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P-MCC

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Anglo Gold; Meridian Gold; West Mahala;  
Burns Basin; Winters Creek; Mill Creek  
California Mountain; Waterpipe; Pie Creek Resource;  
Road Canyon; FMC; Freeport Minerals Company;  
Dash Pit; East Dash; B-Pit; West Dash;  
Dash Highwall; Saral 4 Pit; Coyote Zone 10 Pit;  
Waterpipe II

**NI 43-101 Technical Report  
Yukon-Nevada Gold Corp.  
Jerritt Canyon Property  
Elko County, NV**

**Prepared for:**

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## **Summary (Item 3)**

Yukon-Nevada Gold Corp. (YNG) engaged SRK Consulting (US), Inc. (SRK) to prepare a Technical Report on the Jerritt Canyon Mine north of Elko, Nevada, to meet the requirements of Canadian National Instrument 43-101 (NI 43-101). In June 2007, Queenstake Resources Ltd. Merged with YGC Resources Ltd. to create Yukon-Nevada Gold Corp. The Jerritt Canyon Mine is owned and operated by Queenstake Resources USA, Inc (Queenstake), a wholly owned subsidiary of YNG.

The following SRK personnel contributed to the preparation of the report:

Landy Stinnett, PE, Associate Mining Engineer: Mining, Reserves;

Alva Kuestermeyer, Principal Metallurgist/Mineral Economics: Metallurgy, Process;

Leah Mach, CPG, Principal Geologist: Resources, Geology, Drilling, Sampling;

Valerie Sawyer, Principal Consultant: Environmental and Permitting Review; and

Nick Michael, Senior Mineral Economist: Economics, Cash Flow and Sensitivity.

### **Property Description & Accessibility**

The Jerritt Canyon Mine is an operating gold property with two underground mines in production during 2007. The mines produce feed for a process plant on site. The project is located in Elko County, Nevada about 50 miles north of the city of Elko and is accessed by paved state highway and private access road. The property is owned and operated by Queenstake since June 30, 2003, when it was purchased from the previous owner, a joint venture between Anglo Gold and Meridian Gold. YNG acquired Queenstake through a merger between Yukon Gold Corp. (YGC) and Queenstake Resources Ltd (Queenstake Ltd) on June 20, 2007.

### **History**

Gold mineralization was originally discovered at Jerritt Canyon in 1972 by FMC geologists during an antimony exploration program. Mining commenced in 1981 and has continued without interruption since then. Ore was produced from open pits from 1981 through 1999. Underground mining started in 1993 and is the current source of mill feed. The land position covers over 119 square miles.

Tens of thousands of holes have been drilled from surface and underground on the property since the 1970's. Resource areas adjacent to the mines show potential for expansion and development to reserve status. In addition to the near-mine resource, several areas on the land package are in the resource category.

### **Geology**

The regional geology of the Jerritt Canyon Mine consists of four distinct Paleozoic sedimentary sequences: the western facies, or upper plate of the Roberts Mountains thrust, the eastern facies, or lower plate of the Roberts Mountains thrust, the Schoonover sequence, and the Antler overlap sequence.

The rocks are cut by Pennsylvanian basalt dikes, Eocene basalt and quartz monzonite dikes, and Miocene basalt dikes. The structural fabric in the district consists of two dominant fault trends, west-northwest trending and north-northeast-trending.

### **Mineralization**

Gold mineralization at Jerritt Canyon is hosted by the Hansen Creek Formation and the base of the Roberts Mountains Formation in the lower plate of the Roberts Mountains thrust. Gold mineralization is structurally controlled by high angle west-northwest and north-northeast trending structures that acted as conduits for mineralizing fluids. Much of the more continuous gold mineralization occurs within the favorable stratigraphic intervals at the intersection of the two sets of high angle structures. The deposits are Carlin-type, sediment-hosted gold mineralization within carbonaceous sediments. The gold occurs as



very fine-grained micron-sized particles in carbonates and fine-grained, calcareous, clastic sedimentary rocks.

## **Production History**

The Jerritt Canyon Mine started up in 1981 as an open pit mine, and production from open pits continued through 1999. The first underground mine was started in 1993 and the operation currently consists of production from two underground mines (Smith and the SSX complex). The MCE mine was shut down in 2004, the new Steer mine portal, now a part of the SSX complex, was collared in 2004, and the Murray mine was shut down in 2006.

The mines are mechanized operations using backfill both for ground control and for increasing ore recovery. The less refractory ores produced early in the production history were processed through a “wet” mill, which operated until 1997. As the ores became more carbonaceous and refractory, and higher grade with the introduction of underground ore, a dry mill with an ore roasting circuit was added in 1989, and is currently in operation.

Jerritt Canyon has produced over seven million ounces of gold from its open pits and underground mines throughout its history. Annual production has averaged between 125,000 ounces and 350,000 ounces of gold, at cash costs ranging from \$240 to \$554 per ounce. Queenstake reports the 2007 mill production from Jerritt Canyon ore at 125,140 ounces of gold produced from 619,130 tons of ore processed, with a cash cost of \$554 per ounce.

## **Resource Estimation**

Mineral resources at Jerritt Canyon are contained within about twenty areas in the district. Resource estimates are based on extensive drilling data, using geology constrained kriging, inverse distance, and polygonal methods. Block modeling techniques are supported by relatively small block sizes. In 2005, production models were developed with smaller block sizes and these models were incorporated into the resource models. This practice has proved to be successful over the last two years and the Jerritt geologists continue with that practice. The resource models show good reconciliation with mine and mill production. Measured and Indicated Resources, including reserves, as of December 31, 2007 total 8,196.9Mt at 0.239opt gold, containing 1,961.1koz of gold. There is an additional Inferred Resource of 2,139.7Mt at 0.224opt gold, containing 520.4koz ounces of gold. Table 1 lists the resources by area. The open pit resources were estimated at \$900 per ounce gold; the cutoff grades for underground resources are 0.150opt gold for mature mine areas and 0.125opt gold for undeveloped resources.

**Table 1: Jerriitt Canyon Mineral Resources, Including Reserves – December 31, 2007**

Deposit/Area	Measured			Indicated			Measured + Indicated			Inferred		
	kt	opt	Cont'd koz	kt	opt	Cont'd koz	kt	opt	Cont'd koz	kt	opt	Cont'd koz
MURRAY	155.8	0.310	48.3	26.6	0.269	7.1	182.4	.304	55.4	90.4	0.228	20.6
MURRAY ZONE 9	-	-	0.0	10.9	0.277	58.5	210.9	0.277	58.5	61.6	0.209	12.9
SSX / STEER	1,815.3	0.255	462.5	746.1	0.269	200.7	2,561.4	0.259	663.2	959.2	0.236	226.6
SMITH	587.7	.303	178.0	649.1	0.256	166.1	1,236.9	0.278	344.1	534.0	0.221	118.2
SMITH EAST	19.0	0.441	8.4	1,043.5	0.284	296.7	1,062.5	0.287	305.0	125.2	0.280	35.1
SAVAL	12.3	0.227	2.8	367.5	0.253	93.0	379.8	0.252	95.8	107.4	0.206	22.1
STARVATION	-	-	0.0	697.3	0.287	199.9	697.3	0.287	199.9	25.5	0.252	6.4
WRIGHT WINDOW	-	-	0.0	97.8	0.156	15.2	97.8	0.156	15.2	19.0	0.229	4.3
<i>Subtotal</i>	<i>2,590.2</i>	<i>0.270</i>	<i>699.9</i>	<i>3,838.8</i>	<i>0.270</i>	<i>1,037.2</i>	<i>6,429.0</i>	<i>0.270</i>	<i>1,737.1</i>	<i>1,922.4</i>	<i>0.232</i>	<i>446.2</i>
<b>Stockpiles</b>	35.9	0.173	6.2	818.3	0.059	48.1	854.1	0.064	54.3	-	-	0.0
<b>Other Pit Resources</b>	-	-	-	454.9	0.144	65.7	454.9	0.144	65.7	122.7	0.129	15.8
<b>Other U/G Resources</b>	-	-	-	458.9	0.227	104.0	458.9	0.227	104.0	274.6	0.213	58.4
<b>Total</b>	<b>2,626.0</b>	<b>0.269</b>	<b>706.1</b>	<b>5,570.9</b>	<b>0.225</b>	<b>1,255.0</b>	<b>8,196.9</b>	<b>0.239</b>	<b>1,961.1</b>	<b>2,319.7</b>	<b>0.224</b>	<b>520.4</b>

## Mining

Access to the underground mines is through portals, with internal ramps maintained at grades of 12% to 15%. Typical openings measure 15 x 15 feet in cross section, although consideration is now being given to reducing some drifts to 10 x 12 feet in size to allow more selective mining and to reduce development costs.

The mines generally follow a drift-and-fill method, operated by trackless equipment. Electric drill jumbos are used in preparation for blasting, and front loaders excavate the broken material into diesel-driven underground mine trucks for hauling to a pad area outside the portals. Mined material is segregated near the portals by placing the rock into several windrows; these are sampled and assays from the laboratory then dictate whether that material is high-grade, low-grade, or waste; the latter is excavated and placed in a waste dump, whereas the two ore types may or may not be blended depending on analytical results, and taken to the process facility. Because of the distances from the several mine portals to the processing plant, large (150-ton) off-road haulers are used for surface ore transport.

Mineral reserves as of December 31, 2007 are listed in Table 2, using the respective cutoff grades for each individual mine. It should be noted that the gold price of \$580 per ounce taken for this determination is an approximate average of prices published during the past three-year period; i.e., from 2005 through 2007. During this time the price was on an upward trend and certainly the cut-off grades used in this analysis are high (conservative) as compared to those that would be calculated using more recent values.

**Table 2: Jerritt Canyon Mineral Reserves – December 31, 2007**

Mine	Proven			Probable			Total		
	kt	opt	Cont'd koz	kt	opt	Cont'd koz	kt	opt	Cont'd koz
Smith	92.5	0.304	28.1	861.6	0.280	241.4	954.1	0.282	269.5
SSX	513.7	0.221	113.4	386.3	0.232	89.7	900.0	0.226	203.0
Saval	11.4	0.200	2.3	108.8	0.250	27.2	120.2	0.246	29.5
Starvation	-	-	-	571.6	0.282	161.3	571.6	0.282	161.3
Wright Window	-	-	-	32.6	0.226	7.4	32.6	0.226	7.4
<i>Subtotal</i>	<i>617.6</i>	<i>0.233</i>	<i>143.7</i>	<i>1,961.0</i>	<i>0.269</i>	<i>527.0</i>	<i>2,578.6</i>	<i>0.260</i>	<i>670.7</i>
<b>STOCKPILES</b>	35.9	0.173	6.2	540.8	0.075	40.4	576.7	0.081	46.6
<b>Total</b>	<b>653.4</b>	<b>0.229</b>	<b>149.9</b>	<b>2,501.8</b>	<b>0.227</b>	<b>567.4</b>	<b>3,155.2</b>	<b>0.227</b>	<b>717.3</b>

## Metallurgy

The ore processing facility at Jerritt Canyon is one of the few processing plants in Nevada that process refractory gold ore by roasting for the production of gold doré. The Jerritt Canyon processing plant is currently under a production restriction of 180tph through its two roasters. In May of 2008, a stack test will be done at the 180tph rate regarding the lifting of this restriction. Queenstake anticipates that in August 2008 another stack test will be scheduled at its full roaster design capacity of 250tph (125tph per roaster). The production forecasts and operating costs are based on the assumption that the production restriction will be lifted by October 1, 2008, and the two roasters will be able to operate at the 250tph rate for the last quarter of 2008. The life of mine plan for years 2008 through 2012 forecasts gold recovery of 89%, which is slightly above the actual 2007 recovery. SRK believes the projected recovery of 89% should be achievable based on recent plant operating improvements. Based on these assumptions for 2008, the processed ore production is estimated at 1,093,000t producing 158,000oz of Au.

## Environmental Issues

Jerritt Canyon has been in operation since 1981. The Mine is located on private land controlled by Queenstake Resources USA, Inc., a subsidiary of Yukon-Nevada Gold Corporation and public land administered by the United States Forest Service (USFS). The project consists of several surface and three operating and one non-operating (Murray) underground mining areas; rock disposal areas (RDAs); related haul roads, maintenance facilities, ancillary structures; and a gold processing circuit, including mill facilities, heap leaching facilities (inactive), tailings facilities, and support facilities.

Major operating permits for the project are in place. Environmental management systems are in place and are managed by an experienced and qualified environmental staff onsite. Queenstake has funded the estimated reclamation and closure costs by funding a commutation account with American Insurance Group (AIG). In addition, AIG has provided insurance that will pay for reclamation and closure costs if any exceed the funded amount.

In March 2008, the Nevada Division of Environmental Protection – Bureau of Air Pollution Control (BAPC) issued a *Compliance Order* to Queenstake concerning mercury emissions from the roaster circuit. The order required Queenstake to cease operating their roasters by March 17, 2008 and install process monitoring instrumentation. Additionally, the order required Queenstake to conduct mercury speciation testing of scrubber discharges within 15 days of startup after the instrumentation has been installed. Queenstake is planning to install a calomel-based scrubber system on the roasters to reduce mercury emissions in the future.

Past emissions testing at the roasters occurred when throughput was not at the maximum which resulted in a decreased allowable throughput on the air permits. Staff expects the emissions testing to permit higher throughputs later in 2008.

## Capital and Operating Costs and Project Economics

The SRK LoM plan and economics are based on the following:

- Reserves of 3.2 million tons at an average grade of 0.227oz-Au/ton, containing a total of 717koz of gold;
- A mine life of 5 years from 7 mines and various stockpiles, at a total average rate of 623kt per year;
- An overall average metallurgical recovery rate of 89%, producing 638koz of gold over the LoM;
- A cash operating cost of \$518/Au-oz, or \$98.32/ore-ton on a constant dollar basis;
- Total capital costs of \$55.5 million being comprised of \$5.2 million for mine equipment, \$22.5 million for capitalized development, and \$2.3 million for facilities, and sustaining capital of \$14.1 million for process, \$1.6 million administration and surface services, and \$9.9 million tailing impoundment;
- Salvage value of \$18.1 million; and

The base case economic analysis results, shown in Table 3, indicate an undiscounted after-tax net present value of \$9.853 million at a 0% discount rate.



**Table 3: LoM Economic Results**

<b>Description</b>	<b>LoM Value</b>
<b>Ore</b>	
Ore Milled-(Jerritt Canyon)	3,155kt
Gold Grade	0.227opt
Contained Gold	717koz
Process Recovery (average)	89%
Recovered Gold	638koz
<b>Gross Income (\$000's)</b>	
	<i>Market Price \$580/oz</i>
Gold Sales	\$370,240
Net Income from Purchased Ores	-
<b>Gross Revenue</b>	<b>\$370,240</b>
Refining & Sales	(\$520)
<b>Net Smelter Return</b>	<b>\$369,720</b>
Royalties	(\$3,831)
<b>Gross Income From Mining</b>	<b>\$365,889</b>
<b>Operating &amp; Capital Cost (\$000's)</b>	
Mining	(\$118,190)
Backfill	(\$22,719)
Expensed Waste	(\$28,818)
Surface Facilities	(\$35,287)
Process	(\$87,179)
Site Administration	(\$16,819)
Purchased Ore	(\$-)
<b>Operating Costs</b>	<b>(\$308,801)</b>
	<i>Cash Cost (\$/oz) \$518/oz</i>
	<i>Cash Cost (\$/t-ore) \$98.32/t</i>
<b>Cash Operating Margin (EBITDA)</b>	<b>\$58,024</b>
<b>Other Costs</b>	
Reclamation Accrual	(\$352)
Other	(\$9,700)
<b>Net Income</b>	<b>\$47,236</b>
<b>Capital Cost net of Salvage (\$000's)</b>	
Equipment	(\$5,192)
Capitalized Development	(\$22,452)
Facilities	(\$2,294)
Process Capital (sustaining)	(\$14,115)
Tailings Impoundment	(\$9,870)
Administration & surface Services	(\$1,560)
Salvage	\$18,100
<b>Capital Costs</b>	<b>(\$37,382)</b>
<b>Cash Flow (NPV @ 0%)</b>	<b>\$9,853</b>
<b>Cash Flow (NPV @ 5%)</b>	<b>\$5,270</b>
<b>Cast Flow (NPV @ 8%)</b>	<b>\$1,966</b>

# **1 Introduction and Terms of Reference (Item 4)**

Yukon-Nevada Gold Corp. (YNG) engaged SRK Consulting (US), Inc. (SRK) to prepare a Technical Report on the Jerritt Canyon Mine north of Elko, Nevada, to meet the requirements of Canadian National Instrument 43-101 (NI 43-101). In June 2007, Queenstake Resources Ltd. Merged with YGC Resources Ltd. to create Yukon-Nevada Gold Corp. The Jerritt Canyon Mine is owned and operated by Queenstake Resources USA, Inc. (Queenstake), a wholly owned subsidiary of YNG. This report reflects the most recent resource and reserves based on data produced through December 31, 2007.

## **1.1 Terms of Reference and Purpose of the Report**

This report is intended to provide Queenstake an independent reserve review and technical report that follows existing regulations in Canada. The report meets the requirements for Canadian National Instrument 43-101 and conforms to Form 43-101F1 for technical reports.

Resource and Reserve definitions are as set forth in the Appendix to Companion Policy 43-101 CP, “Canadian Institute of Mining, Metallurgy and Petroleum – Definitions Adopted by CIM Council, August 20, 2000.”

## **1.2 Reliance on Other Experts (Item 5)**

SRK’s opinion contained herein is based on information provided to SRK by Queenstake throughout the course of SRK’s investigations. The sources of information include data and reports supplied by Queenstake and Jerritt Canyon personnel as well as documents cited in Section 20.

## **1.3 Price Strategy**

The gold price used in this study is \$580 per ounce USD, which is the average price over the three years ending December 31, 2007.

## **1.4 Qualifications of Consultant (SRK)**

The SRK Group is comprised of over 750 staff, offering expertise in a wide range of resource engineering disciplines. The SRK Group’s independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This permits SRK to provide its clients with conflict-free and objective recommendations on crucial judgment issues. SRK has a demonstrated record of accomplishment in undertaking independent assessments of Mineral Resources and Mineral Reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs.

This report has been prepared based on a technical and economic review by a team of consultants sourced principally from the SRK Group’s Denver, US office. These consultants are specialists in the fields of geology exploration, mineral resource and mineral reserve estimation and classification, open pit mining, mineral processing and mineral economics.

Neither SRK nor any of its employees and associates employed in the preparation of this report has any beneficial interest in Queenstake or in the assets of Queenstake. SRK will be paid a fee for this work in accordance with normal professional consulting practice.

The individuals who have provided input to this technical report, who are listed below, have extensive experience in the mining industry and are members in good standing of appropriate professional institutions. Mr. Kuestermeyer, Mr. Stinnett, Ms Sawyer and Ms Mach visited the property in January 2007 and January 2008. Mr. Stinnett is the qualified person for this report.

The key project personnel contributing to this report are listed in Table 1.4.1. The Certificate and Consent form is provided in Appendix A.

**Table 1.4.1: Key Project Personnel**

<b>Company</b>	<b>Name</b>	<b>Title</b>	<b>Discipline</b>
<b>Queenstake</b>	Robert Todd	General Manager	Mining
	Cole Deringer	Chief Engineer	Mining
	Donald Colli	Manager, Mine Geology	Resources
<b>SRK Consulting</b>	Landy Stinnett	Associate Mining Engineer	Mining
	Alva Kuestermeyer	Principal Metallurgist	Process/Economics
	Valerie Sawyer	Principal Consultant	Environmental, Permitting
	Leah Mach	Principal Resource Geologist	Resources

## 2 Property Description and Location (Item 6)

### 2.1 Property Location

Jerritt Canyon Mine is located in Elko County, Nevada, approximately 50 miles north of Elko in the Independence Mountains at Latitude 41° 23' North, Longitude 116° West. The property is accessed by paved State Highway 225 about 45 miles to the paved mine access road. The property lies in ten townships within T39N to T41N and R52E to R54E relative to the Mount Diablo Base Line and Meridian (MDB&M). Figure 2-1 is a property location map.

### 2.2 Mineral Titles

The property is 100% owned and operated by Queenstake which acquired the mine from the previous owner, a joint venture between Anglo Gold (70%) and Meridian Gold (30%), at the end of June 2003. Queenstake is a wholly owned subsidiary of YNG.

The operations are located on a combination of public and private lands, with the mines and mining related surface facilities being primarily located on mining claims in United States Forest Service (USFS) land within the Humboldt-Toiyabe National Forest and the process facilities, office, shop, and tailings located on private land owned by Queenstake. Additional claims in the southern part of the land package are located on land administered by the United States Bureau of Land Management.

Queenstake owns 2803 claims, 1,011 acres of patented claims, and 12,433 acres of fee land; in addition, Queenstake leases 278 claims and 11,271 acres of fee land with mineral rights (Table 2.2.1). The claim notices, affidavits, title to property and lease agreements were not reviewed by SRK. A map depicting the 2007 general land package is shown in Figure 2-2.

SRK did not review the validity of the claims nor the leases.

**Table 2.2.1: Queenstake Resources Ltd. Jerritt Canyon Project**

Land Status	No. Claims	Acres
Owned Claims	2,803	
Leased Claims	278	
<b>Total Claims</b>	<b>3,081</b>	
Fee Land Owned		12,433
Patented Claims Owned		1,011
Fee Land Leased		11,271
<b>Total Acres</b>		<b>24,715</b>

### 2.3 Location of Mineralization

The resource and reserve areas and mine facilities are located within Queenstake owned or leased claims and fee land. Figure 2-3 is a map showing the location of the resource and reserve areas.

### 2.4 Environmental Liabilities

Ms. Val Sawyer (SRK) interviewed Ms. Teresa Conner, Jerritt Canyon Environmental Manager, on March 27, 2008 via telephone. Ms. Conner answered all questions posed to the best of her ability.

Environmental liabilities at the Mine include:

- High sulfate and Total Dissolved Solids (TDS) in runoff from waste rock in the Marlboro Canyon RDA. Three other RDAs are also exhibiting high levels of sulfate;
- Ongoing control and management of seepage from the tailings impoundment; and



- Air emissions from the processing circuit.

### **Waste Rock Runoff**

Mitigation for this issue has been ongoing for a number of years and has been well-defined by Jerritt Canyon staff. Staff has worked with the Nevada Division of Environmental Protection – Bureau of Mining Regulation and Reclamation (NDEP) to develop mitigation and monitoring plans.

The Mine has been working with the NDEP to address runoff with high concentrations of sulfate and TDS from the RDAs. The Mine installed a sulfate reduction trench in Marlboro Canyon to reduce the sulfate and TDS concentrations. The trench showed reductions in the concentrations but not to levels considered acceptable to NDEP. Monitoring continued through 2007. This information is routinely reported to NDEP. Meetings/discussions with NDEP have resulted in the need for Queenstake to research other possibilities for sulfate reduction; no timelines have been set thus far. The data from the Marlboro Canyon sulfate reduction trench and from the DASH RDA instrumentation project will be the basis for any new proposal. The discharge ultimately flows into Jerritt Creek which flows into Independence Valley through several ranch properties and infiltrates into the sub-surface. Sample analyses downstream from the sulfate reduction trench have shown acceptable sulfate and TDS levels.

Three other RDAs also exhibit elevated concentrations of sulfate besides Marlboro Canyon. These are Gracie, Snow Canyon, and DASH. Under a schedule of compliance item within the water pollution control permit, the Mine drilled three holes in the lower lift of the DASH RDA and one hole on the middle lift to assess the water flux and sulfate profile of the RDA. The lower lift of the DASH RDA is an unvegetated angle of repose slope. NDEP felt this angle of repose face was a significant contributor to the sulfate generation within the RDA. Preliminarily, this has not been borne out by the data, and staff believes that the high values are caused by a combination of factors

### **Tailings Impoundment Seepage Control**

During 2006, NDEP modified the water pollution control permit to include an evaporation pond for disposing of excess water from the existing tailings impoundment and to assist in the ultimate closure and reclamation of the facility. The evaporation pond was put into operation in 2007.

### **Air Emissions Violations**

On March 10, 2008, the Company received two Orders from the Nevada Division of Environmental Protection-Bureau of Air Pollution Control (NDEP-BAPC). The first Order was a “Stop” order for the roasters and all support systems, which required the Company to shut down the roasters within 7 days, or by March 17, 2008. The Company had already, of its own accord, shut down operations at the site in order to address housekeeping and maintenance issues, some two weeks prior to the issuance of the “Stop” Order.

The second order was related to on-going concerns that NDEP-BAPC has had with regard to control, monitoring, and reporting of air emissions related to the processing operations. This order has numerous requirements for the restart of the roasters, principally related to air emissions control, monitoring, and reporting. Specifically, the order required Queenstake to conduct mercury speciation testing of scrubber discharges within 15 days of startup after the instrumentation has been installed. The Company is in discussions with NDEP-BAPC and expects a favorable resolution that will allow startup of the Jerritt Canyon processing facility in compliance with NDEP-BAPC regulations and requirements.

Queenstake is planning to install a calomel-based scrubber system on the roasters to reduce mercury emissions in the future.

Past emissions testing at the roasters occurred when throughput was not at the maximum which resulted in a decreased allowable throughput on the air permits. Staff members expect that the emissions testing to permit higher throughputs later in 2008.

### **Reclamation Bond Cost**

Approved reclamation and closure plans are in place, and the Mine is concurrently reclaiming disturbance when possible. Reclamation, consisting of earthwork and reseeded, and closure of mine components, consisting of characterization and chemical stabilization, are among the most expensive activities that take place, especially as the operating income begins to wane. Mine staff and the USFS/NDEP update the reclamation bond on an annual basis. As of January 2007, the reclamation bond was estimated to be about US\$39.4 million. The 2008 bond is in preparation.

Review of the 2007 bond indicated the amount is appropriate for mining operations of this size. Bond increases are a result of more surface disturbance, and increased unit costs (labor, equipment, and fuel costs). Queenstake has already funded the estimated reclamation and closure costs by placing US\$26.5 million in a commutation account with American Insurance Group (AIG). In addition, AIG has provided insurance that will pay for reclamation and closure costs, if any, exceeding US\$26.5 million up to US\$60 million (personal communication, E. Edwards).

Queenstake has filed suit in Denver, Colorado court against AIG for US\$8 million reimbursement for the construction of the evaporation pond. The issue is whether the evaporation pond benefits current operations or if it is solely for reclamation and closure purposes. The matter went to arbitration in 2007, with hearings anticipated in mid-2008.

The evaporation pond is expected to favorably affect the reclamation bond by reducing the post-operational water management from six years to two years. NDEP will review the potential bond reduction after Queenstake operates the evaporation pond for a year to verify performance. The projected reduction is expected to be on the order of US\$1.1 million per year.

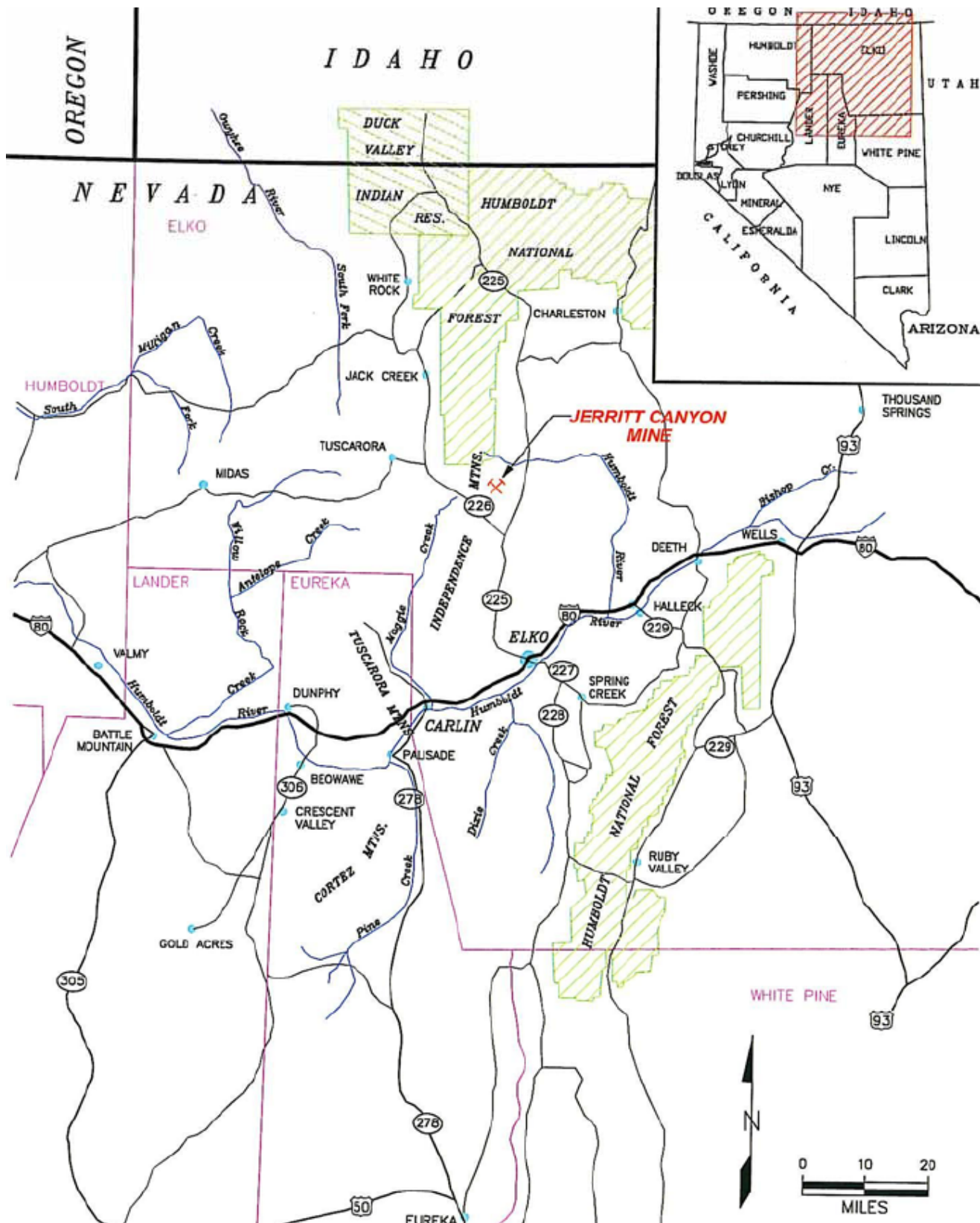
## **2.5 Permits**

Operating permits for the mine are in place and are presented in Table 2.5.1. Environmental management systems are in place and are managed by an experienced and qualified onsite environmental staff. Operating and maintenance staffs are informed of their responsibilities during annual MSHA refresher classes. In addition to MSHA classes, the Mine holds leadership classes for the supervisory staff. During these classes, supervisors are informed of their environmental responsibilities.

