Technical Report of the
Lisbon Valley Copper Project,
San Juan County, Utah

PINCOCK ALLEN & HOLT

Mining Consultants

Prepared for

Constellation Copper Corporation

September 22, 2005

9434.00

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1.0 EXECUTIVE SUMMARY

1.1 *Introduction*

Constellation Copper Corporation (CCC), of Denver, Colorado, engaged Pincock, Allen and Holt (PAH) to prepare an update to the Technical Report for the Lisbon Valley Copper Project located near Moab, Utah, to meet the requirements of Canadian National Instrument 43-101 (NI 43-101). The Lisbon Valley Project is 100 percent owned by CCC of Denver, Colorado, through its wholly owned subsidiary Lisbon Valley Mining Company LLC (LVMC). Constellation Copper Corporation changed its name from Summo Minerals Corporation in June 2002, but the names of the subsidiaries remain unchanged.

This PAH Technical Report has been prepared to present the information on the Lisbon Valley Copper Project pursuant to NI 43-101 reporting requirements. It also reflects clarifications of issues found by the British Columbia Securities Commission (BCSC) in the previous Winters Dorsey & Company (WDC) December 17, 2003 Technical Report, as outlined in their August 30, 2005 letter to CCC. Mark Stevens, Darrel Buffington, Nelson King and Don Tschabrun, all employees of PAH, contributed to the preparation of this report. Mark Stevens is the Qualified Person responsible for this report and visited the property from September 6-7, 2005.

This report represents the state of the project as of September 2004, as presented in the PAH September 1, 2004 due diligence audit that was prepared on behalf of the lender. LVMC commenced development of the project in 2004 and plans for the copper production in November 2005. Unless otherwise stated, all quantities are in English units and currencies are expressed in constant 2004 US dollars.

The project consists of private land (fee simple), unpatented mining claims, as well as state leases, which is contained in a contiguous area of approximately 875 acres. Surface and mineral rights for the Lisbon Valley project consist of 600 acres of fee land surface owned all or in part by CCC through LVMC, three State of Utah mineral leases, one State of Utah Special Use lease, and 267 Federal unpatented mining claims. Approximately 50 percent of the project will take place on Federal (BLM) land. The remainder will be divided between state land and fee land (privately owned).

The Lisbon Valley Copper Project is planned as three open pit mines serving a crushing plant, heap leach, and solvent extraction/electrowinning (SX/EW) facility to produce copper cathode. The operation plans to produce approximately 6 million tons of ore per year (varies by year) in order to produce 54 million pounds of copper per year.

1.2 *Mineral Resources and Mineral Reserves*

1.2.1 Geology, Exploration and Mineral Resource Estimation

Copper mineralization in sandstones at Lisbon Valley is readily visible in local outcroppings, manifested as the green or blue colored copper minerals malachite or azurite. Numerous attempts have been made to produce copper from open pits since 1900, including successful production of over 20 million pounds during 1960-73 by acid leach methods. The total inventory of drilling by all companies from 1960 through late 2003 was 1,069 holes totaling over 209,000 feet. Since 1993, CCC has completed over 150 holes consisting primarily of reverse circulation and a minor number of core drill holes on the Lisbon Valley property. Since 1997, the project has been at a feasibility stage and could be considered a "developing property."

Mineralization occurs in three deposits that occur in a regional collapsed salt anticlinal structure. Copper minerals in the deposits occur as disseminated and fracture fillings in favorable sandstone beds of the Cretaceous age Burro Canyon and Dakota Formations. Copper carbonate and oxide minerals predominate within 150 feet of the surface, consisting of malachite, azurite, and tenorite. Copper sulfide minerals occur at depth, consisting of chalcocite.

The mineral resource for the Lisbon Valley Copper Project was estimated from computer block models of the three deposits developed by The Winters Company (TWC) for the feasibility study in 2000. These computer models were used for subsequent pit design and mineral reserve estimation that was revised in the WDC 2003 feasibility study update. Models were constructed for each of the three separate deposits (Centennial, Sentinel, and GTO). The measured + indicated mineral resource for the Lisbon Valley project (Centennial, Sentinel, and GTO), at a 0.10 percent total copper cutoff grade, is 48.9 million tons at an average total copper grade of 0.48 percent total copper. In addition, the inferred mineral resource is 1.1 million tons at an average grade of 0.42 percent total copper. The mineral resource for the Lisbon Valley Copper Project is summarized in Table 1-1.

TABLE 1-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Centennial, Sentinel, and GTO Deposits Combined - Mineral Resource

	Measured			Indicated			Inferred			Measured + Indicated		
Cutoff (%)	**Tons** (000)	**CU** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)
0	28,756	0.504	289,632	21,616	0.421	181,819	1,260	0.378	9,523	50,372	0.468	471,451
0.1	28,154	0.513	288,980	20,730	0.437	181,141	1,142	0.415	9,471	48,884	0.481	470,121
0.2	24,726	0.562	278,066	17,056	0.497	169,458	808	0.520	8,405	41,782	0.536	447,524
0.3	19,114	0.653	249,750	12,019	0.600	144,240	349	0.884	6,167	31,133	0.633	393,990
0.4	13,331	0.787	209,747	8,255	0.717	118,325	289	0.995	5,753	21,586	0.760	328,072
0.5	9,502	0.924	175,587	5,616	0.843	94,677	240	1.105	5,304	15,118	0.894	270,264

PAH believes that the resource models were created using standard engineering methods. The models provide a reasonable representation of the distribution of the mineralogic zones. The models provide an acceptable basis for which subsequent mine engineering work was conducted in order to estimate mineral reserves consistent with NI 43-101 requirements.

1.2.2 Mine Design and Mineral Reserve Estimation

The Lisbon Valley Copper Project will be mined using conventional open pit mining methods. Both ore and waste rock will be drilled, blasted, loaded and hauled by front-end loaders and trucks. Ore is hauled to a primary crusher and waste rock to stockpiles or backfilled into mined out pit areas. Lisbon Valley plans to mine three pit areas: Centennial (the largest, consisting of oxide and sulfide ore), Sentinel (the first to be mined, consisting of all oxide ore with low stripping ratio) and GTO (all sulfide with high stripping ratio).

The Lisbon Valley Feasibility Study is based on a cutoff grade of 0.10 percent total copper, which was used in mine plan designs, schedules and reserves. The cutoff grade strategy incorporates variable cutoff grade based on net value by block. The ultimate pit designs are based on Lerchs-Grossman (LG) optimized pits using parameters in line with projected operating costs, a slightly lower copper price ($0.85 per pound copper) than assumed in the project economics ($0.90 per pound copper) and the same resource block model used for the 2000 Feasibility Study.

Adequate access ramps and appropriate mining geometry have been designed into the pits. Waste dump designs are adequate to handle the required volumes of waste rock. Pit slope angles used by WDC in developing the Sentinel, Centennial, and GTO ultimate pit designs are based on the slope angles per Call & Nicholas, Inc. (CNI). CNI recommended using a 52-degree inter-ramp angle, triple benching with a minimum 27-foot wide catch bench.

The Lisbon Valley total probable mineral reserves were estimated to be 40.4 million tons of ore averaging 0.46 percent total copper, containing 372 million copper pounds, as shown in Table 1-2. The probable reserves are based on the 2003 WDC Feasibility Study with two adjustments by PAH. The 2003 WDC Feasibility Study did not provide a split between proven and probable mineral reserves and, hence, they are considered to all be at the lower of the two categories. The 2003 WDC Feasibility Study did not provide for adequate mining dilution and, hence, PAH has incorporated an average 10 percent dilution at zero grade into the mineral reserve.

TABLE 1-2
Constellation Copper Corporation
Lisbon Valley Copper Project
Mineral Reserves (with Dilution)

	Ore Tons, millions	% Total copper	Contained copper, million pounds	Strip ratio, waste/ore
Centennial	30.3	0.49	295	2.0
GTO	2.3	0.68	31	4.1
Sentinel	7.8	0.29	45	1.0
Total	40.4	0.46	372	1.9

Note: 1) Mineral reserves all considered at a probable confidence level.
2) PAH has adjusted the WDC (2003) reserves to incorporate a mining dilution consideration.

The reserves have been estimated using generally accepted engineering practices and procedures. The reserves are relatively insensitive to changes in pit slope angles, copper prices, copper recovery or operating costs. The mineral reserve is compliant with NI 43-101 reporting requirements.

1.3 *Mining*

The Lisbon Valley deposits will be mined using conventional open pit methods utilizing off-highway trucks and front-end loaders. Mining will occur from three pits known as Centennial, Sentinel and GTO. Mining will be accomplished with the typical drill, blast, load and haul cycles. Ore will be hauled to a primary crusher. Waste will be placed adjacent to the various pits to minimize haul distances.

Mine equipment was sized based on a maximum annual material movement of slightly less than 24 million tons and an operating schedule of three 8-hour shifts per day, seven days per week and 52 weeks per year. Although the mine equipment will be leased, the operation's personnel will operate and maintain the equipment.

1.4 *Ore Processing*

The copper ore processing facilities to be constructed at the Lisbon Valley site will employ conventional crushing, sulfuric acid heap leaching and solvent extraction/electrowinning (SX-EW) techniques to produce cathode copper. The facility has been designed to recover about 27,000 tons of cathode copper per year and will require new facilities for mining, processing and infrastructure with the exception of the access road to the Lisbon Valley property. Some of the processing equipment has been purchased and moved from the Tonopah Copper Project in Nevada to the Lisbon Valley site.

