suggests that all of the drill coordinates are correctly located in digital space. Only GR-27 and GR-28 show any significant variance – in this case the actual drill collars could not be located during the site visit due to snow cover. Instead, an eye-bolt was found and its coordinates were taken. This eye-bolt is typically used to anchor drill rigs to assist during core drilling. This bolt is generally located a few metres from the casing so the Wardrop coordinates for these two holes are close to the actual.

There is a minor amount of variance in the coordinates of the Portal. This reflects the fact that the Wardrop coordinates were collected a few metres away from the entrance of the adit (in a place where the satellite coverage was better).

14.2 Digital Data Verification by Wardrop

Wardrop validated four of the holes in the database by comparing the original drill log data with the summary sheets supplied by the client. This sample population represents 9% of the total holes in the database (4 out of 45 holes).

Data verification checked the collar co-ordinates, length of holes, down-the-hole survey measurements (including azimuth and dip), as well as footage intervals of the assay samples and the lithological units. Tungsten values from non-drill hole samples were checked against the data on printed maps (for the trenches and grab samples) as well as plots of the underground sampling diagrams (for the back, face, raise and bulk samples). Minor errors are present in the lithology data set; two of the checked intervals differed by 0.1 metre while other two intervals had a difference of 0.2 metre.

The coordinates for the four holes could not be confirmed because no field grid sketch is available for cross reference. This is not critical given that the drill holes in the database are in UTM space (NAD 27 Zone 21) rather than grid coordinate space. As indicated above, the UTM coordinates for selected holes were confirmed during the site visit which suggests that all of the collar coordinates in the database are correct. Details of the verification are given in Table 14.2.

Table 14.2 Data Verification

Database portion	Total records	Error records	Records with errors	Records validated
Collar	8	0	0%	Coordinates (easting, northing, elevation and depth).
Survey	16	0	0%	Survey depths, survey dips and survey azimuths.
Geology	132	8	6%	Names of units and downhole depths.
Assay	104	0	0%	Tungsten values and distances down hole.
Underground	993	1	0.1%	Tungsten and copper values. Width of samples.
Total	**1253**	**9**	**0.72%**	

15.0 ADJACENT PROPERTIES

This Section is not applicable.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

This section of the report was completed by Wardrop.

Three bulk samples have been taken from the Number 10 Vein for metallurgical testing.

1. In 1970 ASARCO collected a 275 ton bulk sample for testing at the Mines Branch Metallurgical Laboratory in Ottawa. From the information supplied by Playfair the results from these tests assisted with detailed pilot plant studies. No other information or data is available for the ASARCO bulk sample testing.

2. Playfair has collected two bulk samples for various types of testing. One of the samples is still on-site at Grey River while the other sample was shipped to the SGS Lakefield Research (SGS) facilities in Cornwall, England. Two phases of testing were performed by SGS on this bulk sample:

   a) The first test, completed in May 2006, was a scoping study to determine if the Grey River mineralization is amenable to gravity concentration. This objective was confirmed.

   b) The second test, completed in November 2006, determined if a minimum concentrate grade of 65% WO_3 could be produced. This objective was confirmed.

An independent review of the SGS tests endorsed the two-phase approach and agreed with their conclusions. In addition, a third phase of testing will assess the optimum flow sheet, plant design and overall economics for recovering tungsten concentrates.

16.1 Metallurgical Processes

This section of the report was completed by BC Mining Research Ltd.

Grey River is proposed as a low-tonnage, high grade operation, with a relatively free-milling ore, shown to be amenable to gravity separation methods, producing a potential concentrate of 60% with a tungsten recovery of 75%. The concentrate is destined for Ammonium Para Tungstate (APT) plants either on the Continental US or alternately customers in Europe. However, the concentrate produced thus far does not yet meet typical feed grade or particle size specifications for conversion to Ammonium Paratungstate and it may be advantageous to produce a concentrate meeting these specifications directly in order to maximize value. It is generally accepted that concentrates grading >65% WO_3 attract a price premium on the market, and a further price premium is achieved in meeting the feed size specifications to the APT plant.

Therefore, it is recommended that further testwork be undertaken to meet these criteria. A generally applicable tungsten processing flowsheet has thus been selected for costing purposes, and flexibility to meet this option has been built into the flowsheet through the inclusion of a rod milling circuit as an alternative to an impact crushing option, in advance of the spiral plant.

16.1.1 Processing Methods

Coarse ore concentration may be achieved by dense media separation or a heavy mineral jig at Grey River. However, an optical sorting option is proposed based on the expected higher levels of dilution in the plant feed and the poor anticipated performance of a jig in this application. This option is supported by recently published success at other operations that are optically sorting similar feeds. Fine ore concentration is by a 3-stage heavy mineral spiral circuit. Pyrite rejection can be by gravity methods as indicated by the testwork, or by reverse flotation of the gravity concentrate.

In the dense medium, as well as the jig testwork, it is felt that the upgrading demonstrated by testwork was insufficient to meet the concentrate criteria at a reasonable recovery. Therefore, the option to introduce the coarse concentrate into the grinding circuit has been provided for in the costing. Metallurgical results indicate that pyrite rejection may be achievable by gravity methods only, hence the inclusion of a third stage concentrating table or scavenger spiral. Provision has been made, however, for the rejection of pyrite from the concentrate by flotation should this be required.

16.1.2 Metallurgical Testwork

Two metallurgical reports were completed by SGS Mineral Services to derive a preliminary flowsheet and cost estimate: ‘Metallurgical Scoping Testwork Report on a Sample of Wolframite Ore’ dated May 31, 2006 and ‘Phase 2 Metallurgical Scoping Testwork Report on a Sample of Wolframite Ore’, dated November 6, 2006. Insufficient work has been done at this stage to develop a specific flowsheet and thus specific capital and operating costs for the project. Further metallurgical testwork is required to demonstrate that an acceptable grade concentrate at an acceptable metallurgical recovery can be achieved. Individual gravity separation tests indicate that the quality of the sample preparation was insufficient to produce consistent metallurgical results. The testwork indicates that testing was undertaken on a ‘bulk sample’, however, the indicated grade was relatively high compared to the current resource estimate. The back-calculated feed grades vary from 2.32% to 4.01% WO_3, whereas the current resource estimate has a grade of 0.83% and the conceptual mineable resource is 0.66%. Concentrate specification needs to be addressed in future testwork. Furthermore, WO_3 cons destined for APT plants have a target size distribution specification. The proposed flowsheet is based on experience as well as the results from the metallurgical reports. Further metallurgical work is strongly recommended in order to; establish a firm spec on the head grade for the feed; maximize recovery to an acceptable WO_3 con; and, move beyond the scoping stage and simulate the unit processes of the proposed flowsheet on a representative sample of the feed material. This will help establish firm criteria for the metallurgical performance to produce an acceptable concentrate.

There is potential upside to the metallurgical results that have been completed to date, especially in terms of maximizing the mass pull to a 65% WO_3 concentrate. However, this must be demonstrated in the next phase of testwork.

16.1.3 Recoverability

Final results from the preliminary testwork indicates a spread of 58% recovery to a 65% WO_3 con, 72% recovery to a 55% WO_3 con, and 75% WO_3 recovery to a 60% WO_3 con (from the Phase II report). Higher combined grade/recovery targets would be expected from such a high grade material. For an analysis based on the indicated grade and mass pull to cons, the base case recovery is estimated at 79% as indicated in the design criteria shown in Table 16.1.

Table 16.1 Metallurgical Design Criteria Used for Costing Purposes

Criterion	Value
Material type	Primary Tungsten
Mineralogy	Wolframite + Hubnerite + Scheelite with Pyrite
Grade	2.32% WO_3
Head grade	0.66% WO_3
Mining rate	300 tpd
Feed topsize	200mm
Mass pull	2.83% (1.13 diluted)
Concentrate grade	60% WO3
Metallurgical Recovery	79%

A typical gravity and flotation-based plant processing high grade tungsten ore would generally obtain between 85-92% WO_3 recovery to a 65-70% concentrate. The flowsheet presented in Figure 16.1 allows for a high mass pull to concentrates, while making provision for cleaning of the con to ~65% in order to realize the potentially higher recovery while maintaining concentrate grade. This, however, is provisional and should be confirmed in the next phase of testwork. Details of the flowsheet can be found in Appendix III.

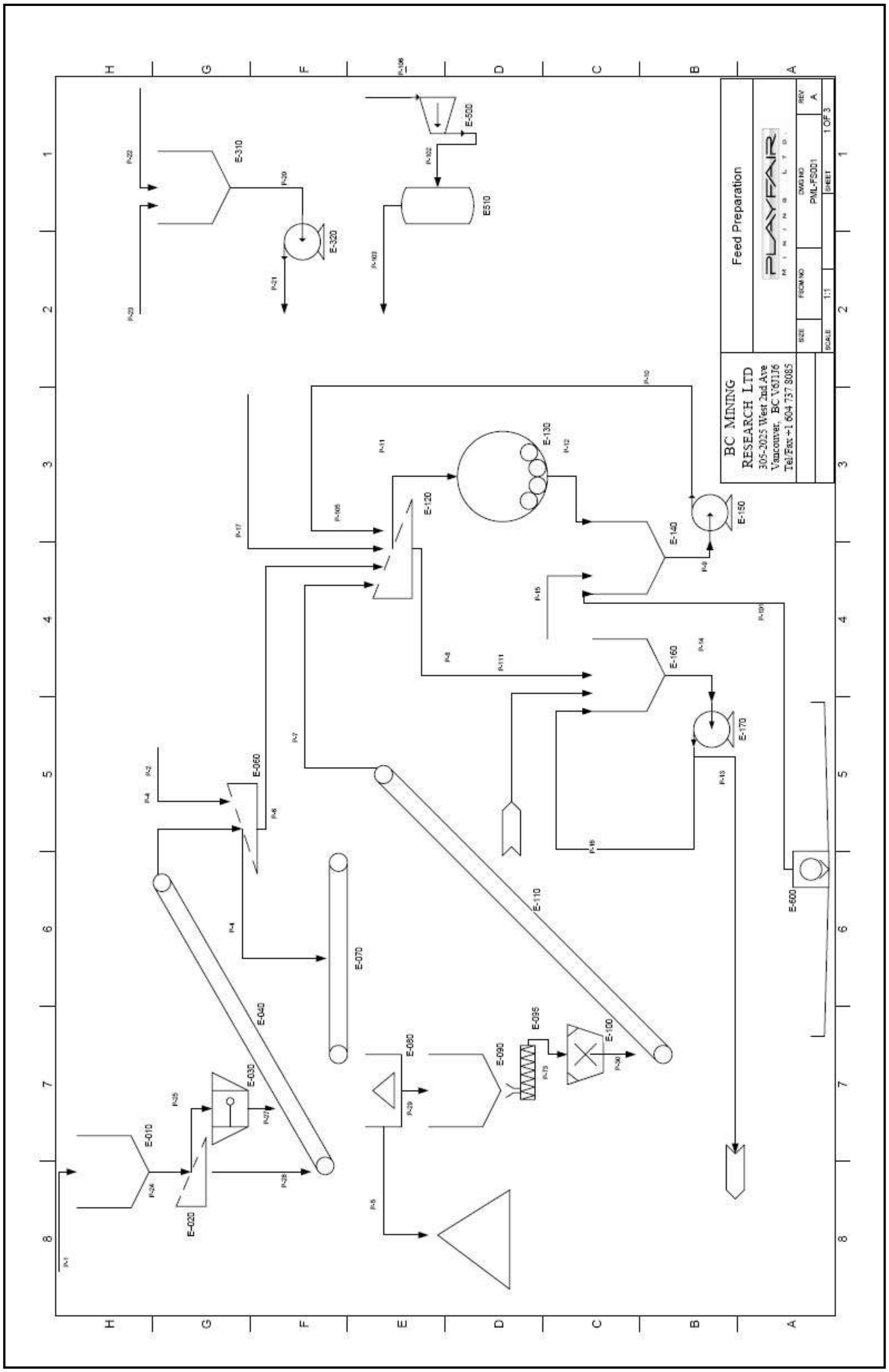


Figure 16.1 Preliminary Flowsheet for the Grey River Deposit

17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATE

17.1 Data

A mineral resource estimate has been completed by Wardrop for the Number 10 Vein on the Grey River Tungsten property in southern Newfoundland. Gemcom software GEMS 6.04 was used for the resource estimate. Table 17.1 summarises the raw drill hole data used for the estimate (all supplied by Playfair).

Table 17.1 Drilling Data Records Used for the Resource Estimate (No Composites)

Deposit	Drill holes	Collar readings	Survey readings	Lithology readings	Assay readings	Assays on vein
Number 10 Vein	28	28	61	299	235	70

Other data types were also used for the resource estimate (Table 17.2). There were two campaigns of back sampling and analysis (completed by ASARCO) and both sets have been used in the resource model. Also, only those sample points falling either within or immediately adjacent to the Number 10 Vein were used for the resource estimate.

ASARCO collected the underground face samples at a nominal average spacing of 2.7 m while the two series of back samples were collected at a nominal average spacing of 1 m. In order to minimise any bias in the search and interpolation procedures these samples were de-clustered. This method created an average WO_3 value for each cluster of five samples. After de-clustering the number of sample points in the adit was reduced from 331 to 66.

Table 17.2 Non-Drilling Data Records Used for the Resource Estimate

Deposit	Grab Samples	Trench Samples	Raise Samples	Face Samples	Back Samples	Back 2 Samples
Number 10 Vein	22	17	12	116 (23)	149 (30)	66 (13)

The number of points remaining after de-clustering is shown in parentheses in Table 17.2.

17.2 Exploratory Data Analysis

Exploratory Data Analysis is the application of various statistical tools to elucidate the characteristics of the data set. In this case, the objective is to understand the population distribution of the grade elements through the use of such tools as histograms, descriptive statistics and probability plots. A statistical review of the data supplied by Playfair was completed by Wardrop and examples for the dominant grade element (tungsten) are shown in Figures 17.1, 17.2 and Table 17.5. In addition, checks were made against the hard copy files to confirm unusual readings and data.

17.2.1 Assays

Table 17.3 shows the number of drill holes and assays used to construct the solid as well as the ranges and mean tungsten values used for the resource estimate. Table 17.4 displays the ranges and mean tungsten values for the non-drill hole samples that were used to estimate the resource.

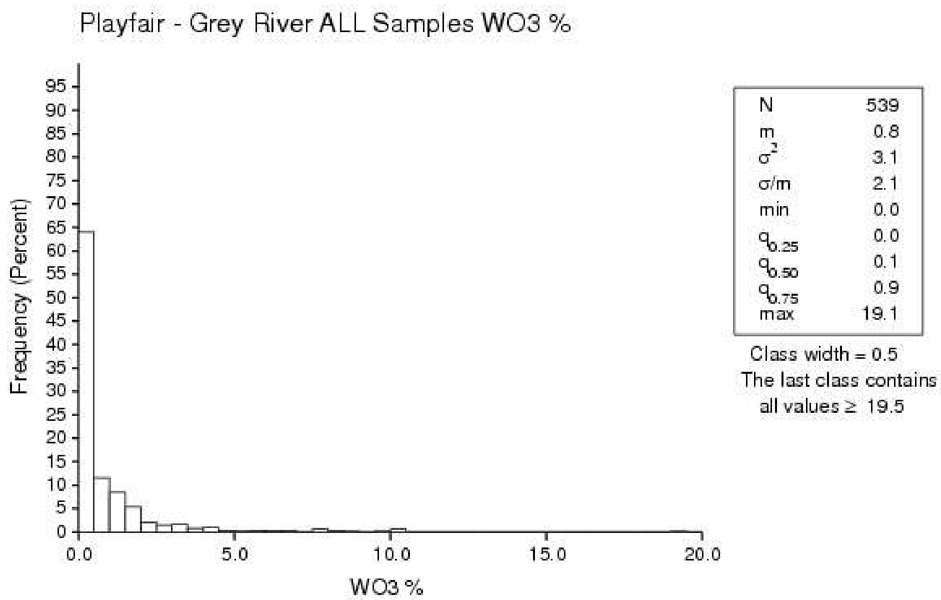
Table 17.3 Drill Hole Intercepts and Assay Statistics for Vein 10

Number of Holes on Vein	Number of Assays	Minimum % WO_3	Maximum % WO_3	Mean % WO_3
23	70	0.0016	6.00	0.384

Table 17.4 Assay Statistics for the Non-Drill Hole Samples for Vein 10

Sample Type	Number of assays	Minimum % WO_3	Maximum % WO_3	Mean % WO_3
Grab	22	0	1.35	0.423
Trench	17	0	3.29	1.044
Raise	12	0.112	2.37	0.954
Face	116 (23)	0 (0.01)	19.07 (5.15)	1.20 (1.19)
Back	149 (30)	0 (0.01)	10.34 (3.89)	1.13 (1.15)
Back 2	66 (13)	0 (0.09)	5.97 (2.09)	0.60 (0.61)

The values in parentheses in Table 17.4 are the appropriate values for the de-clustered points.



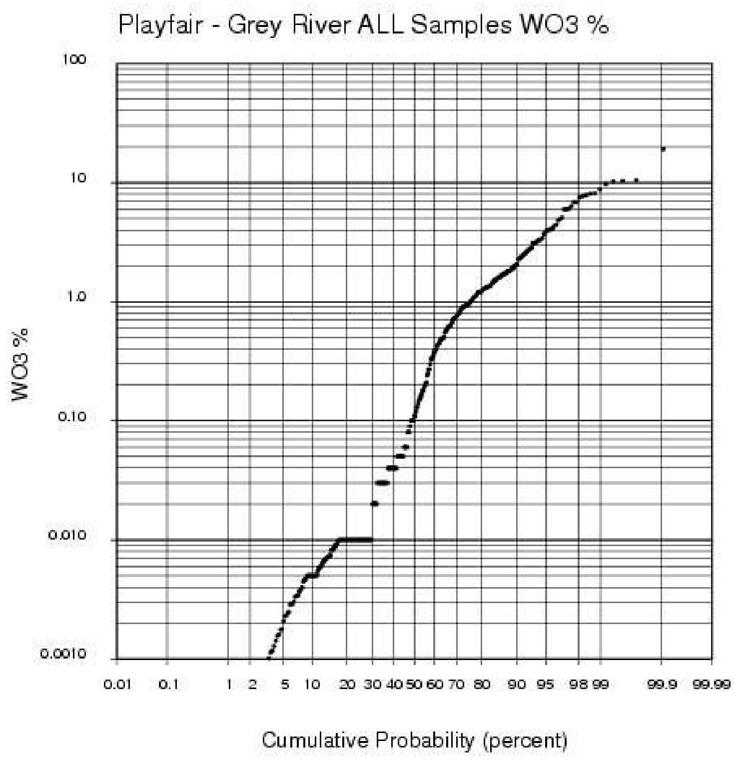


Figure 17.1 Samples Within and Outside the Number 10 Vein

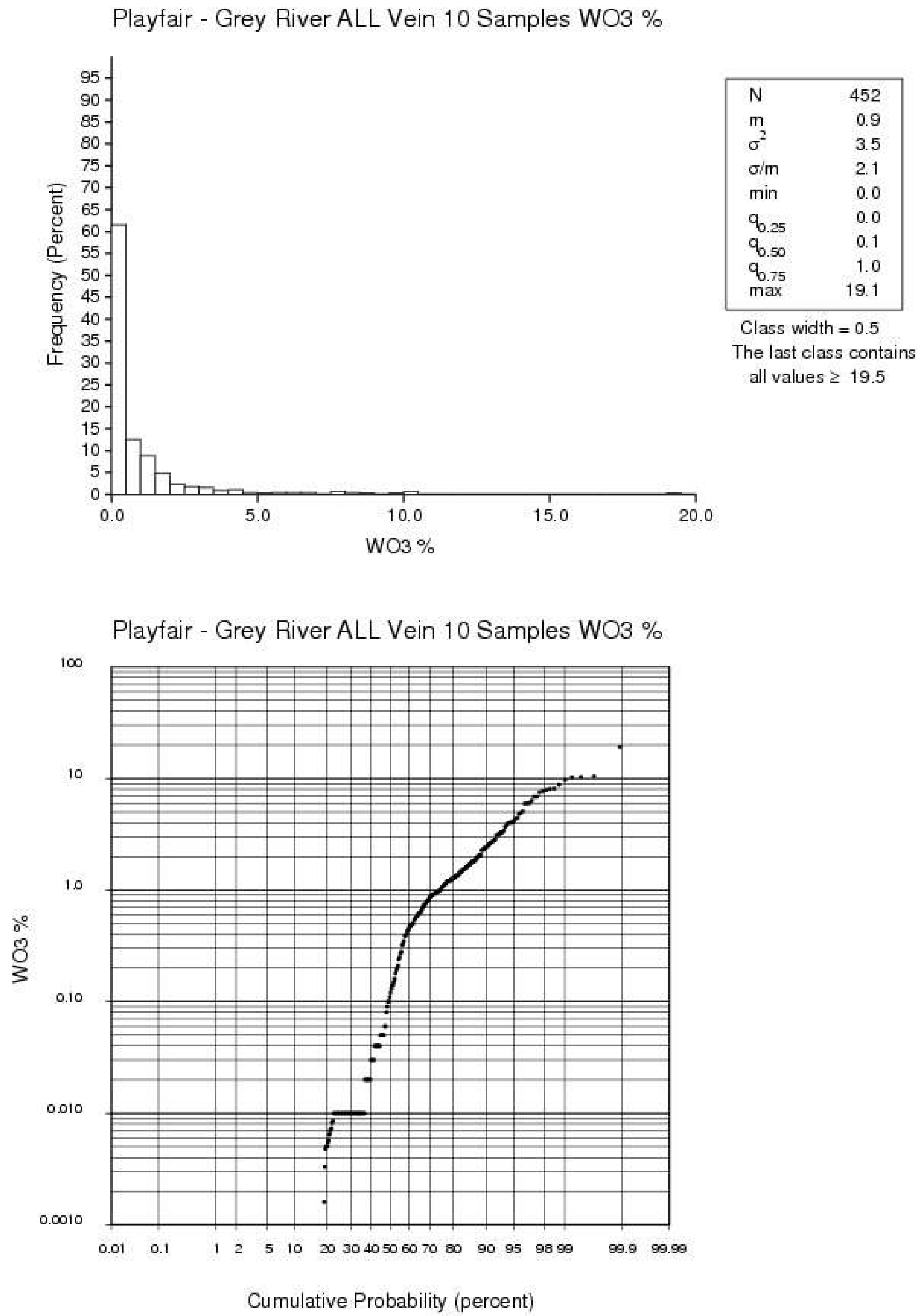


Figure 17.2 All Samples Within the Number 10 Vein

Table 17.5 Statistics for the Different Sample Types from the Number 10 Vein

PLAYFAIR BULK WO3_% STATS	
Mean	0.64
Standard Error	0.12
Median	0.67
Mode	0.03
Standard Deviation	0.52
Sample Variance	0.27
Kurtosis	-0.92
Skewness	0.30
Range	1.67
Minimum	0.01
Maximum	1.67
Sum	12.71
Count	20
Confidence Level(95.0%)	0.243