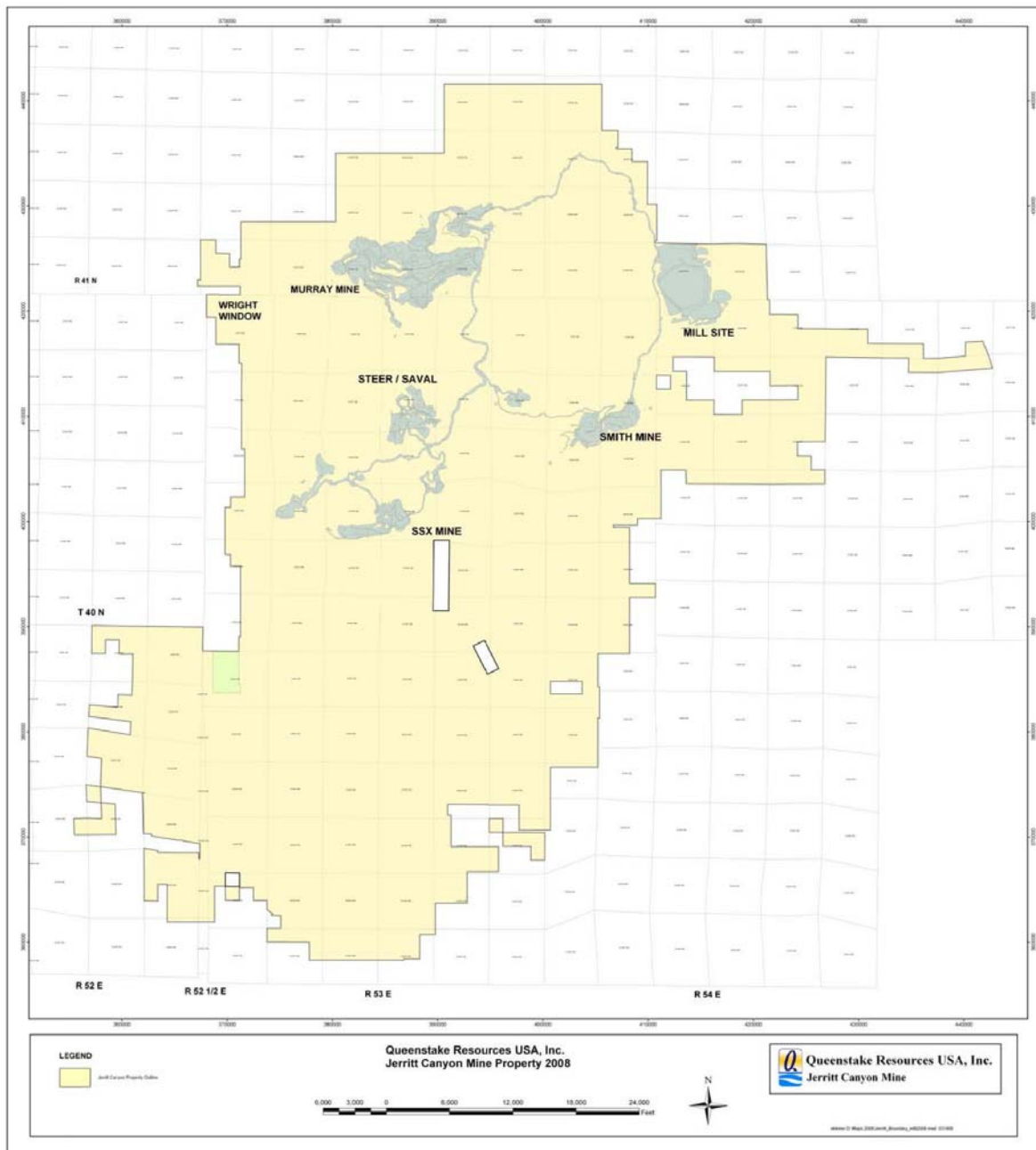
Operating permits for the mine are in place and are presented in Table 2.5.1.

**Table 2.5.1: Operating Permits**

Permit/Approval	Granting Agency	Comments
Plan of Operations	USFS	
Work Plans	USFS	Annual work plan submitted to USFS and NDEP
Clean Water Act Section 404 Permit	U.S. Army Corps of Engineers	Will be updating the existing 404 fieldwork and permit in the near future. There are no triggers requiring the update.
EPA ID Number	U.S. Environmental Protection Agency	The Mine, a large-quantity generator, has the typical hazardous wastes found at a mine such as cupels and crucibles. Seven to eight barrels of waste paint/solvents, a characteristic waste due to the flammability, are generated annually.
Air Quality Permit	Nevada Division of Environmental Protection (NDEP)/ Bureau of Air Pollution Control	The Mine has a current Title V air permit received in March 2004. The Mine has received a <i>Compliance Order</i> .
Reclamation Permit	USFS and NDEP/ Bureau of Mining Regulation and Reclamation (BMRR)	The bond estimate is updated annually with the USFS. As of Jan 2007, the reclamation bond was estimated to be about US\$39.4 million. The mine is currently in the process of updating the bond for the USFS & NDEP
Water Pollution Control Permit	NDEP-BMRR	One water pollution control permit covers the entire mine area. Two issues exist: the tailings seepage/chlorine plume; and the high sulfate/ total dissolved solids emanating from several rock disposal areas.
Underground Injection Control	NDEP/ Bureau of Water Pollution Control	For dewatering water from the Murray and Smith underground mines.
Solid Waste Class III Landfill Waiver	NDEP/ Bureau of Solid Waste	The Mine has three authorized landfills at the lower mill area, Burns Basin, and Alchem. Employees are informed during annual MSHA refreshers concerning what is acceptable to dispose in the landfill.
General Stormwater Discharge Permit NVR300000	NDEP/Bureau of Water Pollution Control	A general permit is in place. No concerns were noted. An updated general permit was submitted to NDEP in Dec 2007 due to new permit requirements.
Permit to Appropriate Waters	NV Division of Water Resources	No concerns were identified. The Mine has sufficient appropriations to cover processing and dewatering needs.
Permit to Construct Impoundments/Dam Safety	NV Division of Water Resources	No concerns identified
Industrial Artificial Pond Permits	Nevada Department of Wildlife	No concerns identified
Liquefied Petroleum Gas License	NV Board of the Regulation of Liquefied Petroleum Gas	No concerns identified
Potable Water System	Nevada State Health Division	Potable water systems are located at the Murray, SSX, and millsite. No concerns identified
Septic System Permit	Nevada State Health Division	The Mine has general permits for five systems: SSX; Steer; Murray; USA; and Smith. The mill site has a package plant that discharges to the tailings impoundment. No concerns identified







SRK Job No.: 174701

File Name: Figure 2-2.doc

# **Yukon-Nevada Gold Corp. Jerritt Canyon Mine**

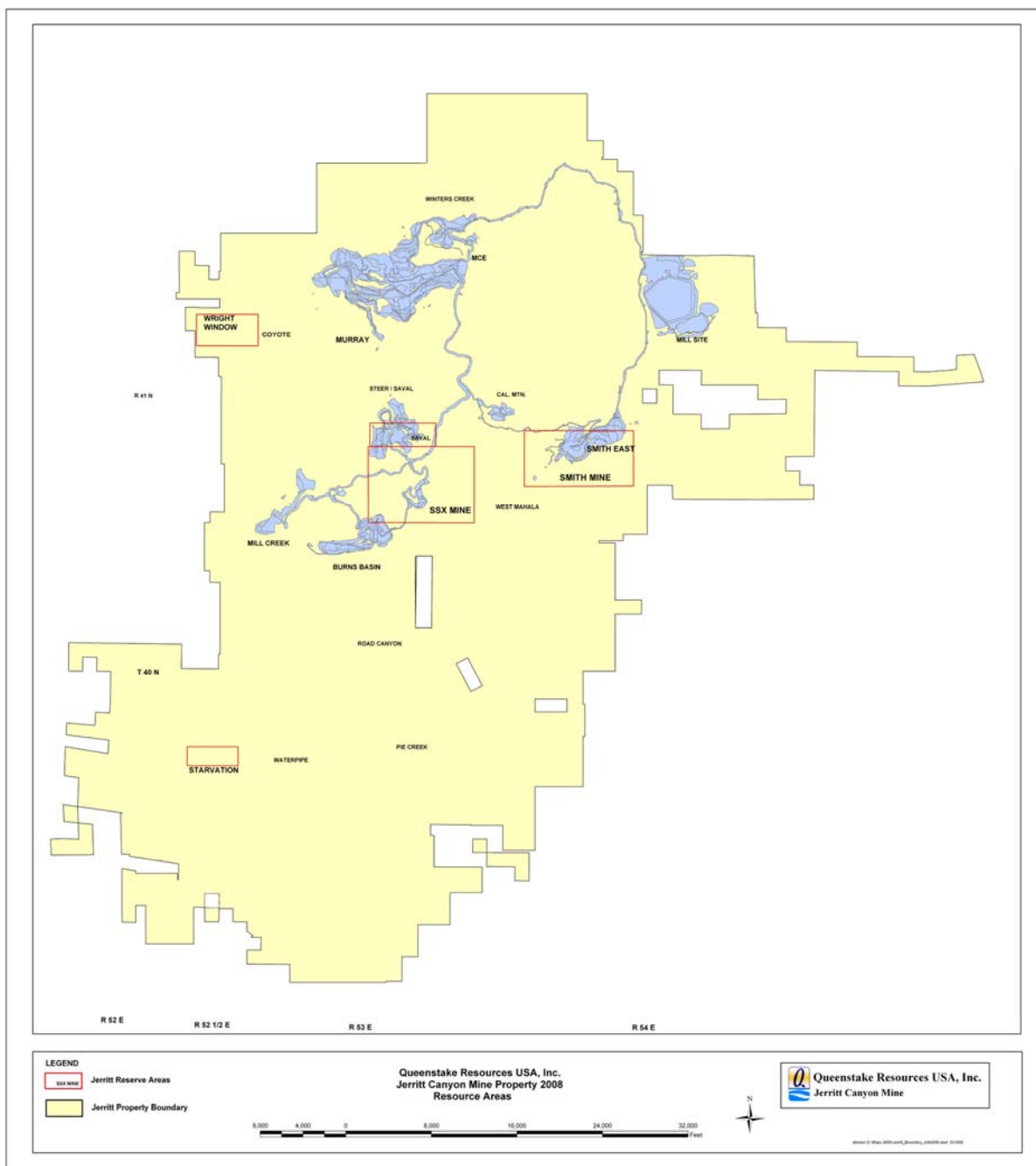
**Source: YNG**

## **Figure 2-2 General Land Map of the Jerritt Canyon District**

Date: 03/28/08

Approved: LM

Figure: 2-2



SRK Job No.: 174701

File Name: Figure 2-3.doc

# **Yukon-Nevada Gold Corp. Jerritt Canyon Mine**

**Source: YNG**

## **Figure 2-3 General Land Map of the Jerritt Canyon District with Resource and Reserve Areas**

Date: 03/28/08

Approved: LM

Figure: 2-3

## **3 Accessibility, Climate, Local Resources, Infrastructure and Physiography (Item 7)**

### **3.1 Access to Property**

The Jerritt Canyon Mine is located in Elko County, Nevada, approximately 50 miles north of Elko. Access to the property is by State Road 225 to the mine access road. The roads are paved and in excellent condition all the way to the main gate where the administrative offices, process plant, warehouse, and tailings impoundment are located. The mines are accessed by haul roads on Queenstake controlled land.

### **3.2 Climate**

The climate is temperate with winter temperatures between 0° and 40° Fahrenheit and summer temperatures between 35° and 90°. Average annual precipitation at the tailings impoundment is estimated at 14 inches per year with an estimated annual average evaporation of 43 inches. A significant amount of the total precipitation falls as snow and increases with elevation to the mining areas. Mine operations are only rarely halted by weather conditions, although ore haulage from the mines may be slowed. The mill, warehouse, shop, and administrative facilities are at a lower elevation and therefore are less exposed to weather extremes.

### **3.3 Vegetation**

The vegetation is typical of the Basin and Range province with sagebrush vegetation dominant at the lower elevations. Small stands of aspen and isolated fir trees grow in canyons and drainages.

### **3.4 Physiography**

Jerritt Canyon mine is located in the Independence Mountain Range in the Basin and Range province of northern Nevada. The topography ranges from about 6,400 feet at the administrative facilities and mill site to about 8,000 feet at the highest point of the haul road to the mines.

### **3.5 Local Resources and Infrastructure**

Elko, Nevada with a population of about 36,000 is the closest city to the mine. The city is on Interstate 80 and is serviced by daily commercial flights to Salt Lake City, Utah. Elko is a center for the mining operations in northern Nevada and services necessary for the mine are readily available there.

## **4 History (Item 8)**

### **4.1 Ownership**

The Jerritt Canyon mine is wholly owned by Queenstake Resources USA, Inc. after its purchase from the joint venture of Anglo Gold and Meridian Gold in June 2003. The joint venture was formed in 1976 between Freeport Minerals Company, later Freeport McMoran Inc., and FMC, later Meridian Gold. In 1990, Freeport sold its interest in Jerritt Canyon to Minorco and their wholly owned subsidiary, Independence Mining Company, which became the new joint venture partner and operator of the mine. In 1998, Minorco's North American gold assets, including 70% interest in Jerritt Canyon were sold to Anglo Gold.

Queenstake is a wholly owned subsidiary of Yukon-Nevada Gold Corp which formed as a merger between Queenstake Resources Ltd and Yukon Gold Corp on June 20, 2007.

### **4.2 Past Exploration and Development**

Prospectors explored for antimony in the 1910's. Thirty to forty tons of stibnite as antimony ore were reportedly mined and shipped from the Burns Basin mine in the Jerritt Canyon district between 1918 and 1945. In the early 1970's there was a renewed interest in antimony exploration when its price reached historic highs of \$40 per pound. Around 1971, FMC began exploring for antimony in the Independence Mountains. In 1972, FMC, later known as Meridian, discovered a disseminated gold deposit in the Jerritt Canyon area. In 1976, a joint venture was formed with Freeport Minerals Company to explore and develop the area, and mining commenced at Jerritt Canyon in 1981.

Open pit mining was conducted at the site from startup in 1981 until 1999. The first underground operation at Jerritt Canyon started up in 1993 at West Generator. The mine during 2007 consisted of three underground mining operations feeding ore to a process plant consisting of a roaster followed by carbon-in-leach processing. The mines are mechanized operations using backfill for ground control and to increase ore recovery. In the early years, the ores mined at the operation were less refractory and were processed through a "wet" mill. This "wet" mill continued to operate until 1997 and is still located on site. With ores becoming more carbonaceous and refractory, as well as with the introduction of higher-grade ore from underground operations, a dry mill with an ore roasting circuit was added in 1989 and is currently in operation.

Since its inception, the Jerritt Canyon Mine has produced over seven million ounces of gold. Annual production has historically averaged between 125,000 and 350,000 ounces of gold, at historical cash costs ranging from \$240 to \$554 per ounce. Queenstake reports the 2007 mill production from Jerritt Canyon ore at 619,933 tons in 2007 with 126,140 ounces of gold attributed to the operation with a cash operating cost of \$554 per ounce.

Surface exploration drilling and underground core drilling which is also used as an exploration tool, decreased from 2001 to 2002, when the former owner, Anglo Gold shifted focus from exploration to reserve development. In 2000, about 445,000 feet of exploration and development were completed, of which 165,000 feet consisted of surface Reverse Circulation (RC) drilling and the remainder was underground (UG) core and RC drilling. In 2001, a total of about 500,450 feet were drilled, 65,450 of which were surface RC holes. In 2002, 435,000 feet were drilled, all of which were from underground. After the acquisition of Jerritt Canyon at mid-2003, Queenstake started more aggressive exploration and mine development programs and those programs have continued after the merger of Queenstake Ltd and YGC in June 2007.



## 4.3 Historic Mineral Resource Estimates

The measured and indicated mineral resources, including reserves, at Jerritt Canyon during Queenstake's ownership, as documented in NI 43-101 filings are given in Table 4.3.1.

**Table 4.3.1: Historic Measured and Indicated Mineral Resources during Queenstake's Ownership**

Year	Tons	Grade	Ounces
2003	9,497,000	0.242	2,295,000
2004	9,988,000	0.241	2,410,000
2005	8,812,000	0.236	2,079,000
2006	8,203,000	0.232	1,907,000

The proven and probable reserves at Jerritt Canyon during Queenstake's ownership, as documented in NI 43-101 filings are given in Table 4.3.2.

**Table 4.3.2: Historic Proven and Probable Mineral Reserves during Queenstake's Ownership**

Year	Tons	Grade	Ounces
2003	3,065,000	0.268	820,000
2004	3,511,000	0.249	875,000
2005	3,723,000	0.236	878,000
2006	1,985,000	0.245	486,000

## 5 Geologic Setting (Item 9)

### 5.1 Regional Geology

The Jerritt Canyon mining district is located in the Independence Mountain Range in northern Nevada. The range is part of the Basin and Range province of Nevada and is a horst block consisting primarily of Paleozoic sedimentary rocks with lesser Tertiary volcanics and intrusive dikes. A district geologic map is shown in Figure 5-1 and a stratigraphic column is shown in Figure 5-2.

There are four distinct assemblages in the district, characterized by their position relative to the Roberts Mountains thrust, a Devonian to Mississippian structure formed during the Antler orogeny:

- The western facies, or upper plate of the thrust, consists of the Cambrian to Ordovician Valmy Group and forms about 70% of the exposed rock in the area. In the Jerritt Canyon district, the Valmy Group consists of the Snow Canyon formation, a chert, argillite, greenstone, and carbonaceous siltstone sequence, and the McAfee Quartzite, a sequence of massive quartzite and shale;
- The eastern facies, or lower plate of the thrust, consists of a sequence of Ordovician to Devonian shallow water sedimentary rocks that are exposed in tectonic and erosional windows through the upper plate. The gold mineralization in the district is contained within the eastern facies rocks. The Pogonip Group rock is exposed in the west-central part of the district and is composed of fossiliferous limestone with calcareous shale and dolomite interbeds. The Eureka Quartzite is a massive quartzite with minor interbeds of siltstone. The Hansen Creek Formation is one of two principal ore hosts in the district. It is divided into five units, with the contacts between the units being the favorable sites of gold mineralization. The Hansen Creek consists of interbedded silty limestone, calcareous siltstone, dolomite, chert, and carbonaceous limestone. The Roberts Mountains Formation is the second ore host and consists of calcareous, carbonaceous siltstone and thinly bedded, silty limestone. The Waterpipe Canyon formation is thought to have been deposited in a synkinematic foreland basin that formed during the Antler orogeny; it consists of carbonaceous shale with interbedded greywacke, chert pebble conglomerate, bedded chert, sandstone, and siltstone;
- The Schoonover sequence occurs north of the district and consists of basaltic and andesitic greenstone, chert, tuff, volcaniclastics, and siliciclastic and limestone turbidites of Devonian to Permian age; and
- The Antler overlap sequence is restricted to the north end of the range and consists of conglomerates, argillite, siltstone and limestone.

There are four sets of dikes: Pennsylvanian basalt dikes, Eocene basalt and quartz monzonite dikes and a Miocene basalt dike. The Pennsylvanian and Eocene basaltic dikes are altered and mineralized in most of the mines.

#### 5.1.1 Regional Tectonics

The regional structural setting of the Jerritt Canyon district is complex, with several regional deformation events being evident. The Devonian to Mississippian Antler orogeny, resulting from west to east compression, is represented in the upper plate Snow Canyon Formation with north-south folds in both the hanging wall and footwall of the thrust. The Permian to Triassic Sonoma orogeny emplaced the Golconda allochthon over parts of the Roberts Mountains allochthon to the north of the district. The northwest to southeast compression associated with this deformation is rarely seen in the district. The Jurassic to Cretaceous Nevadan orogeny resulted in east-west folds that are often associated with mineralization.

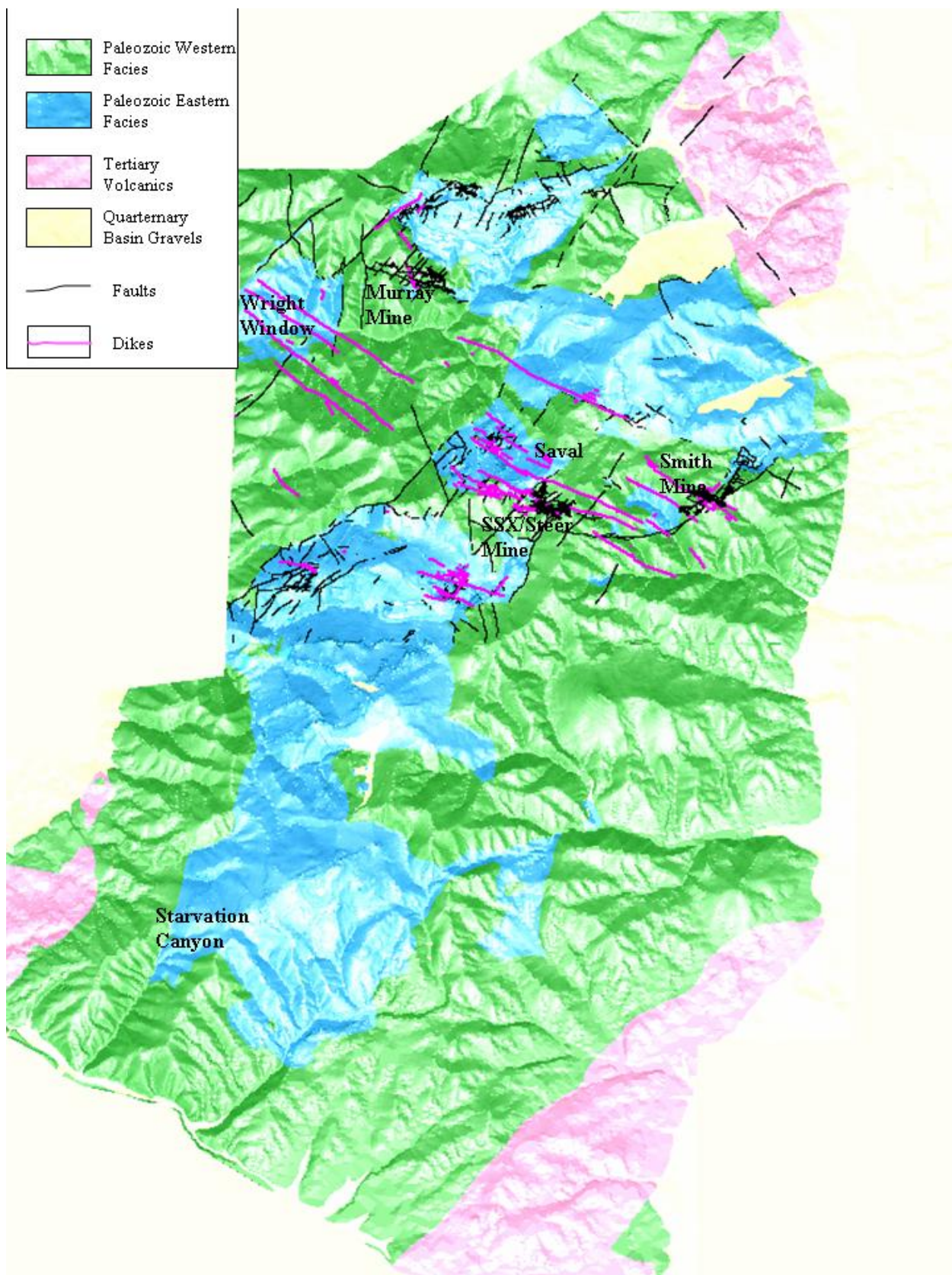
## **5.2 Local Geology**

Within the Jerritt Canyon area, gold can locally occur within all sedimentary formations, but is preferentially hosted by the Roberts Mountains and Hansen Creek Formations of the eastern facies in the lower plate of the Roberts Mountains thrust. The Roberts Mountains Formation consists of calcareous to dolomitic siltstones and silty limestones. The Hansen Creek Formation is divided into five members, numbered I through V from the top of the formation to the bottom. Hansen Creek I is a thinly bedded sequence of gray, medium-grained limestones and continuous blocky chert beds; it is typically brecciated. Hansen Creek II is a dark to light gray, irregularly bedded to massive, vuggy, dolomitic limestone. Hansen Creek III consists of intercalated carbonaceous micrites and laminated argillaceous limestones. Hansen Creek IV is a thickly bedded, medium to coarse-grained, carbonaceous limestone with discontinuous black chert nodules. Hansen Creek V consists of laminated, carbonaceous siltstone with chert lenses.

The contact between the Roberts Mountains Formation and the overlying Snow Canyon Formation is a regional thrust fault which transported the Snow Canyon eastward over the Roberts Mountains Formation. The contact between the Roberts Mountain Formation and the underlying Hansen Creek Formation is a discontinuity locally known as the Saval discontinuity. The discontinuity may be an angular unconformity of local extent or a thrust fault. The base of the Hansen Creek is gradational into the Eureka Quartzite. Locally, the stratigraphic section has been repeated by thrust faulting as seen in the cross-section through the SSX mine in Figure 5-3.

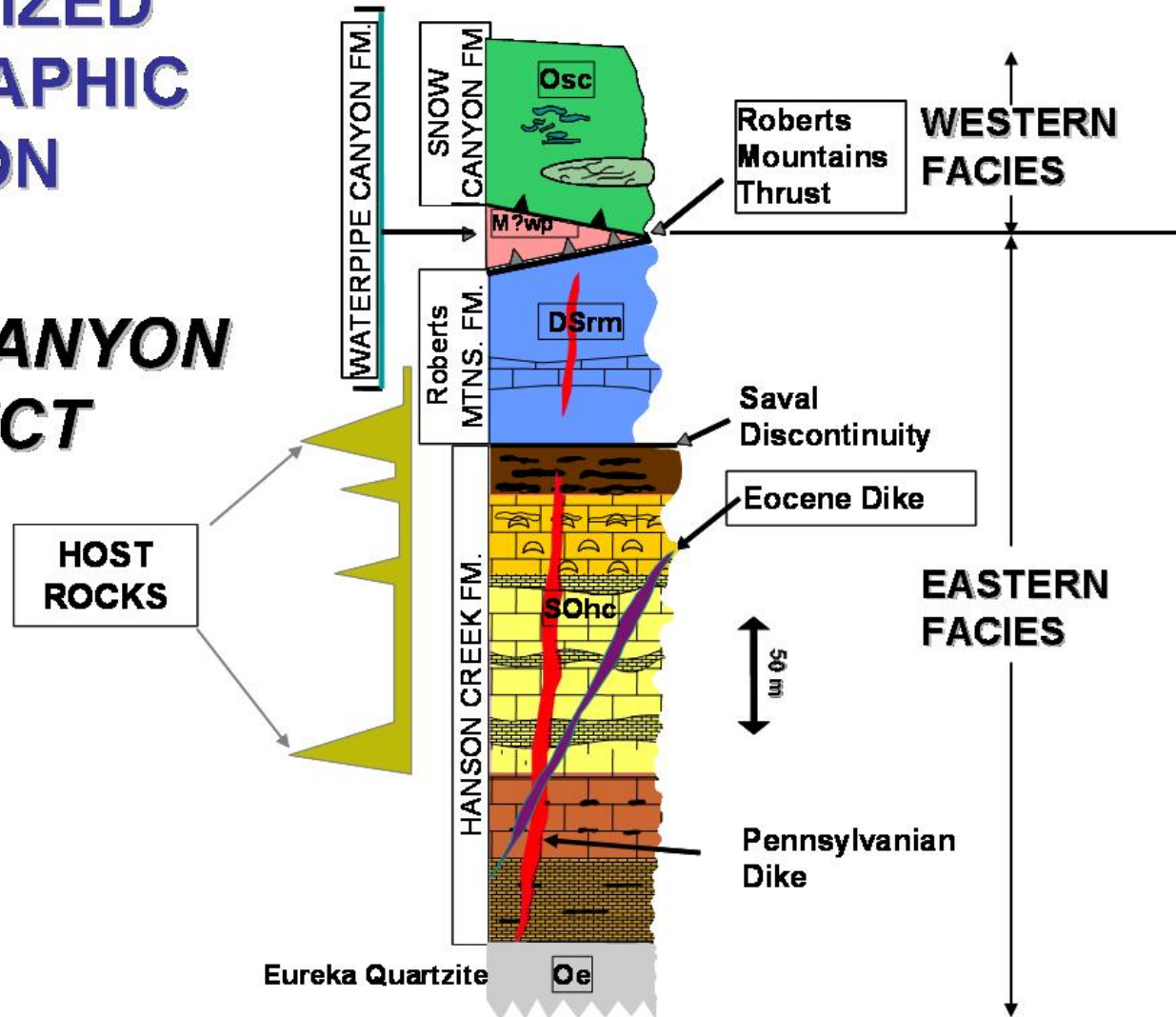
### **5.2.1 Alteration**

Alteration in the Jerritt Canyon district includes silicification, dolomitization, remobilization, and reconstitution of organic carbon, decalcification, and argillization. The rocks also exhibit hypogene and supergene oxidation and bleaching. The most important alteration types relative to gold deposition are silicification, remobilization and reconstitution of organic carbon and decalcification.