The copper recovery based on metallurgical test work will be about 90 percent and is reflected in the copper production schedule. The copper cathodes produced from the operation will be saleable as LME Grade A 99.99 percent copper.

1.5 *Environmental and Permitting*

The Lisbon Valley Copper Project has been permitted by the U.S. Bureau of Land Management (BLM) and the State of Utah through the National Environmental Protection Act (NEPA) process. This process was thorough, evaluating alternatives and involving public comment. The permits are detailed in the Final Environmental Impact Statement (FEIS), the Record of Decision (ROD), Ground Water Discharge Permit, Air Quality Permit, and a Process Pond Dam Permit. The project, as designed and permitted, should meet all applicable environmental standards.

Other miscellaneous local permits will be required prior to construction. Obtaining the remaining permits should be a low risk for the project since the primary permitting process has been approved by the BLM and State.

The project was permitted in 1997. Since there have been no operational activities, the construction and air permits have expired. The operation has submitted new construction plans to the State of Utah for updating the Ground Water Discharge Permit. Obtaining a new construction permit will be a simple process and low risk. The State of Utah has recently approved the new air quality permit.

1.6 *Infrastructure and Ancillary Facilities*

The only infrastructure in place capable of serving the Lisbon Valley Copper Project is the San Juan County road, which will be paved to within about four miles of the mine. All other infrastructure will be developed for the project and has been included in the capital cost estimate.

A new 138 kV double pole power line will be constructed to the Lisbon Valley site. There is an aquifer at a 250 to 300 foot depth and another at a depth of 1,000 feet. The lower aquifer is considered to be a backup for the water supply if sufficient water for the property cannot be developed from the upper aquifer. A microwave tower will be constructed to provide telephone service. Fuel storage and dispensing will be provided for diesel and gasoline for the mine equipment and for light vehicles.

1.7 *Capital and Operating Cost Estimates*

The total initial project capital cost, as of June 2004, was estimated at $53 million and includes mill capital (purchase, dismantle and re-erection at Lisbon Valley), plant roads and mine access, reclamation bond, initial environmental monitoring, working capital, BLM land exchange and project staffing. Contingencies have been included in the SX-EW plant capital estimate to cover estimate errors, design improvements, pricing variations, schedule delays, equipment and material delays, and subcontractor's claims.

Project sustaining capital costs of $20.5 million have also been estimated to cover the period after startup and continue through to project closure. Closure activities commence after the planned 6.5 years of operation and will last for five years.

Operating costs for the Lisbon Valley operation are estimated to be $4.26 per ton of ore processed, or $0.47 per pound of copper produced, and includes costs for mining, processing, general and administrative costs, severance taxes and property taxes.

1.8 *Economic Analysis*

PAH evaluated the cash flow model using $0.90 per pound copper and 100 percent owner equity with no debt financing. The $0.90 per pound copper price is conservative compared to the three year average price of over $1.00 per pound. The cash flow model is based on capital and operating cost estimates from the WDC Feasibility Study with an increase in capital of $2.6 M included per Merit's June 2004 report.

The economic evaluations were conducted using a constant dollar basis; inflation and escalation were not included for costs or metal prices. The economic analysis is performed on a project stand-alone basis. All losses are carried forward against future income. Sunk costs are not included except as a loss carry forward item for tax calculations.

The cash flow analysis indicates that the project would produce a discounted cash flow rate of return (DCFROR) of 14.4 percent and a net present value (NPV) of $9.5 million at a 10 percent discount rate.

1.9 *Conclusions and Recommendations*

PAH believes that the mineral resource models were created using standard engineering methods. The models provide a reasonable representation of the distribution of the mineralogic zones. The models provide an acceptable basis for which subsequent mine engineering work was conducted in order to estimate mineral reserves consistent with NI 43-101 requirements.

PAH has reviewed the metallurgical testwork performed on materials from the three Lisbon Valley deposits and believes that the testing was sufficiently adequate to develop the process flowsheet and plant design criteria. Overall copper recovery is projected to be 90 percent. The ore processing and infrastructure facilities to be constructed at the site are conventional and adequately designed to produce the targeted level of cathode copper.

PAH found the cash flow model to be complete, inputs were accurate and reflected project costs and development plans. The result indicates a positive project cash flow that justifies the material being categorized as reserves.

No material deficiencies were identified during the PAH work that would preclude the Project from meeting the designed production and cost objectives within the range of the cost estimates presented in the 2003 Feasibility Study.

PAH finds that the Lisbon Valley Copper Project is an economically viable operation as outlined in the 2003 WDC Update to the Feasibility Study. The Feasibility is based on U.S.$0.90 copper price, which is conservative compared to the three-year average price of over $1.00 per pound. With the mine in construction and copper production anticipated in upcoming months, the project will surely enjoy the benefit of significantly higher than planned copper prices. The primary recommendation is that the project is justified in advancing into production.

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 *Scope of Work*

Constellation Copper Corporation (CCC), of Denver, Colorado, engaged Pincock, Allen and Holt (PAH) to prepare an update to the Technical Report for the Lisbon Valley Copper Project near Moab, Utah, to meet the requirements of Canadian National Instrument 43-101 (NI 43-101). The Lisbon Valley Project is 100 percent owned by CCC of Denver, Colorado, through its wholly owned subsidiary Lisbon Valley Mining Company LLC (LVMC). Constellation Copper Corporation changed its name from Summo Minerals Corporation in June 2002, but the names of the subsidiaries remain unchanged. The Lisbon Valley Copper Project is planned as three open pit mines serving a crushing plant, heap leach, and solvent extraction/electrowinning (SX/EW) facility to produce copper cathode. The operation plans to produce approximately 6 million tons of ore per year (varies by year) in order to produce 54 million pounds of copper per year.

This PAH Technical Report has been prepared to present the information on the Lisbon Valley Copper Project pursuant to NI 43-101reporting requirements. It also reflects clarifications of issues found by the British Columbia Securities Commission (BCSC) in the previous Winters Dorsey & Company (WDC) December 17, 2003 Technical Report, as outlined in their August 30, 2005 letter to CCC. The current PAH report is based on the information as presented in the PAH September 1, 2004 due diligence audit that was prepared on behalf of the lenders.

PAH notes that in November 2004, CCC initiated construction of the mining facility and plans for the first production of copper cathode in November 2005. The mineral resources and mineral reserves have not changed since the work by WDC in 2003; however, PAH did apply a dilution adjustment to the reported reserve.

2.2 *Qualified Person and Participating Personnel*

The Qualified Person for this report is Mr. Mark G. Stevens, a Certified Professional Geologist (C.P.G.) and registered geologist in the states of Wyoming (P.G.) and Washington (L.G.). Mr. Stevens has been involved with the project since September 2004 and worked with other PAH engineers in the preparation of this Technical Report, as well as the previous due diligence audit report. Mr. Stevens visited the site on September 6 - 7, 2005. Mr. Stevens prepared the geology, exploration, and mineral resource/mineral reserve estimation portions of this Technical Report. He was assisted by other PAH professionals with expertise in their respective fields for the preparation of other report sections. Participating individuals include:

- Mark G. Stevens, C.P.G. – Geology, Exploration, and Mineral Resources/Mineral Reserves
- Nelson D. King – Metallurgy, Processing and Infrastructure
- Darrel L. Buffington, P.E. – Environmental, Permitting, & Geotechnical
- Don Tschabrun – Mineral Reserves, Mining, Project Economics

2.3 *Previous Work*

PAH previously reviewed the Lisbon Valley Copper Project in 2003, which resulted in the preparation of a due diligence audit report dated September 1, 2003. PAH's due diligence audit was a review of the October 2000 The Winters Company (TWC) Feasibility Study and the November 2003 Winters Dorsey & Company (WDC) Update To The Feasibility. Previous to this, in 1974, PAH assisted in evaluating the feasibility of the project for one of the previous owners of the property, Centennial Development Company, however, none of the PAH individuals involved with this effort are still employed by PAH.

2.4 *Terms and Definitions*

The following acronyms and abbreviations are used throughout the report:

CCC	- Constellation Copper Corporation
Cu	- Chemical symbol for copper
BAT	- Best Available Technology
DEI	- Declaration of Environmental Impact
FEIS	- Final Environmental Impact Statement
NEPA	- National Environmental Protection Act
PAH	- Pincock, Allen and Holt
%	- weight percent metal for base metal grades
ROD	- Record Of Decision
TWC	- The Winters Company
WDC	- Winters Dorsey & Company

The resource and reserve definitions applied in this report have been applied in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum – Definitions Adopted by CIM Council, August 20, 2000. These definitions have been incorporated into the NI 43-101 standards of disclosure.

2.5 *Units*

All units are carried in English units of feet, gallons, and tons of 2,000 pounds. Metal grades are presented in terms of percentages on a weight basis. Tonnages are based on dry tons unless otherwise noted.

2.6 *Source Documents*

The source documents for this report are summarized in Section 21.