DDH WO3% STATS	
Mean	0.23
Standard Error	0.04
Median	0.03
Mode	0.03
Standard Deviation	0.61
Sample Variance	0.37
Kurtosis	39.36
Skewness	5.44
Range	6.00
Minimum	0.00
Maximum	6
Sum	53.51
Count	235
Confidence Level(95.0%)	0.078624789

UG BULK WO3 % STATS	
Mean	0.95
Standard Error	0.19
Median	0.78
Mode	#N/A
Standard Deviation	0.65
Sample Variance	0.42
Kurtosis	0.59
Skewness	0.97
Range	2.25
Minimum	0.12
Maximum	2.37
Sum	11.45
Count	12
Confidence Level(95.0%)	0.411

TRENCH WO3_% STATS	
Mean	1.09
Standard Error	0.18
Median	0.90
Mode	0.05
Standard Deviation	0.88
Sample Variance	0.78
Kurtosis	0.03
Skewness	0.74
Range	3.24
Minimum	0.05
Maximum	3.29
Sum	26.2
Count	24
Confidence Level(95.0%)	0.372

BACK WO3 % STATS	
Mean	1.33
Standard Error	0.17
Median	0.62
Mode	0.01
Standard Deviation	2.10
Sample Variance	4.40
Kurtosis	6.97
Skewness	2.61
Range	10.32
Minimum	0.01
Maximum	10.33
Sum	208.29
Count	157
Confidence Level(95.0%)	0.331

FACE WO3 % STATS	
Mean	1.53
Standard Error	0.29
Median	0.47
Mode	0.01
Standard Deviation	2.75
Sample Variance	7.55
Kurtosis	18.95
Skewness	3.76
Range	19.06
Minimum	0.01
Maximum	19.07
Sum	139.63
Count	91
Confidence Level(95.0%)	0.572

PLAYFAIR MINING GREY RIVER TUNGSTEN

Table 17.6 Summary of Back De-Clustered Samples with Original Samples

Original Numbers	De-Clustered Number	Sample Type	Original Numbers	De-Clustered Number	Sample Type
700-704	S1	Back 2	550-554	S24	Back
705-709	S2	Back 2	555-559	S25	Back
710-714	S3	Back 2	560-564	S26	Back
715-719	S4	Back 2	565-569	S27	Back
720-724	S5	Back 2	570-574	S28	Back
725-729	S6	Back 2	575-579	S29	Back
730-734	S7	Back 2	580-584	S30	Back
735-739	S8	Back 2	585-589	S31	Back
740-744	S9	Back 2	590-594	S32	Back
745-749	S10	Back 2	595-599	S33	Back
750-754	S11	Back 2	600-604	S34	Back
755-759	S12	Back 2	605-609	S35	Back
760-765	S13	Back 2	610-614	S36	Back
500-504	S14	Back	615-619	S37	Back
505-509	S15	Back	620-624	S38	Back
510-514	S16	Back	625-629	S39	Back
515-519	S17	Back	630-634	S40	Back
520-524	S18	Back	635-639	S41	Back
525-529	S19	Back	640-644	S42	Back
530-534	S20	Back	645-648	S43	Face
535-539	S21	Back	100-104	S44	Face
540-544	S22	Back	105-109	S45	Face
545-549	S23	Back	110-114	S46	Face

Table 17.7 Summary of Face De-Clustered Samples with Original Samples

Original Numbers	De-Clustered Number	Sample Type	Original Numbers	De-Clustered Number	Sample Type
115-119	S47	Face	165-169	S57	Face
120-124	S48	Face	170-174	S58	Face
125-129	S49	Face	175-179	S59	Face
130-134	S50	Face	180-184	S60	Face
135-139	S51	Face	185-189	S61	Face
140-144	S52	Face	190-194	S62	Face
145-149	S53	Face	195-199	S63	Face
150-154	S54	Face	200-204	S64	Face
155-159	S55	Face	205-209	S65	Face
160-164	S56	Face	210-215	S66	Face

17.2.2 Capping

Three methods are used to assess the appropriate capping level:

1. Cumulative frequency plots.

2. Decile analysis.

3. A Wardrop-specific method.

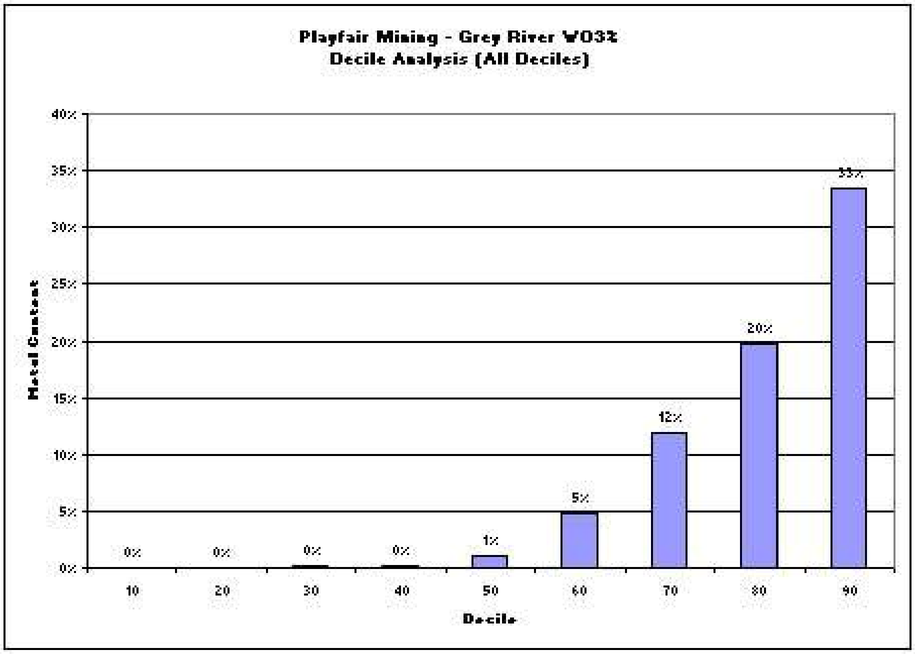
There is good agreement between the three methods and a capping level of 8.5% WO_3 was chosen. Any value in the Number 10 Vein dataset higher than 8.5% WO_3 was set back to 8.5% WO_3. Six values were capped, 4 from the Back subset and 2 from the Face subset. Figure 17.3 displays the decile method for establishing the capping level for the Number 10 Vein samples. Note that the WO_3% value at the 99% cumulative probability level (break in slope) shown in Figure 17.2 agrees well with the decile analysis method.

17.2.3 Composites

A composite length of 1m was used for the samples within the solids. This value compares favourably with the average assay length for the Number 10 Vein (Table 17.8 and Figure 17.4).

Table 17.8 Drill Assay Sample Lengths for the Number 10 Vein

	Min	Max	Mean	Median	Number of values
Number 10 Vein	0.2m	4.0m	0.94m	1.0m	235



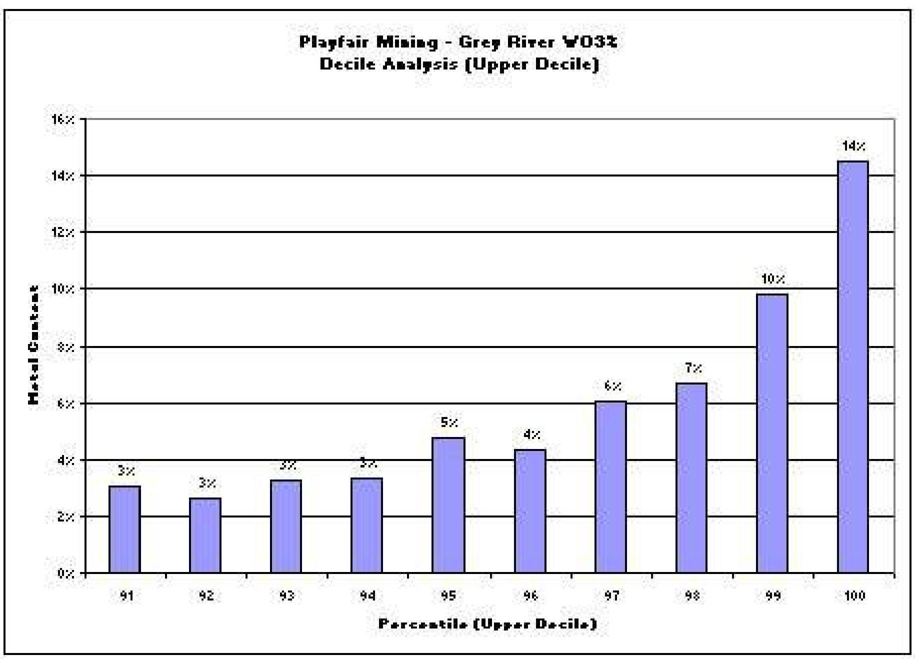


Figure 17.3 Decile Method for Capping the Values from the Number 10 Vein

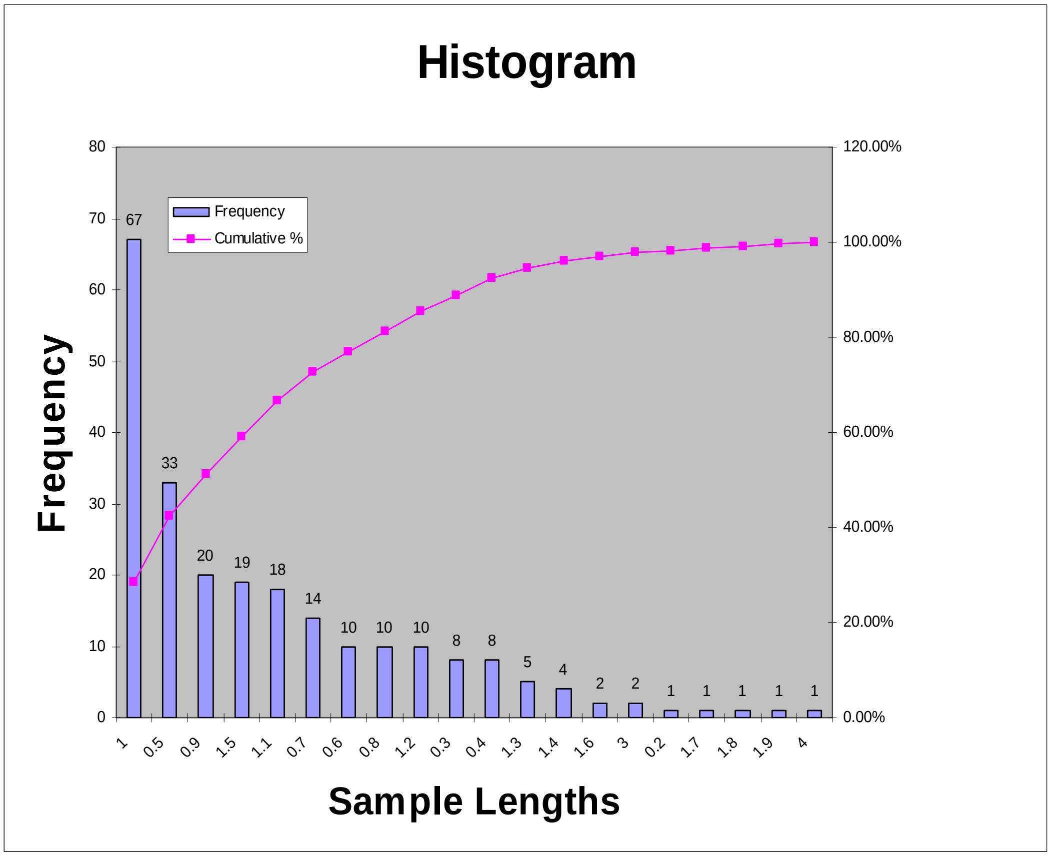


Figure 17.4 Drill Hole Sample Lengths with Frequency Value on Top of Columns

Composite statistics are shown in Table 17.9.

Table 17.9 Composite Statistics for the Number 10 Vein

Minimum	Maximum	Average	Median	Standard Deviation	Number of data points
0	7.7	0.675	0.183	1.114	192

17.3 Bulk Density

The available documentation for the ASARCO resource estimate suggests that a bulk density of 3.10 grams per cubic centimetre (g/cc) was used. This implies an average wolframite content of about 10% (wolframite has a density of 7.3 g/cc while quartz has a density of 2.65 g/cc). This value is probably too high for this type of deposit and therefore a value of 2.8 g/cc has been used for the Wardrop resource estimate. This value has been calculated from the WO_3% values returned for the assays (Table 17.10).

Table 17.10 Calculation of a Specific Gravity from WO_3% Assay Values

Bulk Density Calculation	**Quartz**	**Wolframite**
Initial values	2.650	7.300

Percent wolframite			**Bulk SG**
0% $(Fe,Mn)WO_4$	2.650	0.000	2.65
1% $(Fe,Mn)WO_4$	2.624	0.073	2.70
1.1	2.621	0.080	2.70
1.2	2.618	0.088	2.71
1.3	2.616	0.095	2.71
2% $(Fe,Mn)WO_4$	2.621	0.146	2.77
3% $(Fe,Mn)WO_4$	2.571	0.219	2.79
4% $(Fe,Mn)WO_4$	2.544	0.292	2.84
5% $(Fe,Mn)WO_4$	2.518	0.365	2.88
6% $(Fe,Mn)WO_4$	2.491	0.438	2.93
7% $(Fe,Mn)WO_4$	2.465	0.511	2.98
8% $(Fe,Mn)WO_4$	2.438	0.584	3.02
9% $(Fe,Mn)WO_4$	2.412	0.657	3.07
10% $(Fe,Mn)WO_4$	2.385	0.730	3.12

Predicted SG

Proportion WO_4 in $(Fe,Mn)WO_4$	0.8
Average of all Number 10 Vein samples	0.96
Multiply by 1.25 to get $(Fe,Mn)WO_4$	1.202
From Table Above, SG Equals	**2.71**

Cavey and Gunning (2006) used a bulk density of 2.8 g/cc for a resource estimate at the Panasqueira mine in Portugal. At this deposit the wolframite is developed in sheets of flat-lying quartz veins. Mineralogically, this mine is similar to the Number 10 Vein so the choice of 2.8 g/cc is deemed appropriate.

17.4 Equivalency Formula

Not used in this study.

17.5 Geological Interpretation

A wireframe model of the Number 10 Vein was constructed by Wardrop using digital data supplied by Playfair (assays shown in Table 17.11). This data was imported into the Gemcom software and 3D geology rings of the vein were digitised on each drill section. Both the quartz vein (code 89) and the tungsten assays were used to guide the geological interpretation. No minimum thickness was used for the modelling. Tie lines were used to connect the geology rings on different sections to create the wireframe.

Table 17.11 Imported Data Used for the Solid Model Creation

Name	Min	Max	Average	Standard Deviation	Number of Samples
Back 2	0.000	5.970	0.597	1.030	66
Back	0.000	10.330	1.133	2.142	149
Face	0.000	19.070	1.204	2.513	116
Grabs	0.000	1.350	0.423	0.418	22
Trench	0.000	3.290	1.045	0.975	17
Underground Bulk	0.120	2.370	0.954	0.647	12
Drill Holes	0.002	6.000	0.384	0.868	70

The topographic surface, trench locations, surface trace of the vein and adit data were imported into Gemcom. The points from the surface samples (grabs and trench) and the digitised surface trace of the vein were pressed to the topographic surface. In the Wardrop model no part of the vein extends above the topographic surface.

In order to validate the solid model it was necessary to build two intermediate geology rings between the surface exposure of the vein and the trace of the vein in the adit. The final validated solid is split into two sections (North and South) on either side of a prominent underground east-west fault (Figure 17.5). Both solids are included in the block model resource estimate.

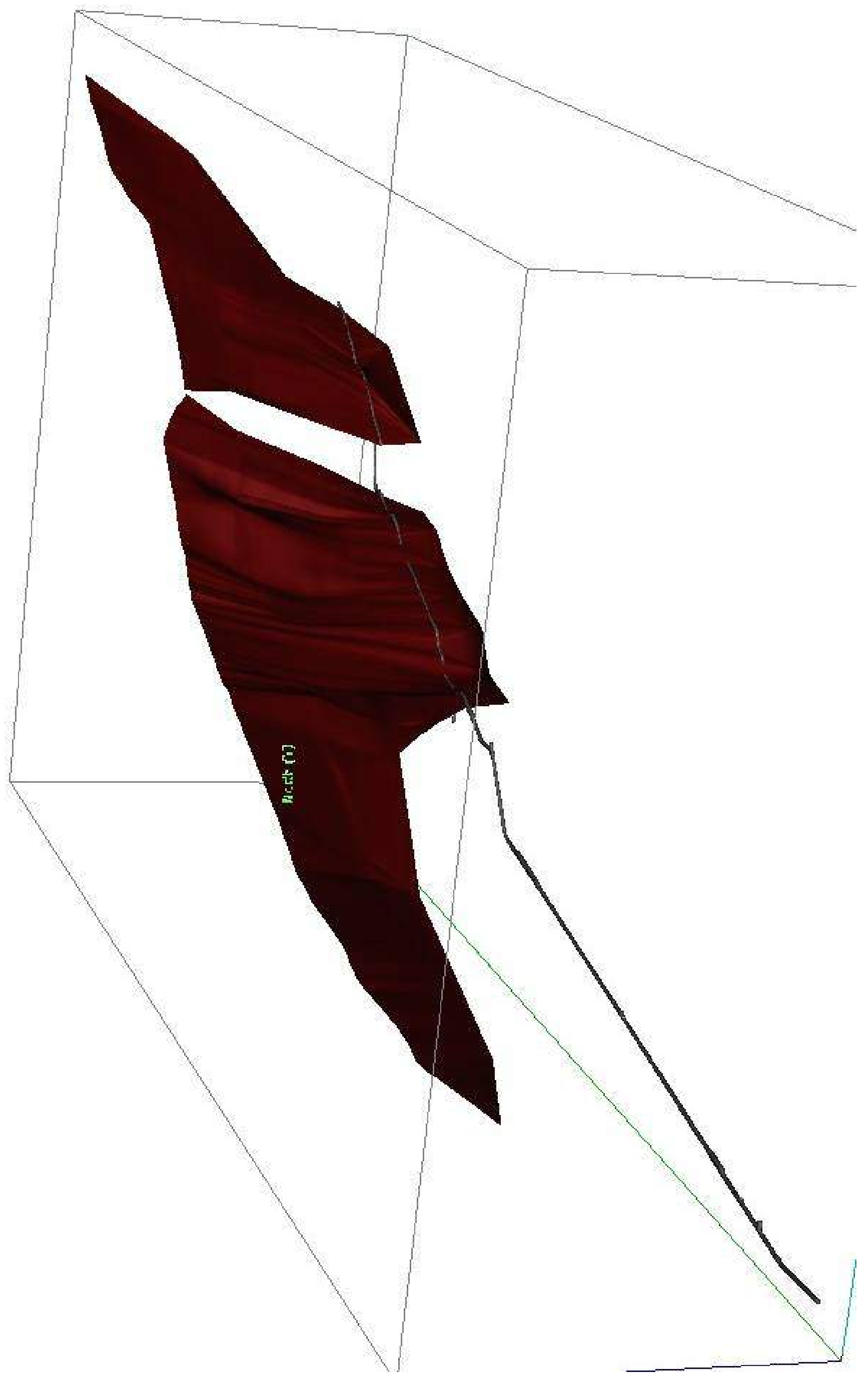
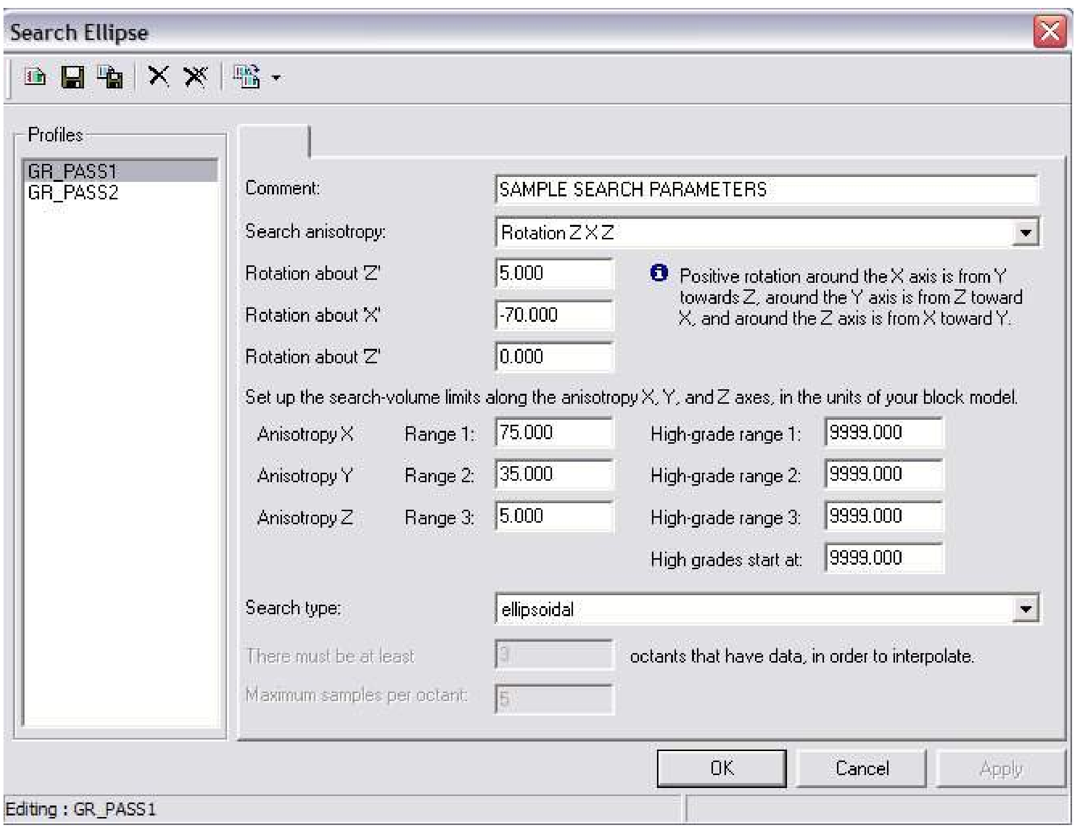


Figure 17.5 Final Solid Models for the Number 10 Vein and Adit (Looking Northwest)

17.6 Spatial Analysis

Both downhole and directional variography were applied to the Number 10 Vein to evaluate the spatial continuity of the tungsten values. Neither method was successful so the search parameters were defined with respect to the orebody geometry (Tables 17.12 and 17.13). These parameters orient the search ellipse parallel to the vein and give it dimensions that reflect the known geometry of the vein. For example, Range 1 (75 m) is oriented parallel to the strike of the vein while Range 2 (35 m) is oriented down the dip of the vein. Range 3 (5m) corresponds to the width of the vein. These three values, which are set to mimic the relative dimensions of the vein, create a strongly flattened search ellipsoid.