# GENERALIZED STRATIGRAPHIC SECTION

## JERRITT CANYON DISTRICT



SRK Job No.: 174701

File Name: Figure 5-2.doc

Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine

Source: YNG

Figure 5-2

Stratigraphic Column of the  
Jerritt Canyon District

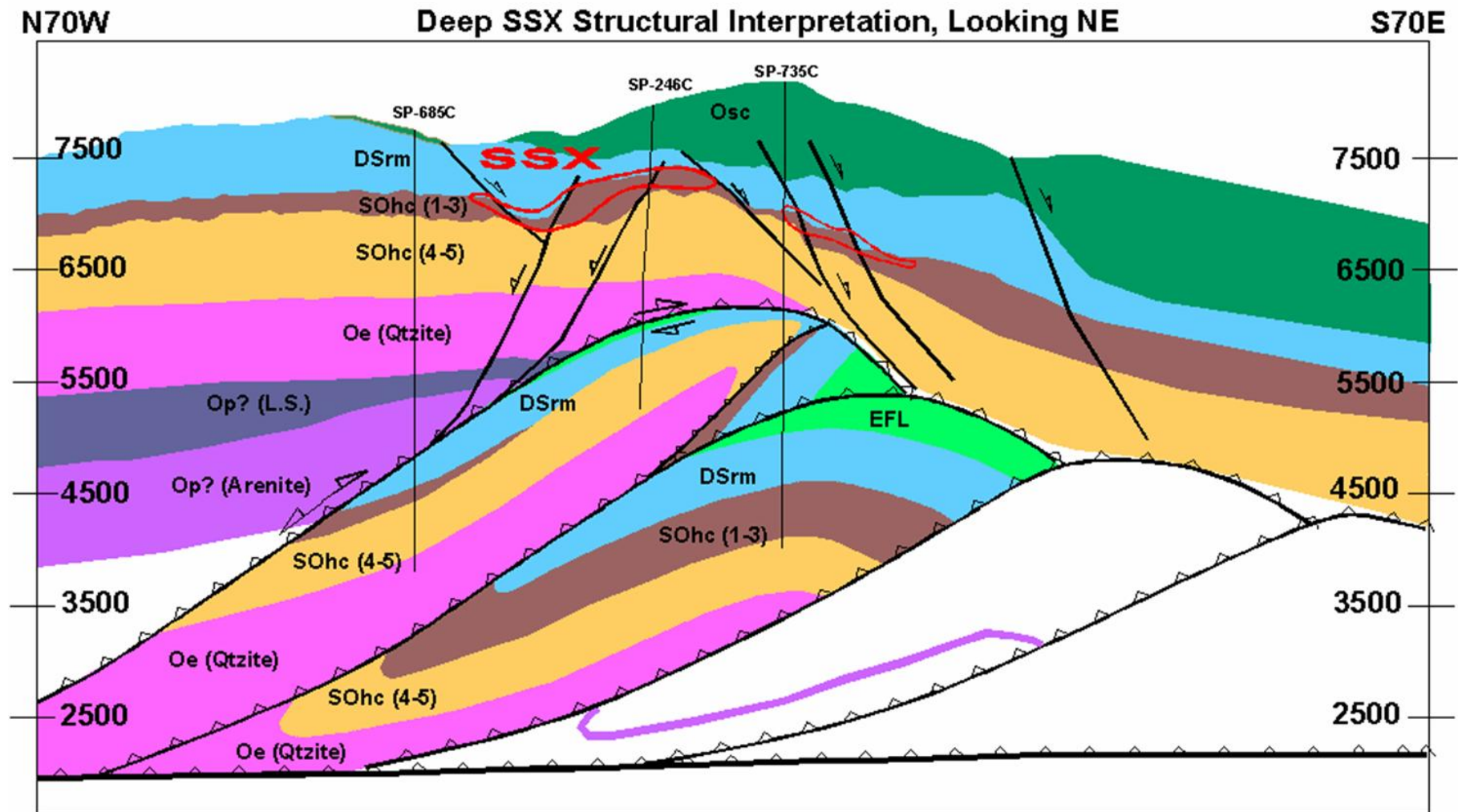
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Figure: 5-2



# IMBRICATED/REPEATED STRATIGRAPHY



SRK Job No.: 174701

File Name: Figure 5-3.doc

Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine

Source: YNG

Figure 5-3

Typical Cross-section through  
the Jerritt Canyon District

Date: 02-28-08

Approved: LM

Figure: 5-3



## 6 Deposit Types (Item 10)

The Jerritt Canyon deposits are typical of the Carlin-type deposit of micron to submicron-sized gold particles hosted primarily by carbonaceous, Paleozoic calcareous and sulfidic sedimentary rocks. Lesser amounts of ore are hosted by intermediate to mafic intrusive rock. The deposits often consist of several discrete pods or zones of mineralization whose location is controlled by intersections of major west-northwest and north-northeast structures that cut folded, permeable and chemically favorable host rocks. Locally, intrusive dikes that follow the northwest or northeast structures may be important host rocks. The combination of these structural and stratigraphic controls imparts a highly irregular shape to the ore zones, though most have more horizontal than vertical continuity depending upon the orientation of the host rocks. Gold in the Jerritt Canyon ore deposits occurs as free particles of intergranular, native gold, on or within pyrite, or in association with sedimentary carbonaceous material. Due to the sulfide and carbonaceous affinities, most of the gold deposits at Jerritt Canyon require fine grinding and oxidation to permit the gold particles to be liberated by standard, carbon-in-leach cyanidation.

## 7 Mineralization (Item 11)

The resource and reserve areas at Jerritt Canyon are shown on Figure 2-3.

### 7.1 SSX Mine

The drift connecting the SSX and Steer mines was completed in the latter half of 2005 and the mines have been operated as a single unit referred to as the SSX complex since then. In 2007 a drift was completed to the Saval 3 portal allowing access to resource extending into the pit wall.

The SSX deposit was discovered in the early 1990's following the northeast structural trends between the Burns Basin and California Mountain deposits and the west-northwest trends from the Steer/Saval deposits. Mining started in 1997, and SSX has been the main ore producer for the last few years.

Figures 7-1 and 7-2 show the main SSX mine and the Steer area respectively. Mineralization at the SSX mine occurs mostly in the micritic unit III of the Hansen Creek Formation. A smaller portion of the mineralization occurs in calcareous siltstone at the base of the Roberts Mountains Formation or in the upper two cherty and dolomitic members of the Hansen Creek Formation. Mineralized zones are localized in and near west-northwest trending steeply dipping dikes (e.g. South Boundary Dike); however, dike material is a minor component of the ore at SSX. Mineralization is also localized along cross-cutting northeast trending faults (the Purple Fault in Zones 4 and 6, and the Crestline Fault in Zone 1). Folding of the mineralized horizons is apparent along axes parallel to the west-northwest dike trend and, more prominently, parallel to the northeast fault set. Gold occurs in decarbonitized rock, commonly in association with variable amounts of orpiment and realgar. Silicification with stibnite can also be associated with gold in portions of the upper cherty member of the Hansen Creek Formation.

Gold mineralization in the Steer portion of the SSX complex has been identified in an area stretching approximately 3,000 feet east from the old Steer pit to halfway along the connection drift to SSX Zone 5. Most gold mineralization at Steer is associated with gently dipping structures cutting through the Hansen Creek III unit. These structures strike northeast and dip southeast, offsetting individual strata. Typical ore zones follow the structures and tend to be broad and relatively thin. The mineralized zones are usually at the contact between the Hansen Creek units III and IV and occasionally follow the structures up through the Hansen III. Both within the Steer portion and the western side of SSX several low-angle features have been observed. These features are at least partly responsible for the gold mineralization at the contact of the Hansen Creek Units III and IV.

In the eastern portion of the Steer area, high-grade mineralization is associated with the Husky fault, a major northeast trending normal fault with at least 300 feet of normal dip-slip displacement to the southeast. Major northwest trending dikes appear to have locally compartmentalized high-grade mineralization. The intersection of these dikes with the Hansen III unit and the Husky fault and its related structures offers excellent exploration potential. One of these dikes is interpreted to be the western extension of the South Boundary dike, which is an important ore-controlling structure at the SSX mine to the east.

At Steer and SSX the structural intersections are the primary targets for resource expansion, as well as the westward extension of the South Boundary dike. In the eastern part of the SSX complex, the West Mahala mineral resource remains an excellent exploration opportunity.

### 7.2 Smith Mine

The Smith Mine, accessed from the Dash open pit, was started in 1999 as the pit was being mined out. The Smith Mine complex consists of several distinct areas that are accessed from the Smith portal, as well as an area to the east, East Dash, that will be accessed from a separate portal in the Dash pit. During 2006 the portal was developed to access mineralization in the east highwall of the Dash pit.

Gold mineralization in the main Smith, Mahala, and West Dash deposits is associated with the northeast trending Coulee Fault and west-northwest trending faults and dikes (Figures 7-3 and 7-4). In Zone 1, high-grade gold mineralization is hosted in the upper and middle portions of the Hansen Creek Formation unit III within a northwest trending horst block between the South Graben fault and the 170 fault. Mineralization in Zones 2 and 3 is directly associated with west-northwest trending dikes. High-grade mineralization occurs within the Hansen Creek units II and III along the steeply dipping dikes. Lesser amounts of mineralization exist at higher levels where the dikes intersect favorable beds in the Roberts Mountains Formation. An exception to the tight elevation controls on mineralization is at the intersection of the west-northwest trending dikes and Coulee fault. Here, high-grade mineralization blows out into the Hansen Creek unit III along the west plunging intersection of the dikes and the fault for a down-dip depth of 600 ft.

Gold mineralization in the Mahala area is spatially associated with the west-northwest trending Mahala fault and associated dikes and favorable ore-host stratigraphy including units II and III of the Hansen Creek Formation and lower beds of the Roberts Mountains Formation. Mineralization at East Mahala occurs primarily in broad, SE-dipping lenses in Roberts Mountains Formation in the hanging wall of the Coulee Fault

The B-Pit deposit occurs as gently dipping, thin lenses of mineralized material north of the main Smith deposit. Three of the four lenses occur are stratigraphically bound within the Roberts Mountains Formation. The fourth lens occurs at the top of the Hansen unit III in the wall of a NW-trending horst block just to the south of the other three zones.

The West and East Dash deposits occur at the extreme ends of the west-northwest trending Dash Fault system which formed the mineralization mined in the Dash pit. The West Dash deposit occurs at the intersection of the Coulee fault and the west-northwest trending Dash fault. Most gold mineralization at West Dash occurs in fault-bounded slices of Hansen Creek unit III with minor amounts in the overlying Hansen Creek unit II and Roberts Mountains Formation. West Dash is accessed through the Smith Portal. The East Dash deposit lies to the east of the Dash pit. A portion of this deposit has been accessed by a small portal in the pit. At East Dash, most gold occurs in two lenses parallel to the Dash Fault and dipping to the northeast. The largest lens is about 1,100 feet and is 15 feet to 25 feet thick. The north edge of the lens seems to be bounded by a steep east-west trending fault that is locally mineralized with high-grade material. The second lens is smaller at about 350 feet across, but much thicker, up to 120 feet.

In 2007, surface and underground drilling along the western extensions of the Coulee and Mahala Dike Trends, continued to reveal additional mineralization which was brought into the resource category the year.

### **7.3 Murray Mine**

The Murray Mine occurs within the Roberts Mountains Formation and the top three units of the Hansen Creek Formation. A minor amount of mineralization also occurs within the silicified unit IV of the Hansen Creek Formation. It was originally discovered by condemnation drilling for a waste dump for one of the early open pits. Mineralization in the main Murray deposit occurs along the New Deep Fault which is a wrench fault striking west -northwest and dipping 50° to 60° to the northeast (Figure 7-5). Mineralization in Zone 7 located about 750 feet north of the New Deep Fault occurred within calcareous siltstone beds of the Roberts Mountains Formation. Zone 7 and the main Murray have been largely mined out, with remnant pockets of mineralization remaining.

Zone 9 mineralization is located immediately west of the main Murray deposit and is associated with a westward projection of the New Deep Fault and several northeast trending faults. It was the focus of drilling campaigns in 2002-2005. Although there was no additional drilling in this resource it was removed from reserves in 2006 because of economics and possible water issues. It consists of two separate areas, a relatively flat-lying zone at the base of the Roberts Mountains Formation and a main

zone which is associated with the New Deep fault. Mineralization is hosted by the Hansen Creek III which is locally overlain by the Snow Canyon Formation

## **7.4 Starvation Canyon**

Mineralization at the Starvation Canyon project occurs at the Hansen II-III contact and is localized along a west-northwest fault zone at northeast structural intersections. The majority of the mineralization is within the interbedded micrite and argillaceous limestone of the Hansen Creek III, starting at or just beneath the contact. There are instances where mineralization has formed within the massive limestone of the basal Hansen Creek II, but these are rare. Drilling in 2007 has further defined the resource at Starvation, along its outer edges as well as the internal grade distributions. High angled structures have also been identified. In addition, core drilling has improved sample recovery.

Additional exploration potential exists to increase the resource of the presently known mineralized zones. The western extensions of the western zone have expansion potential along approximately 600 feet of strike length (Figure 7-6). The northwest structure that appears to be the primary control for the Starvation Canyon resource has potential for additional clusters of mineralization both to the northwest and southeast.

## **7.5 Saval**

Gold mineralization in the Saval Basin area to the west of the SSX mine is primarily hosted in favorable Hansen Creek Formation unit III where it has been structurally prepared by faulting and has locally been compartmentalized by northwest-trending dike systems. In this area, a series of west-northwest trending structures have been cut by northeast-trending faults. Notable structural features include the west-northwest trending Saval horst and the northeast-trending Husky fault, which cuts across the older Saval horst and down-drops it to the southeast (Figure 7-7). Ore zones were mostly formed in Hansen III host in the vicinity of structural intersections, often forming relatively steep, narrow, plunging orebodies. Dikes, such as the Saval 3 pit dike can be traced for thousands of feet. High-grade gold mineralization has been concentrated along the Saval 3 dike in several locations, most prominently in the Saval 3 pit and in the north part of zone 5 at SSX. Except at the Saval 4 deposit, most economic zones in the Saval basin area have been mined out leaving relatively small mineralized zones in difficult-to-access pit walls and bottoms. During 2006, access to a small resource in the highwall of the Saval 2 pit was completed with a small amount of production. A small reserve is being carried in the highwall of the Saval 2.

At Saval 4, a significant gold zone has been identified that can be mined from underground with hillside access. A small pit was excavated during 2006 to allow for a portal. This excavation occurred in mineralized Roberts Mountains formation with 2,050 ounces stockpiled. In this zone, relatively steep, confined, and vertically extensive high-grade ore-bodies have formed within the Saval horst beneath a splay fault of the large Sheep Tank fault. It is interpreted that the intersection of the west-northwest trending faults that bound the horst interact with northeast trending faults, forming structurally prepared ore hosts along their intersections. Additional mineralized zones form on the flanks of the horst where it intersects the NE-trending structures. Most notable is a high-grade zone directly in the Sheep Tank fault just to the north of the main pod. Thinner mineralization occurs near the top of the horst along its south bounding fault. Excellent opportunity exists for local resource expansion of the main pod and in the flanking fault-hosted zones with close-in underground drilling after mining has begun.

## **7.6 Other Reserve/Resource Areas**

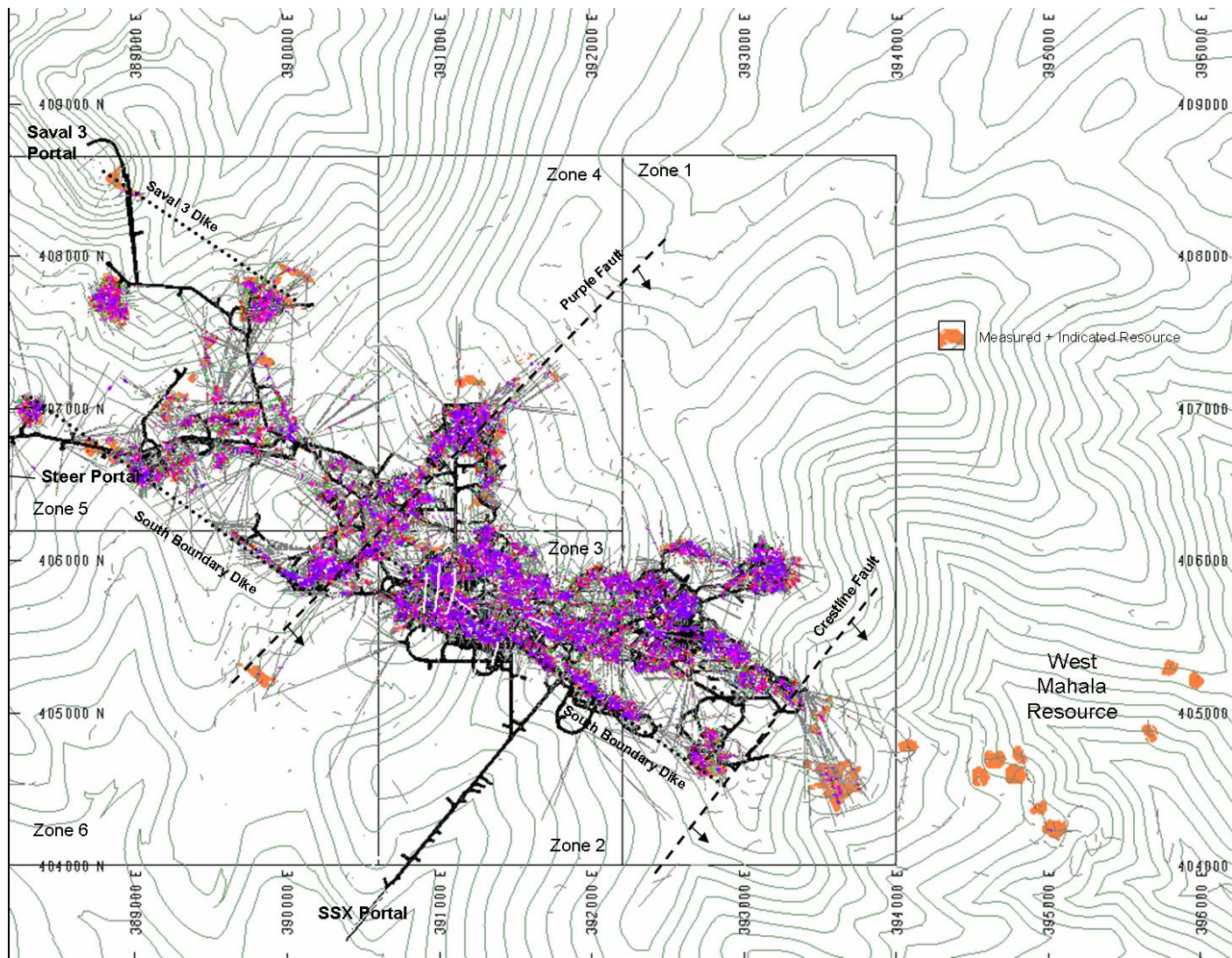
### **7.6.1 Wright Window Pit**

The Wright Window is a small open pit reserve and resource area located on the west side of the Independence Mountains to the west of the Murray mine. The deposit is hosted by the lower Roberts Mountains and Upper Hansen Creek Formations along the Saval Discontinuity. Mineralization occurs on

two zones; the west zone mineralization outcrops at the surface and is about 50 feet thick. The higher-grade east area is about 200 x 300 feet wide and 45 feet thick.

### **7.6.2 Pie Creek Resource**

Potentially economic gold mineralization occurs in a series of near-surface zones in the head of the Pie Creek drainage on the east flank of Wheeler Mountain. Indicated and Inferred resources have been modeled and are shallow enough, at a depth of 200 feet, for consideration of open-pit mining. The main pod is about 800 feet long, dips moderately to the southeast at about 30°, and is 20 feet to 45 feet in cross-sectional thickness. Mineralization is hosted in the top of unit III of the Hansen Creek Formation and is probably controlled by northeast trending faults. Three other smaller pods near the main pod are similarly in the top of the Hansen III, but strike northwest, dip moderately to the north, and are probably controlled by local faults of similar orientation. The main pod mineralization occurs between two of the mineralized northwesterly cross structures.



SRK Job No.: 174701

File Name: Figure 7-1

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

**Source: YNG**

**Figure 7-1**

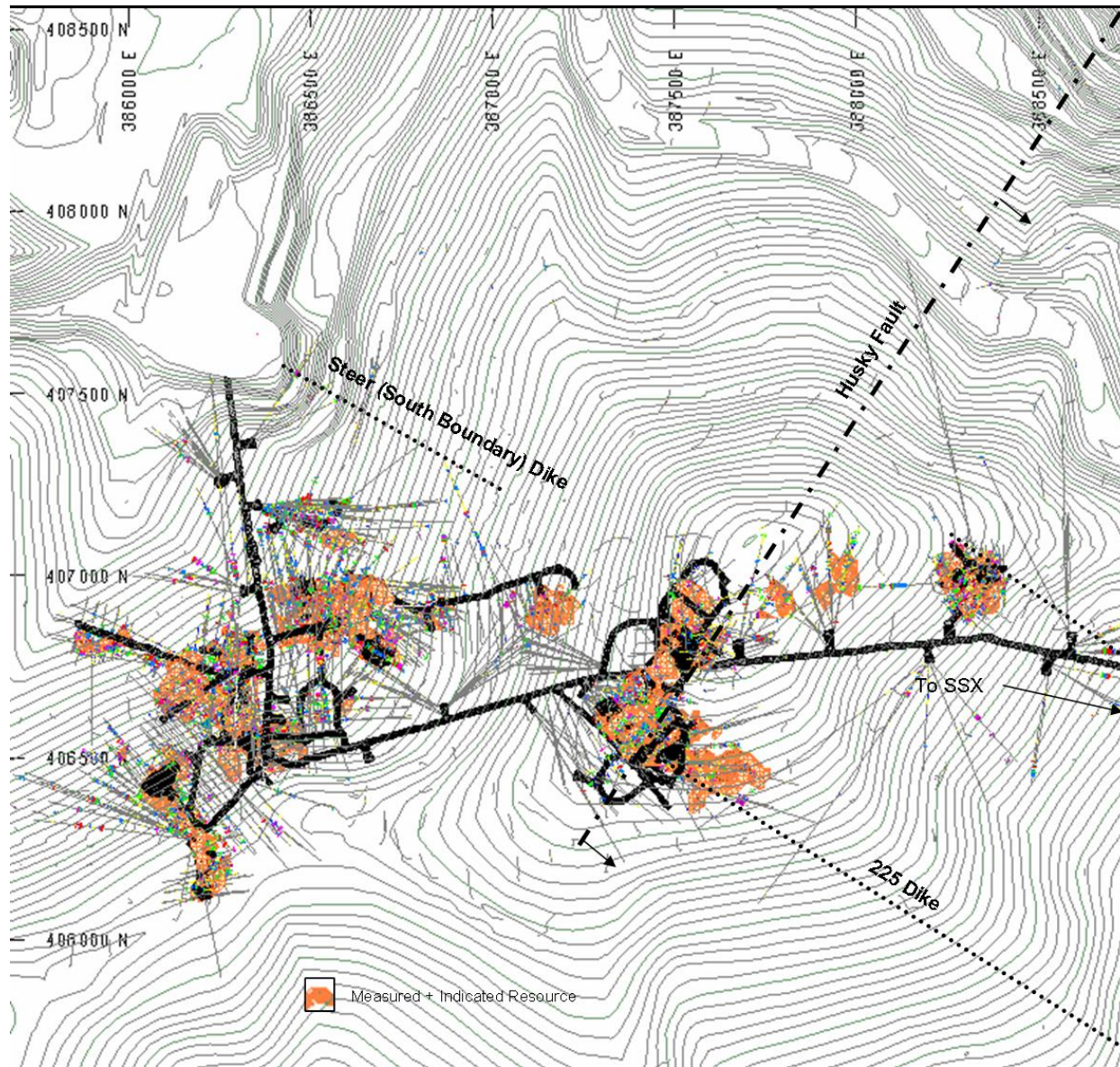
**SSX Mine December 2007 Model**

Date: 03/27/08

Approved: LM

Figure: 7-1





SRK Job No.: 174701

File Name: Figure 7-2

Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine

Source: YNG

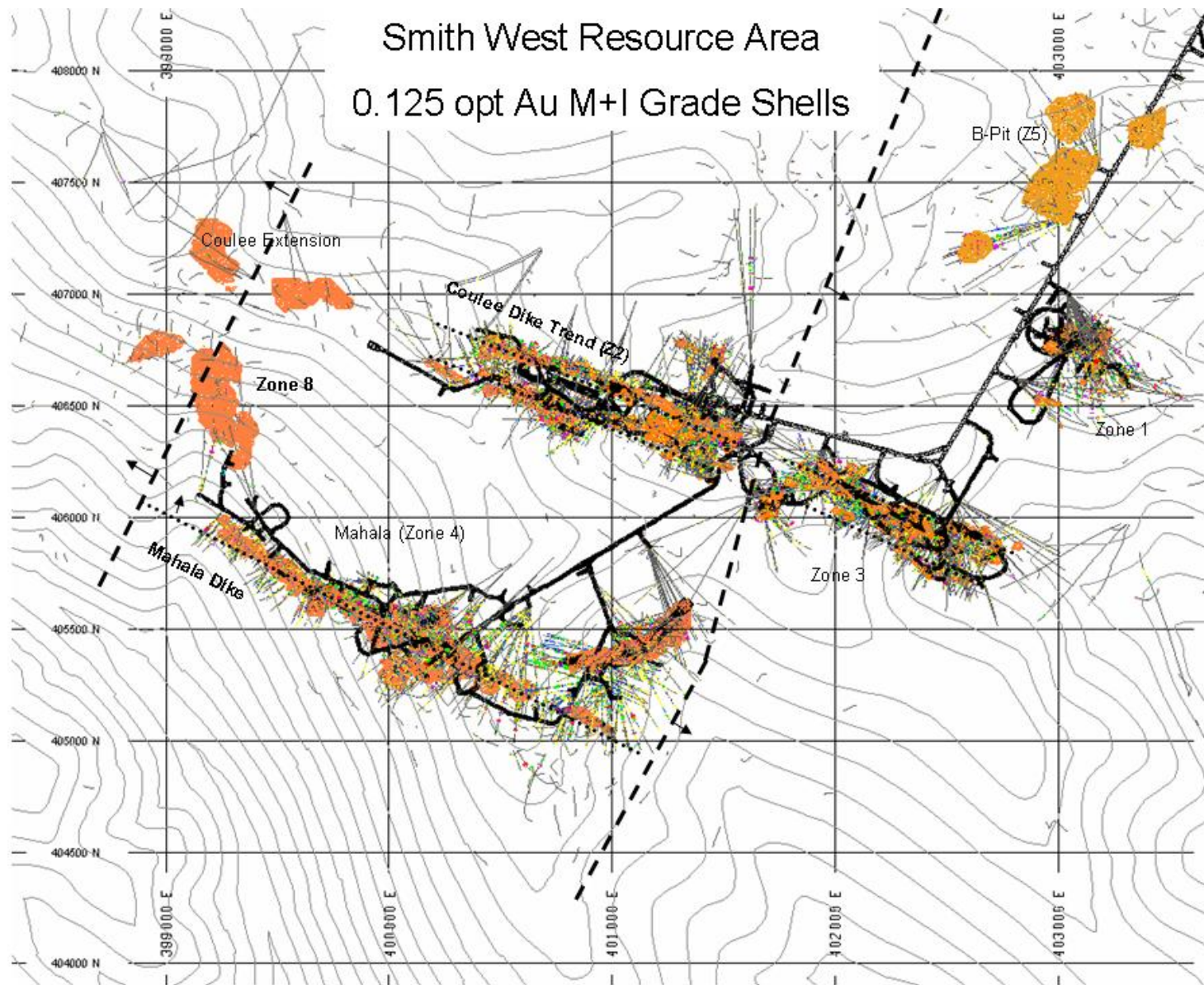
Figure 7-2  
Steer Portion of SSX Mine  
December 2007 Model

Date: 03/27/08

Approved: LM

Figure: 7-2





SRK Job No.: 1774701

File Name: Figure 7-3

**Yukon-Nevada Gold Corp.**  
**Jerritt Canyon Mine**

**Source: YNG**

**Figure 7-3**

**Smith Mine, Zones 1, 2, 3, 4 (Mahala)  
and B Pit December 2007 Model**

Date: 03/27/08

Approved: LM

Figure: 7-3



SRK Job No.: 174701

File Name: Figure 7-4

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

**Source: YNG**

**Figure 7-4**

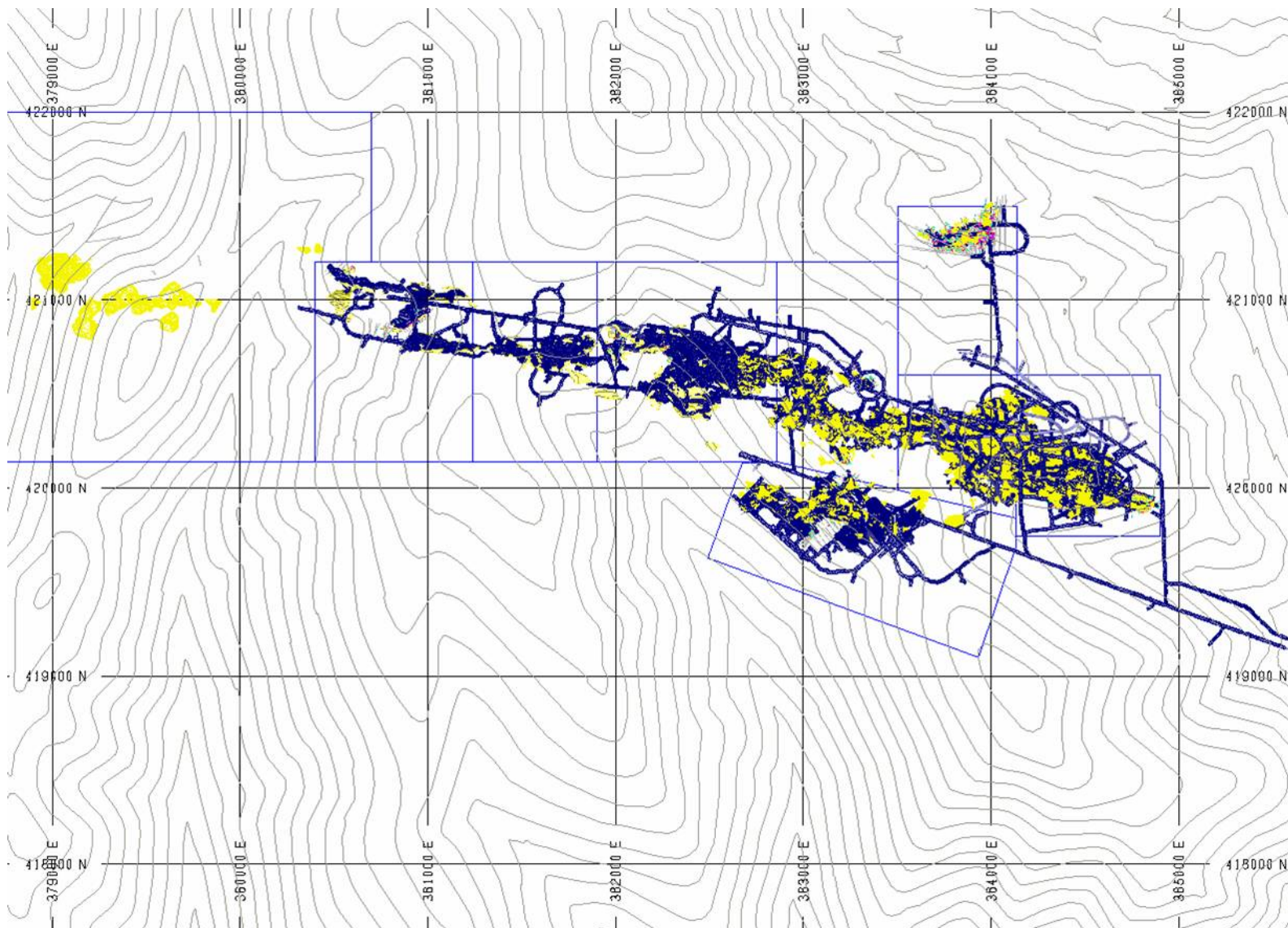
**Smith Mine, East and West Dash,  
B-Pit December 2007 Model**