2.7 *Subsequent Events*

The following events occurred subsequent to the completion of PAH's due diligence on the project in September 2004, but prior to issuance of this report:

- The Company closed a US$30 million loan facility with Investec Bank and a US$3 million subordinated loan facility with Sempra Metals & Concentrate Corp. on October 20, 2004 for construction of the Lisbon Valley Project.

- The Company entered into an off-take agreement with Sempra Metals & Concentrate Corp. on October 20, 2004 for the sale of all cathode copper from the property at the prevailing price of COMEX plus the applicable cathode premium.

- The Company received the Ground Water Discharge Permit from the State of Utah on November 5, 2005.

- The Company received the Ground Water Discharge Permit from the State of Utah on November 5, 2004.

- The Company posted a US$3.5 million reclamation bond with the State of Utah on September 10, 2004.

- The Company commenced construction of the Lisbon Valley Project on November 17, 2004; the Lisbon Valley access road has been paved by San Juan County to within 4 miles of the Project.

Also, as of the date of this report, the Company has taken delivery of the full suite of mining equipment specified in the report, has commenced mining in both the Sentinel and Centennial pits, and is approximately 83 percent (being 10/12^{ths}) complete on construction, the first copper production expected in mid-November 2005.

PAH notes that there has been no change to the Project mineral resources or mineral reserves since the completion of PAH's due diligence on the Project on September 1, 2004; however, PAH did apply a dilution adjustment to the reported reserve.

3.0 DISCLAIMER

This report was prepared for Constellation Copper Corporation (CCC) by the independent consulting firm of Pincock, Allen and Holt (PAH), to provide an updated Technical Report on the Lisbon Valley Project. The Technical Report has relied on information, prepared by third party sources that are not within the control of PAH, including the October 2000 The Winters Company (TWC) Feasibility Study and the November 2003 Winters Dorsey & Company (WDC) Update To The Feasibility Study. PAH previously reviewed this information and prepared a September 1, 2004 Technical Due Diligence report. The information, conclusions, and opinions contained in this Technical Report are based on information available to PAH at the time of the report under the assumptions, conditions, and qualifications presented in this report. PAH believes that the information contained herein will be reliable under the conditions and subject to the limitations set forth herein.

PAH does not guarantee the accuracy of third party information that was outside of the area of PAH's technical review, specifically the property legal title. For this, CCC has relied on information prepared by Almar Professional Land Services of Molina, Colorado and a land and title attorney George E. Reeves of Denver, Colorado. This information was presented in previous reports by TWC and WDC, which PAH believes to be reliable.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 *Location*

The Lisbon Valley project lies in the central part of Lisbon Valley in San Juan County, State of Utah in the United States, about 40 miles southeast of Moab and 9 miles south of the community of La Sal (Figure 4-1). The project is located in Sections 25, 26, and 36 of Township 45 North and Range 25 East.

The property consists of two small pre-existing inactive open pit mines (Centennial Pit and GTO Pit), waste dumps, adits, stockpiles, overburden, a power line, and an abandoned mill site. These historic mining features represent about 85 acres of surface disturbances in the local area. The abandoned site consists of leach vats, tailings, foundations, and a stockpile. None of these previous disturbances have been reclaimed at this time. All of the existing mining features will be removed by the planned mining activities.

4.2 *Mineral Tenure and Agreements*

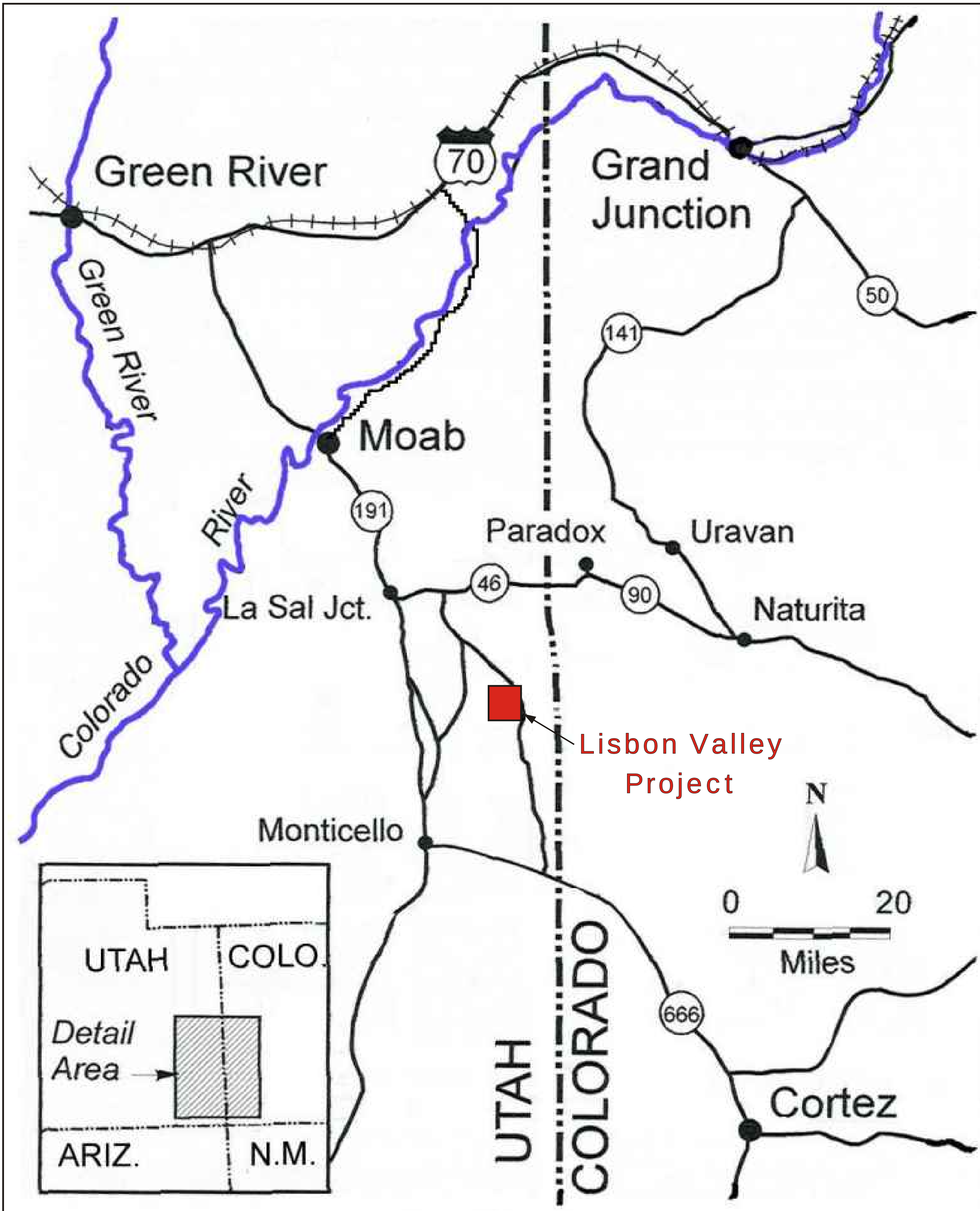
The Lisbon Valley Project is 100 percent owned by Constellation Copper Corporation (CCC) of Denver, Colorado, through its wholly owned subsidiary Lisbon Valley Mining Company LLC (LVMC). Constellation Copper Corporation changed its name from Summo Minerals Corporation in June 2002, but the names of the subsidiaries remain unchanged.

The project consists of private land (fee simple), and unpatented mining claims, as well as state leases, which is contained in a contiguous area of approximately 875 acres. Surface and mineral rights for the Lisbon Valley project consist of 600 acres of fee land surface owned all or in part by CCC through LVMC, three State of Utah mineral leases, one State of Utah Special Use lease, and 267 Federal unpatented mining claims. Approximately 50 percent of the project will take place on Federal (BLM) land. The remainder will be divided between state land and fee land (privately owned).

4.2.1 Mineral Rights

During its involvement with the Lisbon Valley project, CCC has conducted comprehensive land status research to document its surface and mineral ownership. CCC was assisted in its research efforts by Almar Professional Land Services of Molina, Colorado, and George E. Reeves, of Denver, Colorado, an attorney specializing in land status and title opinions.

The land-ownership pattern in the Project area is typical of the arid US West – a checkerboard of Federal, State, and private ownerships, as shown in Figure 4-2. Some of the areas shown as “fee lands” consist of patented (“fee”) surface rights, with minerals reserved to the public domain and currently held as unpatented mining claims by LVMC. Details of surface and minerals ownership, as well as the unpatented Federal mining claims are listed in Appendix A.



Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	INVESTEC BANK (UK) LIMITED	FIGURE 4-1 GENERAL LOCATION MAP FOR LISBON VALLEY PROJECTS	Aug/2004
Project No. 9434.00	Project Name Lisbon Valley Project		Drawing Name Fig4-1.cdr

There are in excess of 200 claims held by LVMC (hatched areas in Figure 4-2). Leases from the State of Utah are held by LVMC with respect to copper ores in the Cretaceous and Jurassic formations.

The various parcels of fee lands are split estates, with the surface in every case being owned by LVMC. The non-hydrocarbon, non-fissionable minerals (including copper) in every case are owned or leased by LVMC. Certain parcels of State or private ownership carry a royalty obligation.