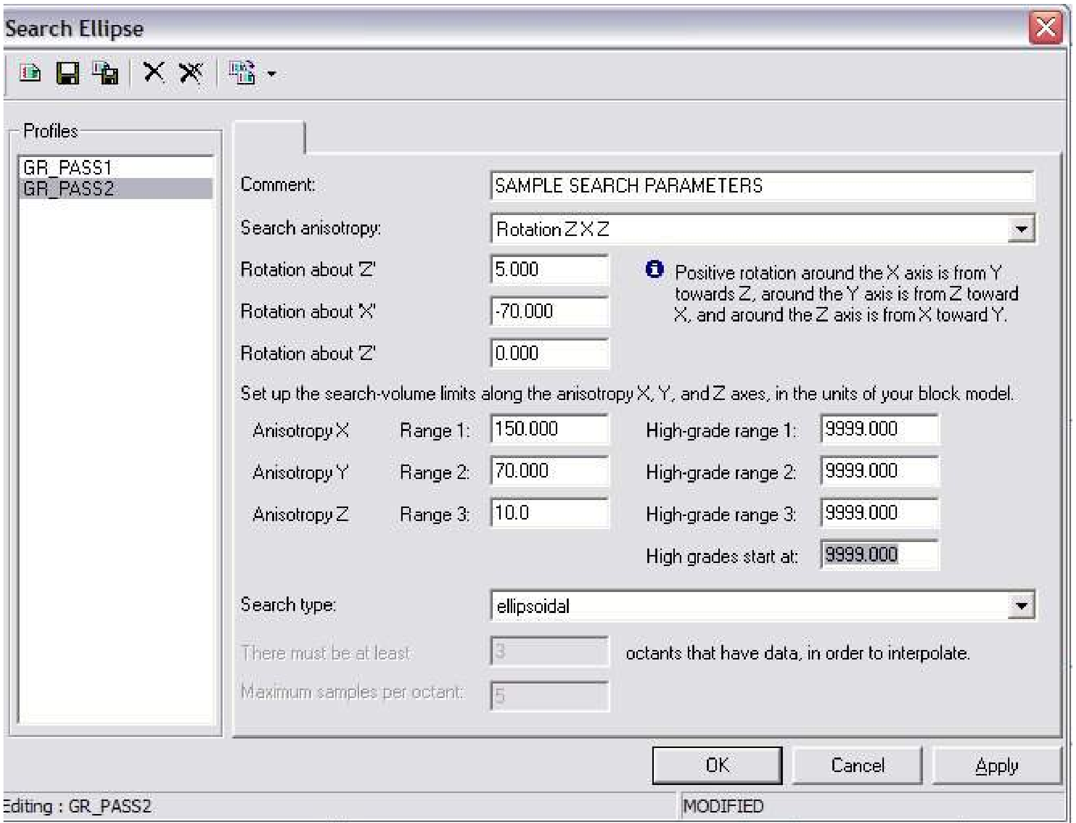
Table 17.12 Search Ellipse Parameters for Pass 1



Pass 2 has the same orientation for the search ellipse (Table 17.13). The differences between Pass 1 and Pass 2 are the search ranges; these have been doubled to capture more sample points during the interpolation runs.

Both grade variability and an insufficient number of points for variography suggest a strong nugget effect for the Number 10 Vein.

Table 17.13 Search Ellipse Parameters for Pass 2



17.7 Resource Block Model

GEMS software (version 6.04) was used to model the Number 10 Vein. UTM coordinates and metric measurement units were used; Table 17.14 displays both the block parameters and the models that were created for the project.

17.8 Interpolation Plan

The only element modelled is tungsten (as WO_3%) using nearest neighbour and inverse distance squared interpolation routines. Both capped and uncapped models were estimated for these interpolation routines.

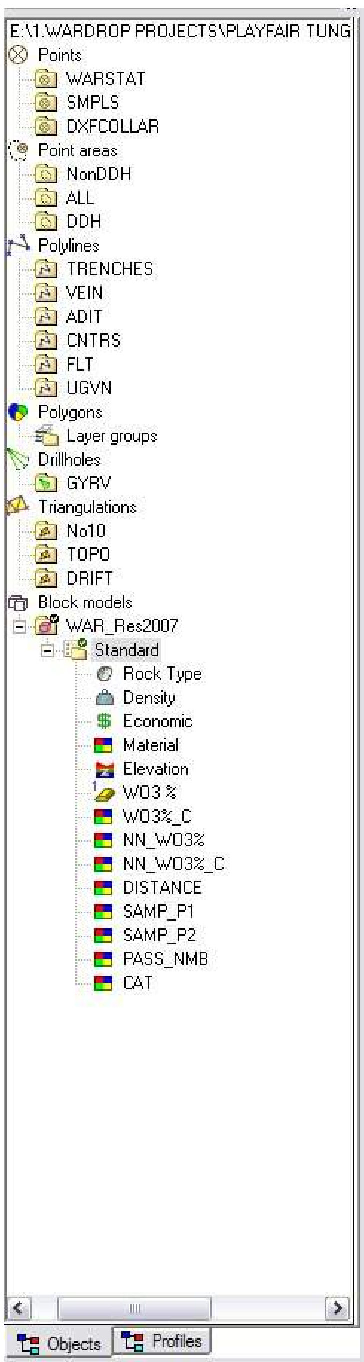
Additional special models were created to facilitate the resource classification:

1. A model for the number of points used in the pass 1 and pass 2 estimates of the uncapped data (SAMP_P1 and SAMP_P2).

2. A model for the actual distance to the closest point for the nearest neighbour estimate using uncapped data (DISTANCE).

A script routine was used to determine the pass number for the blocks (PASS_NMB) and this number was used (with another script) to create a category number (CAT model).

Table 17.14 Block Parameters for the Number 10 Vein



Model Name	Coordinates	Block Size (m)
No 10 Vein	X	2
	Y	10
	Z	10
Total blocks	1,365,000	

The search ellipse parameters for Pass 1 and Pass 2 are shown in Tables 17.12 and 17.13 respectively. For the inverse distance squared interpolation routine Pass 1 uses a minimum of six and a maximum of 15 samples while Pass 2 uses a minimum of two samples and a maximum of 15. In contrast, a single pass is used for the nearest neighbour estimate for capped and uncapped values and the minimum and maximum number of samples used is set to one. A maximum of five samples per hole was used for both the nearest neighbour and inverses distance squared methods.

17.9 Mineral Resource Classification

Several factors are considered in the definition of a resource classification:

- CIM requirements and guidelines;
- Experience with similar nuggety deposits;
- Spatial continuity; and
- Confidence limit analysis.

No environmental, permitting, legal, title, taxation, socio-economic, marketing or other relevant issues are known to the author that may affect the estimate of mineral resources. Mineral reserves can only be estimated on the basis of an economic evaluation that is used in a preliminary feasibility study of a mineral project, thus no reserves have been estimated. As per NI 43-101, mineral resources which are not mineral reserves do not have demonstrated economic viability. All of the mineral resources within the Number 10 Vein are classified as Inferred Resources on the basis of a number of criteria:

- CAT 1 (Indicated): For Pass 1 the search ellipse must have found at least six, and no more than 15, composites. In addition, the distance to the nearest composite has to be less than 75 m to qualify as Indicated Resources.

- CAT 2 (Inferred): For Pass 2 the search ellipse must have found at least two, and no more than 15, composites. (Any block not populated during Pass1 will be filled with the Pass 2 value). In addition, the distance to the nearest composite is between 75 m and 150 m to qualify as Inferred Resources.

Any blocks that are not populated with CAT 1 or CAT 2 values are left uncategorized (nearest composite value is greater than 150 m away).

Figure 17.6 is a cross section through the vein and it shows the warmer colours (CAT 1) around the drill hole pierce points, within the adit and around any data from the trenches. These are areas of maximum sample density. Away from these locations the colder colours are dominant (CAT 2). Outside of the search parameters the blocks are uncategorized (grey). Note that the drill holes appear to be short of the vein in this diagram; this is an artifact of the plane width (5 m) chosen to display the blocks. In reality, both holes penetrate the vein and the footwall rocks.

Although Indicated Resources are shown in the Category Model they cannot be aggregated to form a reportable category. Consequently these resources have been grouped with the Inferred Resource category. More diamond drilling is required to improve the confidence level of all categories for the Number 10 Vein.

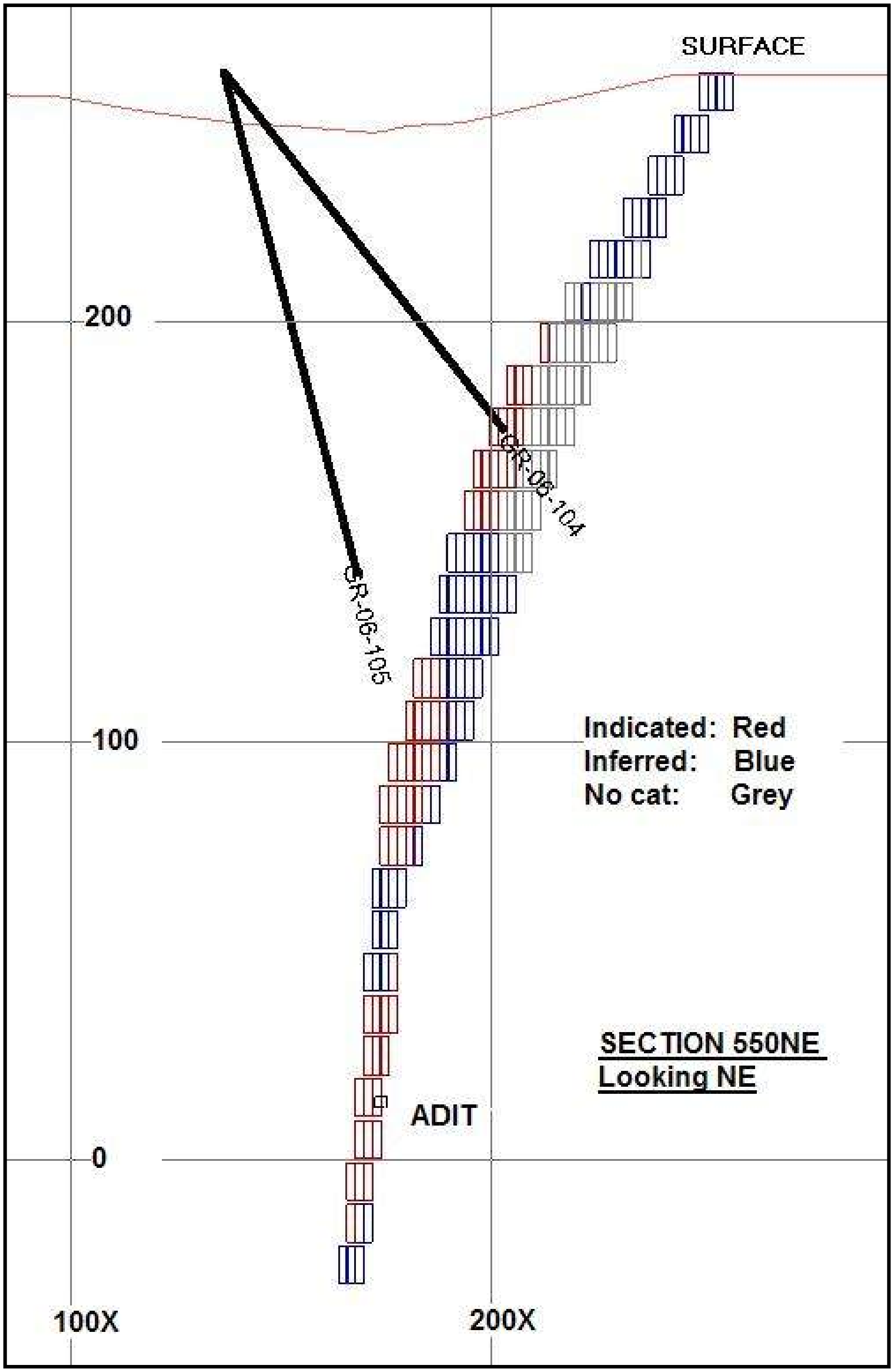


Figure 17.6 Category Model for Section 550NE on the Number 10 Vein

17.10 Mineral Resource Tabulation

Table 17.15 shows the tonnage-grade estimates for the Inferred Resources at the Number 10 Vein using a base case of 0.2% WO_3 cut-off grade. A cut-off grade of 0.2 WO_3% was chosen based on the cut-off grades for Cantung in western Canada (0.15% WO_3 for resources and 0.233% WO_3 for reserves).

Table 17.15 Inferred Resource Tabulation for the Number 10 Vein

Inferred Resources	WO_3% Grade Cut-off	Volume (cubic metres)	Tonnage (tonnes)	WO_3% Grade
No 10 (North and South)	> = 5.0	2,000	6000	5.35
	> = 3.0	8,000	23,000	4.41
	> = 1.0	77,000	216,000	1.75
	> = 0.6	168,000	470,000	1.24
	> = 0.2	304,000	852,000	0.86

17.11 Block Model Validation

The Number 10 Vein block model was validated using two methods:

1. Visual comparison of colour-coded block model grades with composite grades on section plots.

2. Comparisons of the global mean block grades for the different models (nearest neighbour and inverse distance).

17.11.1 Visual Comparison

The visual comparisons of block model grades with composite grades for the Number 10 Vein show a reasonable correlation between the values. No significant discrepancies were apparent from the sections reviewed. Appendix B includes representative Gemcom plots of the comparison between the block model and composite grades.

17.11.2 Global Comparison

Table 17.16 compares the average grades for the different interpolation methods using 0.2% WO_3 as a datum. The differences in values are expected and logical – they reflect the use of different search parameters on capped or uncapped data.

17.12 Reconciliation

The tonnage removed during the development of the drifts, crosscuts or bulk samples has not been subtracted from the resource estimate.

The decrease in the WO_3% grade from the raw assay grade to the block grade (Table 17.17) is consistent with the methods chosen to estimate the resources for this deposit.

Table 17.16 Grade Comparisons for Different Methods

	Element	Method	Average Grade WO_3%	Tonnes of Metal
Number 10 Vein	WO_3%	Nearest Neighbour uncapped	1.39	8636
		Nearest Neighbour capped	1.38	8530
		Inverse distance squared uncapped	0.90	7667
		Inverse distance squared capped	0.86	7307

Table 17.17 Comparison of Assay, Composite and Block Grades

Average Assay Grade	Average Composite Grade	Average Block Grade
0.762 WO_3%	0.675 WO_3%	0.643 WO_3%

17.13 Conceptual Mineable Resource Estimate

This Section was completed by Golder Associates Ltd.

For the purposes of estimating the economic potential of the Grey River deposit, the resource estimate completed by Wardrop, and presented earlier in this Section, was used. Wardrop provided Golder with the resource block model as a CSV file output from Gemcom software. This file was imported into Surpac Vision software and the overall average rock density of 2.8 g/cc was used. A comparison of the Wardrop Gemcom block model resource and the Golder Surpac block model resource is shown in Table 17.18.

Table 17.18 Comparison of Wardrop Supplied Block Model and Golder Surpac Model

Block Model	WO_3% Grade Cut-off	Tonnage (tonnes)	WO_3% Grade	WO_3 Pounds
Wardrop - Gemcom	>=0.20	852,000	0.86	16,153,700
Golder – Surpac	>=0.20	853,371	0.86	16,144,300

The difference in resources between the two models is only -0.058% and is considered acceptable.

The imported block model was then used to define potentially mineable zones of the geological resource based on a cut-off-grade of 0.4% WO_3 and a minimum mining thickness of 2 meters using a longhole open stoping mining method.

Golder did not perform any confirmation of resources on any of the mineralized zones at the Grey River property, but has only queried the block model based on the criteria above in order to derive an estimate of the conceptual mineable resource.

For the purposes of this estimate the mineral resource model was sectioned into potentially mineable zones numbered 1 to 8. Figure17.7 shows these zones as they relate to the resource at a 0.4% cut-off grade.

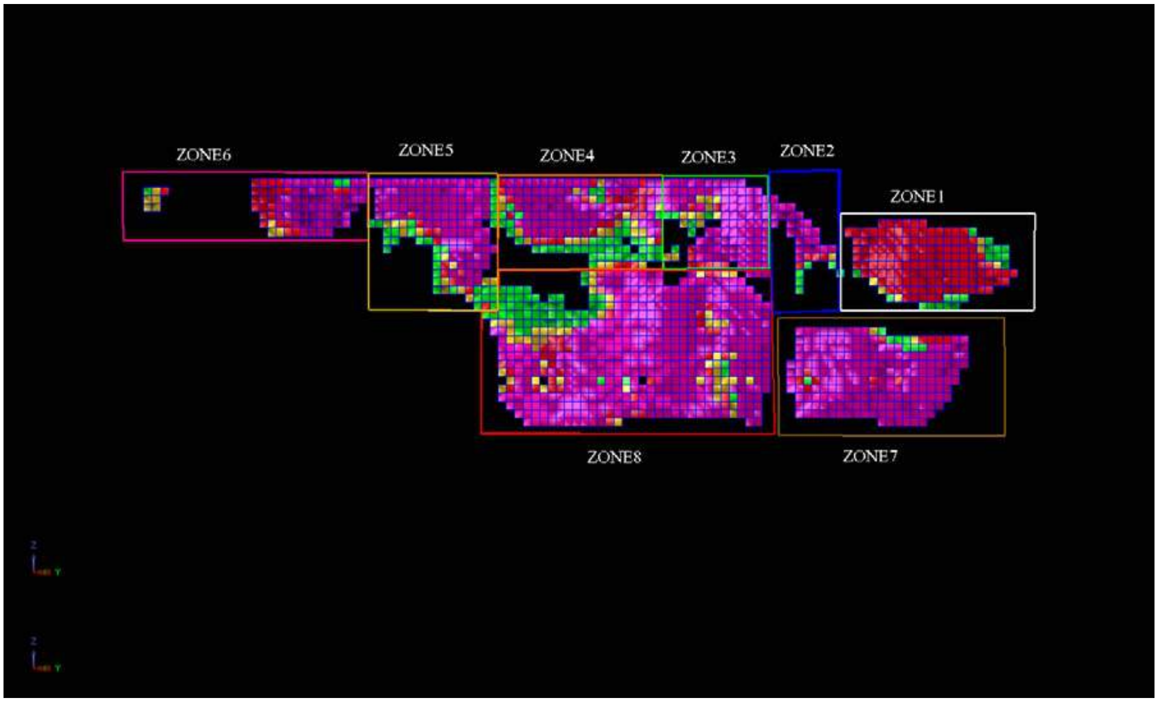


Figure 17.7 Potentially Mineable Zones Using a 0.4% Cut-off

For comparison purposes, Table 17.19 presents a comparison of the block model resources on a zone by zone basis for both the geological resource and the potentially mineable resource. The existing adit excavation consisting of 3,415 tonnes at 0.83% WO_3 was removed from the potentially mineable resource estimate as indicated (this tonnage is based on the adit survey and dimensions as provided to Golder. The average grade applied to the adit was determined from the block model intersections along the adit). An overall mining recovery of 95% was then applied along with an additional 10% or 20% unplanned mining dilution, for sill development and stoping tonnes, respectively. The diluting material is assumed to contain no WO_3.