Date: 04/15/08

Approved: LM

Figure: 7-4





SRK Job No.: 174701

File Name: Figure 7-5

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

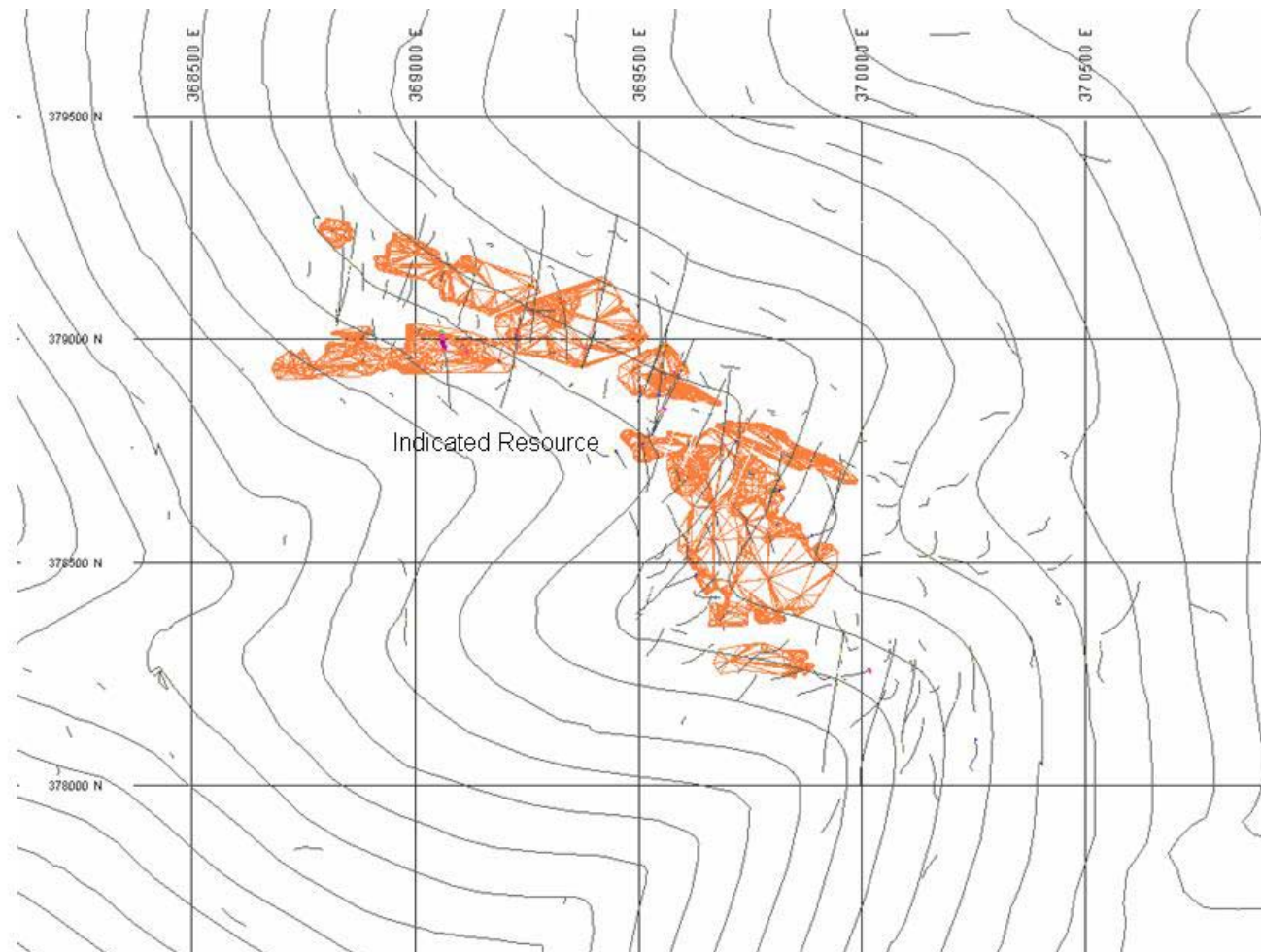
**Source: YNG**

**Figure 7-5  
Murray Mine  
December 2007 Model**

Date: 03/27/08

Approved: LM

Figure: 7-5



SRK Job No.: 174701

File Name: Figure 7-6

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

**Source: YNG**

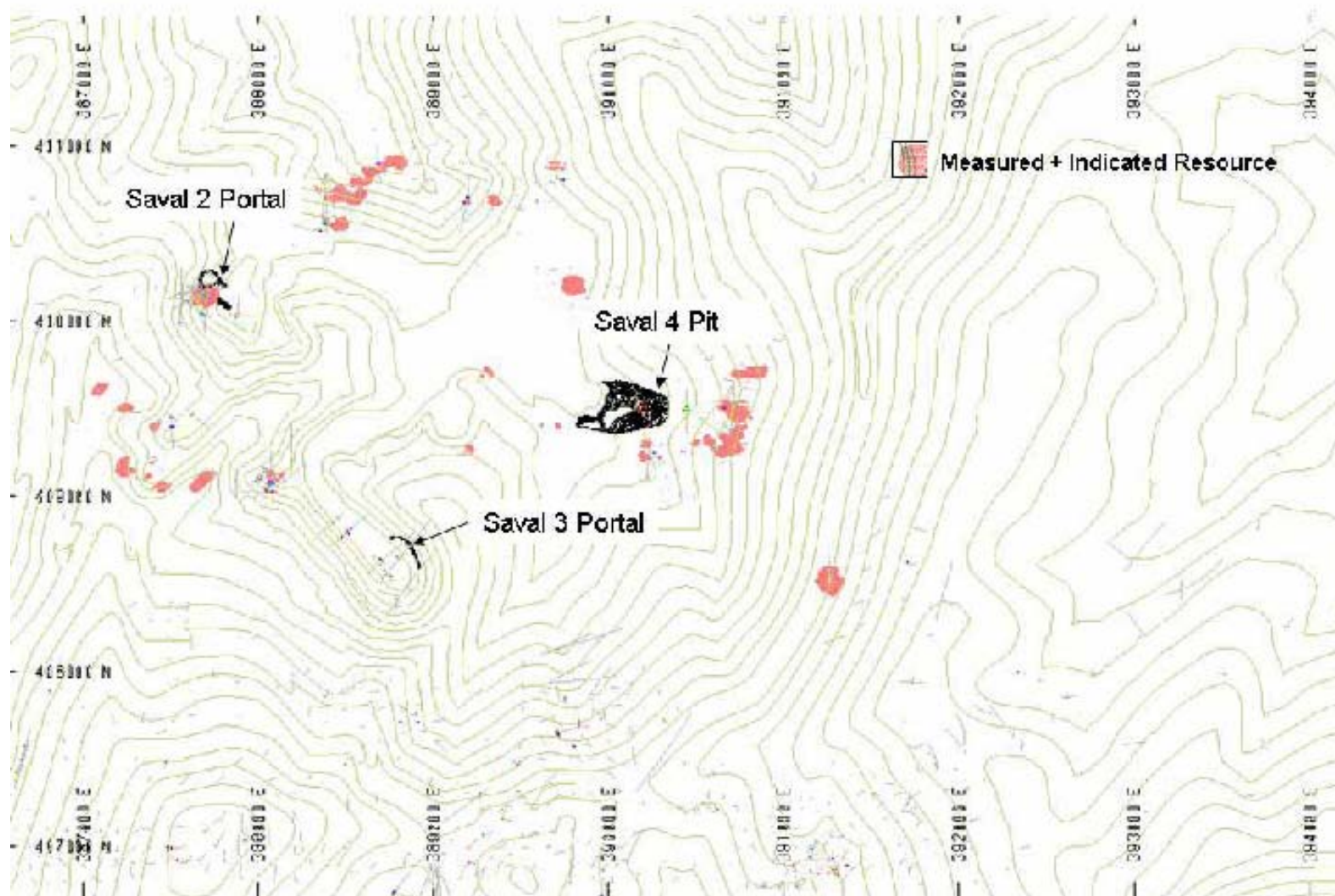
**Figure 7-6  
Starvation Canyon  
December 2007 Model**

Date: 03/27/08

Approved: LM

Figure: 7-6





SRK Job No.: 174701

File Name: Figure 7-7

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

**Source: YNG**

**Figure 7-7  
Saval Deposits  
December 2007 Model**

Date: 03/27/08

Approved: LM

Figure: 7-7

## 8 Exploration (Item 12)

The Jerritt Canyon district was explored by prospectors looking for antimony in the early 1900's. FMC Corporation, exploring for antimony in the 1970's, discovered gold occurrences similar to those in the nearby Carlin trend. In 1976, FMC, then known as Meridian Mining, formed a joint venture with Freeport Minerals to explore and develop the deposits. Mining commenced in 1981 with the North Generator open pit.

Since then, the operators of Jerritt Canyon have conducted exploration programs for the identification and development of new mineralized areas. Several open pit deposits were discovered, developed, and mined during the 1980's and 1990's, including North Generator, Alchem, Marlboro Canyon, Burns, Steer, Saval and Dash. Underground targets were also identified, and the first to be exploited was the West Generator underground deposit in 1993. The Murray deposit, originally discovered by condemnation drilling, has produced over 1 million ounces. The SSX deposit was discovered in the early 1990's by geologists following the structural trends between Burns Basin and California Mountain open pits. The SSX mine has also produced over 1 million ounces. The MCE, Smith, and Steer extension of SSX are more recent discoveries.

The Jerritt Canyon operation has had a history of exploration and discovery since the 1970's. In the last few years until Queenstake's acquisition of the property, most of the exploration efforts have been concentrated at and around the existing underground mines. Exploration efforts in the southern part of the range were directed to areas such as Water Pipe, Pie Creek, and Starvation Canyon (Figure 2-3). Queenstake has increased the exploration effort near the mine areas and also in the south. As a result, the known mineralization at Starvation Canyon has increased in size and quality so that a portion of it was included in the end of 2005 reserves. Additional drilling at Starvation Canyon in 2007 was targeted toward further definition and expansion of the resource.

Queenstake has carried out an aggressive program of exploration since its acquisition, with the following footages drilled in the past four years of its ownership of the property:

- 2003: 280,151 feet of underground and surface RC and Core Drilling;
- 2004: 710,896 feet of underground and surface RC and Core Drilling;
- 2005: 450,694 feet of underground and surface RC and Core Drilling; and
- 2006: 396,063 feet of underground and surface RC and Core Drilling; and
- 2007: 467,242 feet of underground and surface RC and Core Drilling.

Queenstake continues to evaluate its landholdings with the objective of focusing future exploration and drilling the most promising areas both near and away from the existing mines.



## 9 Drilling (Item 13)

Numerous drill campaigns have been executed at Jerritt Canyon since its discovery in the 1970's. Exploration drilling programs typically consist of RC drilling at about 200 foot centers. The spacing is then reduced to about 140 feet and finally, to 100 foot centers or less. Surface core drilling typically makes up about 5% to 10% of the total drilling. At the underground mines, definition drilling consists of core drilling on 50 foot centers from underground stations, using NQ sized core which is 1.875 inches in diameter. Underground RC drilling (Cubex) is used for resource confirmation and is drilled on 20 to 40-foot centers. RC holes are generally less than 150 feet in length, but can be as long as 300 feet. Underground production sample drilling consists of Cubex and rotary percussion drilling (Solo and Secoma). Holes are generally short, less than 60 feet, and are drilled on center as close as 10 to 20 feet. The vast majority of drillholes, except the production holes, are measured for downhole deviation.

Tens of thousands of holes have been drilled on the property over the years. The Murray mine has over 22,000 holes with more than 2 million feet drilled; the Smith mine has over 5,500 holes with more than 1.40 million feet; the SSX mine has nearly 18,500 holes with 2.6 million feet of drilling. Figure 9-1 shows the drillholes in the north area of Jerritt Canyon and Figure 9-2 shows the drillholes in the south.

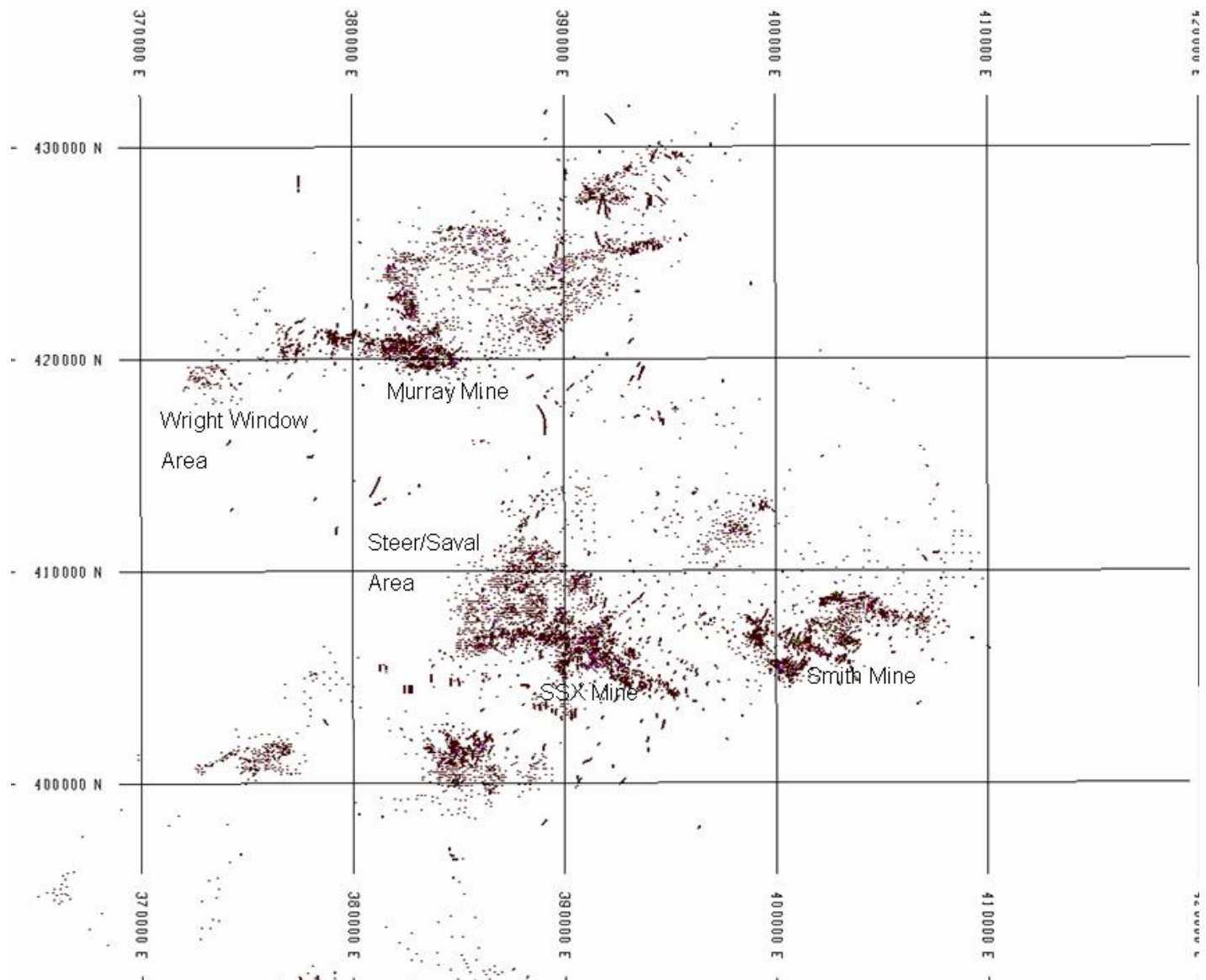
Drilling at Jerritt Canyon for the last eight years is shown in Table 9.1. Drilling in 2000 through 2002 was conducted by the former owner, and drilling from 2003 to present was conducted by Queenstake.

**Table 9.1: Jerritt Canyon Drilling (2000 through 2007)**

Year	Surface RC		Surface Core		UG Core		UG RC		Production	
	No.	Footage	No.	Footage	No.	Footage	No.	Footage	No.	Footage
2000	378	444,795	2	*	292	75,799	**	**	4,982	204,182
2001	59	65,450	0	0	268	86,134	914	112,129	5,086	349,157
2002	27	18,905	0	0	186	53,940	2,939	245,536	3,593	135,824
2003	108	47,277	0	0	119	41,458	2,057	191,416	3,643	141,218
2004	377	300,226	34	21,212	297	126,091	2,643	263,367	2,739	108,780
2005	126	101,413	4	1,403	179	80,251	2,618	267,627	2,414	94,793
2006	155	135,940	0	0	125	53,985	2,160	206,138	724	28,251
2007	220	216,592	15	12,495	44	20,580	1,808	178,625	1,035	38,950

\*2000 surface core footage is included with surface RC

\*\*2000 underground RC drilling is included with production drilling



SRK Job No.: 174701

File Name: Figure 9-1.doc

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

**Source: YNG**

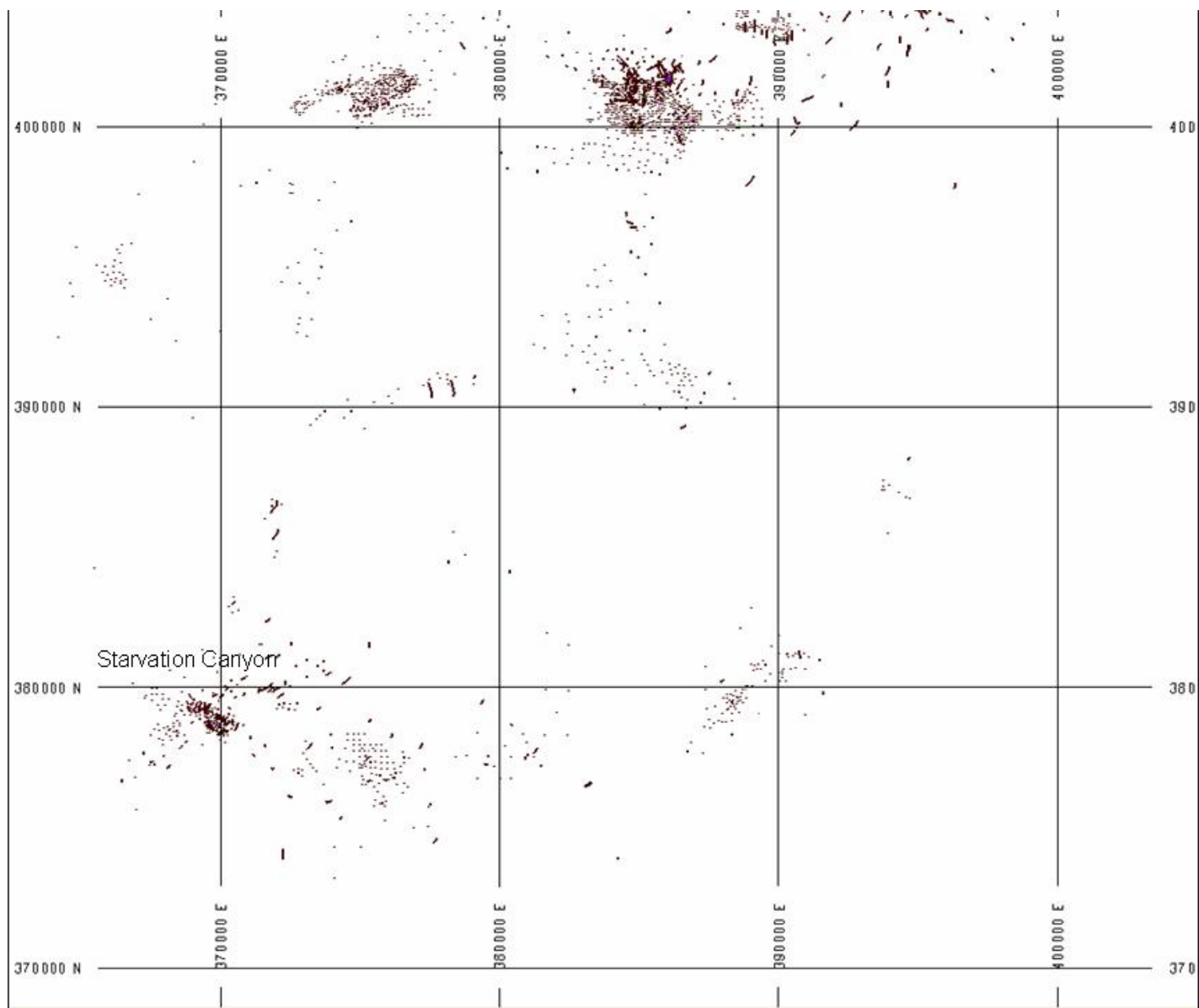
**Figure 9-1**

**Drillhole Location Map for Jerritt  
Canyon District North**

Date: 02-28-08

Approved: LM

Figure: 9-1



SRK Job No.: 174701

File Name: Figure 9-2.doc

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

**Source: YNG**

**Figure 9-2**

**Drillhole Location Map for Jerritt  
Canyon District South**

Date: 02-28-08

Approved: LM

Figure: 9-2

## 10 Sampling Method and Approach (Item 14)

### 10.1 Surface Drilling

Surface exploration drilling programs at Jerritt Canyon consist predominantly of reverse circulation (RC) holes, with some surface core drilling. The drilling is conducted by a contract company and downhole surveys are taken by a contractor using a gyroscopic instrument. Collar locations are surveyed by a contracted survey company and/or in-house surveyors.

#### Reverse Circulation Drilling

The surface RC holes are 5.5 inches in diameter and are sampled on 5 foot intervals, according to the following protocol established by Queenstake.

- RC drilling operations at development project areas use a combination of small and large sample bags. Small bags (10 x 17 inches) are used from the collar to a pre-determined depth based on the expected depth to the lower plate rocks. The large sample bags (20 x 24 inches) are used for the remainder of the hole;
- The wet splitter is thoroughly cleaned prior to drilling at the start of the drill shift. The rotation speed of the splitter is set to collect a continuous split from the bulk sample that is dropped out of the cyclone. The recommended rotation speed is 60 rpm but may vary due to drilling conditions. The splitter is sprayed clean after each rod change or 5-foot sample interval depending on drilling conditions and thoroughly cleaned and checked during the rod change. The number of “pie covers” used for the upper part of the hole can vary significantly due to drilling conditions and is usually determined by the driller and on-site geologist. If more than one pie is open for sample collection, all openings must be symmetrical. Two symmetrical pie division openings are usually sufficient to collect an appropriate volume of material (10 pounds to 15 pounds). Exceptions are; 1) zones of poor return, 2) extreme groundwater production that requires the use of a tricone bit, and 3) unique conditions agreed to by the driller and geologist. In these cases a variable number of openings may be needed to obtain a continuous split;
- Samples from the upper plate rocks are collected in a five-gallon bucket. All buckets are sprayed and washed with a brush before placing the bucket under the splitter. When the bucket cannot be cleaned by this method, they are replaced. Diluted, liquid flocculent is added to the bucket before it is set under the splitter. The sample is stirred and allowed to set for a brief period to allow clearing of the water before decanting clear water. Water and a minimal amount of drill cuttings and fine material are decanted off to a sample amount that can be poured into the labeled sample bag. A selected amount of spillage will occur. An approximate dry weight of 10 pounds to 15 pounds of sample is acceptable for normal rock conditions;
- Samples from the lower plate rocks are collected in a labeled bag that is placed inside the bucket. Diluted liquid flocculent is added prior to placing the bucket under the splitter. After the interval has been drilled the sample is stirred and allowed to set for a brief period to allow clearing of the water, usually 15 seconds to 30 seconds. Excessive clear water is then decanted off;
- RC drill chips are collected in a hand sieve from the waste port of the splitter and then put into the sample tray to represent each five-foot interval and sent to the logging facility. Intervals of no sample return are marked on the tray with “No Sample” or “Void”; and
- A drill interval that does not return any sample is marked on the sample bag as “No Sample” and placed in the appropriate shipping bag along with the other samples.

### **Diamond Drilling:**

- Surface core is HQ-sized (2.5 inches), unless it is necessary to reduce to NQ for completion of the hole. Surface core is logged for lithologic information and for geotechnical data according to the Jerritt Canyon logging manual at the logging facility; and
- Surface core is split or cut with a diamond saw or hydraulic splitter and half of the sample is sent to the lab for analysis.

## **10.2 Underground Drilling**

Drill hole spacing is targeted at 30 to 50 foot centers throughout the deposit. The attitude of the drill hole can be at any inclination to the mineralized unit although it is preferred to be as close to normal to the ore-controlling structures as possible. Collars of all drill holes are surveyed and the orientation of the holes is determined. All of the holes are surveyed by using a down-hole survey instrument (tropari or Flexit) or by a contract survey crew to measure the hole deviation. All of the collar and downhole surveys must pass quality assurance scrutiny by the site geologist prior to loading the data into the database. Only the actual data taken from the drillhole survey is used. Any projections of the survey beyond the length of the hole when surveyed are discarded. On rare occasions the collars are lost prior to collar or down hole surveys being completed; in this case the planned coordinates and hole orientation are used. However, when geological interpretation is done this factor is heavily considered in determining the validity of using the data from these holes.

### **Cubex RC Drill**

The Cubex drill performs definition drilling utilizing a conventional crossover tube above the down-hole hammer with a 3.75 inch bit. The air-cuttings are run through a cyclone but no splitter is used. Hole length is generally less than 300 feet. The sample interval is five feet, although SSX used a six-foot interval prior to 2003 when all RC drills were converted to five-foot rods. Both the hole and sample collector are washed prior to continuing with the hole. All of the holes are surveyed using a downhole gyroscopic tool or down hole compass in the open hole providing the walls of the hole have remained intact. Collar locations are surveyed. In the event that the collar is lost prior to surveying (either down hole or collars) then the planned coordinates and down hole survey are used.

### **Underground Core**

The majority of the underground core is drilled at NQ size. Underground core logging is done at the drill site and at the surface core logging facility at the exploration office or mine. The core is placed in racks or boxed for the geologist to log rock formation, lithology, alteration, and geotechnical data. Sample intervals are 5 feet, or as determined by the geologist based on lithology, mineralogy, or alteration. The entire core (not split) is taken for analysis throughout the complete drill hole. In general, sample lengths are set at a minimum of 6 inches and to a maximum of 5 feet.

### **Production Samples**

- Percussive drills (Solo, Airtrack, Secoma and others) are the dominant type used for collection of sludge samples over one rod length or six feet for final definition of the ore zones. It utilizes a rotary percussion drill with 3 inch diameter bits. Cuttings exit the hole via the annulus and are collected in a tray placed beneath the collar of the hole. These holes are drilled no longer than 60 feet in length due to hole deviation and downhole sample contamination issues. The hole and tray are cleaned prior to continuing the drill hole an additional six feet. Collar locations are surveyed but a downhole survey is not generally done. Some twinned data collected in 2001 suggests that there is a greater potential for these holes to have down-hole contamination beyond 36 feet depending largely on the orientation of the hole. For this reason the length of these holes has been decreased in the past few years. These drills are used for definition drilling at Murray and to a much lesser extent at SSX and Smith Mines;

- Jumbo drill holes and jackleg holes are drilled for ore control only. This data, when collected, is used to help determine ore waste determinations but is not loaded into the database;
- Selective rib and/or face samples are also used to help determine the ore boundaries and for grade control. They can be used to support the constrained ore boundary and in some cases at SSX are used to help estimate the block model grades; and
- Cubex drills are sometime used for production drilling.

### **Truck Samples**

At all the underground mines each haul truck is sampled for grade control purposes. The samples consist of grab samples taken over the entire load by the truck driver. Samples are placed in bags with pre-attached bar code numbered tags and transported to the Jerritt Canyon lab. Truck sample assays are cut by 8% which is a factor that has been determined through mine to mill reconciliation. The grades are used to state mine production.

# **11 Sample Preparation, Analyses and Security**

## **(Item 15)**

### **11.1 Jerritt Canyon Laboratory Procedures**

The mine utilizes the Jerritt Canyon laboratory for analytical work on the underground samples with check samples sent to ALS Chemex for comparisons. The samples for most of the surface drilling in the West Dash resource area in 2006 were also analyzed at the Jerritt Canyon facility. The assay lab is located in a separate building close to the ore processing plant. The laboratory has all the normal sample preparation equipment and facilities. The laboratory operates continually with a crew of 16 and performs about 500 fire assays per day with a 24-hour turnaround from receipt of sample to reporting of assays.

#### **Sample Preparation**

All of the underground samples received at the JC assay laboratory arrive with bar coded labels. The labels match drill logs maintained by samplers and drillers in the Jerritt Canyon Underground Department. Sample bar codes are scanned into the LIMS and assay lots are auto-created. The surface drillhole sample numbers are labeled on the sample bags and then logged into the LIMS system by the lab technicians. All logged samples dry for four to six hours at 325°F prior to prepping.

A rotary (automatic) 1:4 split (50 rotary cuts minimum) follows first stage crushing. Core samples first stage crush to 99% -1 inch prior to split; all other types are typically -1/2 inch prior to first stage split. Second stage crushing (99% - 3/8 inch) automatically passes through a rotary splitter (50 cut minimum). The assay split is then pulverized in a plate mill to 95%-150 mesh (Tyler) and blends for five minutes on a rotary blending wheel. The samples are placed in bar coded sample cups and transferred to fire assay.