Table 4-1 summarizes the unpatented claims controlled by CCC that pertain to the Lisbon Valley project. These claims include the older Security and Oxide groups that CCC retains under lease agreements, as well as other groups that have been purchased outright by CCC (Sentinel, CW, KWR, Alpha, and Coyote, Cub, Cougar, Colt, Cow, and Camel claims), and claims that Summo located in the mid-1990s (GKS, RP, and Step groups).

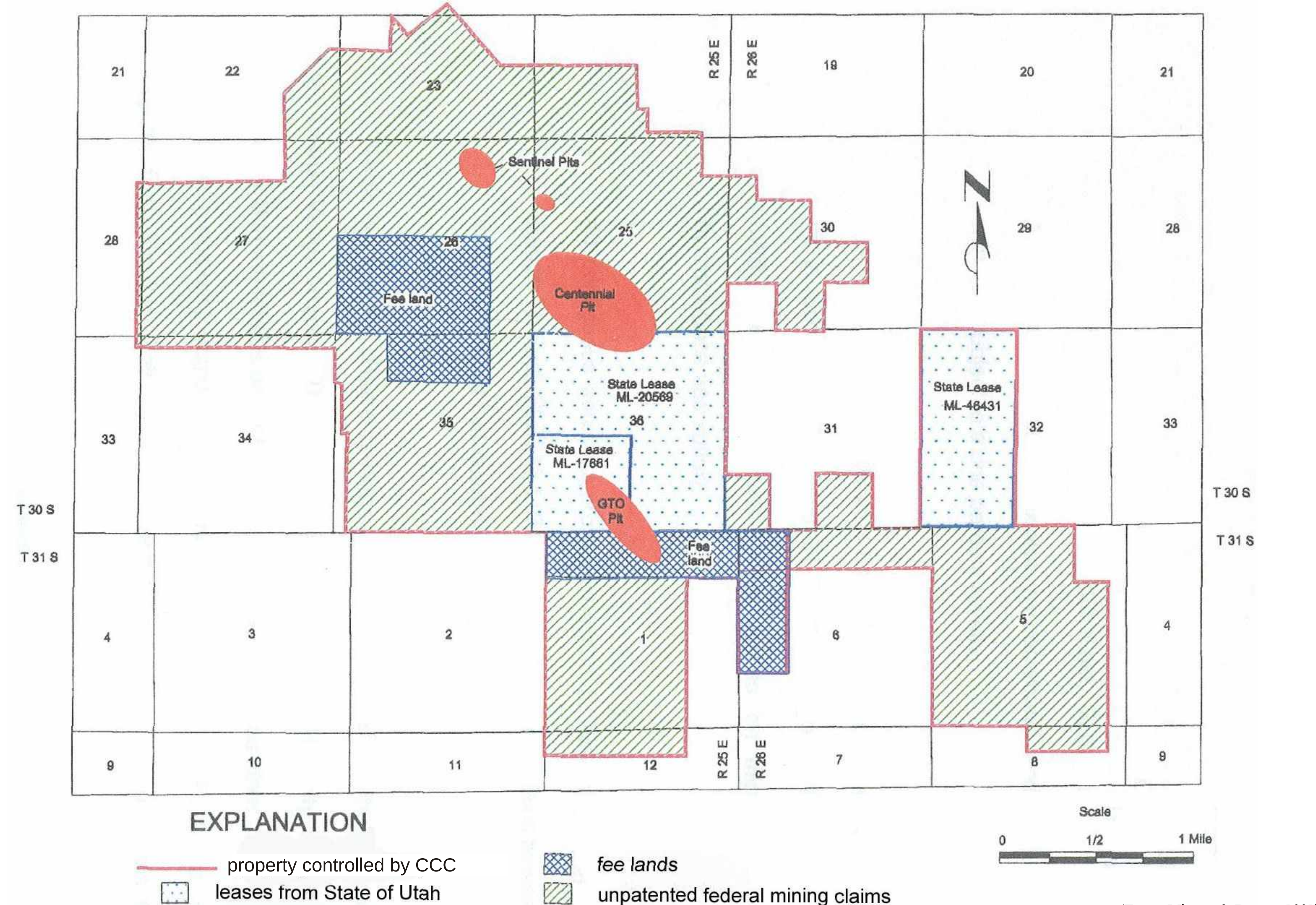
CCC's land position includes three State of Utah mineral leases (ML 17661, ML 20569 and ML 46431), and one Special Use Lease (SULA 707), which may be used for the processing plant site. The royalty reserved for the State of Utah on the three mineral leases is 4 percent of gross proceeds (less processing and refining costs) for all non-fissionable (including copper) ores and 8 percent of gross proceeds (less processing and refining costs) for all fissionable (uranium) ores.

LVMC has acquired the rights to 6 unpatented lode claims at the southern end of the GTO deposit. These claims are the Loomis, Silvey, Knox, Reeves, Rainey, and Wright claims, which cover the ground between the GKS claims on the west and private land owned by LVMC on the east. They are collectively referred to as the "Dearth Group."

The claims were originally located in August 1953, and have been maintained in good standing since. The claims were leased to Atlas Corporation in 1960, and that lease was assigned to Al Dearth, formerly President of Atlas Corporation, in 1985. That lease has been renewed several times and is currently in effect. The lease states that royalty payment is based on 5 percent of the gross proceeds on any uranium and vanadium sold from the property and 3 percent of the gross proceeds from the sale of any other material from the claims, after an allowance for deducting mining costs. LVMC acquired this lease from Al Dearth on June 19, 2003.

4.2.2 Royalties and Agreements

Table 4-2 summarizes all applicable royalties for fee land, unpatented mining claims and state mineral leases. The royalty terms of the Dearth Group include the aforementioned gross proceeds royalty, in addition to a sliding scale royalty payment based on production from the said claims as shown below.



(From: Winters & Dorsey, 2003)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 4-2** **PROPERTY STATUS MAP**	**Aug/2004**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig4-2.cdr**

TABLE 4-1
Constellation Copper Corporation
Lisbon Valley Copper Project
List of Unpatented Claims Controlled by Summo

Claim Group	Claim Numbers	Date Located
Climax Group	Climax 1–2	December 1950
Sentinel Group	Sentinel 1-11, 13-54	November 1954
Animal Group	Camel, Cow, Cat, Colt, Cougar, Coyote, Cub	November 1954
Alpha Group	Alpha 1-8	September 1959
Security Group	Security 3, 5, 9, 11, 14-16, 18-20, 25-56	December 1965
GM Wallace Fr.	GM Wallace Fr.	October 1970
KWR Group	KWR 1-8 9 Fraction, 10, 11-14 Fraction	October 1970 December 1971
Globe Claims	Globe 1-2, 9-10	January 1971
CWG Claims	CWG Fr. #1, Fr. #2, Fr	January 1973
CW Group	CW 1-16, 19, 22	April 1973
Oxide Group	Oxide 1-6 Oxide Fraction	September 1989 February 1990
Nu Zuni Claims	Nu Zuni 45-47	December 1989
CD Group	CD 1, 2Frac, 3Frac, 4Frac, 5Frac, 6Frac, 7A, 8A, 9A, 10A	March 1992
RP Group	RP 21-24, 28-33, 36-42, 46-54, 58-61, 66-67, 74-75	October 1993
Step Claims	Step 45-47	October 1993
Lady Buff Claims	Lady Buff 1-13	February 1995
GKS Claims	GKS 1-58	July 1995 March 1996

TABLE 4-2
Constellation Copper Corporation
Lisbon Valley Copper Project
Project Royalties

Royalty Owner	Minimum Payment	Royalty Description	Claim Group or Location	Comments
Brinton/Knowles	None	$0.15/wet ton ore	Animal, Sentinel, Nu Zuni and CD Fraction Claims	Equates to approximately $0.20/lb in average ore
State of Utah				
ML 20569	$480/yr rent Minimum payment of $7,875/yr	4% gross proceeds less refining and processing costs – “non-fissionable” ores	NW/4 E ½, Sec. 36	
ML 17661	$160/yr rent Minimum payment of $2,625/yr	4% gross proceeds less refining and processing costs – “non-fissionable” ores	T30S, R25E, SW/4 Sec. 36	
ML 46431	$320/yr rent	4% gross value for ores produced	T3OS, R26E, W/2 Sec. 32	Out of mining area
Tintic Uranium Mining	$1,000 yr	3% NSR	T31S, R25E, N/2N/2 Sec. 1	Extended through October 2003
Kosanke Mineral Lease	$2,800/yr	2.5% Net Proceeds	Oxide claims NW of Sentinel	Expires October 2008 unless in production*. Option to purchase for $100,000, less royalties paid up to date of purchase.
Constanza Lease	None	2% Net Proceeds	Security Claims SE of mine area	Option to purchase for $200,000, less royalties* paid up to date of purchase.
Lisbon Land & Livestock	None	1% Net Returns	T31S, R26E: Sec. 6: SW/4NW/4NW/4SW/4	Purchased April 1995*

Price of copper per pound	Royalty per ton of ore processed
Less than $0.75	$0.22
$0.75 – 0.85	$0.28
$0.85 – 0.95	$0.34
$0.95 – 1.05	$0.39
$1.05 or more	$0.45

4.3 *Environmental Liabilities and Permits*

4.3.1 Background

The Lisbon Valley Copper Project covers land that is privately held, managed by the State of Utah, and by the U.S. Department of the Interior, Bureau of Land Management (BLM). Since part of the project area is on land control by the Federal government, the BLM becomes the primary governing agency. As with all mining projects on federal lands, the project had to satisfy the requirements of the National Environmental Policy Act (NEPA). All major permits for the project were approved through this process in 1997 with subsequent renewals.