Table 17.19 Comparison of Geological Resource and Conceptual Mineable Resource for Defined Mining Zones (all inferred resources)

Zone	Geological Resource		Conceptual Mineable Resource	
	Tonnes	Grade (WO3%)	Tonnes	Grade (WO3%)
1	73,875	0.43%	30,153	0.42%
2	4,835	0.89%	3,147	0.59%
3	59,112	2.29%	121,923	1.08%
4	130,101	0.44%	67,438	0.44%
5	91,034	0.70%	70,994	0.72%
6	17,544	0.84%	14,843	0.45%
7	78,608	0.91%	98,921	0.66%
8	397,749	0.89%	391,849	0.83%
Sub-Total	852,858	0.86%	799,268	0.78%
Sills	-	-	146,000	0.78%
Stoping	-	-	653,268	0.78%
Stoping @95% Recovery			620,605	0.78%
Adit	-	-	(3,415)	0.83%
Dilution				
Sills @10%			14,600	0.00%
Stopes @20%	-	-	124,121	0.00%
Total	**852,858**	**0.86%**	**901,911**	**0.66%**
Metal Content (WO3)	**7324**		**5967**	

The conceptual mineable resource is 901,911 tonnes at 0.66% WO_3 obtains an overall metal recovery of 81% of the geological resource. Figure 17.8 shows the conceptual mineable resource blocks in relation to the geological resource model. These blocks formed the basis for the conceptual mine design presented in Section 18 below.

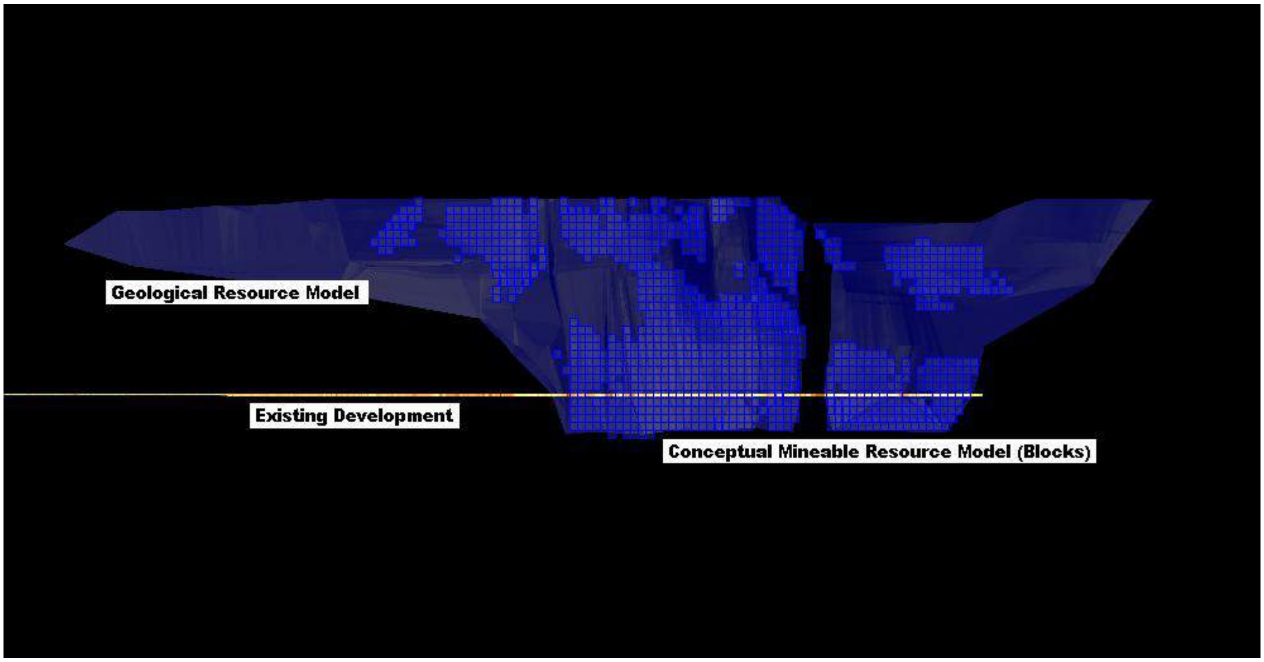


Figure 17.8 The Conceptual Mineable Resource (lighter blocks) in Relation to the Geological Resource Model (darker solid)

18.0 OTHER RELEVANT DATA AND INFORMATION

18.1 Mining Operations

The mine design and plan was based on the three-dimensional model of inferred resources prepared by Wardrop Engineering Ltd. The mine plan incorporates the conceptual mineable zones and resources reported in Section 17.18. The mine design was completed to a level of detail such that the development and mining requirements for each zone could be assessed within a preliminary confidence range. Detailed stope plans and mining schedules have not been developed.

18.1.1 Geotechnical Considerations

Limited geotechnical data is available for the Grey River deposit at this stage. Some qualitative assessments of the existing 30-year old underground adit have been made (see Section 11.3 – Golder did not conduct any geotechnical inspections of the adit) and indicate that this excavation has remained stable with little rock support. However, the dimensions of this drift are only 2.5 meters wide by 2 meters high. There is a sericitic contact on the hangingwall of the vein (see Section 8.0) which will require further geotechnical investigation in relation to maximum stope spans and potential for waste dilution.

A more detailed geotechnical investigation and design exercise must be done for the next level of study.

18.1.2 Mining Method

Since the deposit outcrops at surface, a crown pillar 20 meters thick is assumed for this preliminary design. This pillar dimension is a conservative estimate based on the thickness of the mineralized zones at this elevation and empirical design methods for crown pillar design. This 20 m width is up to 3 times the width of the widest stope at the top of the deposit. It would also account for any weathered rock conditions and minimize any water inflow from the ground surface. The crown pillar remains part of the overall mineable resource since it could likely be mined to surface at the end of mine life. A more detailed geotechnical investigation and design exercise for the mining of this crown must be done in future studies.

The Grey River deposit is generally narrow-vein and steeply dipping with vein dip ranging from 70 to 80 degrees. A longitudinal blasthole open-stoping method using delayed backfill was selected as the preferred mining method. Blasthole stope development would consist of sublevels on 20 metre vertical intervals (floor-to-floor). Stope development would include sill drives along the mineralized zone using 3 m by 3 m drifts. Slot raises would be developed in each stope panel to provide a free face for production blasting. As stated earlier in Section 17.18, a minimum planned mining width of 2 meters is used for stope dimensions. At this stage, it is envisaged that open stopes could be mined to two sub-levels high (40 meters) and 15-20 meters along strike. Stope widths would vary depending on actual vein widths. Stope dimensions will have to be studied in greater detail as improved geotechnical data becomes available.

Access will be available at each 20 m sub-level from the main decline. Small longhole drills capable of drilling 64 mm diameter holes will be used to drill 18 m long holes along the vein (at an average dip of 75 degrees). Holes would be charged with packaged emulsion explosive and 3 to 6 blast rings will be blasted in sequence along the stope strike length, retreating from the outer regions of the deposit towards the center access location.

Blasted material will be removed at every second sub-level, or every 40 meters vertically, using small (2-yard) diesel-powered load-haul-dump (LHD) machines. These loaders will transport the material along the sub-levels and out to a remuck bay at the level access near the ramp. At this point, a larger loader (4-yard) will rehandle this material and load it into 20-tonne haul trucks. These trucks will transport the material to surface within the main decline and then to the plant site.

A mobile equipment list for production mining is given in Table 18.1.

Table 18.1 Underground Mobile Equipment List for Grey River Property

Equipment	Activity
2-Yard Loaders (LHD)	Sill Development, Stope mucking
4-Yard LHDs	Truck loading
20-Tonne Trucks	Haulage
1-Boom Jumbos	Sill Development
Longhole Drills (Buggy drill)	Stope production drilling
Scissorlift Trucks	Utility, Materials, Ground Support

18.1.3 Mining Rate

Given the relatively small dimensions of the Grey River deposit, a mining rate of 300 tonnes per day is planned. This rate should be achievable in this deposit since it has reasonably good strike length and should provide adequate working faces to maintain the required production activities. Further study is required at the next level of study to confirm a mine plan and production schedule.

18.1.4 Mining Dilution and Recoveries

More detailed work is required to finalize expected mining recoveries and mining dilution. For this analysis a mining recovery of 95% was estimated. It is expected that mining dilution, as a percentage, would vary by vein thickness, however, an average overall value was used at this stage. A factor of 20% at zero grade was applied to the conceptual mineable resource for production stopes. 10% dilution was applied to the conceptual mineable resource from the sill development. This mining dilution is in addition to the planned dilution that was incorporated in the conceptual mineable resource where the vein width was less than 2 meters (as described in Section 17.18).

18.1.5 Mine Backfill

With limited geotechnical data or experience it is assumed that backfill will be placed in mined open stopes. The fill would act to stabilize stope walls, permit 95% recovery, and provide regional stability to the mine. It would also keep stope mucking areas to a manageable size with less risk to, and more efficient use of, remote underground loaders. A preferred backfill material would be a cemented pastefill produced from the mill tailings. Further investigation and testwork will be required to confirm that the tailings are suitable for producing a pastefill. A paste backfill plant would be constructed on surface above the deposit and a pipeline would be used to deliver the paste to the mined stoping blocks as required. It is expected that 50% of the mill tailings could be sent back underground. This has the added benefit of reducing the size of the surface tailings deposition site.

18.1.6 Mine Ventilation

Mine ventilation is designed as a “pull-system” where a surface fan at the top of a 305 m long ventilation raise “pulls” fresh air through the ramp and sub-level drives. The ventilation raise is situated in proximity to the main decline to provide ventilation during the development phase. It is possible that this vent raise could also be used as a secondary egress from the mine with the incorporation of a ladderway. The existing adit could also be used as an exhaust opening and exhaust air would be divided between the main vent raise and the bottom adit. Ventilation along the sub-levels will be done using smaller auxiliary fans and ventilation ducting that will flush ventilate to the ends of these drives. Total mine ventilation requirements would be expected to be in the range of 150,000 CFM (70 m^3/s) based on the diesel-powered mobile equipment needs.

18.1.7 Mine Development

There is an existing underground adit at Grey River. It extends from Oceanside into the hillside within the host rock and then traverses into and along the mineralized vein. This adit was developed by ASARCO between 1966 and 1969 as an exploration drift and has been used to obtain bulk samples from the deposit. The total length of the drive is 1.9 kilometres and it has dimensions 2.5 meters by 2 meters. The mine plan could use the waste portion of this drift to provide an exhaust ventilation airway, as well as a secondary egress from the mine. Since the adit entrance is at the bottom of the cliff at Oceanside it would not be used for material haulage from the mine. Instead, a new decline with dimensions 4 m by 5 m would be developed from the surface of the deposit and down to the lowest mineralized extents to provide access for men, equipment and materials to each sub-level. This decline would be developed at a grade of 14% (1:7) and would be suitable for truck haulage using 20 tonne trucks (4 m by 5 m). Figure 18.1 shows a schematic longsection of the conceptual mine development.

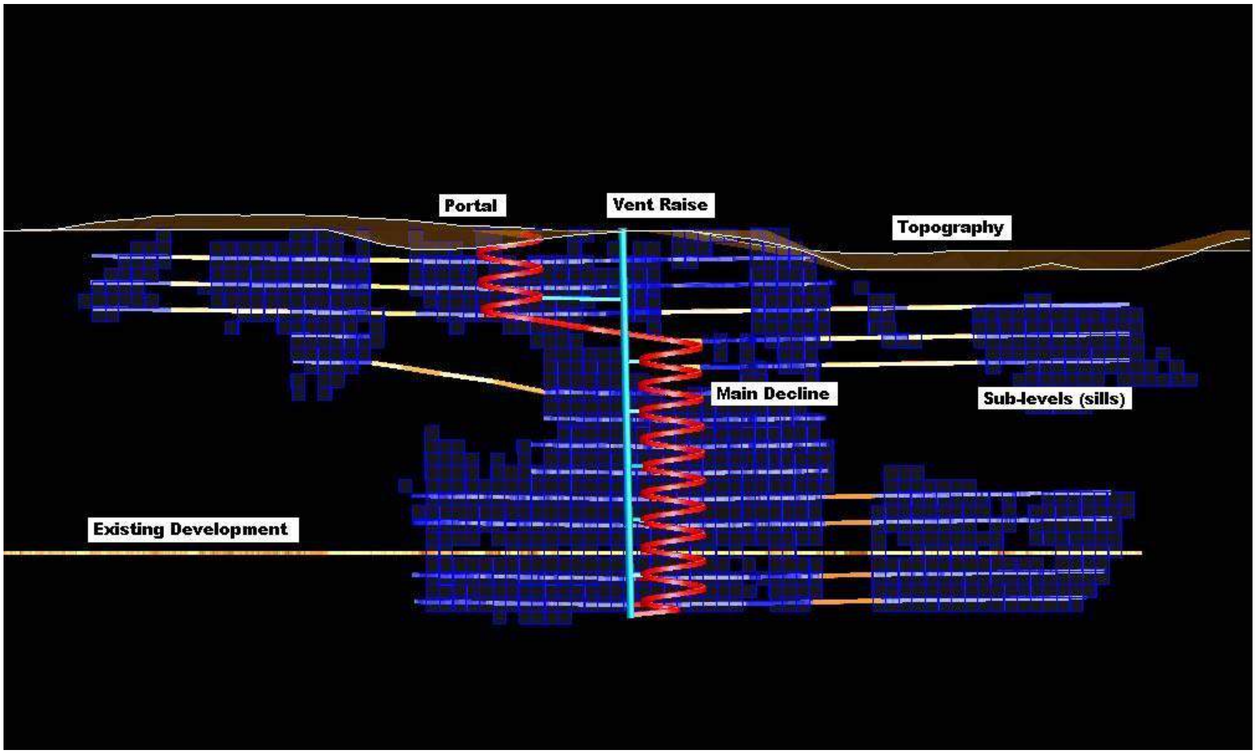


Figure 18.1 Schematic Longsection of the Conceptual Mine Development (looking west)

Mining the conceptual resource could commence once the main decline reached about the 200 m elevation (60 m below surface). At this point a bottom-up mining sequence could commence with trucks hauling mineralized material to surface and then to the plant site. At this elevation a sill pillar would be left and good quality backfill placed to permit mining from below in the future. A second mining front could commence from the bottom of the deposit once the main decline was completed to the full extent of vertical height. Mining on each sub-level will proceed from the outer extents inwards to the ramp access. Due to the relatively shallow depth of the deposit, ground stress induced problems are not expected in the final stopes (regional pillars) to be mined. However, this will require additional assessment at the next level of study.

The existing adit was considered for material haulage, however, the logistics of transporting material from the adit opening, and up the cliffside to the plant site were deemed unsuitable for several reasons including cost, exposure and visibility. For example, a cliffside hoisting system could be employed to move run-of-mine material up the hillside to the plant site. If the adit were used for primary haulage then the main decline could be developed smaller. This method would utilize raises within the deposit to transport mineralized material from the stoping horizons and down to the adit elevation. Alternatively, a small underground hoisting system could also be used to move material to surface from the adit elevation. Another option would be to float a processing plant on a barge that is docked outside the adit portal. Concentrate and tails would then be pumped onto separate barges for shipment. Further trade-off studies on several possible material handling options should be completed in the next study.

Development quantities have been estimated based on the mine plan presented above to access each mineralized zone considered economically mineable. These quantities are summarized in Table 18.2. Ore sill development will amount to 146,000 tonnes or almost 18% of the conceptual undiluted mineable resource. The majority of development waste will be hauled to surface and placed in a waste dump located near the portal. Further assessment is required to assess a suitable location for this dump and the potential for acid generation (Acid Rock Drainage, ARD) from this material on surface. Due to the planned mining and paste backfill methods there will be limited opportunity to dispose of waste rock in the mined out stopes.

Table 18.2 Estimated Quantities for Major Mine Development

	Width x Height (meters	Area (sq. m)	Total Length	Total Tonnes
Ramp (-14%)	4x5	20	2,426	135,856
Ore Sills	3x3	9	5,789	145,870
Level Access	4x5	20	1,273	71,260
Ventilation Raise	3.5	10	305	8,212
Ventilation Access	3.5x3	11	198	5,815
Remuck Bays	4x5	20	90	5,040

Figure 18.2 shows an isometric view of the conceptual mine development.

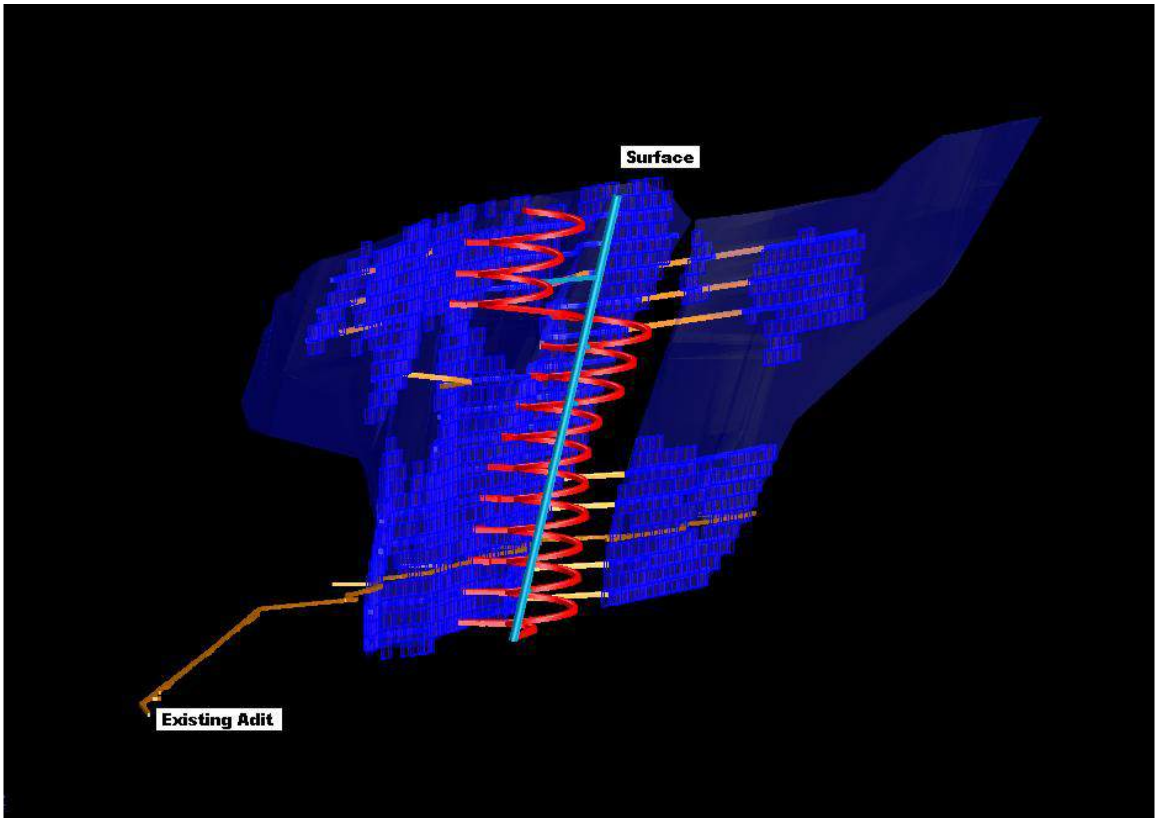


Figure 18.2 An Isometric View of the Conceptual Mine Development (looking towards north)

18.1.8 Site Layout

A conceptual site layout drawing is presented in Appendix IV.

The operation will be primarily travel-in, travel-out (with the exception of any local Grey River labour) with a camp and cafeteria on-site for all personnel. Portable water, process water and water for other uses is required and will be drawn from nearby rivers and lakes. There is a Protected Water Supply nearby that is designated and regulated by the Provincial government. This approximate area is highlighted on the site plan figure. Overall site water management and hydrology studies will be needed at the next level of study.

An access road will be required from Grey River to the mine site. A preliminary design for a road at an 11% grade is 2.5 km long.

Site power will be generated with diesel generators sized to supply all power requirements including the process plant, mine operations, buildings and camp facilities. There may be potential to have electrical power supplied from the Grey River generation. A compressed air plant is also needed for the plant, mine and maintenance shops. Most underground mobile equipment will be diesel powered, electro-hydraulic-type with on-board compressors. Underground operations and facilities will require a nominal supply of compressed air.

All maintenance of mobile equipment will be done in a surface shop situated near the plant facility. A general warehouse will stock all materials required by the whole operation. An office building is required for managerial, administrative and technical personnel. First aid, training and security rooms are attached to the main building.

A change house will be constructed for personnel lockers and a mine changehouse or dry.

A tailings management area (TMA) will be required for the tails that are not sent underground as paste backfill. A possible location for these tails is identified on the site plan, however, no studies were done by Golder or others to confirm a TMA. A conceptual tailings pipeline is also shown to transport the tails from the mill site to the TMA. It is estimated that there will be approximately 300,000 cubic meters of tails over the life of mine (assuming that 50% of the tails are sent underground as backfill).

18.1.9 Production Forecast

A detailed production forecast was not developed as part of this preliminary study. The annual schedule used is based on 300 tonnes per day for 350 operating days per year, or 105,000 tonnes per annum. The first year production was halved to account for start-up issues and allowing for the development of sufficient mine working faces. The average conceptual mineable resource grade of 0.66% was used on an annual basis for this preliminary study.

There may be potential to mine higher grade zones in advance of lower grade zones early in the mine life to improve project net present value but this was not considered here.

18.1.10 Mine Life

The conceptual mineable resource is depleted at the annual mining rate of 105,000 tonnes at a grade of 0.66% (with 52,500 tonnes, or 50%, in the first year). A potential mine life of 9 years is estimated based on these parameters.

18.2 Environmental Considerations

This section of the report was completed by Golder and relies entirely on a report by Bruce Bennett of Jacques Whitford Limited.

The objective is to provide an environmental overview of the project area based on observations of existing conditions during a site visit, limited background information, information provided by Neil Briggs (President, Playfair Mining Ltd.) and David Sprott, (senior mining engineer, Golder Associates Ltd.), and a preliminary site plan.