#### **Jerritt Canyon Lab Fire Assay Procedures:**

A tray of 24 thirty-gram charge crucibles is prepared with a standard litharge flux. Each sample is weighed at one assay ton. Of 24 samples on each tray, one is a repeat sample, one is a standard, one is a blank, and one is a blind standard inserted into the sample stream by the geology department. The samples are fired by the method of fusion/cupellation, with a gravimetric finish. The balance used for the final weighing is a Cahn C-30 microbalance that is serviced and calibrated on a semi-annual basis by Microlab Services.

The laboratory in-house QA/QC procedure for checking the accuracy of the Jerritt Canyon lab consists of submitting saved duplicate samples of the mill feed and tail daily samples to outside labs for comparison. These samples are submitted on a weekly basis to either Rocky Mountain Geochemical or Chemex Laboratories. The data is compiled from the JC daily assay sheet and compared with the results from the two outside labs. The results of the comparison are entered into a statistical program and a running check is maintained on the data.

### **11.2 Commercial Laboratories**

Surface RC and diamond drilling are sent to ALS Chemex and American Assay. Samples above 0.100opt gold are routinely fire assayed with a gravimetric finish. Blanks, standards, and pulps are routinely inserted into the sample stream for QA/QC, and check assays

### **11.3 Quality Controls and Quality Assurance**

#### **11.3.1 Jerritt Canyon Laboratory QA/QC Procedures**

The Geology Department at Jerritt Canyon has established laboratory quality assurance/quality control procedures as follows:



### **Jerritt Canyon Laboratory**

- One standard sample per 20 samples;
- One blank sample, consisting of silica sand, per drillhole;
- One pulp of a previously assayed interval is inserted into the sample stream at the geologist's discretion; and
- Check assays consist of coarse rejects and pulps (one sample for every twenty over 0.01opt and one in ten over 0.07opt) sent to a commercial laboratory, generally ALS Chemex.

### **Commercial Laboratory**

- One standard sample in each batch of samples. A batch contains 40 samples in most commercial labs;
- One blank sample of silica sand per hole, inserted at the beginning or end of hole, or after a mineralized zone;
- A duplicate sample consisting of a pulp of a previously assayed interval may be used as a substitute for the regular standards; and
- 10% of the samples that have a value greater than 0.07opt gold, and 5% of samples between 0.01opt and 0.07opt gold are submitted to a second lab for check analysis.

The standards have been prepared from Jerritt Canyon mineralized rock and have several different gold values. The standards used throughout 2008 include:

- High – 0.268opt;
- JCQ01 – 0.117opt;
- JCQ02 – 0.256opt;
- JCQ03 – 0.051opt; and
- JCQ04 – 0.120opt.

Results from the standards or duplicates are reviewed by geologists upon receipt from the laboratory. If there is significant deviation from the expected value then the batch of samples is re-fired. If the lab is unable to match the original results within reasonable limits then the sample is re-fired until assay values match. The results from these analytical determinations are available in the QA/QC section below.

SRK reviewed the Jerritt Canyon assay QA/QC data for 2007 and finds the results within industry standards. Various graphs representing the results of the QA/QC program are located in Appendix B.

## 12 Data Verification (Item 16)

The Jerritt Canyon mine has ten's of thousands of drillholes throughout the land package in the active mines, mined out areas, and exploration targets, (Figures 9-1 and 9-2). Over the years the property has been the subject of many audits in which data verification procedures were carried out.

In June 2000, Mineral Resources Development Inc. (MRDI) conducted a review and audit of resources and reserves of the Jerritt Canyon operation. MRDI reviewed the database used at Murray and SSX mines, and did not find any significant errors or problems. A review of the spreadsheets used for Resource and Reserve tabulation found no errors.

Pincock, Allen, and Holt (PAH) reviewed a portion of the database as part of its due diligence review of the Jerritt Canyon operations in early 2003. Checks of several records of the SSX mine database performed against original logs confirmed the assays values and geological-geotechnical codes. Data validation checks identified a few errors in the drillhole database such as duplicate holes and missing intervals in downhole surveys which were then corrected.

In 2004 and 2005 PAH conducted reviews of Jerritt Canyon resources and reserves, during which they performed checks on several drillhole records and original assay certificates against the database. Their focus was new resource and reserve areas. Data validation identified minor errors in 2005 that were then corrected and no errors in 2004.

In January 2006, SRK conducted data validation checks as part of its review of the Jerritt Canyon resources and reserves. The database in new reserve areas such as Starvation Canyon and West Dash were checked against the original logs and assay certificates and no errors were found. Spot checks were also performed on the resource and reserve tables for tons and grade and no errors were found.

The geology department has largely completed the task of storing drillhole logging information and assay data into the Acquire database package. Assay data is directly downloaded from the lab (both commercial and Jerritt Canyon's) and goes through automatic and visual validations before being recorded, thus eliminating data entry errors.

It is SRK's opinion that Jerritt Canyon is conducting exploration and development sampling and analysis programs using standard practices and that the data can be effectively used in the estimation of resources and reserves.

## **13 Adjacent Properties** (Item 17)

Queenstake is not aware of significant resources on adjacent properties.

## 14 Mineral Processing and Metallurgical Testing (Item 18)

The mineral processing operation at Jerritt Canyon is very complex and is one of only three processing plants in Nevada that uses roasting in its treatment of refractory ores. Initially, Jerritt Canyon was designed to process oxide and mildly refractory gold ores by conventional cyanidation using chlorine gas for pre-oxidation of the refractory ores. In 1989, the roasting circuit was added to the process for the treatment of highly refractory ores which are now being mined and processed at Jerritt Canyon.

The unit operations at the Jerritt Canyon processing plant are comprised of the following circuits:

- Primary crushing;
- Secondary crushing;
- Fine ore drying;
- Tertiary crushing;
- Dry grinding;
- Roasting;
- Carbon-in-leach (“CIL”) with cyanidation and carbon adsorption;
- Carbon stripping;
- Carbon reactivation;
- Merrill-Crowe process using zinc cementation of gold and silver;
- Precipitate refining;
- Oxygen plant; and
- Tailing impoundment.

A simplified flow sheet of the mineral processing operation is shown in Figure 14-1. Figure 14-2 shows an overview of the processing facilities. Table 14.1 summarizes the operating parameters for the processing plant.

**Table 14.1: Operating Parameters for the Jerritt Canyon Processing Plant**

Operating Parameter	Units	Value
Processing Capacity Rate	tons/Year <sup>(1)</sup>	1,450,000
Processing Capacity Rate	tons/Day	4,000
Ore Grade <sup>(2)</sup>	oz Au/ton	0.261
Gold Recovery	%	89.0
Operating Cost <sup>(3)</sup>	\$/ton Processed	29.51/27.27

<sup>(1)</sup> Tons/year reflect ore from Jerritt Canyon and purchased ore. <sup>(2)</sup> Ore grade is the grade of Jerritt Canyon ore for 2008. <sup>(3)</sup> \$29.51 for 2008 and \$27.27 for 2009-2012.

As noted in Section 4.2, the Jerritt Canyon processing plant is currently under a production restriction of 180tph through its two roasters. In May of 2008, a stack will be done at the 180tph rate regarding the lifting of this restriction. Queenstake anticipates that in August 2008 another stack test will be scheduled at its full roaster design capacity of 250tph (125tph per roaster). The production forecasts and operating

costs in Table 14.1 are based on the assumption that the production restriction will be lifted by October 1, 2008, and the two roasters will be able to operate at the 250tph rate for the last quarter of 2008.

A significant portion of the Jerritt Canyon ores contains high amounts of clays and moisture during the winter months. These cause serious handling problems in the plugging of chutes in the crushing circuits. As a result of these conditions, the processing plant capacity during the summer and fall is typically 20% to 40% higher than winter, largely because the dry mill capacity is adversely affected by high moisture in the feed, due to snowfall and ice.

Table 14.2 contains historic production and cost data for the Jerritt Canyon processing plant as well as the budgeted figures for 2008. The Jerritt Canyon process plant operated at only 64% of its design capacity in 2007 due to bull gear problems with the grinding mill. The bull gear was replaced in second quarter 2006.

**Table 14.2: Jerritt Canyon Historic and Budgeted Process Production and Cost Data <sup>(1)</sup>**

Operating Data	Units	Actual 2003	Actual 2004	Actual 2005	Actual 2006	Actual 2007	Budget 2008
<b>Production Data</b>							
Tons Processed:							
Annual <sup>(2)</sup>	000's tons	1,496	1,305	1,107	974	900	1,093
Daily Average <sup>(2)</sup>	Tons	4,100	3,578	3,033	2,667	2,466	3,572
Ore Grade <sup>(3)</sup>	oz Au/ton	0.228	0.214	0.215	0.211	0.217	0.261
Recovery	%	88.4	87.0	86.5	86.2	87.0	89.0
Gold Production <sup>(1)</sup>	000's oz	302	243	203	170	170	158
<b>Cost Data</b>							
Annual Total Cost	\$000's	25,182	28,523	26,539	29,602	29,217	32,254
Unit Processing Costs:							
	\$/ton						
Ore	Milled	16.83	21.86	23.97	30.41	27.78	29.51
Gold	\$/oz Au	83.36	117.22	130.79	157.25	146.98	204.12

<sup>(1)</sup> Includes purchased ores for actual 2006 and 2007.

<sup>(2)</sup> Includes estimated budget tonnage for purchased ores in 2008 based estimated actual operating days excluding 60 days of plant closure in 2008.

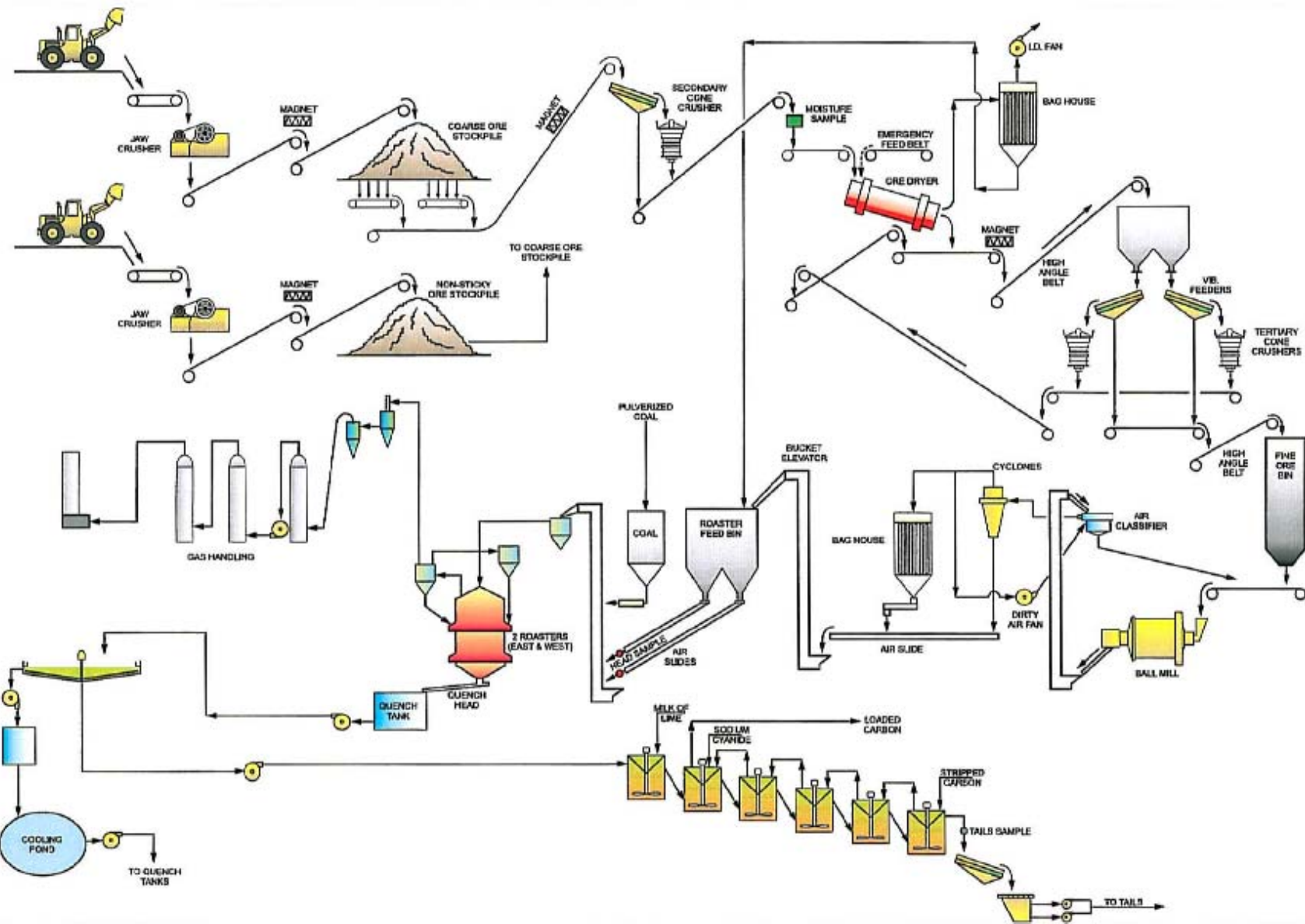
During the third quarter of 2005, Queenstake implemented its Redevelopment Plan to optimize operations and reduce operating costs in response to development and production shortfalls at Jerritt Canyon and rising commodity costs. The Redevelopment Plan focused on optimizing the cash flow from the Jerritt Canyon mine assets given constraints with manpower, mining equipment, and increasing commodity costs. The Redevelopment Plan was a substantial change in mine and processing practices at Jerritt Canyon with accelerated underground development, higher-grade production and reduced mill processing rate, in order to align mill throughput with an optimal mining rates. The average grade of ore from the Jerritt Canyon mines was increased to approximately 0.261opt gold, representing an approximate 20% increase from 2005.

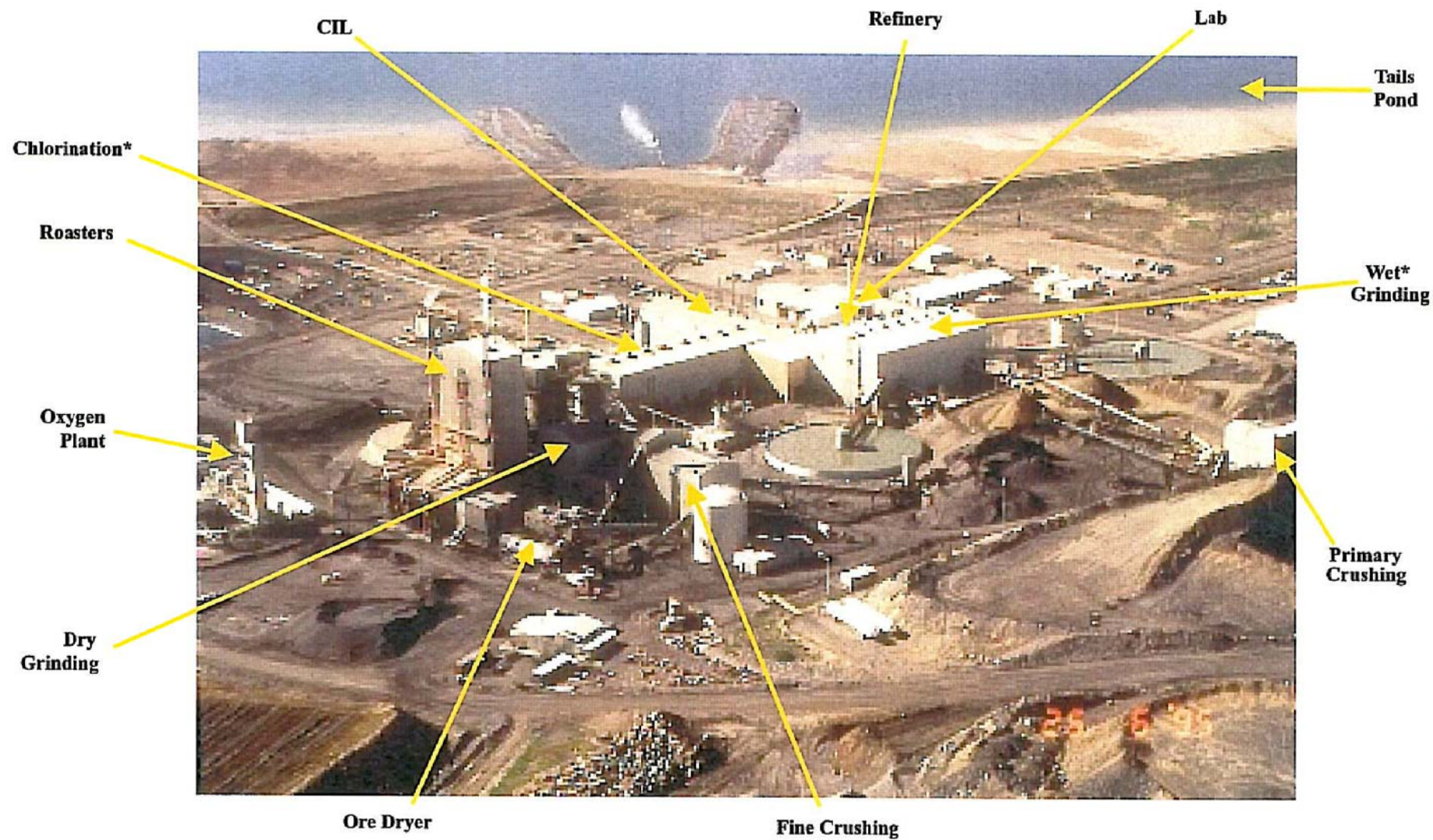
In March 2006, an agreement was reached between Queenstake and Newmont Canada Limited (Newmont) whereby a minimum of 500,000 tons of ore per year from Newmont operations will be purchased by Queenstake and processed through the Jerritt Canyon processing plant. This agreement is in effect for two years (2006 and 2007) with an option for three additional years (2008-2010). These additional tons will bring the processing plant to full capacity and will have a significant impact in reducing the process operating costs per ton of ore which is reflected in Table 14.2.

Queenstake forecasts 2008 gold production to be approximately 158,000 ounces. The average gold recovery is forecast to be 89% for 2008.

SRK considers the projected production and cost estimates are being achievable, especially with the addition of the Newmont ores.







\*No longer in service



SRK JOB NO.: 149203

FILE NAME: Fig 14-2.dwg

**QUEENSTAKE RESOURCES, LTD.**

**JERRITT CANYON  
MINE**

**PROCESS FACILITIES  
OF THE JERRITT CANYON  
PROJECT**

DATE:

April, 2008

APPROVED:

AK

FIGURE:

14-2

## **15 Mineral Resource and Reserve Estimate (Item 19)**

The resource and reserve estimates for Jerritt Canyon were developed by the mine staff, with the following individuals contributing:

Robert “Chip” Todd, Technical Services Manager;

Donald Colli, Mine Geology Manager;

Cole Deringer, Chief Engineer; and

Larry Snider, Senior Geologist.

SRK received the December 2007 updated models and reviewed the models for compliance with accepted engineering practice.

### **15.1 Resource Estimation**

#### **15.1.1 Geology**

At Jerritt Canyon, most gold mineralization occurs within lenticular bodies with relatively sharp hang-wall and foot-wall boundaries. In order to better model this type of mineralization, detailed wireframe solids based on geologic and grade continuity (roughly 0.15opt Au and above) are created with MineSight software for individual zones. The wireframes are built using assays of similar value that also show geologic continuity along known ore controls. More accurate targeting of economic material for excavation with reduced dilution has been the result. This method is employed at all of the development projects and most new areas of the active underground mines. Mature, mostly-depleted portions of the active mines do not use wireframes, but rely on outlines drawn by the geologist in plan view to define a grade shell with geologic constraints.

#### **15.1.2 Compositing**

The drillhole database is divided into the separate resource areas and composited separately. The underground areas are composited into the predominant sample length, predominately 5 feet, downhole starting at the top of the drillhole. The areas that are more amenable to open pit mining are composited into 20 foot lengths starting at the top of the drillhole.

#### **15.1.3 Specific Gravity**

The tonnage factor used for all Jerritt Canyon ore is 12.6 cubic feet per ton. The factor is based on testing done in 2000 at the University of Nevada, Reno and Chemex lab on a total of 67 samples. The weighted tonnage factor returned on the samples was 12.616. Since then 50 samples from Smith Zone 4 (Mahala) and 5 from Steer were analyzed by Zonge Engineering and Research of Tucson, Arizona. The average for Smith Zone 4 was 12.45 cubic feet per ton, which is slightly heavier than the average used for all the mines and the average for Steer was 13.0 cubic feet per ton, which is slightly lighter. Additional tests were done in 2005 on 22 ore grade samples and 24 waste samples from Starvation Canyon. The results were 11.8 cubic feet per ton for the ore grade samples and 12.2 for the waste samples, both of which are heavier than the 12.6 average used at the mines.

#### **15.1.4 Resource Estimation**

Three methods of resource estimation, including Probability Assigned Constrained Kriging (PACK), Inverse-Distance Weighting (IDW), and Block-Polygonal, are employed at Jerritt Canyon. Each resource area is initially interpreted and grade estimated using Mintec MineSight software and subsequently exported to Maptek Vulcan software for engineering design and reserve tabulation.

Most of the areas with active underground mining utilize the PACK or IDW method. Development projects and some zones near current mining with wider-spaced drilling are modeled with the IDW method. A few projects with limited drilling use the Block-Polygon method.

1. Probability Assigned Constrained Kriging (PACK) is a geostatistical method applied to most mature reserve areas at Jerritt Canyon. Detailed indicator and gold grade variography is developed for each zone or structural domain interpolated with the PACK method. In areas modeled by PACK, blocks within constraining wireframe solids and interpreted geologic plan-oriented strings are modeled separately from exterior blocks, using composites within the wireframes. Exterior blocks are interpolated in a separate pass using exterior samples. The percentage of model cells that reside within the wireframes is recorded and used for resource tabulation;
2. Inverse-Distance Weighting (IDW): This method is used in several resource and reserve areas where drilling is too widely spaced to derive variography necessary for interpolation with the PACK method. In areas where lenticular mineralized bodies have been identified, a wireframe is constructed based on geologic and grade continuity. Similar to the PACK method described above, model cells interior and exterior to the wireframes are interpolated separately using only interior or exterior drillhole samples respectively. The percentage of model cells that reside within the wireframes is used for resource tabulation; and
3. Block-Polygon: A method utilized in some of the resource areas where drill hole spacing is insufficient to conduct mine planning and reserve estimation. It employs a nearest neighbor two-dimensional search without constraining interpretive envelopes.

The PACK method consists of dividing the deposit into low-grade and high-grade probability zones and then estimating the gold grade within each of the zones separately. The methodology is summarized below:

1. The deposit is divided into geological or structural zones within which the geostatistical parameters are expected to be the same.
2. Low-grade and high-grade thresholds are chosen based on the cumulative frequency plots of the sample data. The typical low-grade threshold is 0.03opt and the high-grade threshold is typically 0.15opt.
3. For each threshold, composites are assigned indicator values and indicator variograms are calculated from the composite indicators. The block indicator values are estimated by kriging. The block is designated as being within a low-grade envelope if the low-grade indicator is greater than 50% and the high-grade indicator is less than 50%. The block is considered high-grade if the high-grade indicator is greater than 50%. The 50% rule was reduced to a lower percentage in some cases depending on the distribution of the blocks.
4. The composites are back-coded from the model as being low-grade or high-grade, and variograms are calculated for both classes.
5. Gold grades are estimated for the high-grade blocks using only composites within the high-grade envelope, and likewise, gold grades are estimated for the low-grade blocks using only composites within the low-grade envelope.

Refer to the 15.1.4.1 below for a listing of resource estimation methods by project.



**Table 15.1.4.1: Jerritt Canyon Resource Estimation Methods by Project**

Deposit/Area	Interpolation Method
Mine Areas	
Murray	PACK
Murray Zone 9	PACK - IDW
SSX	PACK – IDW in inferred shapes (Steer)
Smith	PACK- IDW
Smith East	IDW – PACK
Saval	IDW - PACK
Starvation	IDW
Wright Window	PACK – IDW
Resource Areas	
Burns Basin Pit	IDW
California Mtn. Pit (Next)	POLYGONAL
Coyote Zone 10 Pit	IDW
Pie Creek Pit	IDW
Road Canyon Pit	IDW
Mill Creek	IDW
Burns Basin	IDW
California Mtn.	POLYGONAL
Coyote Zone 10	IDW
MCE	PACK
Waterpipe II	POLYGONAL
West Mahala	IDW
Winters Creek	IDW

Most of the reserve and resource areas are built with 15 x 15 x 15 foot blocks, with the exception of the Murray mine where 5 x 5 x 15 foot blocks are used. Starting in 2005, production models using a block size of 5 x 5 x 5 feet were utilized at the Steer mine and portions of the SSX and Smith mines in order to better delineate ore boundaries, and thus reduce dilution. Although these smaller blocks are used, the geologic/grade shapes are drawn to at least the smallest practical mining units (SMU), usually at least 15 x 15 x 15 foot in size. For resource reporting conformity at the resolution of the 15 x 15 x 15 foot SMU, the production models are re-blocked to the 15 foot matrix prior to reporting. As expected, the result of the re-blocking of the 5 foot blocks into 15 foot blocks shows similar contained ounces for zones at lower grades while there is increase in tonnage and decrease in grade at higher mining-grade cutoffs.

### 15.1.5 Variography

There was no new variography run in 2007. All of the geostatistics used in the resource calculations were compiled from geostatistical analysis in previous years. Because of the mature nature of the resource in the areas where geostatistical methods are used it is considered that the new data would not have a significant impact on the variography.

In past years, SRK visually examined selected low-grade and high-grade indicator variograms which show reasonable continuity over distances often exceeding 100 feet. The gold grade variograms show shorter ranges, as would be expected since the samples are limited to grades between 0.030opt and 0.150opt in the case of the low-grade samples and greater than 0.150opt in the case of high-grade samples. Appendix C contains indicator and grade variograms for Smith Zone 4 (Mahala and East Mahala) and Steer.

### **15.1.6 Definition of Resource Categories**

For resource classification, blocks must lie within interpreted wireframes or grade shells as described in Section 15.1.1 and have demonstrated continuity of ore-tenor material ( $>0.15\text{opt Au}$ ) over multiple drillhole intercepts to be considered as Measured or Indicated resources. Measured classification requires a minimum of three drillholes, the nearest composite within 20 feet, and mining history in the immediate area. Indicated classification requires that the nearest composite be within  $2/3$  of the variogram range. Blocks with a distance between drillholes greater than  $2/3$  of the variogram range are classified as Inferred. All blocks outside interpreted wireframe shapes or plan strings are considered to be Inferred resources.

SRK finds that the resource and reserve models developed by Jerritt Canyon conform to the definitions set forth in National Instrument NI 43-101 in Sections 1.3 and 1.4 which classify the resource into measured, indicated, and inferred categories. The standards applied by Jerritt Canyon conform to the definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum – Definitions Adopted by CIM Council August 20, 2000.

### **15.1.7 Mineral Resource Checks**

SRK imported the Jerritt Canyon block models into Vulcan software and conducted a series of checks to reconcile the stated resource tons and grade with the actual block model grades and wireframes and grade shells. SRK also visually compared the block model grades against drillhole assay data.

SRK considers that the Jerritt Canyon block models have been constructed in compliance with accepted engineering practice and can be considered reasonable global predictors of resources within the modeled areas.

### **15.1.8 Mineral Resource Statement**

The Jerritt Canyon mine resources, including reserves, as of December 2007 are listed in Table 15.1.8.1. The resources are contained within areas where mining is currently taking place or where mining is reasonably expected to take place in the future. The metal ounces are on a contained basis without adjustment for process recoveries.

**Table 15.1.8.1: Jerritt Canyon Mineral Resources, Including Reserves - December 31, 2007**

Deposit/Area	Measured			Indicated			Measured + Indicated			Inferred		
	Tons	opt	Cont'd oz	Tons	opt	Cont'd oz	Tons	opt	Cont'd oz	Tons	opt	Cont'd oz
MURRAY	155.8	0.310	48.3	26.6	0.269	7.1	182.4	0.304	55.4	90.4	0.228	20.6
MURRAY ZONE 9	0.0	-	0.0	210.9	0.277	58.5	210.9	0.277	58.5	61.6	0.209	12.9
SSX	1,815.3	0.255	462.5	746.1	0.269	200.7	2,561.4	0.259	663.2	959.2	0.236	226.6
SMITH	587.7	0.303	178.0	649.1	0.256	166.1	1,236.9	0.278	344.1	534.0	0.221	118.2
SMITH EAST	19.0	0.441	8.4	1,043.5	0.284	296.7	1,062.5	0.287	305.0	125.2	0.280	35.1
SAVAL	12.3	0.227	2.8	367.5	0.253	93.0	379.8	0.252	95.8	107.4	0.206	22.1
STARVATION	0.0	-	0.0	697.3	0.287	199.9	697.3	0.287	199.9	25.5	0.252	6.4
WRIGHT WINDOW	0.0	-	0.0	97.8	0.156	15.2	97.8	0.156	15.2	19.0	0.229	4.3
<i>Subtotal</i>	<i>2,590.2</i>	<i>0.270</i>	<i>699.9</i>	<i>3,838.8</i>	<i>0.270</i>	<i>1,037.2</i>	<i>6,429.0</i>	<i>0.270</i>	<i>1,737.1</i>	<i>1,922.4</i>	<i>0.232</i>	<i>446.2</i>
Stockpiles	33.9	0.173	6.2	818.3	0.059	48.1	854.1	0.064	54.3	-	-	-
<b>Pit Resources</b>												
Burns Basin Pit	-	-	-	29.7	0.134	4.0	29.7	0.134	4.0	-	-	-
California Mtn. Pit (NEXT)	-	-	-	8.0	0.115	0.9	8.0	0.115	0.9	-	-	-
Coyote Zone 10 Pit	-	-	-	0.0		0.0	0.0		0.0	20.1	0.104	2.1
Pie Creek Pit	-	-	-	190.2	0.157	29.9	190.2	0.157	29.9	28.3	0.142	4.0
Road Canyon Pit	-	-	-	148.6	0.143	21.2	148.6	0.143	21.2	74.3	0.131	9.7
Mill Creek				78.4	0.124	9.7	78.4	0.124	9.7	-	-	-
<b>U/G Resources</b>												
Burns Basin	-	-	-	30.7	0.194	6.0	30.7	0.194	6.0	50.6	0.228	11.5
California Mtn.	-	-	-	32.1	0.377	12.1	32.1	0.377	12.1	9.4	0.330	3.1
Coyote Zone 10	-	-	-	45.2	0.212	9.6	45.2	0.212	9.6	2.7	0.184	0.5
MCE	-	-	-	4.4	0.201	0.9	4.4	0.201	0.9	7.8	0.189	1.5
Waterpipe II	-	-	-	0.0		0.0	0.0		0.0	37.4	0.206	7.7
West Mahala	-	-	-	197.5	0.218	43.0	197.5	0.218	43.0	129.6	0.206	26.7
Winters Creek	-	-	-	148.9	0.218	32.5	148.9	0.218	32.5	37.2	0.199	7.4
<b>Total</b>	<b>2,626.0</b>	<b>0.269</b>	<b>706.1</b>	<b>5,570.9</b>	<b>0.225</b>	<b>1,255.0</b>	<b>8,196.9</b>	<b>0.239</b>	<b>1,961.1</b>	<b>2,319.7</b>	<b>0.224</b>	<b>520.4</b>



### 15.1.9 Other Resource Constraints

SRK is not aware of any possible adverse or unusual restrictions on mining resulting from legal or title issues, taxation, socio-economic, or other issues that would affect the Jerritt Canyon operation. The mine has the permits necessary for operation.