Primary permits issued by the BLM:

- Final Environmental Impact Statement (FEIS), February 1997,
- Record of Decision (ROD), March 26, 1997.

The State of Utah has issued the following permits to date:

- Ground Water Quality Discharge Permit, Permit Number UGW370005, November 15, 2001 (renewal of previous permit).
- NSPS, Title V Minor, permit DAQE-IN1462004-04, June 4, 2004 (renewal of pervious permit).
- Process Pond Dam Permit, permit number 97-05-37MD, September 9, 1997.

Environmental baseline studies were conducted by third party contractors. These studies were used by the Bureau of Land Management and State of Utah during the NEPA process to prepare the FEIS and ROD. Baseline environmental studies were available in the files and included hydrologic studies, groundwater sampling, groundwater flow modeling, pump tests, local geology, pit water chemistry, surface water quality, flora and fauna, soils, threatened and endangered species, noise impacts analysis, archeological clearance, cultural resources, U.S. Fish and Wildlife biological option, and socioeconomics.

Additional technical information used in the environmental evaluation for the project included studies and reports from the BLM, the State of Utah, and local government agencies. LVMC provided additional supporting documents such as geochemical characterization of waste rock, potential waste rock acid generation, meteoric water mobility testing, miscellaneous geologic and mineral inventory reports for the region, monitor well drill logs, ground water monitoring data and reports sent to the State, various environmental standards, heap detoxification and neutralization, soil and acid attenuation tests, and isotopic water analysis.

The present environmental plan for operation and closure has been the result of LVMC developing mutually acceptable programs with the BLM and the State of Utah. These plans appear reasonable for this type of operation at this location. Appropriate environmental safe guards have been built into the design of the project. There is currently no indication of wildlife or safety issues associated with historic open pits or environmental issues associated with acid rock drainage from the unreclaimed waste rock dumps. There will be no current or future impacts from past mining activities on this project, as it is currently planned.

4.3.2 Permits

Shortly after regulatory approval, the project was suspended due to an Appeal filed by environmentalists, which took two years to resolve, as well as low copper prices. This hiatus has resulted in the expiration of some of the permits. LVMC has reviewed each permit and begun the update procedure as necessary before construction begins. There are other local permits and licenses that the project is obtaining prior to construction. Listed below are major permits and their current status.

FEIS – The FEIS is still in effect. The delay in startup has not impacted the permit status. LVMC has met with the BLM to inform them of the new schedule and construction startup.

ROD – The same issues apply to the ROD as do those to the FEIS. LVCM has met with the BLM to inform them of the new schedule and construction startup.

GROUND WATER DISCHARGE PERMIT – Part of the Ground Water Permit is still in effect. LVMC continued exploration and groundwater monitoring activities from the time the permit was issued to the present. Bonding has been in place for exploration and groundwater monitoring. This part of the bond has been routinely evaluated and modified by the State as annual activities changed. The construction portion of the permit has expired. New construction drawings have been submitted to State for review and approval prior to construction. Bonding for the overall operation has not been paid by LVMC. This is an incremental bond paid in two parts; a small portion for years 1-2 and remainder to be paid in the future for the rest of the bond amount. However, the bond amount is not adequate at this time. A new bond value is being calculated based on the current cost of activities.

The Ground Water Discharge Permit is conditioned upon:

1. Any revision or Modification to the approved plans and specifications must be submitted to the Division of Water Quality (the Division) for review and approval, before construction or implementation thereof. Plans have been submitted by LVMC.

2. The approved facilities must not be placed in service unless the Division has made a final inspection, and has authorized in writing to place the constructed facilities in service.

3. A Quality control/Quality Assurance (QA/QC) plan will be submitted and approved prior to construction. LVMC has submitted a new QA/QC plan.

The Ground Water Permit states that the "construction permit will expire one year from the date of issuance, unless substantial progress is made in constructing the approve facilities." The permit was issued on November 15, 2001. No signification site construction activities had taken place within one year of permit issuance. At this time LVMC has begun the process of permit renewal.

AIR QUALITY PERMIT - Renewal of the expired original air quality permit by LVMC has been made with the State of Utah. There have been no changes to this permit by either party. To date there have been no negative comments received by the State, only letters of support by the local governments. LVMC received the Air Quality Permit renewal on July 17, 2004.

DAM PERMIT - The Dam Permit is still in effect. As-built drawings have been submitted to the Utah Division of Water Rights for approval.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES AND INFRASTRUCTURE

CCC's Lisbon Valley project lies in the central part of Lisbon Valley in San Juan County, State of Utah in the United States, about 40 miles southeast of Moab and nine miles south of the community of La Sal. It is accessible by paved and unpaved roads from La Sal Junction, with the last few miles of unpaved road slated for paving during 2004.

The surroundings at Lisbon Valley are typical Colorado Plateau country, with a succession of mesas, bluffs, and semi-desert plains. The mineralized area is at 6300-6600 feet elevation with rock outcrop and sparsely covered by juniper trees, shrubs, and occasional grassy flats. The climate is arid, with about 16 inches of precipitation, including winter snows. Although the property will experience four very different weather seasons, with extremes from +100 degrees F to lows below zero, none will be too server to prevent the operation from producing year round. Although some of the land is grazed by cattle, there are no ranches or settlements in the vicinity of the mineralized area.

The workforce for the operation will commute largely from the towns of Moab and Monticello, both about 45 minutes by road from the site. There should be no problems in finding workers with the necessary skills for the operation in the local area because several mining operations have operated in the past in the same area in southeastern Utah.

The only infrastructure in place capable of serving the Lisbon Valley Copper Project is the San Juan County road, which will be paved to within about four miles of the mine. All other infrastructure must be developed for the project and have been included in the capital cost estimate.

A new 138 kV double pole power line will be constructed to the Lisbon Valley site. There is an aquifer at a 250 to 300 foot depth and another at a depth of 1,000 feet. The lower aquifer is considered to be a backup for the water supply if sufficient water for the property cannot be developed from the upper aquifer. A microwave tower will be constructed to provide telephone service. Fuel storage and dispensing will be provided for diesel and gasoline for the mine equipment and for light vehicles.

6.0 HISTORY

The Lisbon Valley area has a long, though somewhat incomplete, recorded history of copper and uranium prospecting and mining activity. Copper was first discovered in the 1890s in the northern end of Lisbon Valley known as the Big Indian mining district. Early exploration and mining activities for copper were largely confined to two properties: the Big Indian mine in the north and the Blackbird (or Lisbon) mine, which is the current focus of this Technical Report.

Several owners and mining companies were active from first discovery through the 1960s, where both open pit and underground mining took place. In the early 1960s, Micro-Copper Corporation set up a small 200 ton-per-day acid leach and iron precipitation operation at the Blackbird mine on what is now part of the LVMC land holdings. Micro-Copper mined malachite- and azurite-bearing sandstones above what is now the Centennial pit area. The operation shut down in 1970. Remnants of this operation are still evident on the property immediately west of San Juan County Road 370 at the southern end of LVMC's property holdings.

Modern exploration and development of copper at Lisbon Valley commenced in the 1960s with Cleveland Cliffs Copper Corporation performing the first documented exploration drilling of 22 rotary drill holes in the area of the Centennial pit. In 1967 George Wallace, in a joint venture with Cleveland Cliffs, developed and operated a mill and acid leach plant on the Big Indian property. Copper was recovered by iron precipitation, which was shipped to Kennecott's smelter at Ely, Nevada for further refining.

In 1969 George Wallace formed a venture with Keystone Metals known as Keystone-Wallace Resources (KWR) to further the copper operations started by Wallace and develop the copper resources near the current Lisbon Valley project. Oxide resources were mined and processed from the Big Indian, Centennial and GTO deposits from 1970 through 1973. Production was reported to be approximately 1 million tons of ore, producing about 25 million pounds of copper with a process recovery of 90 percent.

In 1974, Centennial Development Company (CDC) optioned the properties to evaluate the sulfide copper potential. CDC drilled 223 rotory and 17 diamond drill holes, mostly in the Centennial deposit area. CDC decided not to proceed with project development due to low copper prices and inadequate return on investment.

In 1975 Noranda Exploration Inc. optioned the properties and drilled 103 rotary and 11 core drill holes. However, Noranda failed to define their minimum target size and dropped the option in 1976.

Activity on the project was inactive until 1985 when Kelmine Corporation obtained an option on the property in order to develop copper sulfate. However, continued low copper prices prevented Kelmine from arranging financing to develop the project. Kelmine transferred their lease to MLP Associates, a Colorado Limited Partnership.

In 1989 MLP brought in Sindor Inc., a Canadian-based company, to evaluate the development of an open pit heap leach operation with recovery of copper by SX-EW processing. Sindor performed additional drilling, but was unable to generate sufficient capital and withdrew in 1990.

Kennecott optioned the property in 1993 and drilled five widely spaced holes looking for a large sulfide orebody in the lower sandstones. Unable to delineate their minimum target size, Kennecott withdrew from the option.