18.2.1 Existing Conditions

Bruce Bennett, senior environmental scientist with Jacques Whitford Limited, in St. John's Newfoundland, attended a site visit to Grey River on 20 April 2007. This overview addresses two sites:

- Lower Site, which includes the existing adit and road to the community of Grey River; and
- Upper Site, which includes all areas proposed for development at the top of the plateau ranging for 230 to 300 m asl.

Except for exploratory drilling and trenching on the Upper Site, it appeared in April 2007 that all historical mine development has occurred at the Lower Site, which is a few metres above sea level.

<u>Lower Site</u>

The Grey River extends from the central portion of Insular Newfoundland to the south coast of the island, where it forms a steep sided fjord, opening on the ocean. The community of Grey River is situated in a protected cove approximately 2 km in from the ocean and coastal boat is the only regularly scheduled access to the community.

Some years ago, Asarco developed an adit along a vein of tungsten mineralization, quite near the community. The adit was closed and secured by fence material and it was not inspected during the site visit in April 2007. The adit was not producing water at that time. The only residual mining material observed at the adit was a few old ore cars. The remains of a timber wharf below the adit was reported to be the docking area for past marine transport of ore. The single lane access road to the community had been recently widened and a large boulder had rolled onto the road from the up-gradient slope. Other boulders needed to be secured to avoid a similar occurrence. This road provides community access to a helicopter landing pad and a tepee incinerator, both located beyond the adit.

Upper Site

The Upper Site is part of the South Coast Barrens subregion. The area has cool summers and mild winters. Strong southerly winds frequently bring fog onshore. The undulating terrain is predominantly exposed bedrock and barrens. Trees are limited to protected sites and are predominantly stunted black spruce (tuckamore).

To April 2007, recent exploratory activities on the Upper Site appeared to comprise drilling supported from a tent camp located on the shore of Long Pond; the largest pond in the area (2300 m long and 100 to 550 m wide). No roads or trails were visible as most equipment was moved by helicopter. Apparently, access by ATV from the community is either difficult or not pursued to any great extent. At the time of the site visit in April 2007 firm proposals for accessing the Upper Site were not available.

18.2.2 Future Considerations

This overview and list of environmental considerations is preliminary and will be developed further as project details and additional regional and site details become available.

Lower Site

Historically, waste rock was deposited in the bay, presumably to be rid of it, but also to form a working surface for developing the adit. There was no sign of waste water treatment (e.g. settling ponds, treatment ponds) from prior activity, presumably water was discharged, untreated, to the bay. These two issues will need to be addressed if there is a need to dispose of waste rock or effluent from the adit location.

Based on the limited Project information, the following considerations have been identified.

1. Any placement of waste rock in the marine environment will require an assessment of existing fish/shellfish habitat. Department of Fisheries and Oceans (DFO) may require fish habitat compensation for habitat that is harmfully altered or destroyed. (The current plan does not propose placing material in the marine environment).

This same issue will arise if a new marine docking facility is required, either at the adit or in the community. Consultation on this with DFO is recommended.

2. Effluent discharge must comply with the provincial water and sewer regulations, the federal Metal Mine Effluent Regulations (MMER) when the project becomes a mine, and any other criteria that may be included in the provincial Certificate of Approval (C of A) for the construction, operation, and closure of the project. Confirmation that effluent complies with criteria for TSS, pH, metals and ammonia (blast residue) is advised.

Other considerations that may need to be addressed at the Lower Site include:

3. Prior to construction of a new marine wharf, the Provincial Archaeology Office (PAO) may require a Stage 1 Historic Resources Study of the marine area to be affected.

4. Construction of a new wharf may require a permit under the *Navigable Waters Protection Act* (NWPA), which is a trigger for federal environmental assessment (see below).

5. A workforce of 80-100 personnel will require meals and accommodations, along with other usual amenities. Some of the workforce may come from the community but the full force will strain existing living, travel, healthcare, and other facilities. A camp is planned for at least some of the workforce.

Upper Site

The construction, operation, and decommissioning of a mine will be subject to provincial environmental assessment and likely federal assessment as well. The assessment will examine all aspects of the project, including construction, operation and closure, workforce, camp facilities, mine infrastructure and operation, environmental protection measures and environmental permits and approvals required for the construction and operation. Pending the results of the environmental assessment, the relevant Ministers will decide if the Project may proceed subject to permits and other conditions. Other regulations, such as *MMER* and the *Fisheries Act* also apply.

The conceptual plan has all mine infrastructure on the Upper Site with an access road connection to the community. A road connecting the community with the Upper Site will have a steep gradient that must be manageable to all vehicle traffic (people, supplies and services) in the seasons of operation. Drainage from the road should be free of suspended solids before entering any waterbody (freshwater or marine).

With the limited Project information, the following considerations have been identified for the Project.

1. Environmental assessment will consider the baseline environmental conditions of both sites. The Lower Site conditions are fairly well known and data collection may be limited to a few issues such as:

    a. fish and fish habitat in the marine environment (including fisheries and aquaculture);

    b. archeological resources in the marine environment; and

    c. socio-economic conditions of the community of Grey River.

Potential issues at the Upper Site include:

    d. fish and fish habitat in all ponds and streams that may be affected;

    e. big game in the area;

    f. avifauna in the area (including raptors);

    g. any species listed under *Species at Risk Act* (SARA) or the province;

    h. forestry resources are non-existent; and

    i. historic resources may be confirmed as having very low potential.

2. Regulations apply to all effluent releases (waste water, tailings water, process effluent, and site drainage). With this in mind:

    a. ore and waste rock chemistry should be verified to determine the absence of chemistry that may adversely affect the receiving or surrounding environment;

    b. confirmation that effluent complies with criteria for TSS, pH, metals and ammonia is advised; and

c. baseline water quality should be documented to provide comparative data for future follow-up monitoring.

3. The protected water supply for the community of Grey River must be avoided by all construction activities.

4. Freshwater ponds and streams that may be used as water supply or effluent receiving environment should be sampled to determine fish habitat. Harmful alteration disruption or destruction (HADD) of productive fish habitat will require authorization from the Minister and may require fish habitat compensation. All stream crossings in fish habitat should be planned and installed with habitat protection in mind.

5. Fugitive dust from roads, stockpiles and exposed areas should be controlled.

6. Environmental protection planning should be initiated to be in effect before site development is started.

18.3 Capital Cost Estimate

18.3.1 Mine Capital Costs

The preliminary capital cost estimate for a 300 tpd mine at Grey River is presented in Table 18.3.

Table 18.3 Mine Capital Cost Estimate

Mine Development	**Item**	**Length meters**	**Unit cost**	**Cost**
	Decline	2500	$ 2,500	$ 6,250,000
	Vent Raise	305	$ 2,500	$ 762,500
	Vent Access	200	$ 2,250	$ 450,000
	Level Access	1275	$ 2,250	$ 2,868,750
	Remuck Bays	90	$ 2,500	$ 225,000
	Exploration		$ 660,000	$ 660,000
	Sub-total			$11,216,250.00
Mine Equipment	**Item**	**Quantity**	**Unit Cost**	
	LHD	3	$ 400,000	$ 1,200,000
	Trucks	2	$ 400,000	$ 800,000
	Drills	2	$ 300,000	$ 600,000
	Jumbos	2	$ 550,000	$ 1,100,000
	Scissorlifts	2	$ 300,000	$ 600,000
	Fans	2	$ 200,000	$ 400,000
	Misc. (10%)	1	$ 500,000	$ 500,000
	Sub-total			$ 5,200,000
Total				$ 16,416,250

Development rates were estimated using the Infomine Western Mine Cost Database and experience and were also factored to account for site location and contracting rates. Mine development costs account for almost half of the mine capital costs, and the decline accounts for almost one-third. More accurate estimates for mine development rates are required at the next level of study.

18.3.2 Processing Capital Costs

This section was completed by BC Mining Research Ltd.

The preliminary capital cost estimate for a 300 tpd plant at Grey River is presented in Table 18.4.

Table 18.4 Processing Plant Capital Cost Estimate

Gravity Concentrator Capital Cost Summary		
Crushing & Screening		$916,443
Concentration Plant sub-total:		$681,304
Concentrator Building	$57,652	
Sorting/Jigging	$225,634	
Spiral Plant	$150,422	
Product Handling	$58,259	
Tailings Handling & Disposal	$189,336	
Conveyors & Material Handling		$324,460
Plant services (Process Water, Plant air and Flocculant)		$64,978
Plant Piping		$34,261
Plant Electrical Reticulation		$472,635
Earthworks And Terracing		$246,063
Infrastructure General Services		$12,609
Infrastructure Buildings, Furniture, Fittings And Equipment:		$130,731
Stores Workshop & Office	$47,413	
Main Laboratory (Including Lab Equipment)	$71,919	
Containerized Substation, Control & MCC		$71 287
First Fill Consumables & Spares		$70,571
Sub-Total		**$3,025,347**
EPCM		$453,802
Total		**$3,500,000**

Other plant capital costs include a paste backfill plant, generators, compressors and a tailings management area. These costs are shown in Table 18.5.

Table 18.5 Other Plant Capital Costs

Item	**Cost**
Paste Backfill Plant	$2,200,000
Generators	$500,000
Compressors	$200,000
Tailings Area	$1,000,000
Total	**$3,900,000**

18.3.3 Site Capital Costs

The major site infrastructure costs include the access road from Grey River, site camp accommodations, mine and administration buildings and upgraded dock facilities for handling concentrate shipments. Estimates for these capital costs are shown in Table 18.6.

Table 18.6 Site Infrastructure Capital Cost Estimate

Infrastructure	Cost
Access Roads	$ 2,000,000
Dock Facility	$ 500,000
Buildings	$ 1,200,000
Camp	$ 1,400,000
Feasibility Studies etc.	$ 1,000,000
Closure	$ 750,000
Total	**$6,850,000.00**

18.4 Operating Cost Estimate

A preliminary estimate of operating costs for an operation at Grey River was completed. These estimates are based on the assumption that the currently defined resources will be exploited under the conditions that are currently known to exist. No costs were developed from first-principles for this study. The total operating cost for the facility is estimated at $89 per tonne milled and is presented in Table 18.7.

Table 18.7 Total Operating Cost Estimate per Tonne of Ore Mined (USD)

Description	Cost per tonne ore (USD)
Mining	$60.00
Processing	$14.00
General and Administration	$14.00
Shipping and Insurance	$1.00
Total	**$89.00**

18.4.1 Mining Cost Estimate

In order to estimate the mine operating costs for the Grey River deposit, a desktop benchmarking study was done along with Golder's experience with similar narrow-vein mining operations. The Canadian Mining Journal Sourcebook (2003 and 2005) were used to obtain cost figures for mining operations using longhole open stoping methods. The cost data was factored for inflation (11% for 2003 data and 6% for 2005 data) and converted to US Dollars using an exchange rate of 1.05. This data is presented in Table 18.8. All of these operations have production rates that are higher than that expected for Grey River.

Table 18.8 Mining Cost Benchmarking Summary for Operations Using Longhole Methods (Source: Canadian Mining Journal)

Mine	Production Rate tpd	Mining Cost US$/tonne
Longhole		
Holloway	1500	$32
Holt-Mcdermott	1000	$31
New Brittania	1600	$39
Lupin	2000	$53
Dome		$34

In addition, the cost models from the Western Mining Cost Service were reviewed for underground operations producing under 800 tpd. Table 18.9 shows the data from this source. Since this source does not provide figures for the End Slice method at 200 tpd, two alternative mining methods are presented for comparison.

Table 18.9 Cost Data for Underground Mining Operations Producing Less than 800 tpd (Western Mining Cost Service, 2007)

Mining System	Production Rate, tpd	Mining Cost, $US/tonne
End Slice (longitudinal retreat/blasthole) – Adit Entry	800	$25
Cut and Fill – Adit Entry	200	$84
Shrinkage – Adit Entry	200	$74

All of the operations listed in Table 18.8 have production rates considerably higher than Grey River's projected 300 tonnes per day. On the other hand, the alternative methods listed in Table 18.9, cut and fill and shrinkage, are typically more costly then blasthole open stoping. For these reasons, a mining cost of $60 per tonne is estimated for Grey River.

18.4.2 Processing Cost Estimate

This Section was completed by BC Mining Research Ltd.

Estimated operating costs for the concentrator include power, water, consumables and labour. Unit costs are based on the basic design criteria using estimated labour and power rates factored for the planned capacity of the Grey River project. Power supply assumes diesel-powered generators located on site. Power costs are thus estimated for an estimated load of 380kW (installed) using diesel generated power. Labour costs assume 3 plant operators, one supervisor two maintenance personnel per shift. Consumables and spares are accounted for at 5% of initial capital cost per annum. This data is presented in Table 18.10.

Table 18.10 Processing Cost Estimate

Item	$US/tonne
Power	6.31
Water	Incl.
Labour	4.80
Consumables and spares	2.94
Total	**14.05**

18.4.3 General and Administration Cost Estimate

A mining operation at Grey River will demand additional costs due to the remoteness of the operation. The majority of the workforce will have to travel to and from site and have suitable living accommodations on-site. This camp will require a staff for cooking, cleaning and maintenance. All supplies to the mine will have to be either flown-in or shipped-in as there will be no direct road access to the site. For this study, total annual General and Administration costs are estimated at about $1.5 Million or $14 per tonne milled. This includes administration staff salaries, camp costs, environmental, health and safety, security, travel to site, training, insurance and other miscellaneous site costs.

18.4.4 Shipping Cost Estimate

Two potential transport options were considered for the Grey River property, which is situated on the Southern coast of Newfoundland with direct access to the St Lawrence shipping route. Transport options are thus short-range coastal transport to an Atlantic Seaboard port such as St. Johns, followed by rail transport overland to the Mid-West, or transatlantic shipping to potential customers in Europe. Bulk shipments would be between 2000 to 5000 tonnes. Due to the low tonnage and expected high quality of the WO_3 product it is proposed to pack the tungsten trioxide concentrate into bulk bags prior to shipping in order to improve handling, reduce on-mine inventory and improve product retention. Packaging costs would be of the order of $15/t for bags plus $5/t packing and handling.

Generic rates are available for coastal shipping, continental rail and transatlantic shipping options. These are presented in Table 18.11.

Table 18.11 Shipping Cost Estimates for Grey River Concentrate

Method	Shipping Unit	Route	Equivalent rate/tonne
Bulk shipping	DWT	Coastal	55.10
Bulk shipping	DWT	Transatlantic	20.82
Containerized shipping	9000kg	Continental	251.11
Containerized shipping	9000kg	Transatlantic	579.41
Bulk rail	tonne	Continental	15.23
Packaged rail	tonne	Continental	66.67

Total expected costs of bulk delivery to a continental customer would thus be of the order of $70 per tonne concentrate. Total expected cost of packaged delivery to a continental customer would be of the order of $140 per tonne concentrate. For this study, an average figure of $105 per tonne concentrate was used and then converted to a per tonne milled value of $0.60. An additional $0.40 was added for insurance and other charges for a total of $1.00 per tonne milled.

18.5 Economic Analysis

The purpose of the economic analysis is to put the Grey River property into economic context and determine the key factors that would enable the deposit to generate sufficient cashflows to warrant future development. This also allows targets to be identified for future drilling campaigns. In this study Golder has examined a Base Case scenario which involves making a preliminary assessment of the project economics to determine what parameters would be necessary to cover the capital cost of constructing a mining operation and providing a return on investment. This Base Case analysis uses the currently defined conceptual mineable resource. In addition, several Scenarios were completed to assess the economics if additional mineable resources of the same grade, and higher grade (or lower dilution), were found. The sensitivity of the resource economics to the price of tungsten was also assessed.

18.5.1 Markets

This section was completed by Golder Associates Ltd. but relies entirely on a report by Roskill Information Services Ltd titled "The Economics of Tungsten, Ninth Edition, 2007".

"Tungsten constitutes only 0.00013% of the Earth's crust. In its metallic form, tungsten is hard, brittle and grey-white in colour, and is unusual in that its ductility increases with working. Tungsten is brittle at room temperature and in impure form, has a high specific gravity of 6-7.5, and a high melting point of 3,400°C.

The main use for tungsten is in the manufacture of cemented carbides, or hardmetals, which accounted for an estimated 58% of world consumption of tungsten in 2005. The steel sector represented around 17% of global tungsten consumption as tungsten is used in tool, stainless and full alloy steels, as well as in superalloys. Tungsten-based alloys were also a significant market for tungsten in this sector. Mill products manufactured from tungsten metal, which are mainly used as filaments in the lamp industry and for electrical and electronic contacts, had a 15% share of the tungsten market in 2005, while other uses, mainly chemical applications and products such as catalysts and pigments, accounted for the remaining 10%.

In 2006, the tungsten market is showing signs of reducing its reliance on supply from China. A rise in global consumption of 25% in the period 2002-2005 compared to a 20% growth in primary production led to a sharp increase in prices during 2005 and 2006. This has in turn stimulated interest in a number of tungsten projects outside China that are at various stages of development. Chinese output still accounted for over 80% of global primary production in 2005, but this might well fall in the next five years. Mines exploiting rich deposits are approaching exhaustion in many areas of the country and may not be replaced, or those that do open will probably be extracting lower grade ores.

The balance between supply and demand in the tungsten market depends to a great degree on the continuing efforts by the Chinese government to exert control over its domestic tungsten industry. This is being aided by rising domestic consumption, which is a major reason that Chinese exports have not kept pace with rising global consumption in recent years. An increase in tungsten prices has historically led to additional production in China in contravention of official production quotas. If this were to occur again then prices could return to the low levels seen in the recent past.

Future prices for tungsten will continue to be dictated by a combination of supply-side factors and rising demand. Supplies from stockpiles are likely to become of declining importance, partly as Russian stocks appear to be exhausted and releases from the US strategic stockpile are strictly regulated. Chinese organisations are more than capable of satisfying global demand. Prices will to a large degree depend on how successful the Chinese government is in exerting control over the domestic tungsten industry and restricting output. There are signs that this is happening, for example in May 2006 the Chinese government launched a campaign to shut illegal mines in Jiangxi, Hunan, Sichuan and Guangdong provinces. If the Chinese government is able to control domestic production levels then prices for tungsten seem destined to remain at their current levels, if not rise further. However, high prices will encourage recycling and the opening of new mines outside China, especially in Australia, Canada, the USA and Vietnam.

Demand for tungsten is forecast to grow by an average of 3%py to 2010 when it would reach 68,250t. The pattern of use is not expected to change significantly though cemented carbides will become an increasingly important market. New capacity coming onto the market over the next three to fours years will be enough to meet rising demand. Roskills therefore expects the market for tungsten to remain relatively tight in this period. Prices are forecast to remain at or above current levels in 2007 and perhaps to 2010."

18.5.2 Contracts

It is assumed in this study that tungsten concentrate, grading 65% WO_3, will be produced and shipped directly to an ATP plant. The tungsten price was discounted by $20 per MTU (Metric Tonne Unit) to account for this.

18.5.3 Taxes

Mining businesses in the Province of Newfoundland are subject to both Provincial and Federal taxation. No taxes or royalties were included in this preliminary assessment.

18.5.4 Cash Flow

Future annual cash flows have been estimated based on estimates for production rate, mineralized mining grade, tungsten recovery, tungsten price and cost estimates as presented earlier in Sections 18.4 and 18.5. The discounted cash flow method has been applied to these cash flows in order to evaluate the potential economics of the Grey River property.

Production Rate

For this preliminary assessment, production is estimated to be 105,000 tonnes of mineralized material per year for both the mine and processing plant. The first year of production was set at one-half of this rate to account for mine start-up and preparing sufficient mine working areas. This is based on a daily mill throughput of 300 tonnes per day for 350 operating days per year.

Processing Grade

The metal production estimates are based on processing mineralized material from the mine with an average diluted grade of 0.66% WO_3. For this preliminary study, the processing grade is averaged over the life of the deposit.

Metal Prices

A three year historic average price for tungsten of $261 per metric tonne unit (MTU) was used for this analysis ($11.84 per pound). Average yearly prices over the past three years have ranged from $253 to $272 per MTU. A $20 discount was then applied to obtain a tungsten concentrate price value of $241 per MTU, or $11 per pound.

Metal Recovery

A tungsten recovery of 85% has been used in the cash flow analysis. This value has been estimated from work done by SGS Minerals Services and BC Mining Research and has not been independently confirmed by Golder. This recovery is considered preliminary and additional testing and analysis will be required in the next level of study.

Capital and Operating Costs

The capital and operating costs as presented in Sections 18.4 and 18.5 have been used in the cash flow analysis presented here.

Preliminary Base Case Cash Flow

A preliminary pre-tax Base Case cash flow is presented in Appendix V. Table 18.12 presents the Base Case economic parameters used in this study.

Table 18.12 Summary of Base Case Economic Model Parameters

Parameter	Value
Conceptual Mineable Resource	901,911 tonnes
Grade	0.66% WO_3
Mining Rate	105,000 tpa (300 tpd)
Mill Recovery	85%
Operating Costs	$89/tonne
Total LOM Capital Cost	$32 Million
Metal Price (Concentrate Price)	$261 per MTU ($11/lb)
Discount Rate	7%

Based on the Base Case parameter estimates and assumptions used here, the Grey River property could yield a total pre-tax cash flow of $11 Million. The Net Present Value for these same economic parameters is $314,000 (or close to "break-even"). This suggests that the property is currently not economically viable for the current resource size and Base Case economic parameters presented here.

18.5.5 Sensitivity Analysis

The Grey River deposit is quite sensitive to metal price, grade and plant recovery, or the revenue side of the cashflow. This is shown in Figure 18.3 that plots the NPV against 10% incremental changes to several key economic parameters; price/grade/recovery, operating costs and capital costs. A change to price, grade or recovery has the same net effect on NPV. The Base Case is located at 0% where all lines intersect and shows that it is at close to "break-even". Any decrease in price (or grade and recovery) or increase in costs would result in a negative NPV.