## 15.2 Mineral Reserve Estimate

Essentially all of the current reserves at Jerritt Canyon are contained in deposits being developed and/or mined by underground methods. The exceptions include Wright Window which is planned as an open pit operation, Starvation Canyon which is an undeveloped underground reserve area, and the stockpiles reposing at the mine portals or remaining from earlier open pit extraction.

The previous sections describe the approach in evaluating mineralized boundaries and estimating gold grades within the overall resource envelope. In order to determine the portion of the Measured and Indicated resources that would qualify for Proven and Probable reserve status, it is necessary to configure the Measured and Indicated resources into mineable shapes for the selected mining method, and then apply economic tests for establishing validity that the reserve blocks will, indeed, show positive economics.

The economic exercise is normally accomplished by calculating a breakeven cutoff grade, stated in ounces of gold per ton (oz Au/ton), which equates the total operating costs at the property with gold recovery from the process plant, and the expected return from gold sales. Total costs include mining, processing, assessed charges, and site administrative costs. Process recovery has been relatively constant over several years of operations at around 87 percent, with some improvement over that last half of 2007. Recovery is projected at 89.0% going forward. Revenues reflect an average gold price experienced during the previous three years, after subtraction of refining charges and royalties.

The objective of this analysis is to derive a minimum gold grade in the ground that will just recoup the costs of production. Material not meeting this hurdle remains a resource, while blocks exceeding the minimum will be in the mining plan and will be extracted over time. It can be appreciated that the average grade of material mined and processed will be in excess of the minimum grade; thus these blocks will cover all variable production costs and will contribute toward fixed charges and profitability.

Incremental cutoff grades are sometimes employed where certain costs have already been expended (sunk costs), and the block now must cover only the remaining down-stream charges. An example is mineralized material which has been taken from underground and placed in stockpiles at a mine portal for assaying. Now that the drilling, blasting, loading and underground haulage have been expended, it may be possible that the rock contains sufficient gold to pay for surface hauling to the process plant, and the process costs as well, rather than being carried to a waste dump for disposal. An incremental cutoff grade calculation at this point will be lower than a breakeven grade, but this material should provide a marginal contribution to the operation as a whole.

The accepted formula for calculating a breakeven cutoff grade is given below:

$$\text{Breakeven Cut-off grade} = \frac{\text{Total Costs of Production}}{(\text{Gold Price} - \text{Deducts}) \times \text{Process Recovery}}$$

Breakeven cutoff grades were calculated for each mine or material source and compared to those determined by Jerritt Canyon personnel. The costs figures are averages obtained for the entire year of 2007, with a modification for expected processing costs in the coming years. Process charges in the future assume increased throughput for the plant during the last half of 2008 based on expected test results conducted in the first half. The processing of outside material stemming from an amended agreement between Queenstake and Newmont Mining Corporation as of July 1, 2007 for the purchase of a nominal 50,000 tons of mineralized material per month has also been incorporated in the calculations.

Because management will be working both roasters (thereby reducing plant operating costs/ton), the benefits of this approach have been imputed in cutoff grade calculations.

The following parameters, shown in Table 15.2.1, have been used in determining the various cutoff grades. Excluded from costs are the district-wide exploration expenses and capitalized development charges.

**Table 15.2.1: Jerritt Canyon Cutoff Grade Parameters**

<b>Gold Price</b>	<b>\$580/oz</b>
<b>Plant Recovery</b>	<b>89%</b>
<b>Refining Charges</b>	<b>\$0.78/oz</b>
Total Production Costs, Including Processing, \$/ton	
SSX	\$112.21
E. Dash	\$111.59
Starvation	\$108.44
Smith	\$103.59
Wright Window	\$47.68
Stockpiles	\$34.39

Equating these parameters by the formula shown above, cutoff grades for the various sources of material can be calculated. These are presented in Table 15.2.2 below:

**Table 15.2.2: Jerritt Canyon Cutoff Grades (December 2007)**

<b>Material Source</b>	<b>SRK Breakeven Cutoff, opt Au</b>
Stockpile Direct	0.06
Stockpile Screened	0.07
Wright Window	0.09
Starvation Canyon	0.21
Smith	0.20
SSX Complex/E. Dash	0.22

Production from the low-grade stockpiles can be either upgraded by screening and collection of the fines, or may be delivered to the processing plant in bulk. Because the mill will be operating at full capacity with the combination of Jerritt Canyon ore and purchased material, the stockpiles most likely will continue to be upgraded by screening.

In addition to the economic justification for the resource, factors for mining dilution and recovery need to be considered before the final mineral reserve statement is issued. At the Jerritt Canyon mines, where the ore is present as irregular pods, and the mining methods are typically sublevel or drift-and-fill stoping, any mining dilution occurs at the fringes of the ore pods or lenses. Within the pods, slices or drifts are extracted and then backfilled with cemented waste material. When the backfill has consolidated, the ore between the primary stopes or drifts is then extracted. In the primary cuts, the interior stope boundaries are surrounded by ore, so little dilution results. Within the secondary cuts, the walls and/or back are cemented backfill, which is stronger than the ore or enclosing rocks, and thus little dilution takes place. It is primarily on the fringes of the individual ore bodies that dilution occurs, with the amount also being dependent upon the mining method. Jerritt Canyon engineers have developed a matrix for the different dilution factors based on experience with the various mining methods, and these are applied in calculating mineral reserves. All dilution material is applied at zero ounces per ton.

Table 15.2.3 presents historical and projected dilution factors for the underground operations. Wright Window will be a surface mine, and dilution should be minimal because of the ability to selectively mine

based on blast hole analyses. Backfilled stopes can stand over substantial vertical heights. This situation allows the operation to recover nearly all the identified ore-grade material.

**Table 15.2.3: Jerritt Canyon Dilution Factors**

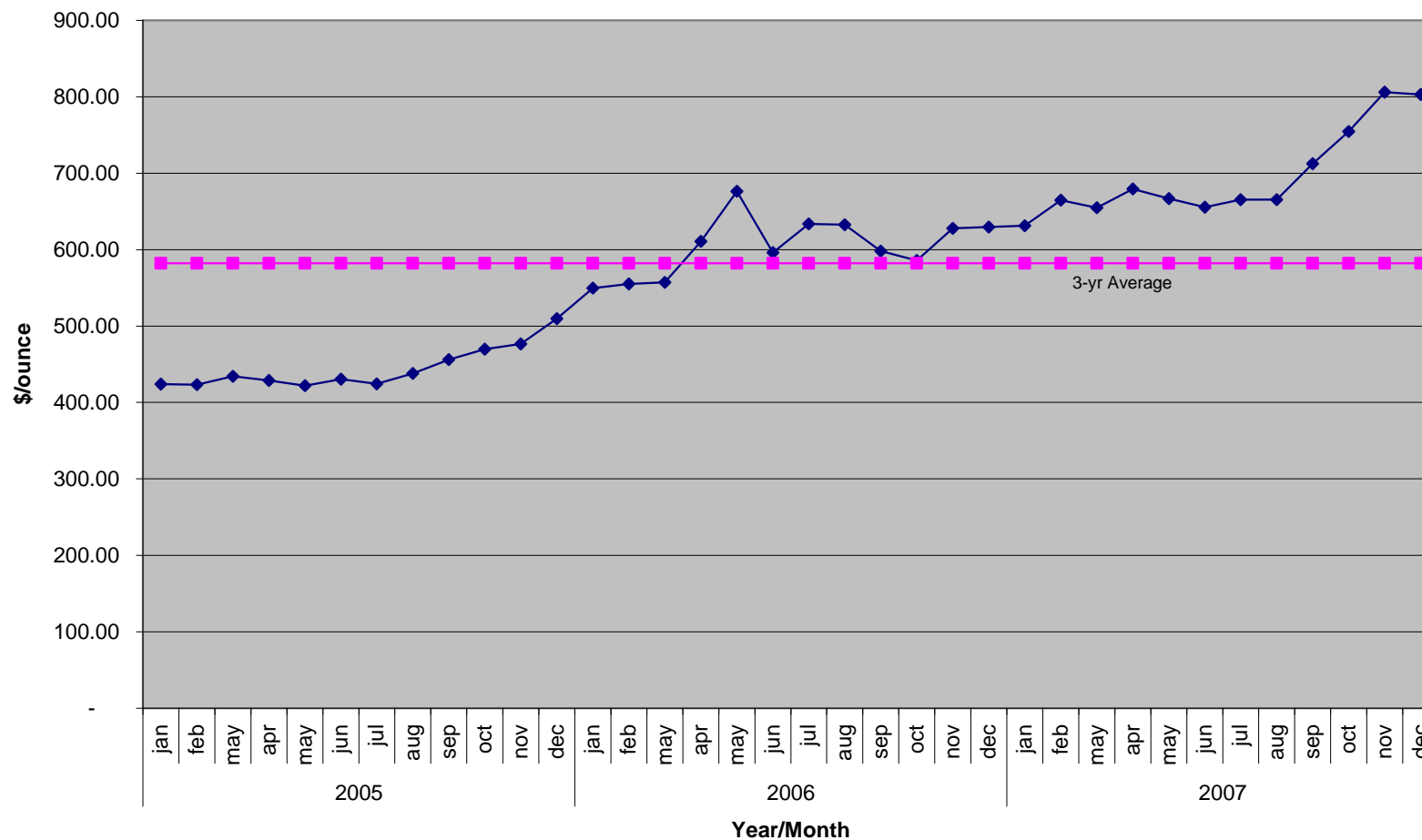
	Mining Method		
	Rock	Secondary Stope	Sublevel
Mine	Drift-and-Fill	Drift-and-Fill	Stoping
SSX Complex	10	10	10
Starvation Canyon	10	10	10
Smith	10	7	7
Saval	10	10	10

Mineral reserves are listed in Table 15.2.4, using the respective cutoff grades for each individual mine. It should be noted that the gold price of \$580 per ounce is an approximate average of prices published during the past three-year period, i.e., from 2005 through 2007. During this time the price was on an upward trend and certainly the cut-off grades shown in Table 15.2.2 are high (conservative) as compared to those that would be calculated using more recent values. Figure 15-1 shows that the December 2007 price, for example, was \$223 per/ounce higher than the three-year average, and thus operational decisions based on short-term prices will allow more material to be recovered and sold at a profit than indicated in the reserve table.

**Table 15.2.4: Jerritt Canyon Reserves – December 31, 2007**

Mine	Proven			Probable			Total		
	kt	opt	Cont'd koz	kt	opt	Cont'd koz	kt	opt	Cont'd koz
Smith	92.5	0.304	28.1	861.6	0.280	241.4	954.1	0.282	269.5
SSX	513.7	0.221	113.4	386.3	0.232	89.7	900.0	0.226	203.0
Saval	11.4	0.200	2.3	108.8	0.250	27.2	120.2	0.246	29.5
Starvation	0.0	-	0.0	571.6	0.282	161.3	571.6	0.282	161.3
Wright Window	0.0	-	0.0	32.6	0.226	7.4	32.6	0.226	7.4
<i>Subtotal</i>	<i>617.6</i>	<i>0.233</i>	<i>143.7</i>	<i>1,961.0</i>	<i>0.269</i>	<i>527.0</i>	<i>2,578.6</i>	<i>0.260</i>	<i>670.7</i>
<b>Stockpiles</b>	<b>35.9</b>	<b>0.173</b>	<b>6.2</b>	<b>540.8</b>	<b>0.075</b>	<b>40.4</b>	<b>576.7</b>	<b>0.081</b>	<b>46.6</b>
<b>Total</b>	<b>653.4</b>	<b>0.229</b>	<b>149.9</b>	<b>2,501.8</b>	<b>0.227</b>	<b>567.4</b>	<b>3,155.2</b>	<b>0.227</b>	<b>717.3</b>

**Figure 15-1 Historical Gold Prices  
January 2005 - December 2007**



SRK Job No.: 174701

File Name: Figure 15-1.doc

**Yukon-Nevada Gold Corp.  
Jerritt Canyon Mine**

**Figure 15-1**

**Historical Gold Prices January  
2005 – December 2007**

Date: 02-28-08

Approved: LM

Figure: 15-1

## **16 Other Relevant Data and Information (Item 20)**

SRK notes that Queenstake has signed an agreement to purchase ore from Newmont that will utilize the full capacity of the mill. The amended agreement is to terminate at the end of 2008, but it is possible that the agreement will continue for an additional time period if Queenstake has excess capacity. The current internal forecast for 2008 indicates processing 329,000 tons of Jerritt Canyon ore and 764,000 tons of purchased ore, much or all of which would originate with Newmont.

Queenstake will continue to pursue an aggressive program of resource development in order to convert a large portion of the measured and indicated resources not in reserves into proven and probable reserves. Based on historic conversion rates and exploration success, SRK finds that there is a reasonable expectation of converting a portion of Jerritt Canyon's resources to reserves.

SRK is not aware of any relevant data or information not already presented in this report.

# 17 Additional Requirements for Development Properties (Item 25)

## 17.1 Mining Operation

Jerritt Canyon is an operating property with over 20 years of production experience, during which nearly eight million ounces of gold have been produced. The Jerritt Canyon mine complex consists of two operating underground mines located several miles west of the processing plant and administration facilities which are 50 miles north of Elko, Nevada (Figure 17-1). A third mine, Murray, was closed during 2006.

All mines feed the same processing plant, with output from the underground operations and other sources (Murray ore pad reclamation, drill cores, etc.) totaling nearly 0.62 million tons during 2007. The producing properties, and their annual production rates, are given in Table 17.1.1:

**Table 17.1.1: Jerritt Canyon 2007 Production**

Property	Annual Production (tons)
SSX Complex	312,208
Smith Mine	117,394
Stockpiles and Cleanup	190,331
<b>Total</b>	<b>619,933</b>

The full processing plant has the capability of treating approximately 4,200 tons/day. This rate was quite attainable when the feed derived mainly from open pit operations, but has been a significant surplus when accepting material from underground mines simply because the total mine output cannot attain this daily rate. In mid-2007 Queenstake amended an agreement with Newmont Mining Corporation to purchase material delivered to Jerritt Canyon by Newmont, which would supplement mined ores feeding the roasters and thereby reduce certain unit operating costs. During 2007, Queenstake processed 348,198 tons of Newmont material.

The plant processed an average of 2,700 tons per day, or just under 0.97 million tons for the year. Plant capacity is limited to some extent by the “fuel content” of the ore (principally contained pyrite) which tends to enhance temperatures in the roaster and so must be regulated carefully when this type of rock serves as feedstock. Blending of various mined products is practiced constantly to reduce deleterious impacts from rock types with high fuel content, high arsenic content, and so forth. Also the capacity is somewhat limited because of air permit requirements. This latter limitation is expected to be increased beginning in July, 2008. Gold produced in 2007 was 175,646 ounces from 968,130 tons of processed ore and purchased material at a metallurgical recovery that averaged 88.2%.

The underground mines reported production of 429,602 tons of ore, along with 229,370 waste tons in 2007. The daily ore production rate calculates at almost 1,193 tons for the complex at an average grade of 0.285opt. This tonnage figure was less than the budgeted amount of nearly 503,400 ore tons at a projected mined grade of 0.265 ounces/ton.

A new bull gear was installed in the mill during 2007, which allowed increased throughput during the latter half of the year. Production for 2008 is forecast at 1,093,000 tons, including approximately 329,000 tons of Jerritt Canyon ore at a grade of 0.261 Au opt, and 764,000 tons purchased from Newmont carrying a grade of 0.120 Au opt.

The mines are operated by trackless equipment. Electric drill jumbos are used in preparation for blasting, and front loaders excavate the broken material into diesel-driven Wagner or Tamrock underground mine trucks for hauling to a pad area outside the portals. Segregation of mined material is effected near the portals by placing the rock into several windrows; after dumping in a windrow the mine-truck operator collects a sample from his load for analysis. Assays from the laboratory then dictate whether that material is high-grade, low-grade, or waste; the latter is excavated and placed in a waste dump, whereas the two ore types may or may not be blended depending on analytical results, and taken to the process facility. Because of the distances from the several mine portals to the processing plant, large (150 ton) off-road haulers are used for surface ore transport. These haul roads appear to be well maintained, they are of adequate width for two-way traffic, and special effort is expended during the winter months to keep the roadways open from drifting snow.

Access to the underground mines is through portals, with internal ramps maintained at grades of 12% to 15%. Typical openings measure 15 x 15 feet in cross section, although consideration is now being given to reducing some drifts to 10 x 12 feet in size to allow more selective mining and to reduce development costs. Ventilation is accomplished through the portal openings (intake air) and through a number of raise bores (exhaust air) six feet to eight feet in diameter that connect the underground workings to the surface. Certain of these raise bores also serve as emergency escapeways and are equipped with personnel capsules and hoisting equipment located on the surface.

Major mine openings are supported with bolts and mesh which seem to hold the back and ribs well. Ore is generally developed by drifting adjacent to the zone in more stable rock and then cross-cutting through the deposit at specified intervals. Drift-and-fill mining is practiced, with secondary openings either alongside a backfilled stope or underneath a previously-filled excavation. In the latter situation, cost savings are accomplished since the cemented fill does not require artificial support. Extraction of ore-grade material is near 100%, and mining dilution for the most part is confined to the stope fringes.

Each mine has its own batch plant located outside the mine portal. The backfill plants receive screened rock which is stored in bins adjacent to the fly-ash and cement tanks. These products are blended according to the backfill mix design, water is added, and the mixture placed into the underground ore haulage trucks for transport back into the mine stopes.

In addition to the backfill plant, the mines' surface structures generally include a large, well-equipped maintenance shop, mine dry, and mine office building. The most recent additions were the administration and shop buildings located at the Steer portal (part of the SSX complex) which were constructed in April, 2005.

## **17.2 Recoverability**

Gold recovery in 2007 showed improvement throughout the year as compared to 2006 and averaged 88.2% of contained metal delivered to the process plant. Data were recorded by month, as shown below in Table 17.2.1:



**Table 17.2.1: Jerritt Canyon 2007 Gold Recovery by Month**

<b>Month</b>	<b>% Au Recovery</b>
January	84.9
February	85.0
March	87.0
April	87.5
May	89.1
June	88.6
July	89.8
August	89.3
September	89.9
October	88.2
November	88.6
December	89.0
<b>Average</b>	<b>88.2</b>

The average for 2007 is better than process recovery attained in prior years, and is expected to continue into 2008, possibly at an improved rate (forecast at 89.0 percent) because data suggest better recovery when processing Newmont rock. SRK considers these figures acceptable, given the deposit characteristics and the method of extraction.

### 17.3 Markets

Gold markets are mature, global markets with reputable smelters and refiners located throughout the world. Demand is presently high with prices for gold showing a remarkable increase during the past year- London Final price averaged just under \$697/ounce for 2007.

Markets for doré are readily available. Jerritt Canyon ships its doré to the Johnson Matthey refinery in Salt Lake City, Utah.

### 17.4 Contracts

Jerritt Canyon has a few operational contracts in place at the present time. Certain exploration drilling activities are under contract, and formerly the Company contracted with Dynatec, Inc. for the purposes of mine development. Dynatec and another contractor were released during 2006, when Queenstake assumed full development control with its own workforce. It is planned that a development contractor will be retained in 2008.

In March 2006, an agreement was reached between Queenstake and Newmont whereby a minimum of 500,000 tons of ore per year from Newmont operations will be purchased by Queenstake and processed through the Jerritt Canyon processing plant. This agreement is in effect for two years (2006 and 2007) with an option for three additional years (2008-2010).

### 17.5 Environmental Considerations

Environmental management systems are in place and there is a qualified environmental staff on site. Various mitigation programs are in effect as required under the several plans of operations that have been filed and approved for the project. No unusual costs associated with any of these programs were identified.

The 2007 closure cost estimate for Jerritt Canyon is approximately \$30 million, assuming the work is accomplished by an in-house work force. The reclamation cost for the agency bond is somewhat higher at \$39.4 million as calculated under the U.S. Forest Service bonding guidelines; this figure includes

agency oversight and administration. Queenstake has a policy with the American Insurance Group (AIG) for a closure cost and cap insurance policy that has been accepted by the regulatory agencies to serve both to fund the physical reclamation and post-closure site management, and meet agency requirements for bonding.

Closure and reclamation will consist of the following actions:

- Open pits will be reclaimed by partially backfilling the pits with mine waste rock produced in the underground mining operations. Level areas in the pit bottom will be covered with fine-grained waste rock or growth medium and revegetated.
- Portals for the underground mines will be sealed by blasting, backfilling or bulk-heading. Raises extending to the surface will be backfilled. Regional groundwater levels are below the elevation of the mine portals or raises, therefore seepage from the mines is not expected.
- Waste rock disposal area will be left in a condition meeting slope stability requirements. Portions of the older rock disposal areas will be left with angle of repose side slopes that are covered with durable non-acid generating rock. Other rock disposal areas will have final slopes of 2.5H to 1V. Tops of the rock disposal areas will be graded to route surface water runoff away from rock disposal area slopes. Level surfaces of the rock disposal areas and the 2.5H to 1V side slopes will be covered with growth media and revegetated.
- Haul roads and access roads not included in the final site access requirements will be regraded to conform to the original ground contours and revegetated. It is understood discussion are currently in progress with the USFS to identify roads that will remain. Haul roads that may be left open will likely require some level of reclamation to reduce overall road width.
- Sediment control structures will be reclaimed by breaching ponds and basins after sediment and erosion control issues are controlled through reclamation of the areas draining to the structures.
- The tailings impoundment will be reclaimed by first removing free water from the pond through evaporation. The tailings surface will be allowed to dry to a consistency to allow operation of earth moving equipment and covered with 2 to 2.5 feet of material to grade the surface to drain and an additional 1.5 to 2 feet of growth medium placed for revegetation. Operation of the seepage recovery and pumpback system will need to continue for a period of time after the tailings impoundment is closed and seepage from the tailings ceases. It is assumed the recovered water will be managed by land application over the tailings impoundment area to assist in revegetation efforts and by evaporation.
- Spent heap leach materials from a leach pad adjacent to the tailings impoundment will be excavated and placed as fill for grading the tailings impoundment.
- Solution ponds associated with the heap leach pad and the processing plant will be reclaimed by removing solution from the pond, and disposal of all contained sludge in the tailings impoundment. Pond liners will be folded into the ponds and backfilled. Growth medium will be placed over the backfilled ponds and revegetated.
- Buildings and structures will be dismantled to the level of foundations and either salvaged or disposed of in an approved landfill. Process piping will be rinsed and neutralized. Disposition of underground piping is not specifically addressed; however SRK would assume it will be necessary to remove all piping.

As the mine progresses closer to closure, the overall detail of the closure plan may require refinement. The overall closure plan is considered by SRK to follow proven and accepted industry practices.

## 17.6 Taxes

Queenstake controls more than 119 square miles of ground encompassing the mine area proper and surrounding acreage. The bulk of this is in the form of contiguous unpatented mining claims which are held in force by production from the mining activities. No production royalties are paid for gold deriving from these claims.

Some property is leased from landowners in the region, and a royalty is paid on production from these lands. In the future this amount will average approximately \$1.91/recovered ounce.

Nevada does not apply a corporate income tax. Income tax is levied on the federal level. There is a modest sliding scale tax rate generally applicable to smaller operations, but given the size of the Jerritt Canyon activities, the rate is 34.5% of net income after all deductions have been taken. Queenstake has, in total, suffered a loss since acquiring Jerritt Canyon in mid-2003, and so no federal income taxes have been assessed.

Property taxes are assessed annually by Elko County on real estate and personal property controlled by Queenstake.

A sales tax rate of 6.5% is applied to all purchases within Elko County, and the state levies a 0.63% tax on gross incomes paid, less credits for certain health benefits for the workers.

## 17.7 Capital and Operating Cost Estimates

Jerritt Canyon is forecasting an expenditure of \$58.5 million over the coming five-year period for mine-related capital items. These include the categories of: equipment, underground development, and mine facilities. The largest expenditure outlays will be for mine development at \$22.5 million with an additional \$5.2 million for mine equipment and \$2.3 million for mine facilities. Sustaining capital costs for the ore processing plant is budgeted at \$17.1 million for upgrades to existing facilities. Sustaining capital costs for surface services and G&A is budgeted at \$1.6 million. G&A sustaining capital at Jerritt Canyon is typically for the replacement of light vehicles and office equipment. Tailings impoundment capital is nearly \$9.9 million. A breakdown by property is given in Table 17.7.1.

**Table 17.7.1: Jerritt Canyon Capital Expenditures for LoM (\$000's)**

Cost Center	E. Dash	SSX Complex	Saval 4	Smith	Starvation Canyon	Wright Window	Total
Equipment	1,075	0	0	0	4,118	0	5,192
Mine Development	5,180	3,492	1,238	9,298	3,243	0	22,451
Mine Facilities	0	0	0	0	2,224	70	2,294
Process							17,115
Surface Serv; Admn							1,560
Tailings Impndmnt							9,870
<b>Total</b>	<b>\$6,255</b>	<b>\$3,492</b>	<b>\$1,238</b>	<b>\$9,298</b>	<b>\$9,585</b>	<b>\$70</b>	<b>\$58,482</b>

The operating costs per ton of ore for processing have steadily increased over the last 6 years from \$15.67 in 2001 to \$30.41 in 2007, primarily as a function of the production throughput and energy costs. Of this total, approximately 75% is for operations and 25% is for maintenance.

As previously noted, the budgeted processing costs for 2008 will be about \$29.51 per ton of ore from an actual 2007 of \$30.41/ton of ore, primarily as a result of the treatment of 764,000 tons of Newmont ore in addition to the Queenstake ores. The total processing plant throughput for this coming year will not be at full capacity for the initial nine months because of restrictions on mill feed deriving from air quality

limitation as noted in Section 2.4. SRK has reviewed the projected 2008 processing costs and found them to be reasonable for the forecast production tonnages.

The anticipated operating cost for the next five years is \$98.32 per ton of ore as shown in table 17.7.2. The lowest per-ton costs are associated with the direct and screened stockpiles, since these sources do not bear future mining charges nor assigned royalty payments. Wright Window is a small area that will be surface mined, and so the unit costs are significantly less than for an underground operation. The remaining sources of feed material derive from underground and have varying estimated costs depending largely on ground conditions and the need to backfill for support. The highest-cost mining occurs in the E. Dash and Starvation Canyon mines.

**Table 17.7.2: Jerritt Canyon Operating Costs for LoM per Ton of Ore <sup>(1)</sup>**

Description	LoM Value
Mining	\$37.46
Backfill	\$7.20
Expensed Waste	\$9.13
Surface Services	\$10.38
Processing	\$27.63
Site Administration	\$6.52
<b>Total</b>	<b>\$98.32</b>

<sup>(1)</sup> Excludes 60-day closure cost in 2008.

## 17.8 Economic Analysis

SRK has reviewed the internal life-of-mine (“LoM”) technical and financial model prepared by Queenstake for Jerritt Canyon Mine. The mine has been operating for several years and the financial projection indicates a positive cash flow throughout the remaining life of the mine.

The LoM plan, technical and economic projections in the LoM model include forward looking statements that are not historical facts and are required in accordance with the reporting requirements of the OSC. These forward looking statements are estimates and involve risks and uncertainties that could cause actual results to differ materially.

### 17.8.1 LoM Plan and Economics

The SRK LoM plan and economics are based on the following:

- Reserves of 3.155 million tons at an average grade of 0.227 oz-Au/ton, containing a total of 717 koz of gold;
- A mine life of 5 years from 7 mines and various stockpiles, at a total average rate of 631 kt per year;
- An overall average metallurgical recovery rate of 89%, producing 368 koz of gold over the LoM;
- A cash operating cost of \$518/Au-oz, or \$98.32/ore-ton;
- Total capital costs of \$55.5 million being comprised of \$5.2 million for mine equipment, \$22.5 million for capitalized development, and \$2.3 million for facilities, and sustaining capital of \$14.1 million for process, administration, surface services, and \$9.9 million tailing impoundment; and
- Salvage value of \$18.1 million.

The base case economic analysis results, shown in Table 17.8.1, indicate an after-tax net present value of \$9.853 million at a 0% discount rate.

**Table 17.8.1: LoM Economic Results**

Description	LoM Value
<b>Ore</b>	
Ore Milled-(Jerritt Canyon)	3,155kt
Gold Grade	0.227opt
Contained Gold	717koz
Process Recovery (average)	89%
Recovered Gold	638koz
<b>Gross Income (\$000's)</b>	
	<i>Market Price \$580/oz</i>
Gold Sales	\$370,240
Net Income from Purchased Ores	-
<b>Gross Revenue</b>	<b>\$370,240</b>
Refining & Sales	(\$520)
<b>Net Smelter Return</b>	<b>\$369,720</b>
Royalties	(\$3,831)
<b>Gross Income From Mining</b>	<b>\$365,889</b>
<b>Operating &amp; Capital Cost (\$000's)</b>	
Mining	(\$118,190)
Backfill	(\$22,719)
Expensed Waste	(\$28,818)
Surface Facilities	(\$35,287)
Process	(\$87,179)
Site Administration	(\$16,819)
Purchased Ore	(\$-)
<b>Operating Costs</b>	<b>(\$308,801)</b>
	<i>Cash Cost (\$/oz) \$518/oz</i>
	<i>Cash Cost (\$/t-ore) \$98.32/t</i>
<b>Cash Operating Margin (EBITDA)</b>	<b>\$58,024</b>
<b>Other Costs</b>	
Reclamation Accrual	(\$352)
Other	(\$9,700)
<b>Net Income</b>	<b>\$47,236</b>
<b>Capital Cost net of Salvage (\$000's)</b>	
Equipment	(\$5,192)
Capitalized Development	(\$22,452)
Facilities	(\$2,294)
Process Capital (sustaining)	(\$14,115)
Tailings Impoundment	(\$9,870)
Administration & surface Services	(\$1,560)
Salvage	\$18,100
<b>Capital Costs</b>	<b>(\$37,382)</b>
<b>Cash Flow (NPV @ 0%)</b>	<b>\$9,853</b>
<b>Cash Flow (NPV @ 5%)</b>	<b>\$5,270</b>
<b>Cast Flow (NPV @ 8%)</b>	<b>\$1,966</b>

## 17.8.2 Project Sensitivity

Sensitivity analysis for key economic parameters are shown in Table 17.8.2. This analysis suggests that the project is most sensitive to market price and metallurgical recovery. Being a mature operating mine, the project is least sensitive to ongoing capital costs.