St. Mary Minerals Inc., a wholly owned subsidiary of St. Mary Land & Exploration Company, optioned the properties in late 1993, with the intent of developing a large, low-grade resource amenable to open-pit mining, heap leaching, and SX-EW processing. St. Mary assigned the option to a newly formed company, Summo Mineral Corporation (Summo), in exchange for shares in the new company. Throughout the exploration of these deposits by several companies, the geologists, engineers and landowners preserved most of the drill data.

In 1995 Summo submitted a Plan of Operations to the State of Utah and the BLM for development of the property as an open pit mine and heap leach SX-EW processing operation. Baseline environmental studies and groundwater sampling and monitoring were initiated.

In 1996 a positive Feasibility Study was completed by Roberts & Schaefer Company of Salt Lake City, Utah. By January 1997 all permits from the State of Utah were issued. A Final Environmental Impact Statement was published by the BLM in February of 1997. A favorable Record of Decision approving the project was issued by the BLM in March of 1997. Summo had arranged $50 million in senior and subordinate debt financing to construct the project.

In May 1997 a group of environmentalists filed an Appeal of the Record of Decision. Although litigation consumed the next two years, the Interior Board of Land Appeals in Washington DC upheld the Record of Decision. The Appellants filed a Request for Reconsideration, which was denied in March 1999. However, during the time of litigation, copper price halved from its pre-litigation level of $1.25 per pound, resulting in Summo losing its loan commitments.

Summo continued to exercise its option on the property placing the property on care and maintenance until a Feasibility Study performed by The Winters Company in 2000, with an update in 2003, indicated that the Lisbon Valley project was feasible. Summo, changing its name to Constellation Copper Corporation in June 2002, proceeded to re-apply for all necessary operating permits, submitted a new Plan of Operations and organized new financing to develop the Lisbon Valley project.

7.0 GEOLOGIC SETTING

7.1 *Regional Geologic Setting*

The Lisbon Valley property is located within the Paradox Basin, part of the Colorado Plateau Province of North America. The Paradox Basin was a depositional basin in Pennsylvanian and Permian time, marked by the deposition of a thick sequence of evaporates, including salt and potash, with gypsum occurring at the base of this sequence. Shortly after burial, the weak, plastic evaporitic horizons were deformed in response to regional compression, largely as a result of uplift of the Uncompahgre region to the northeast. The result was a series of northwest-southeast anticlines, with salt occurring along the center of the anticline axis. The Lisbon Valley Anticline is one such regional structure.

Once the evaporites were thickened in these anticlines, they continued to flow continually upward into the less-dense cover rocks. This continuous growth of the anticlines is noted in the thinning of many of the post-Permian formations over the crests of anticlines, which existed as elongate topographic highs during parts of Mesozoic time. This is demonstrated by the Moenkopi through Summerville Formations, which are thinned and locally absent over the crests of the anticlines. Sediments deposited during the Mesozoic included a succession of marine, tidal, aeolian, and continental clastic sediments that accumulated in the region until late Cretaceous time, when regional uplift brought deposition to an end.

Subsequently, the weight of the overlying sedimentary sequences on the underlying plastic salt accumulations along the central part of the anticlines resulted in the collapse of the sedimentary sequences along fault and fold structures on the limbs of the anticlines. Faults and folds in the limbs of the anticlines parallel the regional trend of the anticlinal axis. The Lisbon Valley Fault is one such structure that occurs in the deposit area to the southwest of the axis of the antilcline. To the northeast of the axis of the anticline, displacement was more of a combination of folding and faulting of the sequence. Due to the collapse, alluvium occurring along the axis of the anticline can be unusually thick locally (up to 700 feet or more).

The Lisbon Valley copper deposits occurred when mineralizing fluids moved upward along the Lisbon Valley Fault and moved outward into receptive sedimentary rock units. Reductive conditions in the permeable sandstone units allowed for the precipitation of copper minerals in late Cretaceous or early Tertiary time.

Later in the Tertiary the intrusion of a suite of alkalic (syenite, monzonite, and diorite) porphyries pushed up and into the sedimentary sequence forming what is now the La Sal Mountains, 10 to 20 miles north of the project area. These intrusives were emplaced as stocks and laccoliths into the Mesozoic rocks. The intrusion disrupted the regional trend of the collapsed salt core anticlines. The intrusive complex is not believed to have played a significant role in the formation of the Lisbon Valley deposits.

Figure 7-1 shows a geologic map of the Lisbon Valley region, including the Lisbon Valley collapsed salt anticline and the associated Lisbon Valley Fault. Figure 7-2 shows the stratigraphic column summarizing the geologic formations that occur in the deposit region.

7.2 *Deposit Geologic Setting*

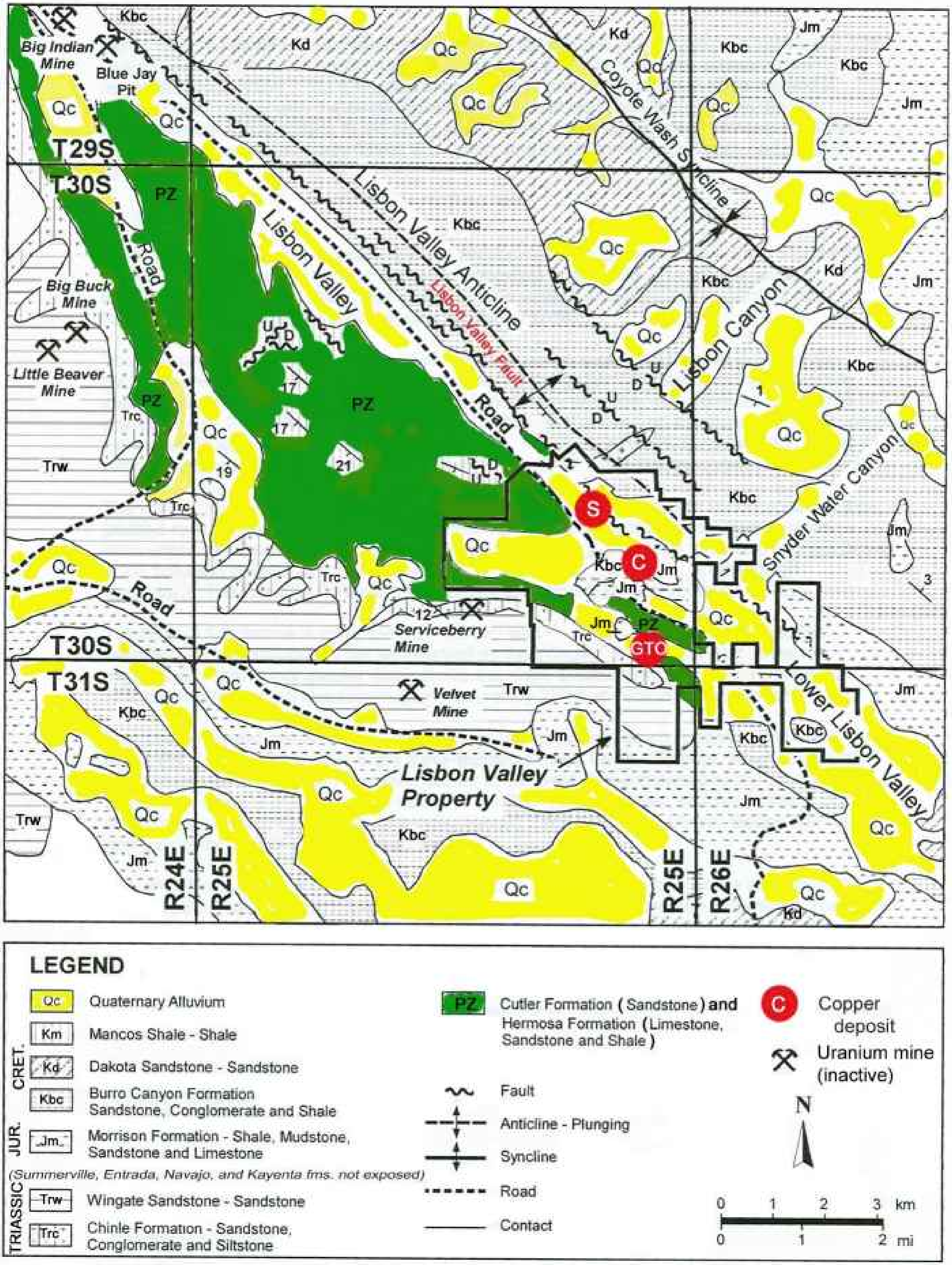
7.2.1 Deposit Stratigraphy

The sedimentary host rock sequence for the Lisbon Valley copper deposits consist of the lower Cretaceous age Burro Canyon Formation and the overlying Dakota Formation. These units consist of interbedded sandstone, siltstone, and shale lithologies. A numbering system has been developed to identify the stratigraphic sequence in the deposit area, to facilitate mapping, logging and correlation. The designations are shown in Table 7-1.