For narrow vein deposits such as Grey River, dilution is a significant variable. For example, if the mined grade increased by 20% to 0.8% WO_3 it would result in a $17 Million increase in NPV and an IRR of 21%. Some ways to increase the mined grade (or reduce dilution) may include more selective mining methods and optical sorting in advance of milling (as discussed in Section 18.2.1). However, in general, more selective techniques generally incur additional cost, which may offset some advantage.

This should be further studied in any future work. Similarly, a tungsten price increase of 20% would provide the same result.

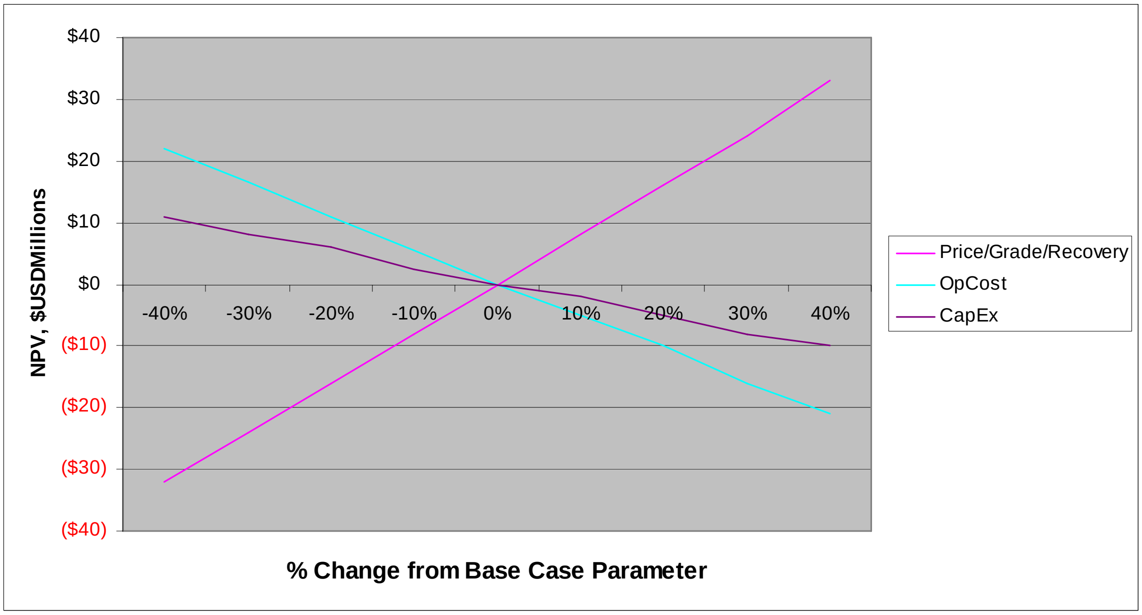


Figure 18.3 Net Present Value (NPV) Sensitivity to Key Parameters (from the Base Case at 0%)

A similar plot is presented in Figure 18.4, which shows the effect of varying the price, operating costs and capital costs on the Internal Rate of Return for the property.

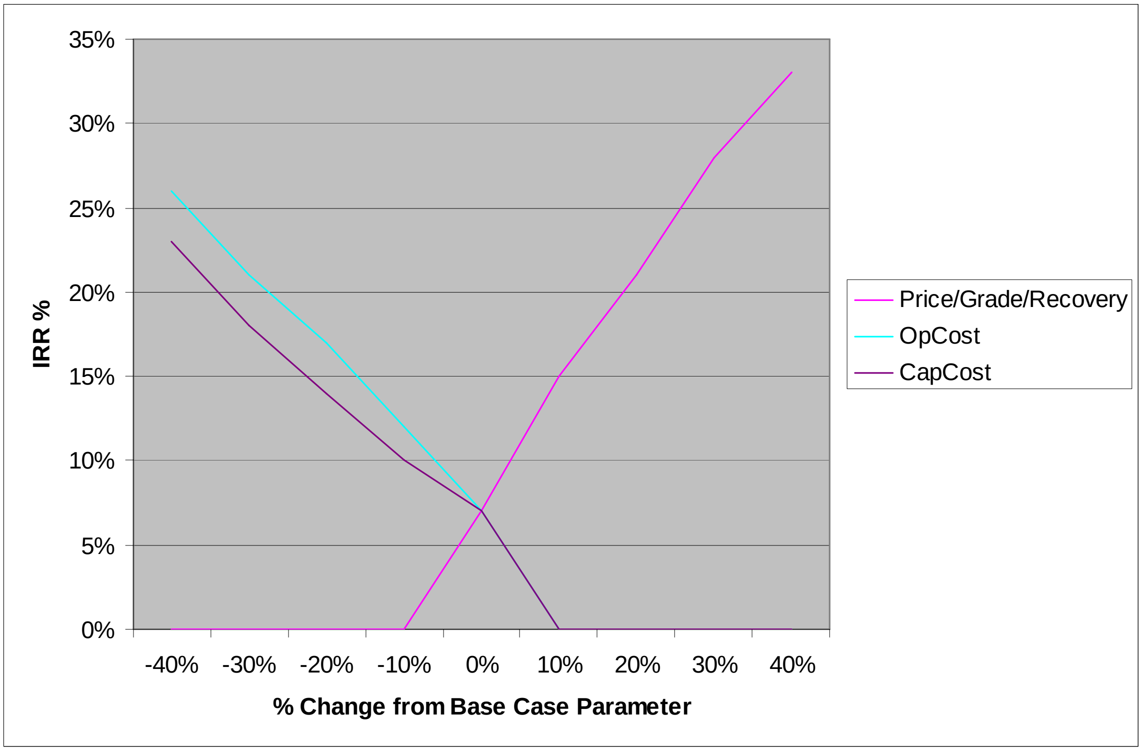


Figure 18.4 Internal Rate of Return (IRR%) Sensitivity to Key Parameters (from Base Case at IRR 7%)

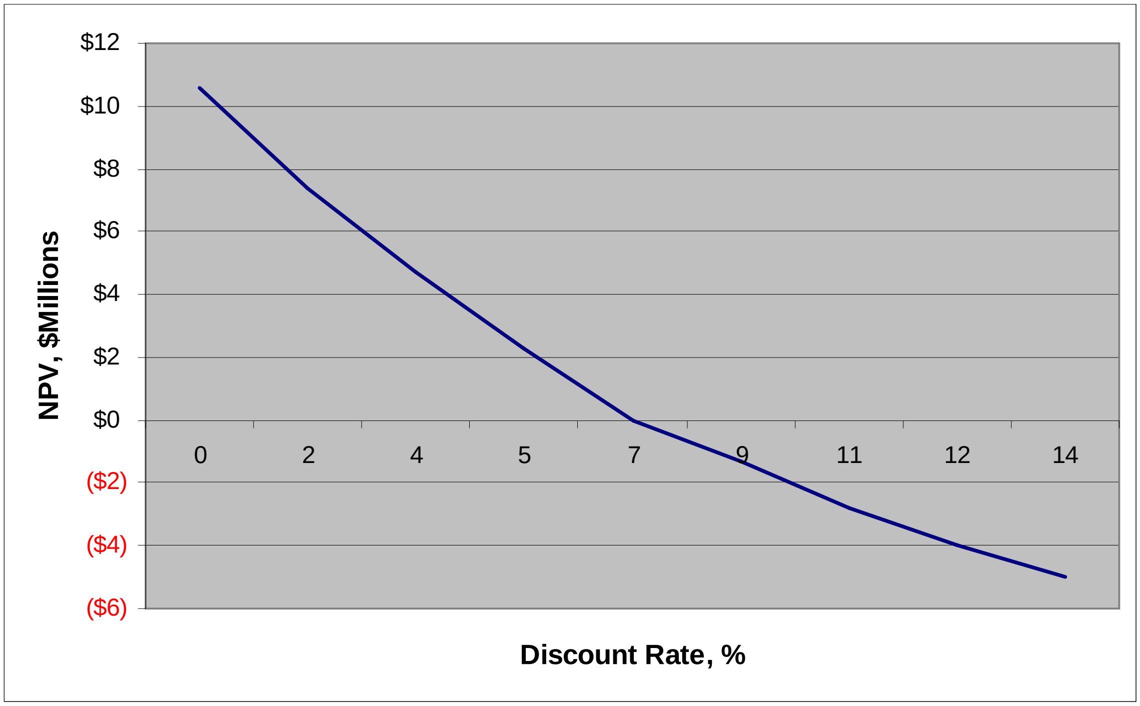


Figure 18.5 Sensitivity of NPV to Varying Discount Rate (Base Case at 7%)

Finally, Figure 18.5 shows the sensitivity of NPV to various discount rates.

Sensitivity to Expanded Resources

The current size of the resource at Grey River limits the potential production rate and annual cash flow. An assessment was done to assess the deposit economics using a scenario of expanded resources and a higher production rate (Scenario A).

For this assessment the conceptual mineable resource was doubled to 1,800,000 tonnes, with the same conceptual mineable resource grade of 0.66%, and the production rate was increased to 600 tpd (2 times). Total capital costs were increased by a factor of 1.5 to account for the larger operation and similarly, total operating costs were reduced by a factor of 0.8 to account for additional "economies-of-scale". The same Base Case parameters were used for price and recovery. For this scenario the property would yield a total pre-tax cash flow of $69 Million. At a discount rate of 7% the Net Present Value would be $36 Million with an IRR of 28%.

If the same scenario also had reduced dilution, or increased grade, by a factor of 10%, (Scenario B) then the NPV at 7% would be $53 Million with an IRR of 37% (undiscounted pre-tax cashflow of $93 Million). These scenarios are presented against the Base Case in Table 18.13.

Scenarios A and B highlight the sensitivity of the Grey River deposit to resource size, grade (or dilution) and metal price. Future exploration effort should be directed at expanding the resource along the strike of the deposit, as well as at depth, to allow for a potentially higher mining rate. Any efforts at minimizing mining dilution will also have a positive impact on the deposit economics.

Table 18.13 Comparison of Various Economic Scenarios to the Base Case (all Pre-Tax)

Scenario	Conceptual Mineable Resource (tonnes)	Mined Grade %WO_3	Pre-tax Net Cashflow Millions USD	NPV@7% Millions USD	IRR%
Base Case	900,000	0.66%	$9	$0	-
Base Case with +20% price/grade	900,000	0.80%	$35	$17	21%
Base Case with +35% price	900,000	0.66%	$54	$29	30%
Scenario A	1,800,000	0.66%	$69	$36	28%
Scenario B +10% grade	1,800,000	0.73%	$93	$53	37%

Sensitivity to Price of Tungsten

The Grey River economics are sensitive to metal prices. As Table 18.13 shows (third row Scenario), a 35% increase in the price of tungsten concentrate to around $US15 per pound ($US352 per MTU) would result in an IRR of 30% (using the other Base Case parameters and assumptions). Figure 18.6 shows the relationship of IRR to the price of tungsten concentrate using the Base Case economic model.

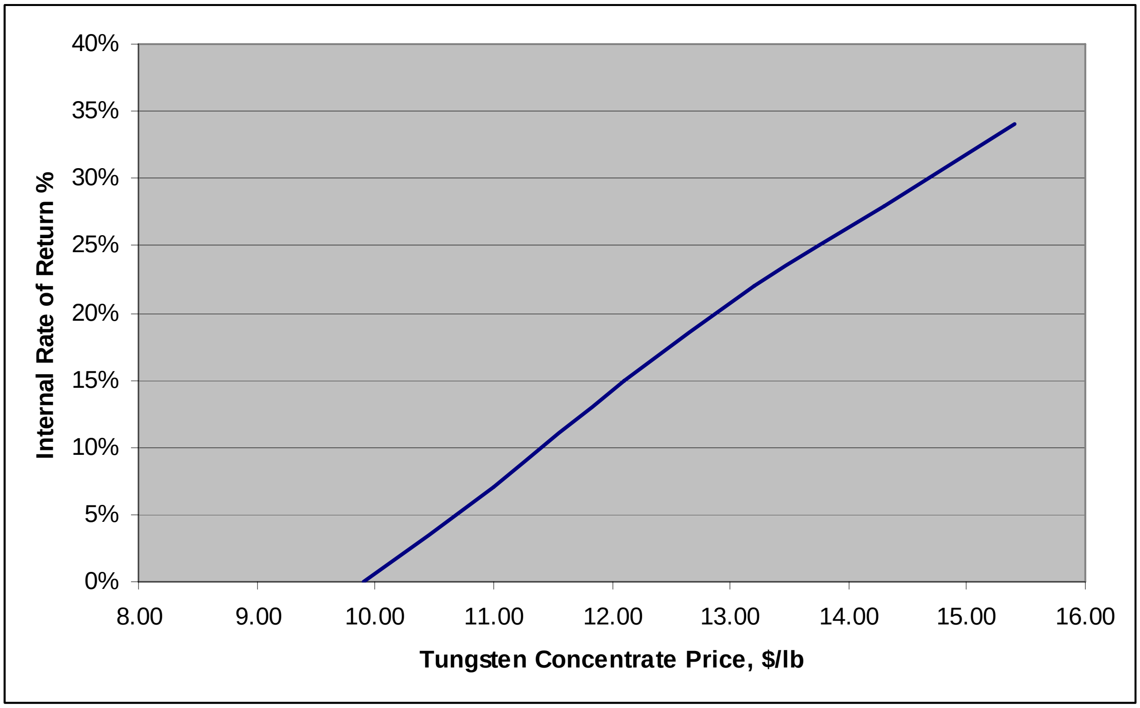


Figure 18.6 Internal Rate of Return (IRR%) Versus Tungsten Concentrate Price for Grey River

18.5.6 Payback

Using the Base Case parameters the payback is approximately 6.5 years of a total mine life of 9 years.

19.0 INTERPRETATION AND CONCLUSIONS

No technical fatal flaws have been identified at this preliminary stage of study for the Grey River property.

19.1 Resources

This Section was completed by Wardrop Engineering Inc.

A mineral resource has been estimated for the Number 10 Vein on the Grey River tungsten property using data supplied by Playfair. This data includes drill hole information as well as assay and location data for back, face, raise, trench and grab samples. All of the data within or near to the vein has been used in the final block model. To remove any spatial bias the back and face samples were de-clustered at 5 m intervals.

The tungsten mineralization is typically in the form of wolframite although a minor amount of scheelite has been documented in other parts of the property. Most of the Number 10 Vein consists of quartz with disseminated crystals of wolframite and minor fragments of wall rock. A bulk density of 2.8 g/cc has been used for the tonnage calculation; although this value is calculated from the WO_3% assay values it is also the same as the SG value used at the Panasqueira Mine in Portugal (this mine is geologically similar to the Number 10 Vein at Grey River). Note that this SG value is less than that used by ASARCO (3.10 g/cc).

Wardrop validated the drill hole database, visited the site, reviewed some of the historical drill core and interviewed staff that are associated with the project. Wardrop believes that the information supplied for the resource estimate and used in this report are accurate.

Both Inverse Distance Squared and Nearest Neighbour interpolation methods were used using capped and uncapped values. No significant discrepancies exist between these methods. An Inferred Mineral Resource category of 851,654 tonnes at 0.86% WO_3% using a 0.2% cut-off has been estimated for that part of the Number 10 Vein between surface and the adit level. No reserves are present (as of May 2007) at the Number 10 Vein.

19.2 Metallurgical

This Section was completed by BC Mining Research Ltd.

Insufficient work has been done to this stage to develop a specific flowsheet for the deposit. Further metallurgical testwork is required to demonstrate that an acceptable grade concentrate at an acceptable metallurgical recovery can be achieved.

There is potential upside to the metallurgical results that have been completed to date, especially in terms of maximizing the mass pull to a 65% WO_3 concentrate. However, this must be demonstrated in the next phase of testwork.

19.3 Environmental

This Section was completed by Golder but relies on a report by Jacques Whitford Limited.

The assessment of environmental considerations is preliminary at this stage and will require further study and development as project details and additional regional and site details become available. The construction, operation, and decommissioning of a mine will be subject to provincial environmental assessment and likely federal assessment as well. The assessment will examine all aspects of the project, including construction, operation and closure, the workforce, camp facilities, mine infrastructure and operation, environmental protection measures and environmental permits, and approvals required for construction and operation.

19.4 Mining

This Section was completed by Golder Associates Ltd.

Potential mineable zones from the geological resource are based on a cut-off-grade of 0.4% WO_3 and a minimum mining thickness of 2 meters using a blasthole open stoping mining method. Based on the Base Case estimates and assumptions used here, the Grey River property could yield a total pre-tax cash flow of $11 Million and Net Present Value of $314,000 (close to “break-even”). This suggests that the property is currently not economically viable for the current resource size and Base Case economic parameters.

The current size of the potentially mineable resource at Grey River limits the potential production rate and annual cash flow. The results indicate that the potentially mineable resource needs to be doubled in order to make the project viable. The value per tonne of mined mineralized material is sufficient to pay for operating costs, however, in order to provide an acceptable return on initial capital expenditures a higher production rate over a similar, or longer, mine life is required. Alternatively, a 35% increase in the price of tungsten would be needed to improve the viability of the current resource (i.e. an IRR greater than 30%).

20.0 RECOMMENDATIONS

20.1 Exploration Recommendations

This Section was completed by Wardrop Engineering Inc.

The Number 10 Vein at Grey River is one of only a few deposits in Canada with demonstrated tungsten resources, partial underground development and two stages of metallurgical test data. From the available data the vein appears to be continuous between the surface trenches and the exposures within the adit. However, due to the nuggety nature of the mineralization, as well as the relatively wide-spaced drilling, there are gaps in the data that must be filled in order to change the resource categories.

A series of close-spaced holes within the current Inferred category is suggested so that the nearby Indicated categories can be expanded. A surface drill rig capable of HQ core drilling is recommended (with possible exceptions – see below) to create data points in the area above the face and back samples in the South Vein. This program can be completed in one campaign and the results used to assess the viability of additional exploration.

1. Six holes are needed at the +50 m elevation level in an area immediately above the face/back sample locations in the South Vein. HQ core can be drilled from surface to intersect the vein in these locations but each hole will be in the order of 350 m in length.

2. Alternatively, these holes can be drilled from the three closest cross-cuts as soon as the adit has been rehabilitated. The cross-cut locations will shorten the hole lengths although this is at the expense of an optimum core angle with the vein. Another drawback with an underground rig is the reduced core size (BQ or NQ rather than HQ).

3. Four holes should be drilled at the +100 m elevation level within the inferred category. As with the initial five to six holes these pierce points will be spaced about 50 m apart at this elevation.

4. Four holes should test the +150 m elevation level; in detail only two are at the +150 m level while the other two are at +140 m and +160 m.

5. Two holes on the +200 m level (one at +200 m while the other is at +220 m).

The budget for all 16 holes (assumed to be drilled from surface) is given in Table 20.1.

Table 20.1 Proposed Budget for Additional Fill-in Drilling on the Number 10 Vein

Amounts	Item
$400,000	Drilling 16 HQ size holes
$5,000	Report Writing, maps
$12,000	Equipment rental, including trucks
$50,000	Personnel
$25,000	Assaying and sample preparation
$10,000	Field accommodation
$100,000	Helicopter support
$602,000	Sub-total
$60,200	Contingency
$662,200	**Total**

Other targets should be examined to assess the potential for increasing the grade and/or tonnes of the Number 10 Vein. In particular, the area below the adit level should be drilled to verify the continuity of the tungsten mineralization in the vein. This program can be best accomplished after the adit has been re-habilitated using drill stations set up in the cross-cuts. No budget is proposed for this program due to uncertainty in the cost estimates for the different evaluation methods.

Additional recommendations for future exploration programs include:

1. All drill collars (historical and current) should be surveyed in UTM space using a professional land surveyor.

2. A QA/QC program should be implemented in future sampling programs.

3. Specific gravity determinations should be made for mineralized intersections at the zone of interest and within the footwall and hangingwall country rocks.

4. Geotechnical information should be routinely collected to create a data set that will be of use in future mining efforts. Core photographs should be taken and catalogued.

5. A few ASARCO holes should be replicated with new holes to quantify the effects of core re-drilling/grinding in the original standard drill holes (in addition to the proposed holes above).

20.2 Metallurgical Recommendations

This Section was completed by BC Mining Research Ltd.

Further metallurgical work is strongly recommended in order to; establish a firm specification on the feed head grade; maximize recovery to an acceptable WO_3 concentrate; and, move beyond the scoping stage to simulate the unit processes of the proposed flowsheet on a representative sample of feed material. It is recommended that the testwork be undertaken to meet the criteria for Ammonium Paratungstate (APT) plant feed specifications (concentrate grade >65% WO_3).

Optical sorting tests should be included in any future metallurgical test program.

20.3 Environmental Recommendations

This Section was completed by Golder but relies on a report by Jacques Whitford Limited.

Environmental protection planning should be initiated to be in effect before site development is started. Early consultation with all relevant government organizations is recommended.

20.4 Mining Recommendations

This Section was completed by Golder Associates Ltd.

A more detailed geotechnical investigation and design exercise must be done for the next level of study. Stope dimensions and excavation sizes will have to be studied in greater detail as improved geotechnical data becomes available.

Further trade-off studies on various material handling options should be completed in future work.

A mining rate of 300 tonnes per day is proposed for the current Grey River resource. Further study is required at the next level of study to confirm a mine plan and production schedule. The deposit will be sensitive to dilution and so future studies should include assessing other selective mining techniques and methods to reduce dilution. Trade-off studies will be required between mining cost, dilution and recovery. Due to the small size of the Grey River mineralized vein, the mining cost on a per tonne basis will be relatively high. Further work is required to develop better cost estimates. It is recommended that future work at Grey River be focused on increasing the size of the resource along strike, as well as at depth, to enable increased working areas, potentially higher production rates, and a longer mine life which would provide a greater return on capital expenditures.

GOLDER ASSOCIATES LTD.