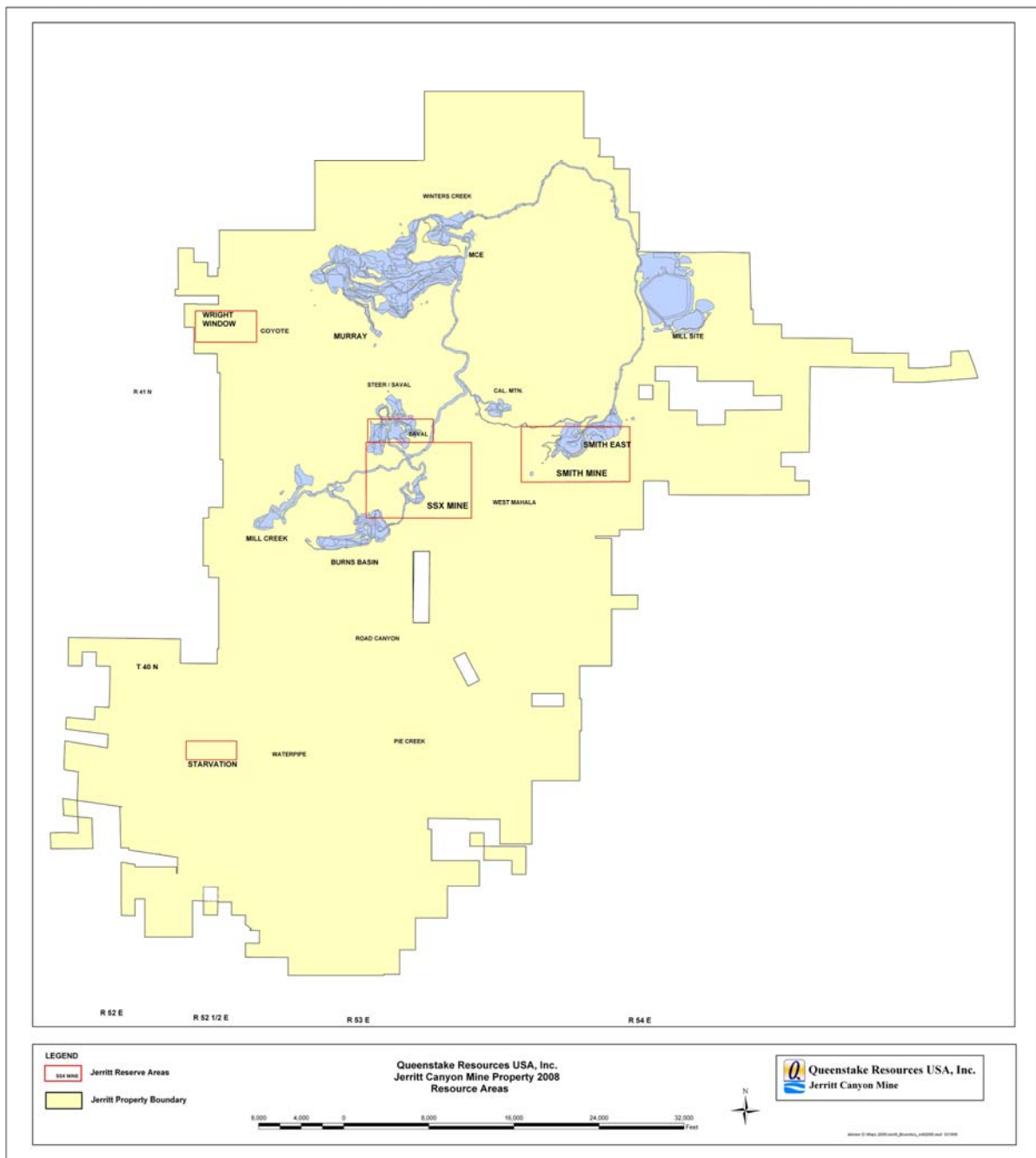
**Table 17.8.2: Project Sensitivity (NPV<sub>8%</sub>, \$000's)**

Description	-10%	-5%	Base Case	+5%	+10%
Gold Price	(25,937)	(11,985)	<b>1,966</b>	15,918	29,870
Gold Recovery	(25,937)	(11,985)	<b>1,966</b>	15,918	29,870
Operating Costs	25,073	13,520	<b>1,966</b>	(9,587)	(21,140)
Capital Costs	6,440	4,203	<b>1,966</b>	(270)	(2,507)

## 17.9 Mine Life

The expected life of the Jerritt Canyon operation is five years, based on exploration to date, the current processing rate, and reported proven and probable reserves as of December 31, 2007. The Company controls a large land position in the immediate area and it is expected that future exploration will continue to convert certain resources to a reserve category over time.





## **18 Interpretation and Conclusions (Item 21)**

SRK considers the Jerritt Canyon mine to be a relatively moderate-risk project for the next five years during due to the uncertainty of the current production restrictions relating to mercury issues and the assumption of continued contractual ore purchasing agreements with Newmont and other mines to keep the mill at capacity. Beyond 2012, the operation will depend on its ability to replace mined-out reserves by timely conversion of resources to reserves or new discoveries.

## 19 Recommendations (Item 22)

Queenstake has been conducting aggressive resource and reserve development programs throughout its ownership of Jerritt Canyon. The mill has not been operating at capacity, even with an agreement with Newmont to purchase ore over the past two years, but with an option to extend the agreement for an additional three years, the mill should be able to operate near full capacity. The operation now has a mine life of five years, with the addition of the purchased ore.

SRK has the following recommendations:

- Continue exploration drilling with the target of locating new areas of resource and reserve;
- Try to maximize stockpile haulage to the mill during the non-winter seasons;
- Continue to work on the mine to mill reconciliation in respect to tons and grade. The staff at Jerritt Canyon has indicated that this will be one of its objectives in 2008; and
- Continue to develop ways to minimize the amount of moisture in the ore that enters the plant. The moisture typically comes from internal mine water, and seasonally from water that enters the stockpiles at the mines and mill.

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## 21 Glossary

### 21.1 Mineral Resources and Reserves

#### Mineral Resources

The mineral resources and mineral reserves have been classified according to the “CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines” (November 2005). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth’s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.

An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

A ‘Measured Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.

#### Mineral Reserves

A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

A ‘Probable Mineral Reserve’ is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

A ‘Proven Mineral Reserve’ is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information

on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

## 21.2 Glossary

<b>Assay:</b>	The chemical analysis of mineral samples to determine the metal content.
<b>Capital Expenditure:</b>	All other expenditures not classified as operating costs.
<b>Composite:</b>	Combining more than one sample result to give an average result over a larger distance.
<b>Concentrate:</b>	A metal-rich product resulting from a mineral enrichment process such as gravity concentration or flotation, in which most of the desired mineral has been separated from the waste material in the ore.
<b>Crushing:</b>	Initial process of reducing ore particle size to render it more amenable for further processing.
<b>Cutoff Grade (CoG):</b>	The grade of mineralized rock, which determines as to whether or not it is economic to recover its gold content by further concentration.
<b>Dilution:</b>	Waste, which is unavoidably mined with ore.
<b>Dip:</b>	Angle of inclination of a geological feature/rock from the horizontal.
<b>Fault:</b>	The surface of a fracture along which movement has occurred.
<b>Footwall:</b>	The underlying side of an orebody or stope.
<b>Gangue:</b>	Non-valuable components of the ore.
<b>Grade:</b>	The measure of concentration of gold within mineralized rock.
<b>Hanging wall:</b>	The overlying side of an orebody or slope.
<b>Haulage:</b>	A horizontal underground excavation which is used to transport mined ore.
<b>Igneous:</b>	Primary crystalline rock formed by the solidification of magma.
<b>Kriging:</b>	An interpolation method of assigning values from samples to blocks that minimizes the estimation error.
<b>Level:</b>	Horizontal tunnel the primary purpose is the transportation of personnel and materials.
<b>Lithological:</b>	Geological description pertaining to different rock types.
<b>LoM Plans:</b>	Life-of-Mine plans.
<b>Material Properties:</b>	Mine properties.
<b>Milling:</b>	A general term used to describe the process in which the ore is crushed and ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product.
<b>Mineral/Mining Lease:</b>	A lease area for which mineral rights are held.
<b>Mining Assets:</b>	The Material Properties and Significant Exploration Properties.
<b>Ongoing Capital:</b>	Capital estimates of a routine nature, which is necessary for sustaining operations.
<b>Ore Reserve:</b>	See Mineral Reserve.



<b>Pillar:</b>	Rock left behind to help support the excavations in an underground mine.
<b>Sedimentary:</b>	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
<b>Sill:</b>	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
<b>Stope:</b>	Underground void created by mining.
<b>Stratigraphy:</b>	The study of stratified rocks in terms of time and space.
<b>Strike:</b>	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
<b>Sulfide:</b>	A sulfur bearing mineral.
<b>Tailings:</b>	Finely ground waste rock from which valuable minerals or metals have been extracted.
<b>Thickening:</b>	The process of concentrating solid particles in suspension.
<b>Total Expenditure:</b>	All expenditures including those of an operating and capital nature.
<b>Variogram:</b>	A statistical representation of the characteristics (usually grade).

## Abbreviations

The imperial system has been used throughout this report unless otherwise stated. All currency is in U.S. dollars. Market prices are reported in US\$ per troy oz of gold. Tons are imperial containing 2,000 pounds. The following abbreviations are used in this report.

<b>Abbreviation</b>	<b>Unit or Term</b>
AA	atomic absorption
Ag	silver
Au	gold
°C	degrees Celsius
CIL	carbon-in-leach
FA	fire assay
ft	foot (feet)
g	gram
koz	thousand troy ounce
kt	thousand tons
lb	pound
LoM	Life of mine
QA/QC	Quality Assurance/Quality Control
RC	reverse circulation drilling
RQD	rock quality description
SG	specific gravity
tph	tons per hour

# **Appendix A**

## **Certificate of Author**

### **CERTIFICATE of AUTHOR**

I, Landy A. Stinnett, P.E. do hereby certify that:

1. I am an Associate Mining Engineer of:

SRK Consulting (US), Inc.  
7175 W. Jefferson Ave, Suite 3000  
Denver, CO, USA, 80235

2. I graduated with a Bachelor of Science degree in Geological Engineering from the South Dakota School of Mines in 1959 and a Master of Science degree in Geological Engineering from the same college in 1963. In addition, I have obtained a Master of Science degree in Mining Engineering from the University of Minnesota in 1967.
3. I am a Registered Member of the Society of Mining Engineers.
4. I have worked as an engineer or minerals appraiser for a total of 45 years since my graduation from the university.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I am responsible for the overall preparation of the technical report titled NI 43-101 Technical Report, Yukon-Nevada Gold Corp., Jerritt Canyon Property, Elko County, NV (the “Technical Report”) relating to the Yukon-Nevada Gold Corp.’s gold property. I visited the Jerritt Canyon property in January 2007 and January 2008 for four days.
7. I have had prior involvement with the properties that are the subject of the Technical Report. In 2003 I appraised the mobile equipment at the property and I was responsible for the overall preparation of the 2006 Technical Report, as well as the February 1, 2008 NI 43-101 Valuation Report.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

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10. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.
11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.
13. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 16<sup>th</sup> Day of April, 2007.

\_\_\_\_\_  
(Signed)

**#4502, Wyoming**  
(Sealed)

Landy Stinnett, P.E.

# **Appendix B**

## **QA/QC**



## **Quality Control and Quality Assurance:**

Laboratory assay quality control and quality assurance samples for the underground near-mine and surface exploration departments at the Jerritt Canyon Mine in the year 2007 consisted of 4,891 samples broken down as follows:

- 1,582 standard samples were submitted with the underground drill samples. This included predominantly RC samples from the Cubex drill but also includes production samples from the Secoma drills. Out of the total samples there were 72 High samples (0.268 opt), 407 JCQ02 (0.256 opt), 748 JCQ01 samples (0.117 opt), 161 JCQ04 (0.117 opt), and 194 JCQ03 samples (0.051 opt). There were also a number of pulps that were re-submitted as blind samples to the lab that are listed below,
- 357 standard samples were submitted with the underground core samples to the Jerritt Canyon (JC) lab. These samples were at six different grade values,
- 722 standard samples were submitted with the surface RC samples to the in-house JC lab as well as the commercial labs. These include 44 JCQ02 samples (0.256 opt), 176 JCQ01 samples (0.117 opt), 2 JCQ04 samples (0.120 opt), 182 JCQ03 samples (0.051 opt), and 318 silica sand blanks,
- 949 pulp samples were re-packaged and submitted back to the JC Lab as a blind internal quality control sample,
- 574 pulps taken from the underground drill core and RC drilling were submitted to Chemex for check analysis on the JC lab results,
- 11 coarse reject samples were collected from the underground diamond drilling and submitted to ALS Chemex (Chemex) to check the JC lab results,
- 56 pulps from surface drill hole samples were taken from the various labs and submitted to a secondary lab for check analysis,
- 56 coarse reject samples from the surface drilling were taken from the various primary labs and submitted to a second lab for check analysis.

The primary lab for all production, and underground sample and core drilling, was the Jerritt Canyon in-house lab. For 2007 American Assay Laboratory (AAL) was used as the primary lab for the Starvation Canyon and south area drilling. The JC Lab was only used as the primary lab for a few surface RC holes in the Dash Highwall area. Chemex was used for the drilling from Mahala drainage, SSX area and most of the other analytical work.

### **Jerritt Canyon Quality Control Results (All Underground Data)**

The Jerritt Canyon underground quality control procedures are such that standard material is routinely submitted to the JC lab. Standards are prepared and tagged randomly such that the material remains unknown to the lab. The lab inserts one standard in each batch of samples. The standards have been made up at Jerritt Canyon from material collected from the site. The grade from the standards is checked daily and if any significant deviation is noted that particular batch of samples is re-assayed. Last year's

lab procedures had the technicians inserting the samples in the number one position on their tray. This position was automatically called for a re-fire. Unfortunately this led to many unwarranted re-fires of the quality control sample causing some bias in the way the sample was treated. This procedure was changed early in 2007. Even still, there were on the average 2 to 5 batches per week that required re-firing. The re-fired results were reviewed weekly and the assay with the best support from all of the re-fires was accepted as the final result. Although there were a significant number of re-fires there were significantly fewer batches where the original assays were all incorrect. In most cases the re-fires result in a few changes. The details of the individual batch results compared to the original assays are available from the Technical Services office at Jerritt Canyon. The graph from all of the standards submitted are shown in Figure 1 below.

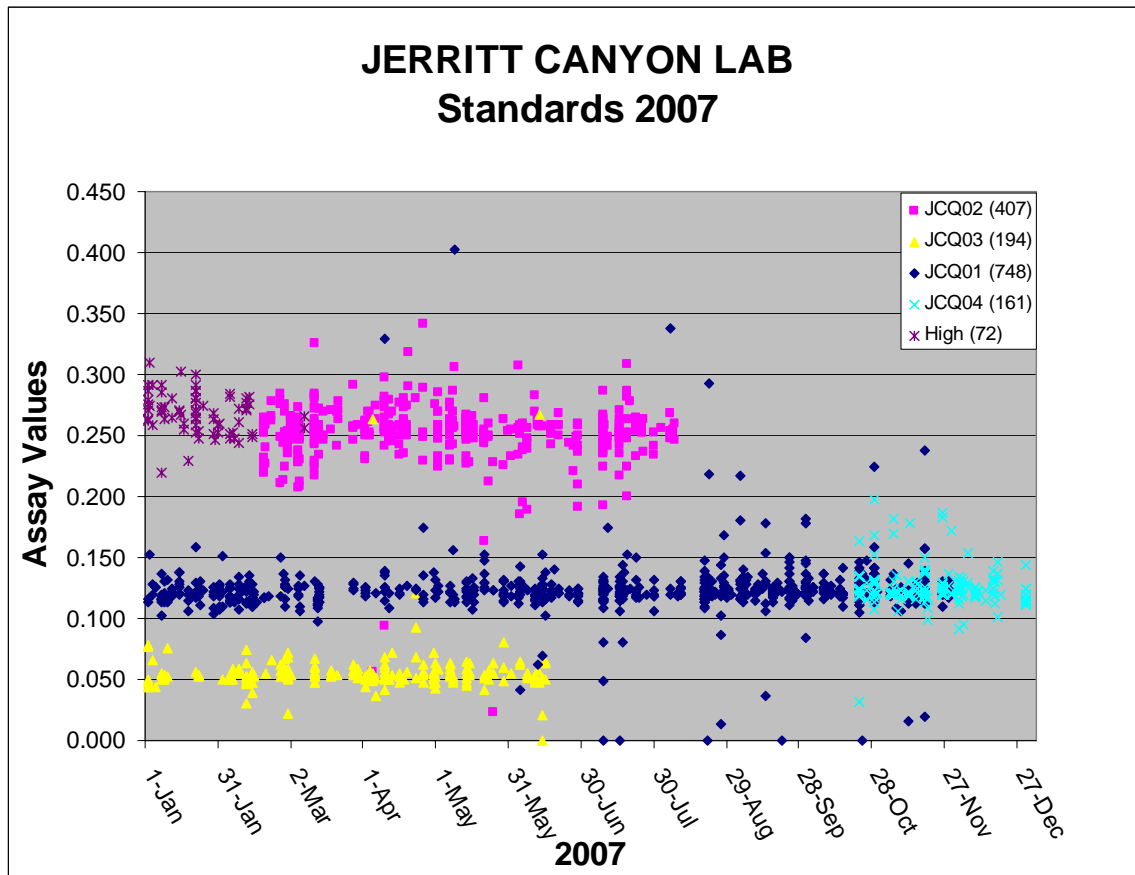


Figure 1. Graphic representation of all of the standards used in the Jerritt Canyon laboratory during 2007 plotted against time. A more detailed look at these values shows deterioration of the sample quality when the lab appears to be very busy. Although it does appear to be a minor problem it is not believed to have impacted the quality of the assays assigned to the holes because of quality control procedures.

There were numerous “flyers” from the expected values as is shown above. These flyers were routinely re-assayed. There is little chance that these flyers could be a product of mislabeled sample. The average grade of these samples appears to plot as a horizontal line therefore there does not appear to be much drift in the assay value over time.

The core samples were treated just slightly different. The geologist would submit the standard and indicate the position in the tray by using a sample number. The geologist duties also included checking the assay for the standard value. If the standard deviated significantly and was surrounded by samples with any grade then that batch would be called for a re-fire. The review of the re-fired assays was the similar to that stated above. Through the year there were only a few of these samples that were actually called for re-assay.

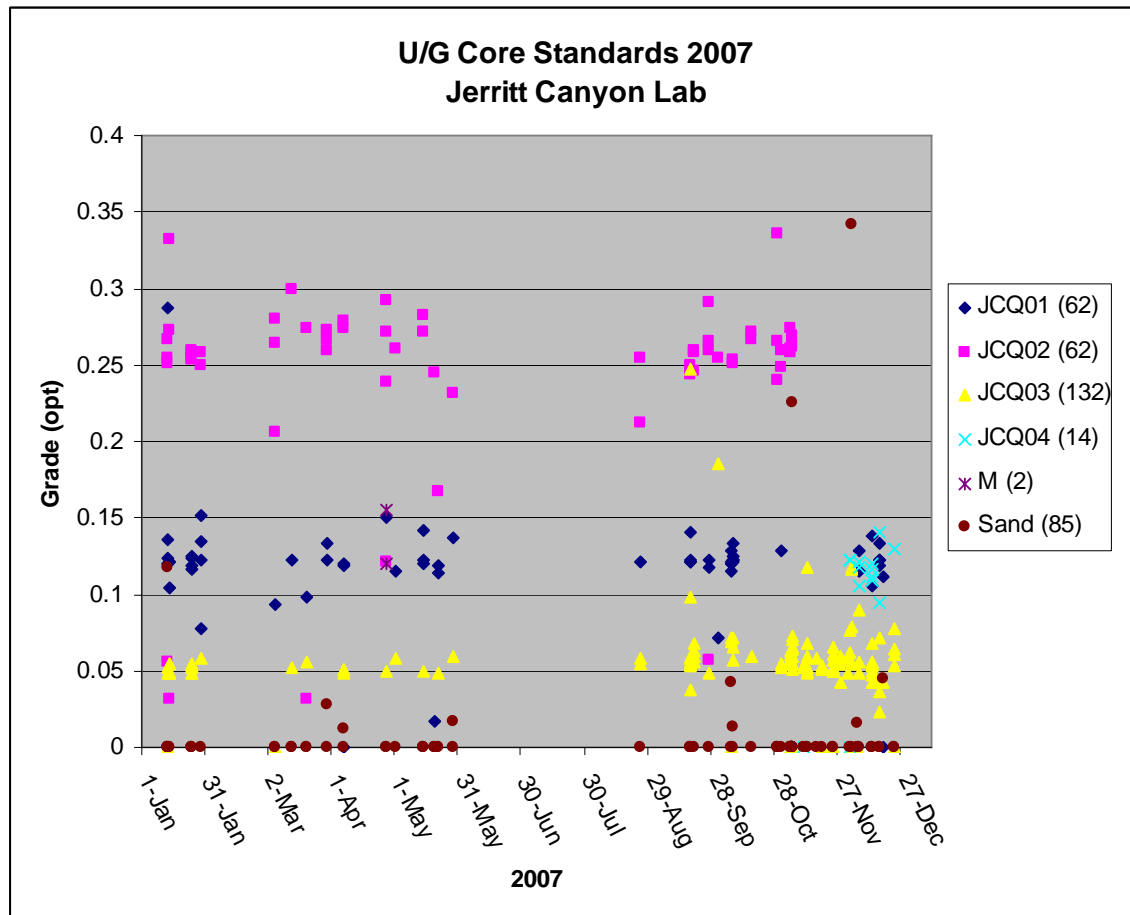


Figure 2. Jerriitt Canyon Core Standards versus time. The occasional sample is shown as plotting as the wrong standard value. This is likely due to a mislabeled standard. In general there was not that much drift in the assay values but during periods there was significant deviation. Those periods generally fell at times when the Jerriitt Canyon Lab was extremely busy with projects.

Figure 3 shows the internal re-submitted pulp assays at the JC Lab that were used for quality control. These results show the original values compared to the re-assayed values. These are re-submitted blind to the lab as they are relabeled. The graph excludes some samples that have questionable results (mostly secoma type drill samples) and a few samples that had extremely high variances. The results are a good indication of how well the JC Lab can re-produce their assays. Significant variances from the expected result are dealt with similar to the quality control standards described above. In general the batches of samples where these values had a difference of greater than 10% and the expected

value was above 0.100 ounce per ton were re-fired. A graph of the relative difference versus the percent of the samples shows that 61% of the samples had a difference of less than 10%. These are filtered on the samples with original values greater than 0.025 ounce per ton. This performance is somewhat less than last year where results showed 68% of the re-fire assays had results within 10% of the originals. This same slight deterioration in performance is seen in the pulps that were sent to Chemex for check work. There could be several reasons for this; such as, less experience lab technicians, heavier work load with additional samples from Newmont ores particularly in the last quarter, and other physical changes such as change in the supplier of the flux. These will be looked at closely in the next quarter to see if there is any change in the sample quality with decrease in the work load.

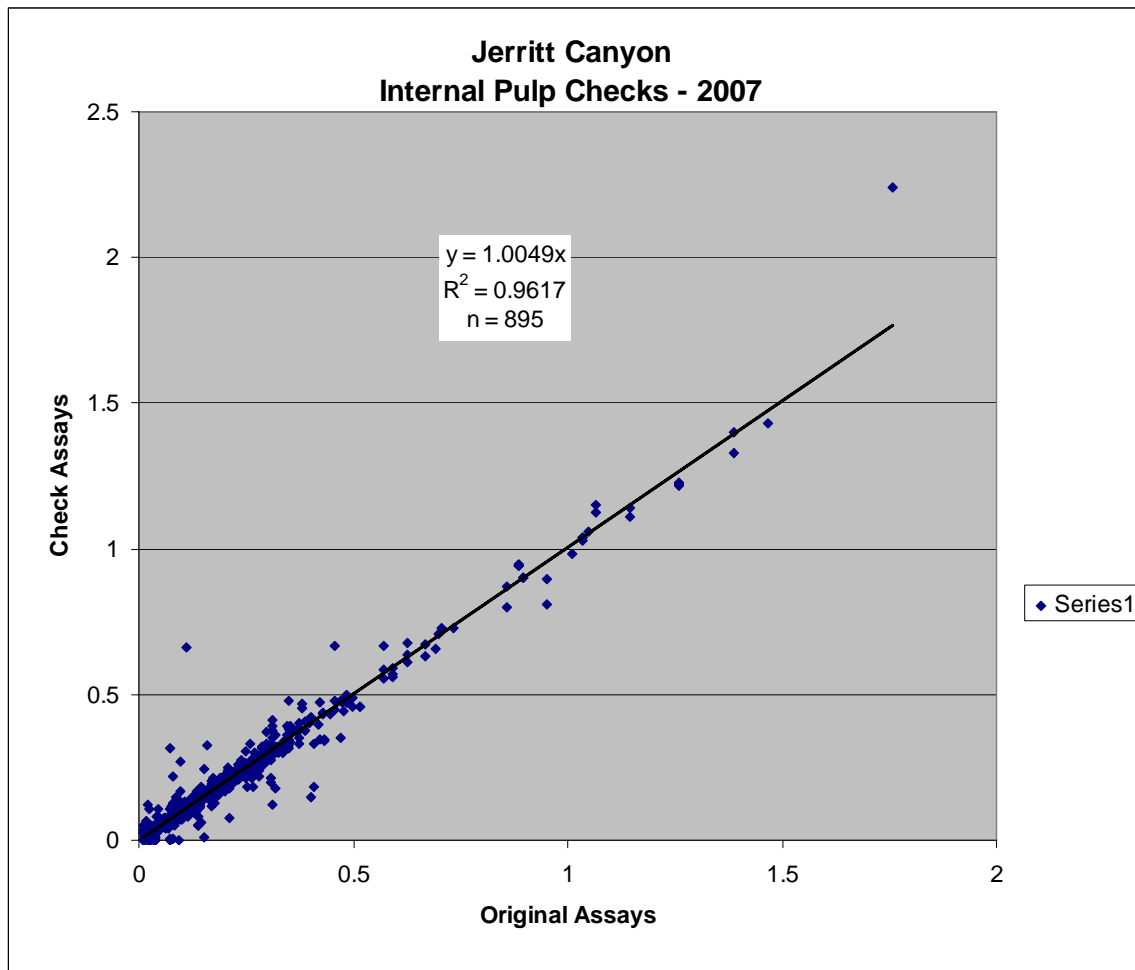


Figure 3. Jerritt Canyon assay results of internal check samples – pulps.

Figures 4 and 5 show the assay results of the pulp samples from JC Lab compared to the results of Chemex. The results still show high variability between the data. The variability of the lower grade values ( $<0.07$  opt) could possibly be due to analytical method (gravimetric finish compared to atomic absorption finish). Some of the other flyers are likely also a product of sample mix up. The percent of the samples within 10% difference is at 65% when comparing the samples greater than 0.025 opt. By removing

the samples less than 0.07 opt the percent of the samples increases to 68% within 10% difference. These results are very similar to last year. Although this is less than what should be expected (90% within 10%) similar results are shown with the commercial labs. Some of these variances are possibly due to heavier work load, less experience lab technicians, and/or other changes both in the JC Lab and Chemex.

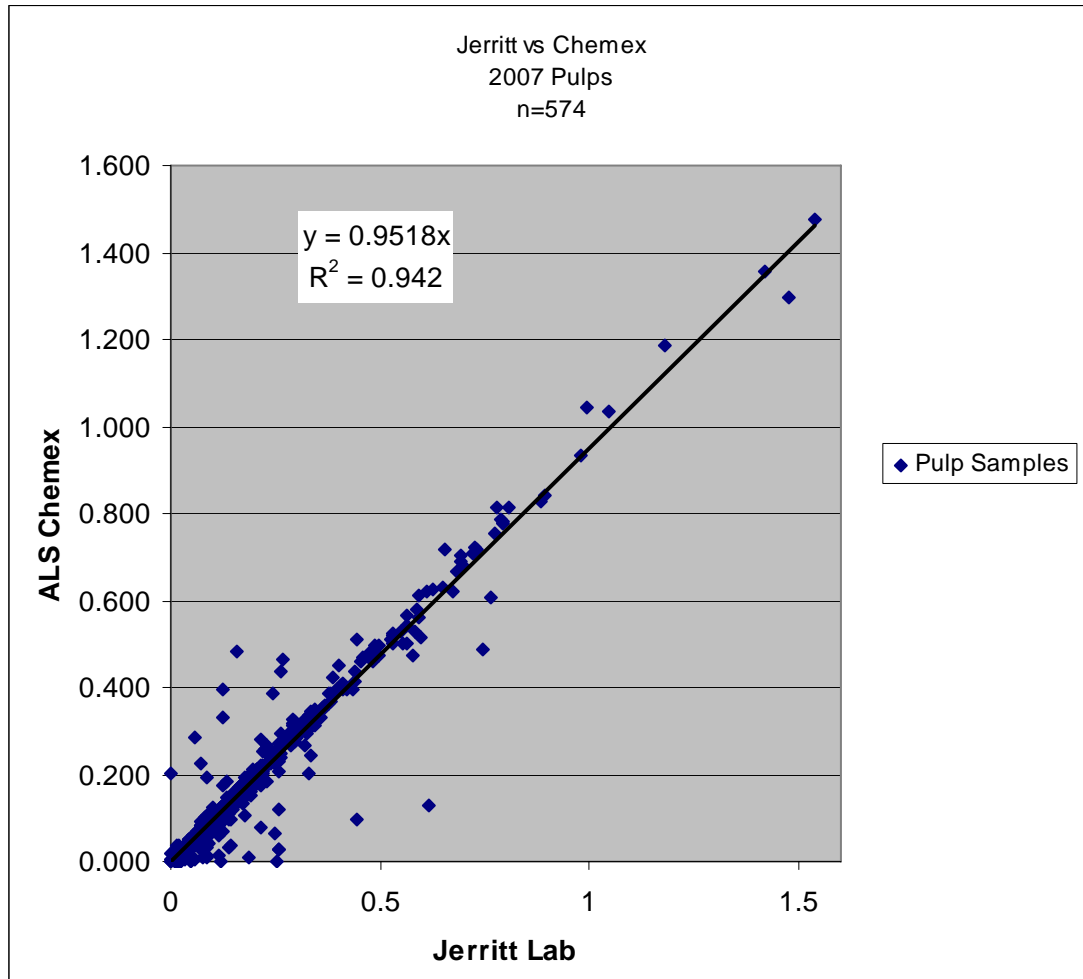


Figure 4. Pulp check samples – JC Lab compared to Chemex for 2007.