TABLE 7-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Stratigraphy of the Deposit Area (numbered beds)

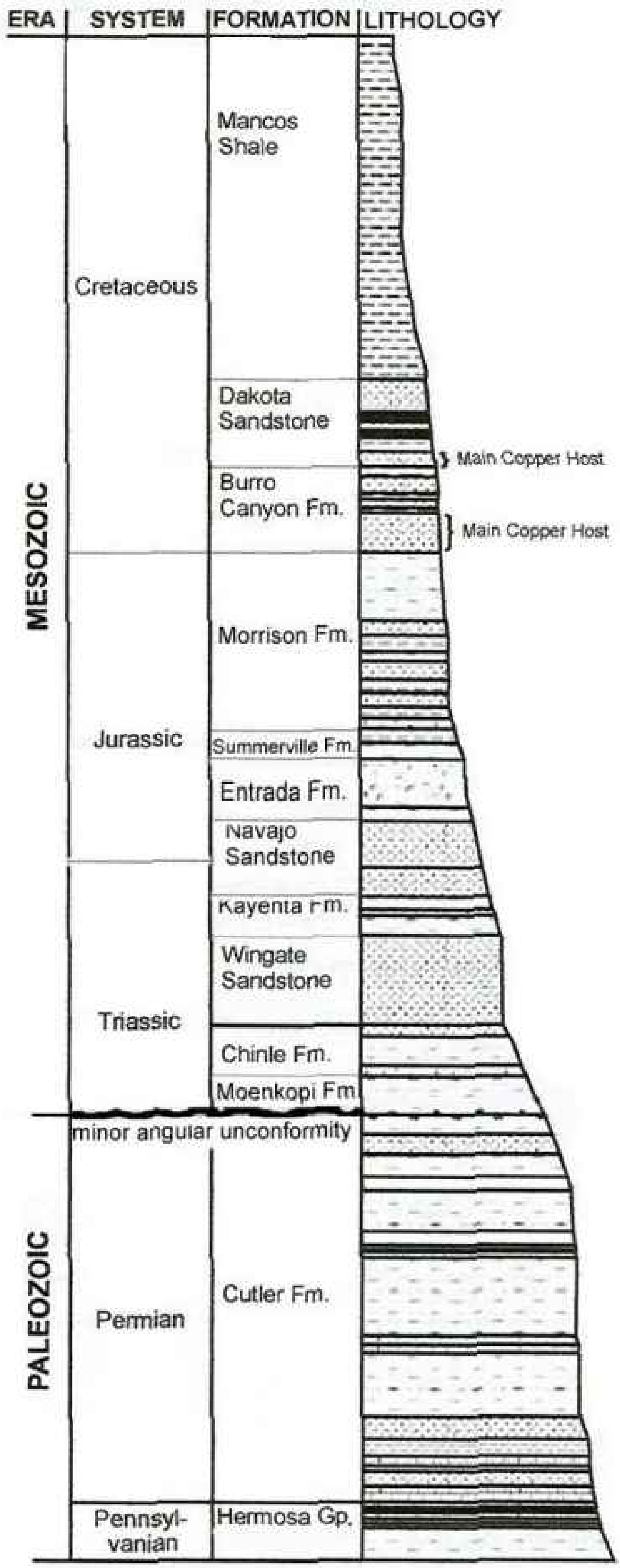
Unit Number	Formation	Lithology	Thickness, Feet	Copper Mineralization
1	Quaternary	red and yellow sand and silt, aeolian or alluvial	0-40	None
2	Mancos	black to brownish-green shale with local gypsum	0-70 in drillholes	sporadic, low-grade
3	Dakota	buff to white sandstone, may have shale at base	15-20	None
4	Dakota	buff to white sandstone, minor gray shale	15-20	local economic grades
5	Dakota	buff sandstone, fine- to medium-grained	15-20	local economic grades at base
6	Dakota	coal, grades into carbonaceous shale	5-20	minor, at top
7	Dakota	light gray shale, may grade into sandstone	10-20	None
8	Dakota	coal, similar to #6 but shaley or sandy with pyrite balls	5-20	low-grade
9	Dakota	light gray shale, grading into fine-grained sandstone as #10	5-10	None
10	Dakota	sandstone with local mudstone, similar to #9	0-15	local economic grades
11	Dakota	white or buff sandstone, 1-10% shale or organics, similar to #11 when white	2-35	major ore host, GTO & Centennial
12	Dakota	greenish shale and sandstone, often pyritic	5-20	Locally minor
13	Dakota	white, buff or orange sandstone, poorly-cemented, similar to #11	20-50	major ore host, GTO & Centennial
14	Burro Canyon	varicolored shale, may grade into cherty limestone or conglomerate	70-120	
15	Burro Canyon	pure white quartzose sandstone, local shale intercalations	90-150	major ore host in Sentinel Pit
16	Burro Canyon	transition from #15 to #16; not always logged separately.	10-30	None
17	Morrison	red or white shale, some red sandstone	10+	Minor
none	Morrison	mainly shale and sandstone, some limestone and conglomerate	600-800	Minor
none	pre-Morrison	other Jurassic, Triassic, Permian, and Pennsylvanian sandstones, shales, etc.	several thousand	minor except possibly Cutler Fm.

Note: 1) Double lines drawn at formation contacts. Shaded units are the main mineral hosts.
2) Indicated thickness in project area; thicknesses may vary widely across S.E. Utah and W. Colorado.



(From: Hahn & Thorson, 2003)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 7-1** **GEOLOGIC MAP OF LISBON VALLEY AREA**	**Aug/2004**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig7-1.cdr**



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PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 7-2 STRATIGRAPHIC COLUMN FOR LISBON VALLEY REGION**	**Aug/2004**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig7-2.cdr**

7.2.2 Deposit Structure

Three copper deposits have been delineated in the Lisbon Valley Project area. These consist of the Sentinel, Centennial, and GTO deposits. The deposits are situated in moderately west dipping to subhorizontal beds in the anticline, which occur between the anticlinal axis and the Lisbon Valley fault to the southwest. The Lisbon Valley Fault consists of a series of en-echelon faults strike parallel to the anticlinal axis, just west of the axis. Fault displacement has placed the Permian Cutler Formation and the Pennsylvanian Hermosa Formation on the southwest side of the fault adjacent to Cretaceous Burro Canyon Formation and Cretaceous Dakota Formation on the northeast side of the fault. The stratigraphy is disrupted by other en-echelon faults, with copper deposits tending to be up dip to the northeast of major fault strands in each case.

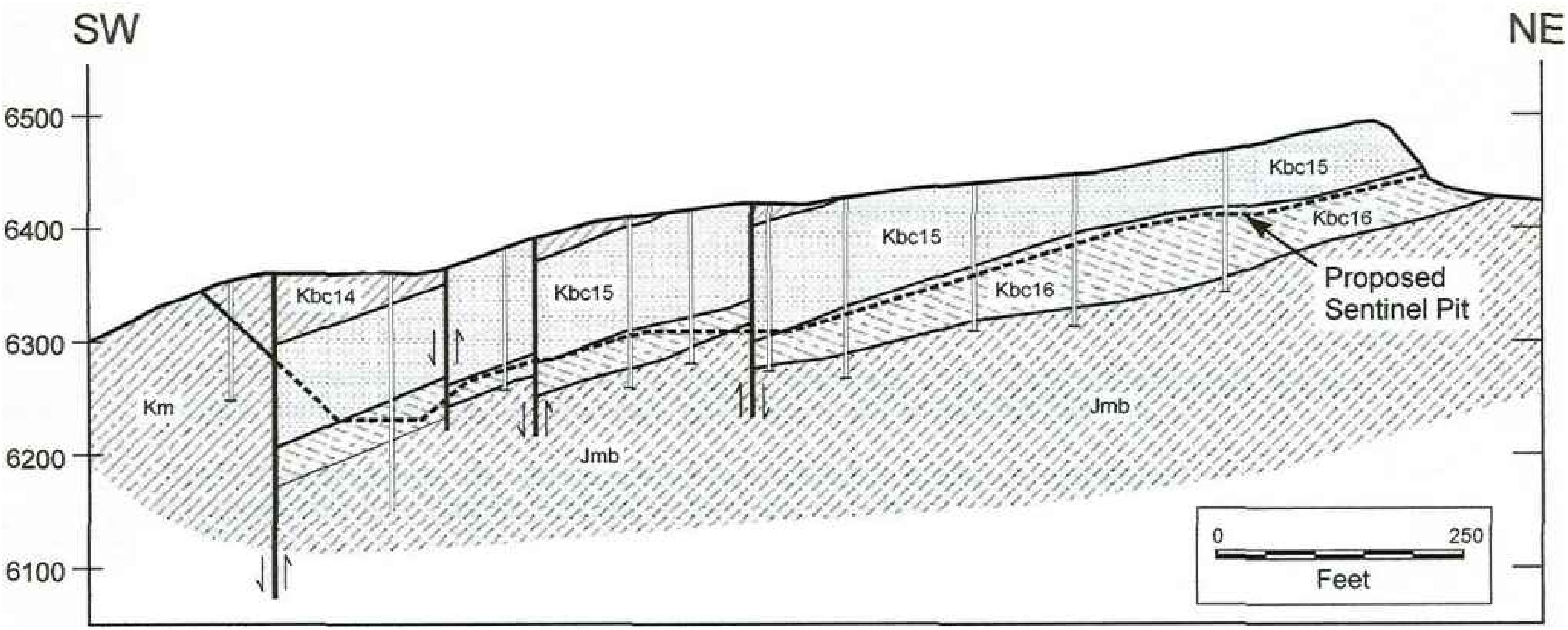
The copper mineralization occurs as stratabound disseminations (grains and films between quartz grains) following favorable zones in permeable sandstone units and as coatings and fillings on fractures. The copper grade is higher near the branches of the Lisbon Valley Fault or related en-echelon faults, which apparently served as feeders for copper-bearing solutions, with grades showing a decrease with distance from these structures.