David Sprott, P.Eng.
Senior Mining Engineer

Kirk Rodgers, P.Eng
Principal

DS/gs
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22.0 CERTIFICATES OF QUALIFIED PERSONS

22.1 Certificate for Christopher Moreton

I, Christopher Moreton, of Oakville, Ontario, do hereby certify that as the author of sections of this “Preliminary Economic Assessment of the Grey River Property, Newfoundland”, dated January 15, 2008, I hereby make the following statements:

- I am a Senior Geologist with Wardrop Engineering Inc. with a business address at 330 Bay Street, Suite 604, Toronto, Ontario, M5H 2S8.

- I am a graduate of the University of New Brunswick, (PhD, 1994), Memorial University of Newfoundland (1984) and the University of Southampton (1981).

- I am a member in good standing of the Association of Professional Engineers and Geoscientists of New Brunswick (License # M5484) and the Association of Professional Geoscientists of Ontario (License # 1229).

- I have practiced my profession continuously since graduation.

- 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 purpose of NI 43-101.

- My relevant experience with respect to this deposit type includes more than 15 years researching and exploring for metallic mineral deposits for both senior and junior companies.

- I am responsible for the preparation of parts of Sections 1.0 to 3.0, all of Sections 4.0 to 16.0, 17.1 to 17.12 and parts of Sections 19.0 and 20.0 of this report titled “Preliminary Economic Assessment of the Grey River Property, Newfoundland”, dated January 15, 2008. In addition, I visited the Property between April 18 and April 20 2007.

- I have no prior involvement with the Property that is the subject of the report.

- As of the date of this Certificate, to my knowledge, information and belief, this report contains all scientific and technical information that is required to be disclosed to make the report not misleading.

- I am independent of the Issuer as defined by Section 1.4 of the Instrument.

- I have read National Instrument 43-101 and the report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.

Signed and dated this 17th day of January, 2008 at Toronto, Ontario.

C. Moreton

Christopher Moreton, Ph.D., P.Geo.
Senior Geologist
Wardrop Engineering Inc.

22.2 Certificate of David Sprott

I, David Sprott, of Mission, British Columbia, do hereby certify that as the author of this "**Preliminary Economic Assessment of the Grey River Property, Newfoundland"**, dated January 15, 2008, I hereby make the following statements:

- I am a Senior Mining Engineer with Golder Associates Ltd. with a business address at 500-4260 Still Creek Drive, Burnaby, B.C., V5C 6C6.

- I am a graduate of Queen's University, Kingston, Mining Engineering (BSc 1983, MSc 1984).

- I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (License #19021) and the Association of Professional Engineers of Ontario (License #90533134).

- I have practiced my profession continuously since graduation.

- 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 purpose of NI 43-101.

- My relevant experience with respect to this deposit type includes more than 20 years working on narrow vein mining methods with major mining companies including Noranda, Newmont and Placer Dome.

- I am responsible for the preparation of Sections 18.0, 19.0 and 20.0 of this technical report titled "**Preliminary Economic Assessment of the Grey River Property, Newfoundland",** dated January 15, 2008. I did not visit the Property.

- I have no prior involvement with the Property that is the subject of the Technical Report.

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

- I am independent of the Issuer as defined by Section 1.4 of the Instrument.

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

Signed and dated this 17th day of January, 2008 at Vancouver, British Columbia.

D. Sprott

Signature

22.3 Certificate of Andrew Bamber

I, Andrew Bamber, of 305-2025 West 2nd Ave, Vancouver, B.C., do hereby certify that as the author of this "**Preliminary Economic Assessment of the Grey River Property, Newfoundland**", dated January 15, 2008, I hereby make the following statements:

I hereby make the following statements:

- At the date this report was prepared I was employed as a Partner/ Principal Engineer with BC Mining Research Limited with a business address at 305-2025 West 2nd Avenue, Vancouver, BC, V6J1J6.

- I am a graduate of :

  - the University of Cape Town, BSc. (Hons.) Mechanical Engineering, 1993; and

  - the University of British Columbia, MASc. Mining and Mineral Process Engineering, 2004.

- I am a member in good standing of the South African Institute of Mechanical Engineers; the South African Institution of Certificated Mechanical and Electrical Engineers; the Canadian Institute of Mining and Metallurgy (CIM), and a Professional Engineer registered with the Engineering Council of SA License # 990013.

- I have practiced my profession continuously since graduation.

- 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 purpose of NI 43-101.

- My relevant experience with respect to this deposit includes over 14 years experience in mining and mineral processing projects in Southern Africa, Canada and Central Asia. Over the past 5 years I have been a principal in several pre-feasibility and feasibility studies, including the Kroondal 'K2' Platinum Project, the Mimosa Phase III Platinum Expansion, the Voskhod Chrome Project in Kazakhstan and the Pipe II Scoping Study for INCO Thompson.

- I am responsible for the preparation of Section 16, 18.4.2, 18.4.4 and parts of Sections 19.0 and 20.0 of this technical report titled "**Preliminary Economic Assessment of the Grey River Property, Newfoundland**", dated January 15, 2008. In the course of the study no testwork was undertaken and the property was not visited.

- I have no prior involvement with the Property that is the subject of the Technical Report.

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

- I am independent of the Issuer as defined by Section 1.4 of the Instrument.

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

Signed and dated this 18th day of January, 2008 at Vancouver, British Columbia.

Signature

APPENDIX I

ASARCO ANALYTICAL METHODS

APPENDIX 1

COLORIMETRIC THIOCYANATE METHOD OF DETERMINATION OF TUNGSTEN IN ORES

This method is designed for the rapid control determination of tungsten in ores and concentrates from 0.05% to major concentrations of tungsten.

The sample is fused with a sodium peroxide-sodium carbonate mixture, water leached, and diluted to volume. A suitable aliquot of the clear solution is acidified (about 9 N) with sulfuric acid and hydrochloric acid. The tungstate ion is reduced with stannous chloride, potassium thiocyanate added, and the color measured spectrophotometrically.

Since many of the ions sensitive to thiocyanate are separated by the sample decomposition technique, there is no serious interferences except vanadate. Up to 5 mg of molybdate may be present in the aliquot (Note 1).

REAGENTS

Stannous Chloride, 2 M - Dissolve 452 g of $SnCl_2 2H_2O$ in 500 ml of concentrated HCl by warming in a covered 800 ml beaker. Transfer to a liter flask and dilute to the mark with HCl. The solution is stable for one month if stoppered tightly.

Potassium Thiocyanate, 2 M - Dissolve 194 g of KCNS in 500 ml of water by warming. Cool and dilute to one liter. The solution is stable for one month if stored in a cool, dark place.

Standard Tungsten Solution - Dissolve 1.7940 g of reagent-grade $Na_2WO_4 2H_2O$ in water. Add one pellett of NaOH, dissolve, and dilute to one liter. 1 ml = 1.00 mg of tungsten. With a pipette, transfer 10.00 ml of this stock solution to a 100-ml volumetric flask and dilute to the mark. 1 ml = 0.100 mg of tungsten.

PREPARATION OF ABSORBANCE-CONCENTRATION CURVE

With pipettes, transfer 1,2,5,7, and 10-ml aliquots of the diluted tungsten stock solution to 100-ml Pyrex volumetric flasks. The aliquots represent 0.10, 0.20, 0.50, 0.70, and 1.0 mg respectively of tungsten. Dilute to 25 ml and continue according to the procedure below, starting with "Add 10 ml of concentrated H_2SO_4...". Measure the % transmission in a filter photometer in a 2-cm cell at 400 mu using a reagent blank carried through all the steps of the procedure to set the photometer to 100% transmittance. Plot the absorbance versus mg of tungsten on semi-logarithmic paper (Note 2). The system follows Beer's Law.

PROCEDURE

A. DECOMPOSITION - Transfer a weighed sample (0.2 to 0.5 g) containing not more than 150 mg of tungsten to a 30-ml iron crucible containing 3 g of Na_2O_2 and 2 g of Na_2CO_3. Mix well and fuse over a burner (Note 3). Cool until solid, then with tongs place the crucible on its side in a 250-ml beaker. Cover and carefully add 50 ml of water. When disintegration is complete, remove and rinse the crucible. Police the crucible. Add 10 ml of ethanol (95%), cautiously boil 3 or 4 minutes, cool, and transfer to a 200 ml volumetric flask (Note 4). Cool and dilute to volume, mix well, and allow to settle for 10 minutes. Decant the supernatant liquor through a dry filter and collect about 50 ml of the filtrate.

B. COLOR DEVELOPMENT - With a pipette, transfer an aliquot, containing 0.1 to 1.0 mg of tungsten, of the filtered sample solution to a 100 ml pyrex volumetric flask. Dilute, if necessary, to 25 ml and add 10 ml of concentrated H_2SO_4 and 20 ml of concentrated HCl. Add 10 ml of $SnCl_2$ solution (2 M), mix, and digest on a steam bath for 5 minutes. Remove from heat and immediately stopper tightly with a rubber stopper (Note 5). Chill in an ice water bath to $10^\circ C$ or less (Note 6). Remove the stopper and quickly add 10 ml of KCNS solution (2 M), dilute to the mark, and mix well. Return to the ice water bath for 2 or 3 minutes. Remove, and after 5 minutes measure the absorbance a 2 cm cell in a filter photometer at 400 mu against a reagent blank. From the calibration curve, read milligrams of tungsten present in the aliquot sample.

CALCULATIONS

$$\%WO_3 = \frac{A \times 25.2}{B \times C}$$

where:

A = mg of W from calibration curve,

B = aliquot (ml), and

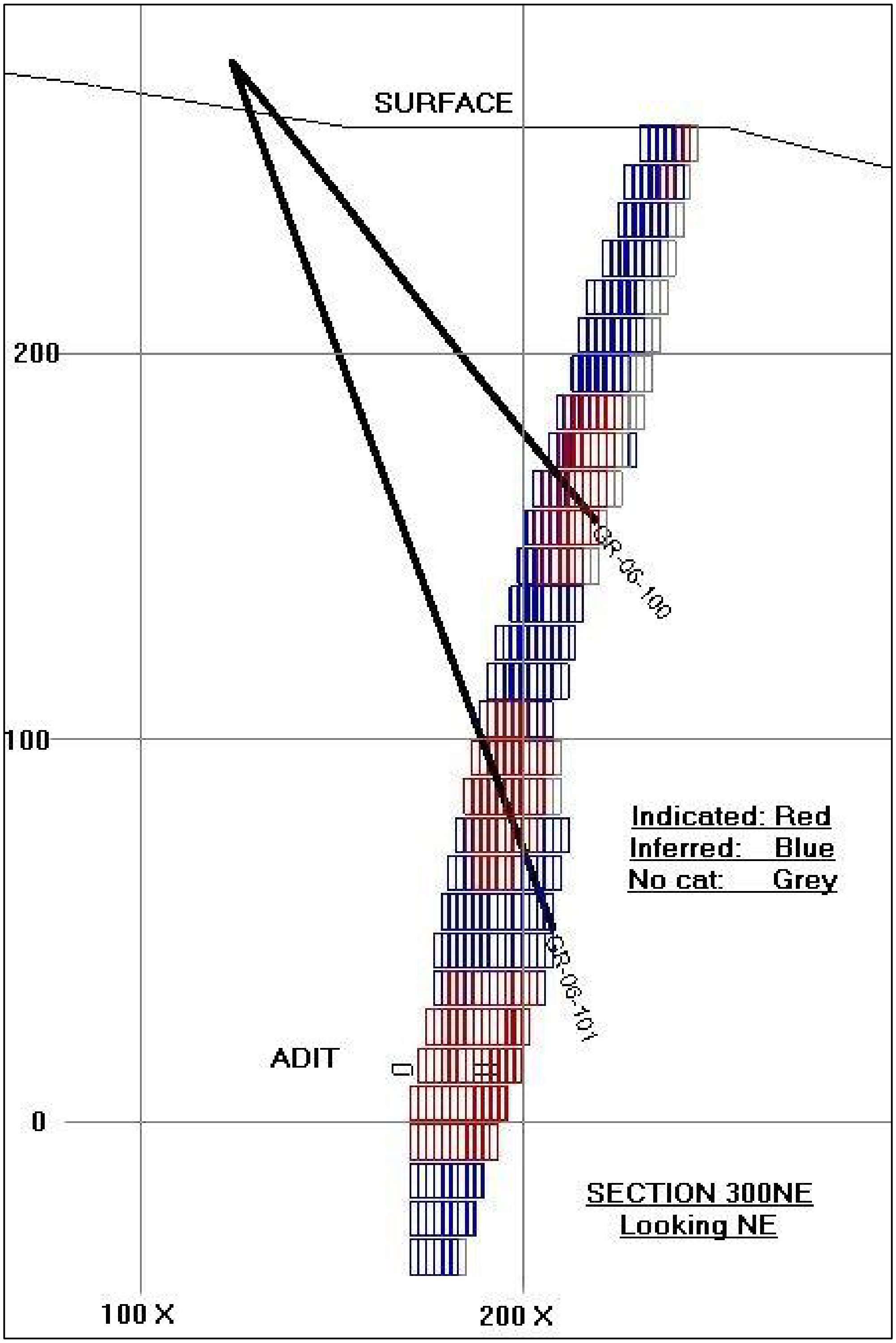
C = sample weight (g)

NOTES:

1. Vanadium reacts almost identically to tungsten under conditions of $SnCl_2$ reduction. Separations can be made by the usual chloroform-cupferron extration if tungsten is complexed with NaF. Fortunately, vanadium is a rarity in tungsten ores. Molybdenum thiocyanate fades very rapidly in 9 N acid medium. The absorbance of 5 mg of molybdenum is equivalent to about 0.05 mg of tungsten.

APPENDIX II

GEMCOM PLOTS FOR BLOCK MODEL COMPARISONS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GR-06-101
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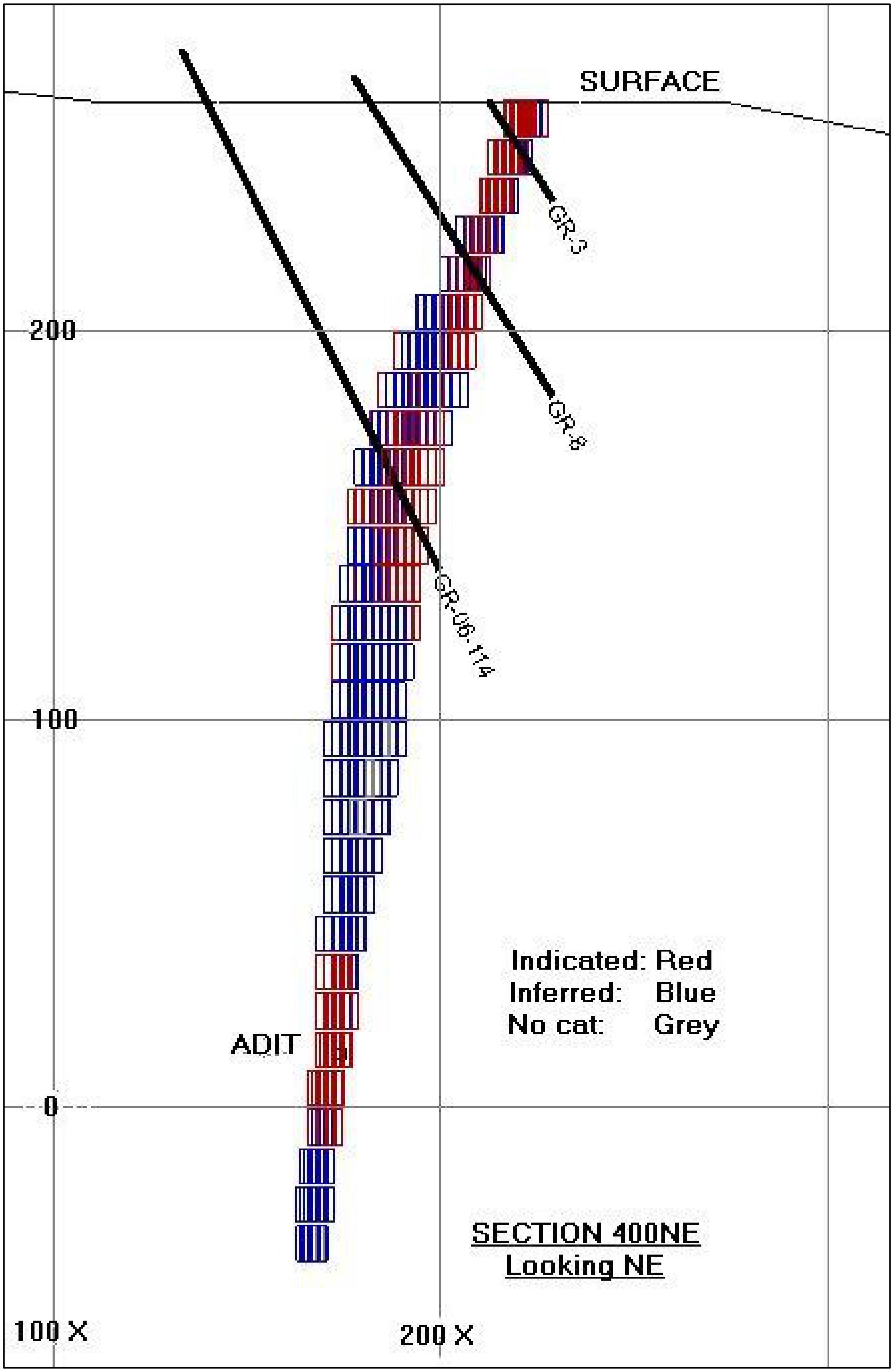
Inferred: Blue
No cat: Grey
ADIT
SECTION 300NE
Looking NE
100 X
200 X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GR-8
GR-06-114
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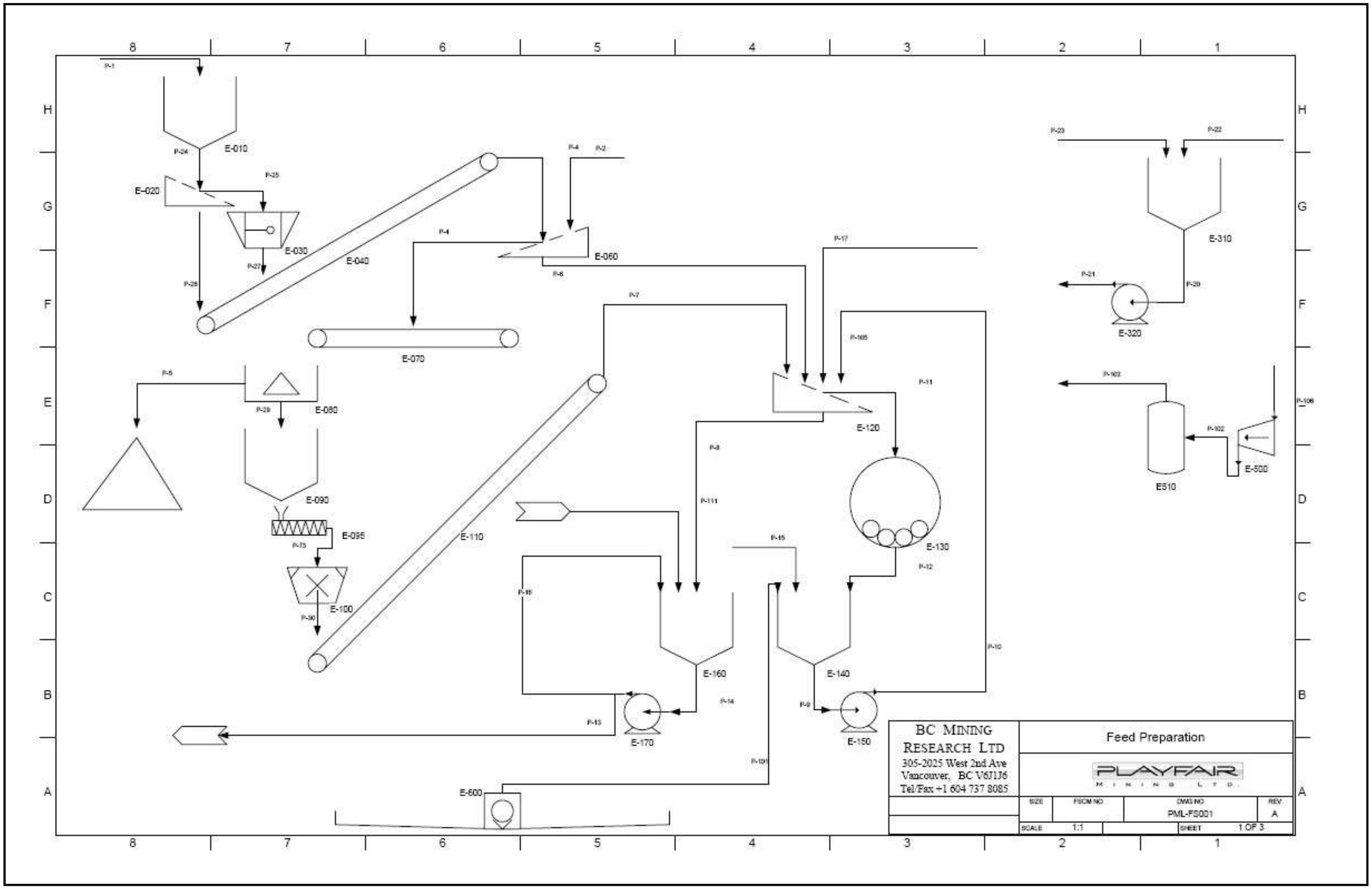
Indicated: Red
Inferred: Blue
No cat: Grey
ADIT
SECTION 400NE
Looking NE
100 X
200 X