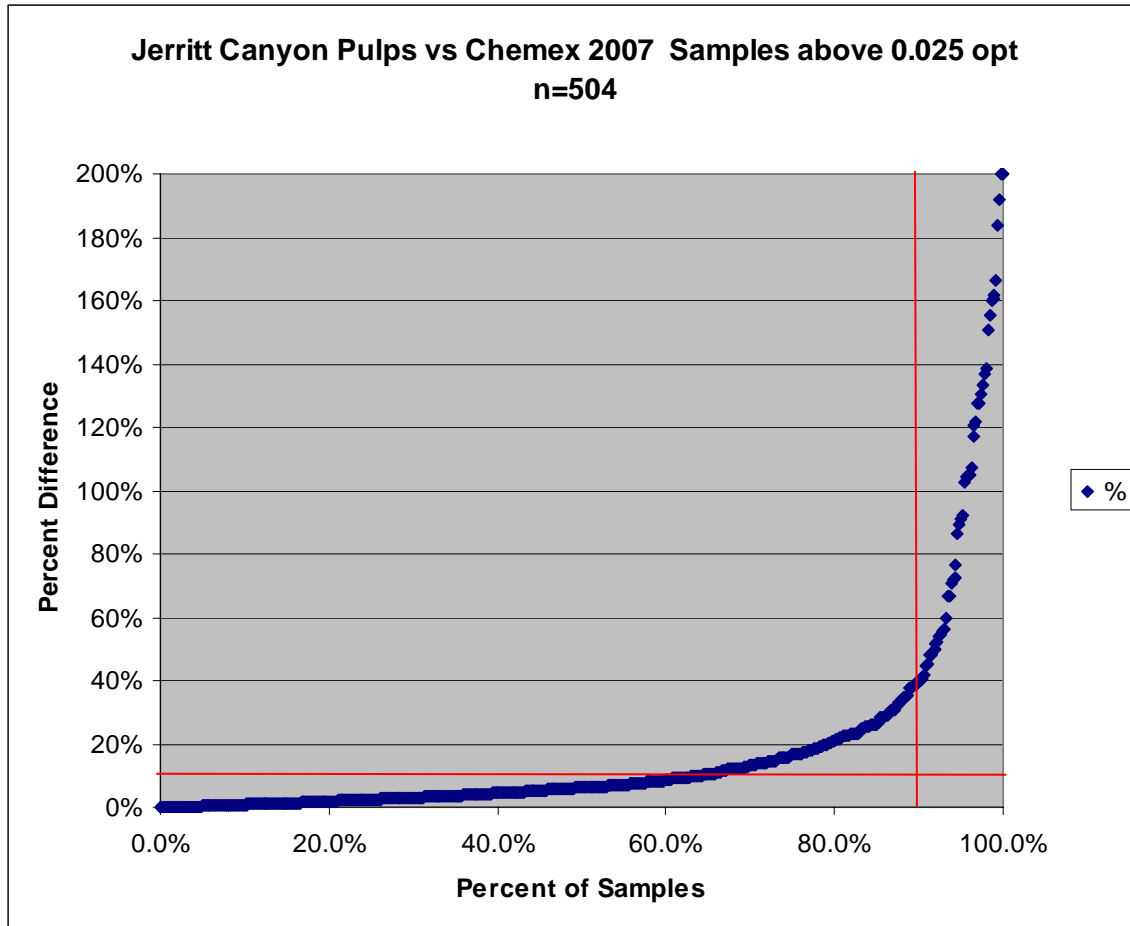


Figure 5. Relative percent difference graph of underground pulp samples submitted from JC Lab to Chemex.

There were only eleven coarse reject samples that were analyzed at ALS Chemex. These samples were taken from a core hole where the results were questioned. Although the assay results were significantly different; the over all grade did not change very significantly. Attempts were made to collect a number of other coarse rejects byt the samples were not located in time for this report. The results are expected to be duplicated within a 20% difference 80% of the time for coarse rejects.

#### **Surface Quality Control Samples and Check Analysis:**

Samples from the surface Reverse Circulation drilling and core are routinely submitted with quality control samples in each batch sent for assay. The assay data of these samples is represented graphically in Figure 6. Any significant deviation from the expected value would be reviewed and a re-fire of that batch requested unless that batch of samples had no significant gold. Except for a few random flyers



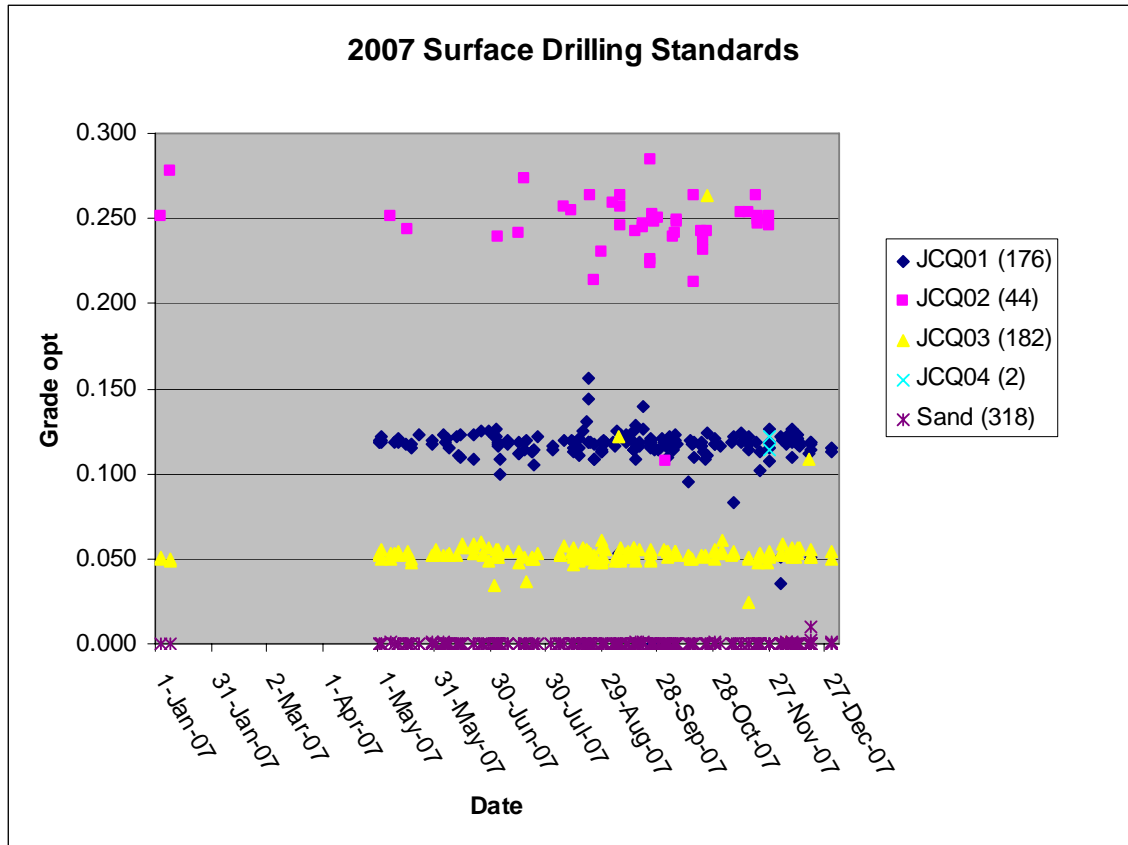


Figure 6 Surface Drilling Quality Control Assays from various labs plotted against time.

In general both JCQ 01 and 03 performed very well and the average value would plot as a horizontal line. JCQ02, which is of higher grade, has much more significant differences possibly due to some degree of segregation of the gold within the bulk sample over time. There does appear to be two JCQ03 (0.052 opt) samples that have been mislabeled as a JCQ01 sample, one mislabel of JCQ02 and a possible mislabels of JCQ01.

Figure 7 shows the check analysis on the surface pulps collected from RC drilling in the Mahala basin. Here the original assay was completed by Chemex and the check work was done by BSI Inspectorate. There tends to be a lot more variance in the assay results than what would be normally expected. This could be the result of the increased work loads on the commercial labs. Figure 8 shows a percent difference compared to the percent of the samples graphically for all of the original assays that were above 0.025 opt. The results are very similar to the underground comparison of the JC Lab to Chemex. However the  $R^2$  value is less than any other comparison. As with the JC Lab this lower  $R^2$  value could be the product of a few samples that are skewing the data. There are a couple of samples in particular that appear to be a sample mix up.

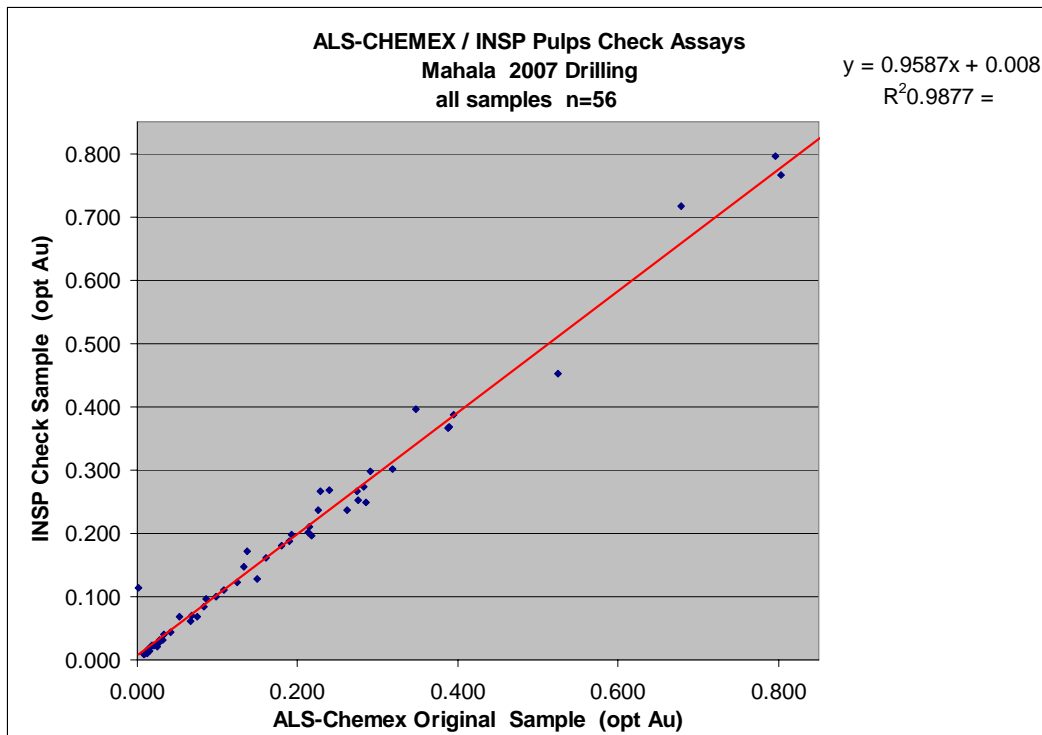


Figure 7. Chemex versus BSI Inspectorate pulp checks on the Mahala 2007 RC drill program. The variances appear to be distributed fairly equally above and below the original assay results.

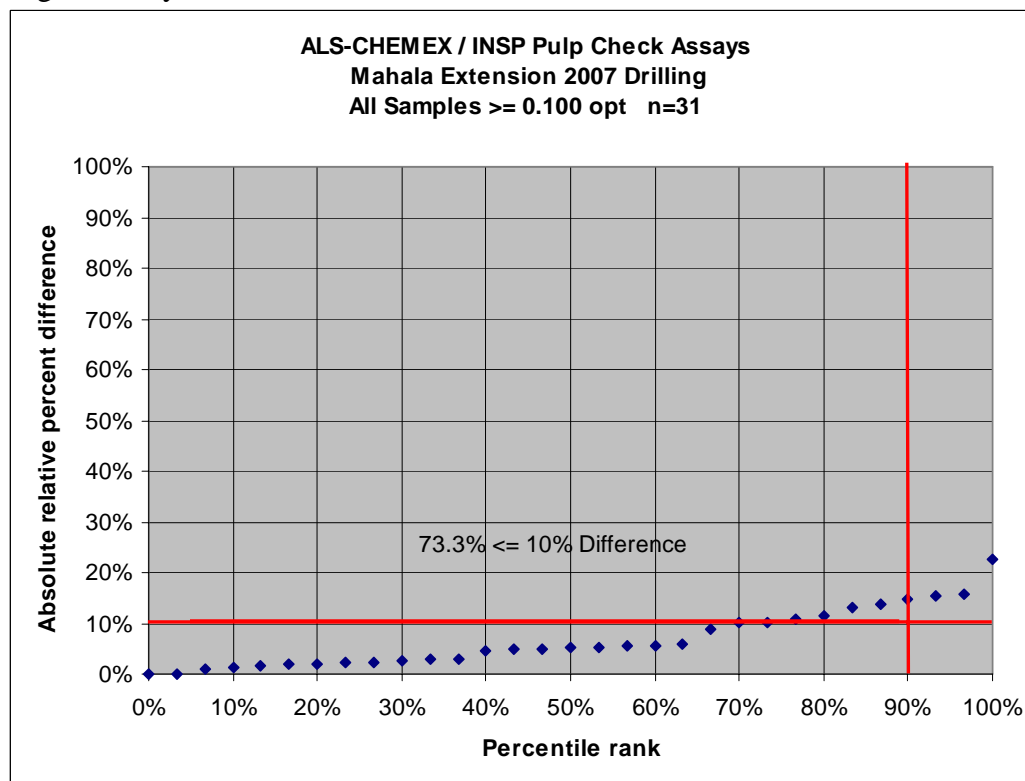


Figure 8. Percent difference between Chemex and BSI Inspectorate labs compared to percent of samples.

The relative percent difference of the values compared to the percent of the samples in Figure 8 shows that approximately 73% of the assays fall in a range of less than 10% difference on values greater than 0.100 opt. This is only at 65% when considering all of the values. This is significantly less than what should be expected but is comparable to the results comparing the other labs.

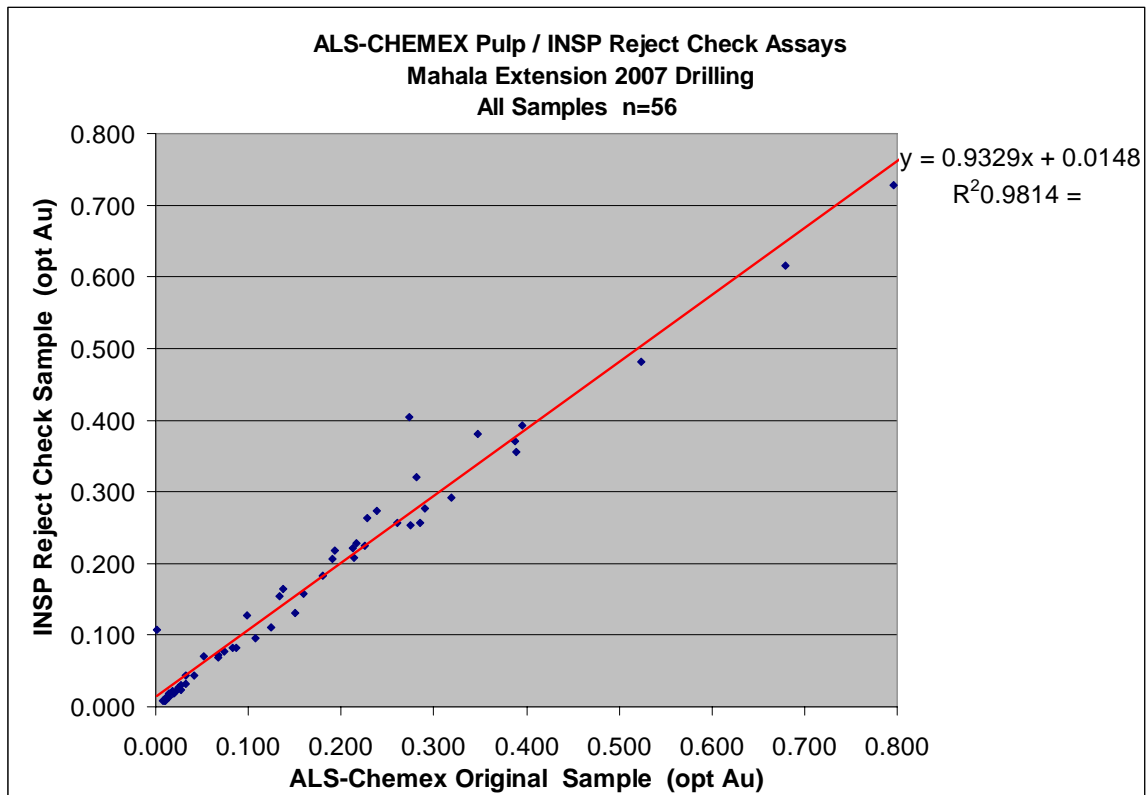


Figure 9. Coarse reject samples taken from Chemex Lab and submitted to BSI Inspectorate. This is from RC surface drilling on the Mahala project area.

Figure 14 shows the coarse rejects from Chemex assayed at the BSI Inspectorate lab. These samples are also from the Mahala drill program. The results compare quite favorably showing better correlation than the pulps from the same samples. Figure 10 shows the relative difference of all fifty six samples compared to the percent of the samples. This data is what would be expected from a quality lab with approximately 89% of the samples within a 20% difference. However this is a very small amount of data.

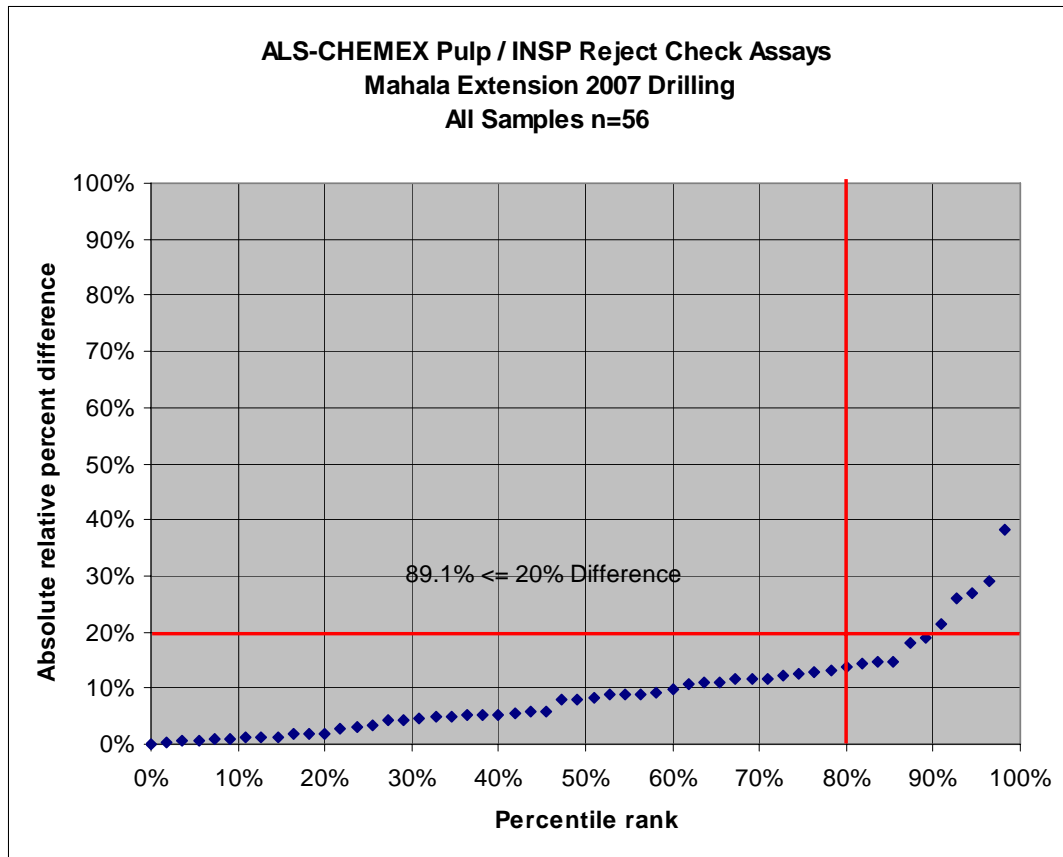


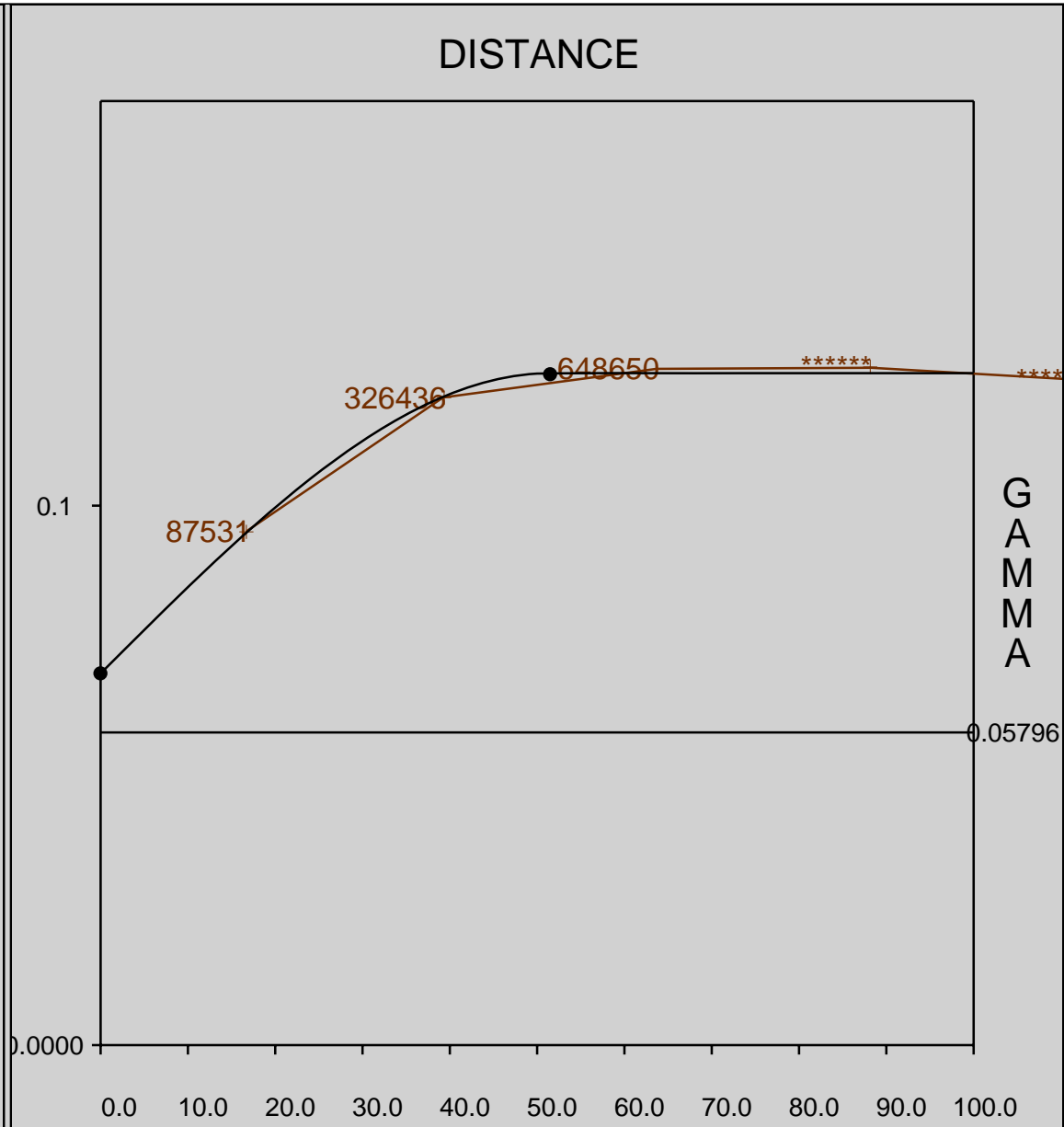
Figure 10. Relative percent differences of all coarse reject samples compared to the percent of the assays.

# **Appendix C**

## **Variography**

+	120.00	-10.00	0.01	25.87
---	--------	--------	------	-------

Nugget	0.06890
Sill	Range
0.12456	51.555



## Info

## Select Output Type

Enter output filename:indhmaj.ps

1

New File

## Variogram Select

## Options

## New Model

[Edit Model](#)

Spherical

## Exponential

Linear

Single

Nested

### Fix Range

## Fix Sill

## Plot File

## Save Model

## Save Overlay

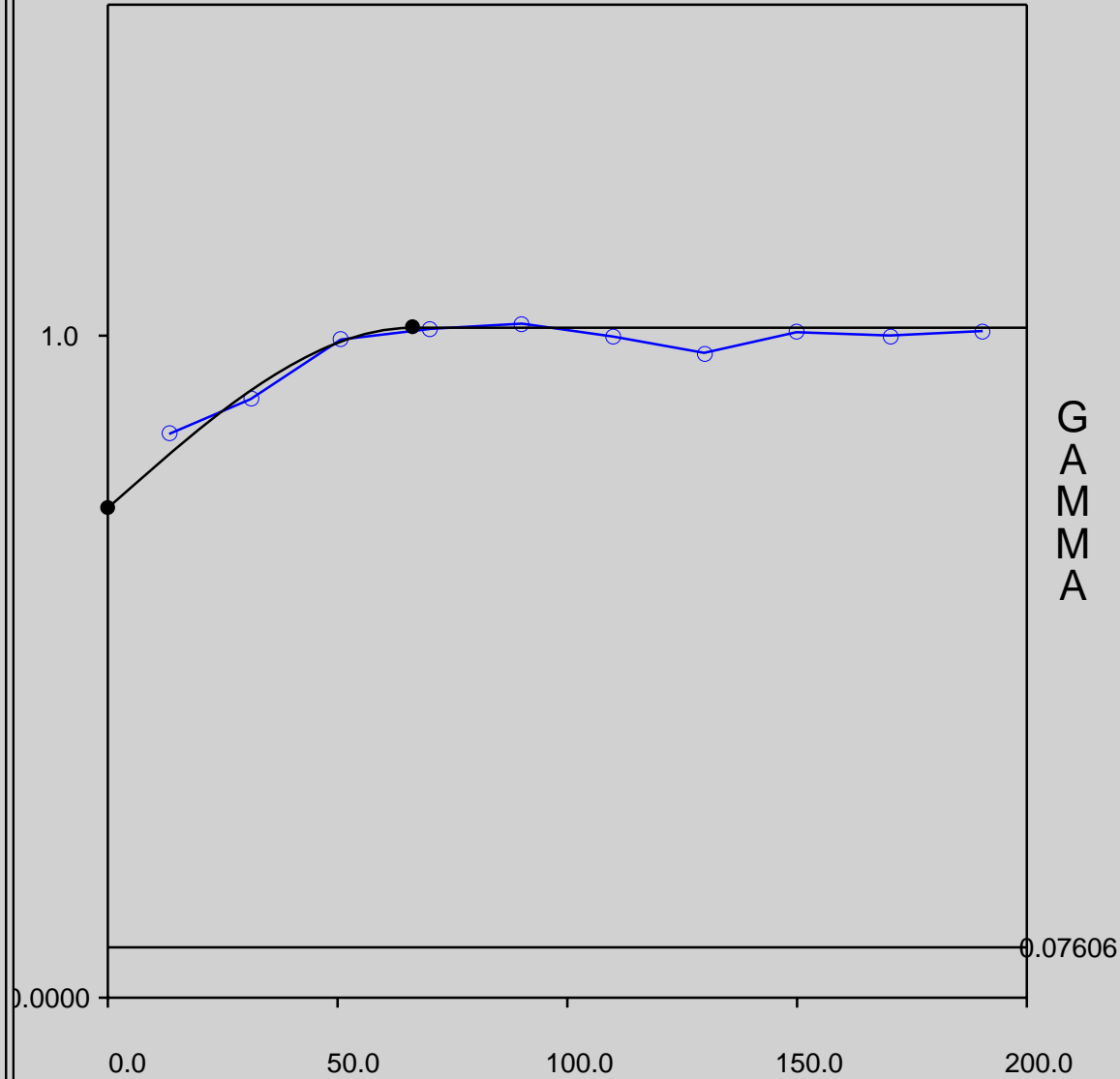
## Get Overlay

## Clear Overlay

## Variogram Query

Horiz Vert Error %V  
○ 40.00 15.00 0.01 15.24

## DISTANCE



Nugget 0.73984  
Sill Range  
1.01204 66.353



New File

Variogram Select

Options

New Model

Edit Model

Spherical

Exponential

Linear

Single

Nested

Fix Range

Fix Sill

Plot File

Save Model

Save Overlay

Get Overlay

Clear Overlay

Variogram Query



Info

Select Output Type

Enter output filename: auhmaj.ps

1



NI 43-101 Technical Report, Yukon-Nevada Gold Corp. Jerritt Canyon Mine, Elko County, NV,  
dated this 31<sup>st</sup> day of December, 2007.

Dated this 16<sup>th</sup> day of April, 2008

\_\_\_\_\_  
(Signed)

**#4502, Wyoming**  
(Sealed)

Landy Stinnett, P.E.