APPENDIX III

PRELIMINARY MILL FLOWSHEETS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E-020
E-030
E-040
E-060
E-070
E-080
E-090
E-095
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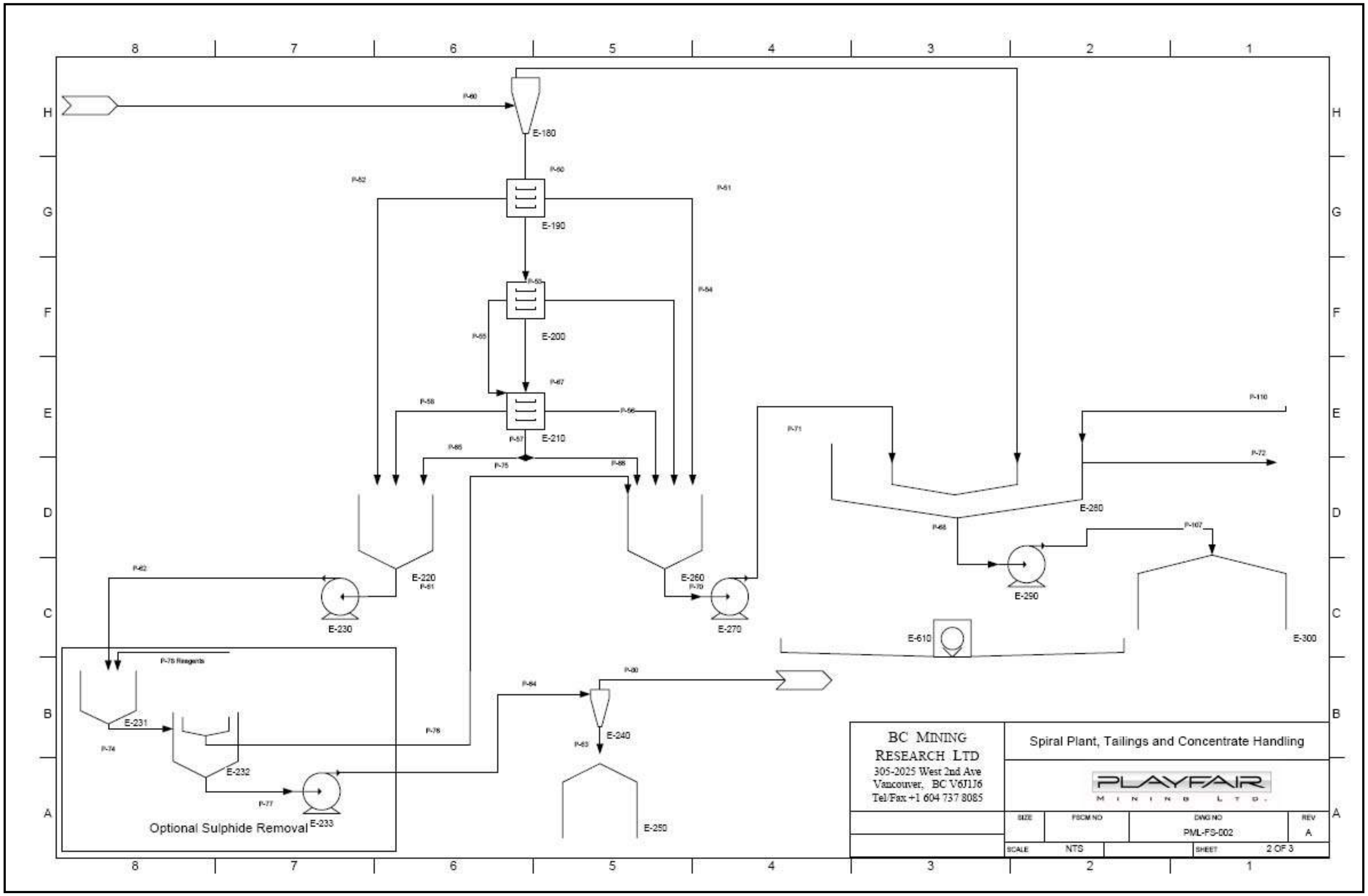
E-110
E-120
E-130
E-140
E-150
E-160
E-170
E-310
E-320
E-500
E510
E-600
BC MINING
RESEARCH LTD
305-2025 West 2nd Ave
Vancouver, BC V6J1J6
Tel/Fax +1 604 737 8085
Feed Preparation
PLAYFAIR
MINING LTD.
SIZE
FSCM NO
DWG NO
PML-FS001
REV
A
SCALE
1:1
SHEET
1 OF 3



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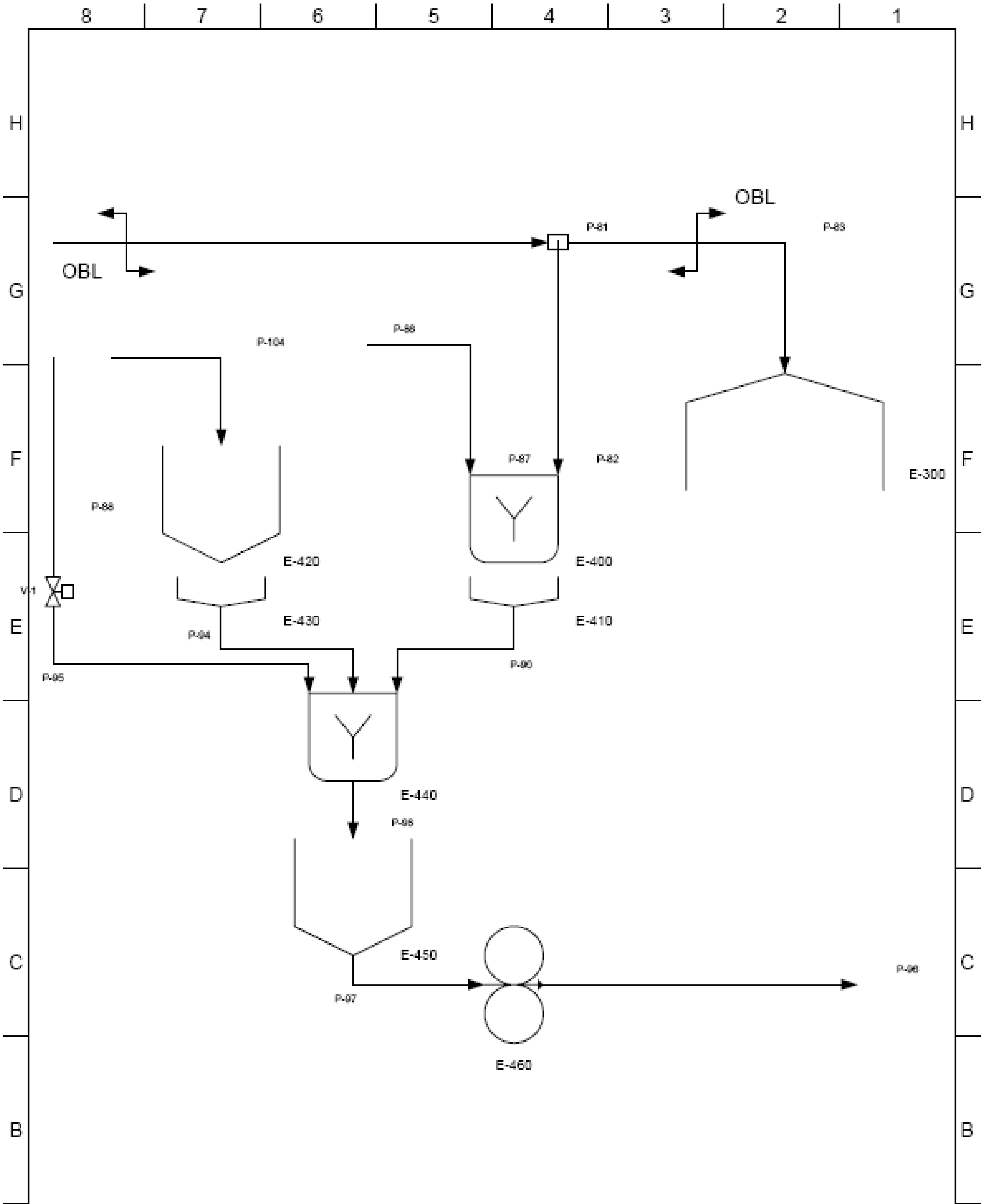
E-190
E-200
E-210
E-220
E-230
E-231
E-232
E-233
E-240
E-250
E-260
E-270
E-280
E-290
E-300
E-610
P-75 Reagents
Optional Sulphide Removal
BC MINING
RESEARCH LTD
305-2025 West 2nd Ave
Vancouver, BC V6J1J6
Tel/Fax +1 604 737 8085
Spiral Plant, Tailings and Concentrate Handling
PLAYFAIR
MINING LTD.
SIZE
FSCM NO
DWG NO
PML-FS-002
REV
A
SCALE
NTS
SHEET
2 OF 3



BC MINING RESEARCH LTD 305-2025 West 2nd Ave Vancouver, BC V6J1J6 Tel/Fax +1 604 737 8085	20 tph Pastefill Plant PLAYFAIR MINING LTD.			
	SIZE	FSCM NO	DWG NO PML-FS-003	REV A
	SCALE NTS		SHEET 3 OF 3	

Equipment Number	***Description***	***Type***	***kW***	***Comment***
E-010	Feed hopper	5t		
E–020	Vibrating grizzly	1000 x 1200	2 x 1.9	40mm splay
E-030	Jaw crusher	430 x 250	37	30mm CSS
E-040	Conveyor	10m L x 300mm W	5.5	1.25m/s
E-060	Screen	1500 x 1800	2 x 2.2	10mm PU deck
E-070	Conveyor	10m L x 300mm W	5.5	1.25m/s
E-080	Optical sorter / jig	Optosort AH20		Sort -40 + 10mm
E-090	Product hopper	5t		
E-095	Vibrating feeder	600x900	2x 2.2	
E-100	Cone crusher	2' Symons	30	12mm CSS
E-110	Conveyor	10m L x 300mm W		1.25m/s
E-120	Mill product screen	1800 x 2200	2x 2.2	1mm PU deck
E-130	Rod mill	1.2m x 1.8m EGL	200	Grate discharge
E-140	Mill dishcarge sump	3m3		
E-150	Mill discharge pump	2 x 1 1/2	4	
E-160	Mill product sump	3m3		
E-170	Spiral feed pump	2 x 1 1/2	4	
E-180	Desliming cyclone	150mm		
E-190	Rougher spirals	SC 18/5 HM Spirals		4x5 turn double start
E-200	Scavenger spirals	SC 18/5 HM Sprials		4x5 turn double start
E-210	Scavenger table/spiral	Single deck	1.1	
E-220	Spiral concs sump	3m3		
E-230	Spiral concs pump	2x 1 1/2	4	

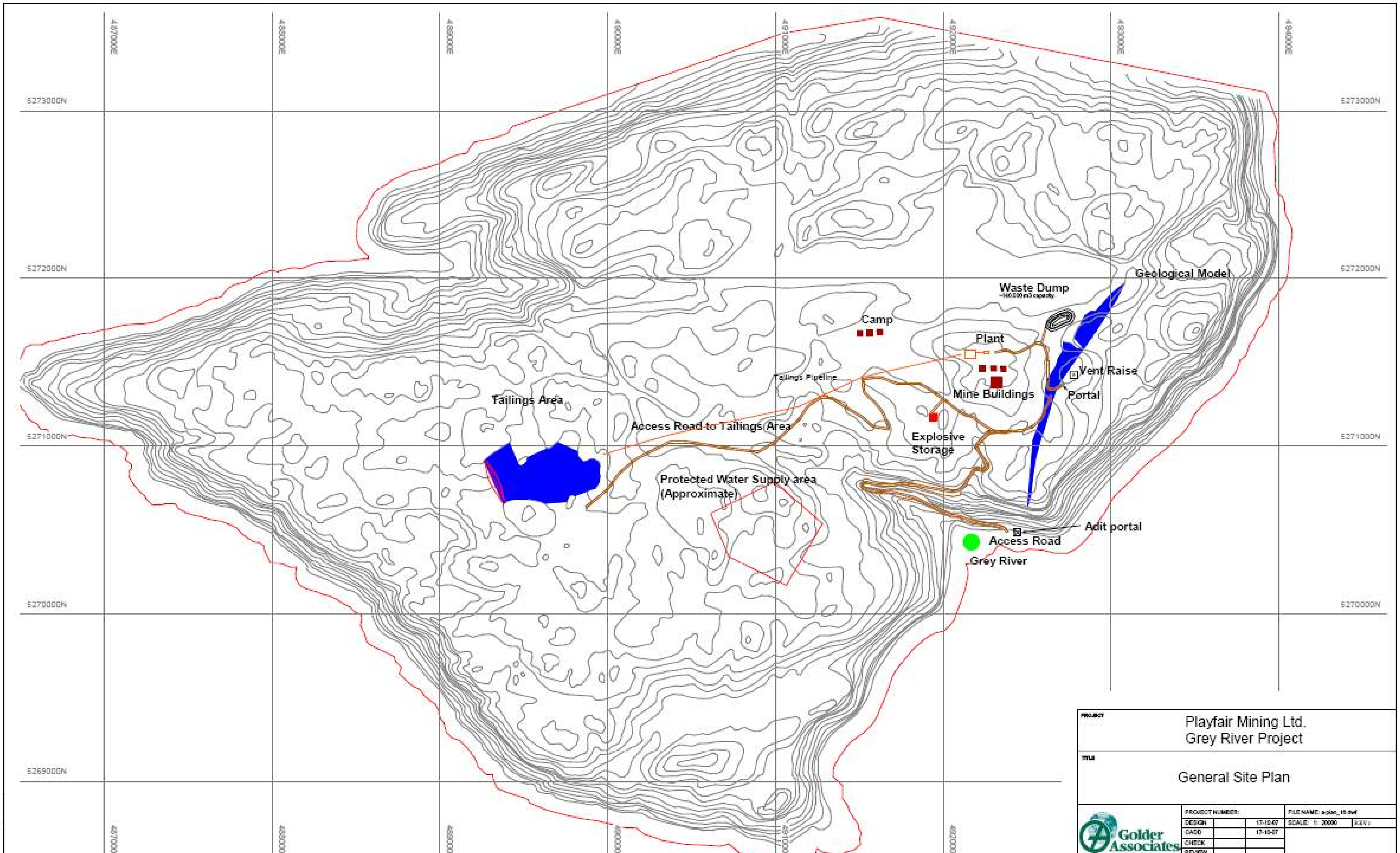
E-231	Spiral concs conditioning tank	3m3	2.2	Optional
E232	Pyrite flotation	RCS 5	22	Optional
E-233	Pyrite flotation u/flow pump	2 x 1 1/2	4	Optional
E-240	Product dewatering cyclone	150mm		
E-250	Product stockpile	5t		
E-260	Spiral tails sump	3m3		
E-270	Talings underflow pump	2 x 1 1/2	4	
E-280	Tailings thickener	5m BL Size 10	5.5	
E-290	Thickener u/flow pump	2 x 1 1/2	4	
E-300	Tailings dam			
E-310	Process water tank	50m3		
E-320	Process water pump	2 x 1 1/2	4	
E-500	Compressor	GA30	37	
E-510	Plant air receiver			
E-600	Spillage pump	3"DTV	4	Mobile pump
E-610	Spillage pump	3"DTV	4	Mobile pump

APPENDIX IV

GREY RIVER PROPERTY SITE PLANS

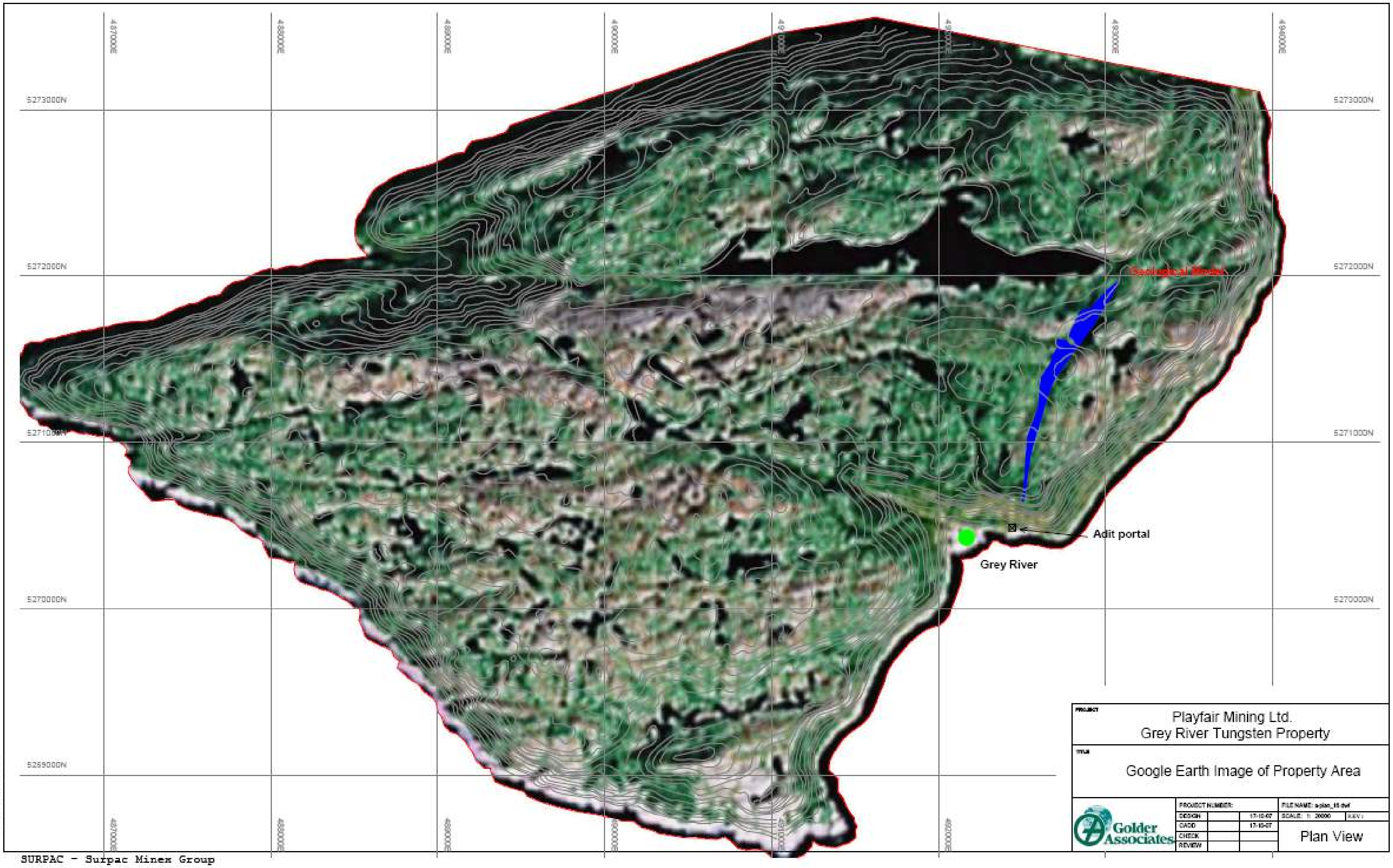
Conceptual General Site Plan

Google Earth Image of Property Area



SURPAC - Surpac Minex Group

a-plan_16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5269000N
Adit portal
Grey River
Playfair Mining Ltd.
Grey River Tungsten Property
Google Earth Image of Property Area
Golder Associates
PROJECT NUMBER:
DESIGN 17-10-07
CADD 17-10-07
CHECK
REVIEW
Plan View
SURPAC - Surpac Minex Group

APPENDIX V

PRELIMINARY
BASE CASE CASHFLOW

Project Cashflow - Grey River Project - 300 tpd with Fill
Project 07-1413-0038 **$USD**

		Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Production													
Throughput, tpd	300												
Operating days per year	350												
Tonnes Milled			52,500	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	9,411	**901,911**
Grade	%WO3		0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	
Mill Recovery	85%		85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Recovered pounds conc.	lbs		649,310	1,298,620	1,298,620	1,298,620	1,298,620	1,298,620	1,298,620	1,298,620	1,298,620	116,393	**11,154,660**
Net Revenue	$ 11.00 USD/lb		$ 7,142,408	$ 14,284,816	$ 14,284,816	$ 14,284,816	$ 14,284,816	$ 14,284,816	$ 14,284,816	$ 14,284,816	$ 14,284,816	$ 1,280,328	**$ 122,701,263**
Operating Cost													
Mining	$ 60.00		$ 3,150,000	$ 6,300,000	$ 6,300,000	$ 6,300,000	$ 6,300,000	$ 6,300,000	$ 6,300,000	$ 6,300,000	$ 6,300,000	$ 564,660	**$ 54,114,660**
Milling	$ 14.00		$ 735,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 131,754	**$ 12,626,754**
G&A	$ 14.00		$ 735,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 1,470,000	$ 131,754	**$ 12,626,754**
Shipping&Insurance	$ 1.00		$ 52,500	$ 105,000	$ 105,000	$ 105,000	$ 105,000	$ 105,000	$ 105,000	$ 105,000	$ 105,000	$ 9,411	**$ 901,911**
Total Operating Cost	$ 89.00	$ -	$ 4,672,500	$ 9,345,000	$ 9,345,000	$ 9,345,000	$ 9,345,000	$ 9,345,000	$ 9,345,000	$ 9,345,000	$ 9,345,000	$ 837,579	**$ 80,270,079**
Capital													
Total Capital	$ 30,666,250	$ 18,484,688	$ 6,534,688	$ 1,958,750	$ 1,958,750	$ 979,375						$ 750,000	**$ 30,666,250**
Sustaining Capital	$ 1,600,000			$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ -	**$ 1,600,000**
Salvage	$ (750,000)											$ (750,000)	**$ (750,000)**
Net Cashflow (Pre-tax)	$ 10,914,934	$ (18,484,688)	$ (4,064,780)	$ 2,781,066	$ 2,781,066	$ 3,760,441	$ 4,739,816	$ 4,739,816	$ 4,739,816	$ 4,739,816	$ 4,739,816	$ 442,749	**$ 10,914,934**
Pre-tax NPV	7%	$314,000											
IRR		7%											