Each of the three ore bodies, Sentinel, Centennial, and GTO, lies to the north of a major strand of the Lisbon Valley Fault Zone, with inclined Cretaceous strata near the fault strand. Geologic cross-sections are shown in Figure 7-3 for Sentinel, Figure 7-4 for Centennial, and Figure 7-5 for GTO. Units 15, 13, 11, 4 and 5 tend to be the most favorable host rocks.

In the Sentinel deposit, economic mineralization consists of malachite and azurite in Unit 15 of the Burro Canyon Formation. There are two distinct mineralized lenses, connected by a thin band of mineralization. The sandstone is highly permeable and contains few fines. The extent of significant copper mineralization is about 1,000 by 2,000 feet.

At Centennial, mineralization is mainly in Unit 15 of the Burro Canyon Formation, with lesser mineralization in Unit 13 and 11, and also in Units 4 and 5 of the Dakota Formation. The total sequence containing the mineralized beds is about 300 feet, including interbedded shales, coal, and barren sandstone. Mineralization consists of malachite and azurite in the upper parts of the deposit and mixed malachite, azurite, and chalcocite at depth in the central part of the deposit. The extent of significant copper mineralization is about 1,500 by 4,000 feet, with mineralization exposed on three sides.

GTO ore is in Beds 11 and 13, of the Dakota Formation. Unlike the other deposits, at GTO the strata dip northward, away from the fault strand. While earlier mining exploited carbonate and oxide minerals, the remaining mineralization is entirely sulfides, mainly chalcocite, with minor amounts of covellite, bornite, and chalcopyrite. The extent of significant copper mineralization is about 750 by 1,500 feet. Erosion of overlying sediments has allowed for near surface weathering and oxidation of the original chalcocite mineralization. The secondary or supergene copper minerals at Lisbon Valley have mainly resulted from the conversion of the chalcocite to malachite and, locally, to azurite and other copper-carbonate/oxide minerals. In general, chalcocite is not abundant closer to the surface than 150 feet.



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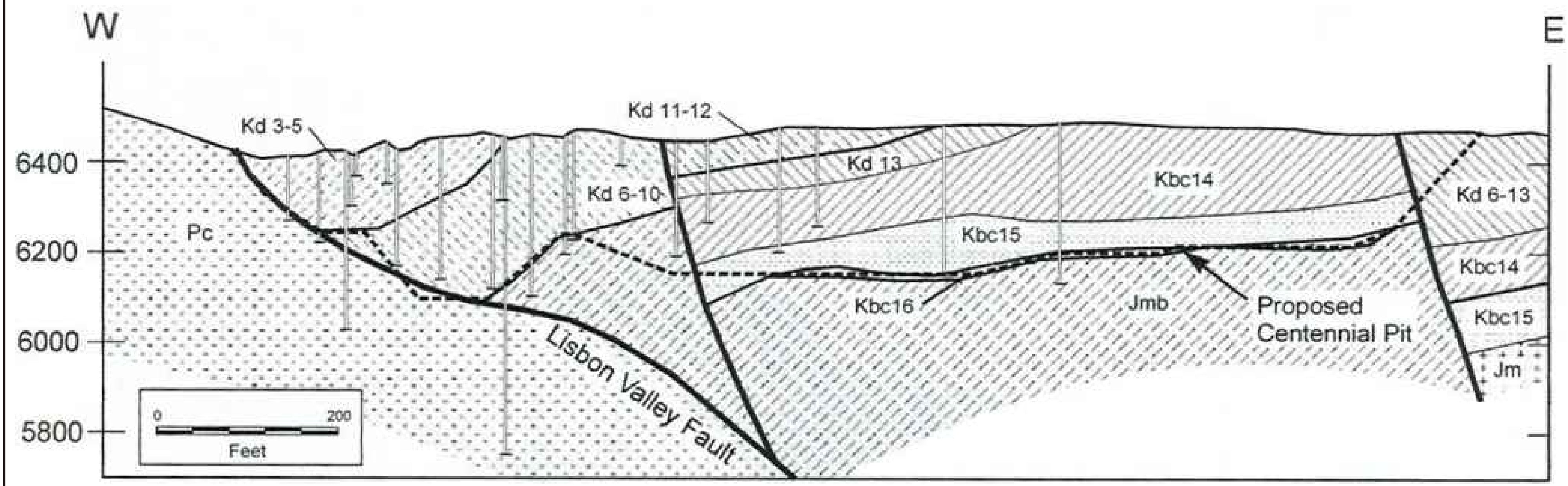
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 7-3** **CROSS-SECTION THROUGH SENTINEL DEPOSIT** **(Looking Northwest)**	**Aug/2004**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig7-3.cdr**



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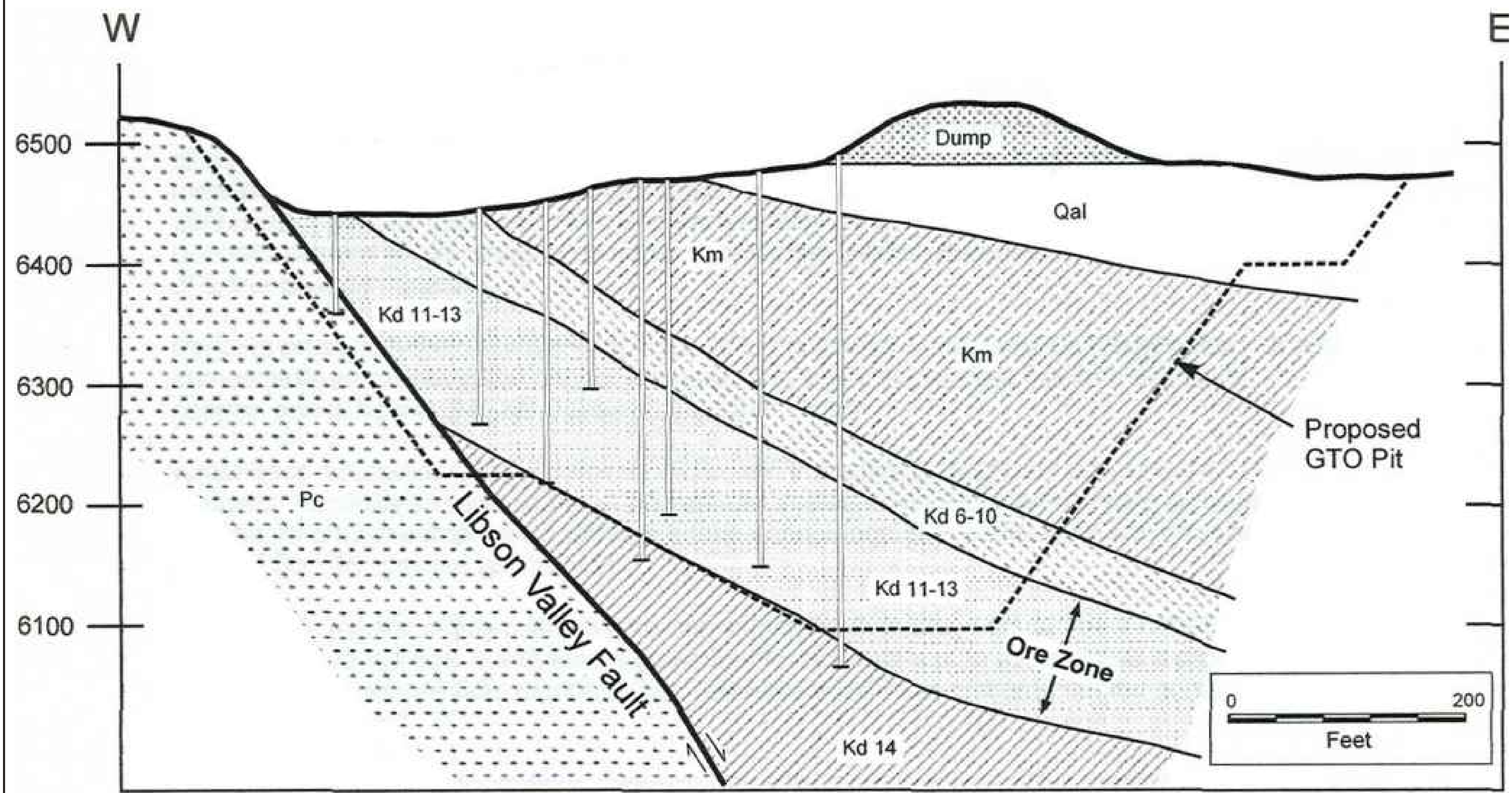
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	**INVESTEC BANK (UK) LIMITED**	**FIGURE 7-4** **CROSS-SECTION THROUGH CENTENNIAL DEPOSIT** **(Looking North)**	**Aug/2004**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig7-4.cdr**



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PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 7-5** **CROSS-SECTION THROUGH GTO** **(Looking North)**	**Aug/2004**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig7-5.cdr**

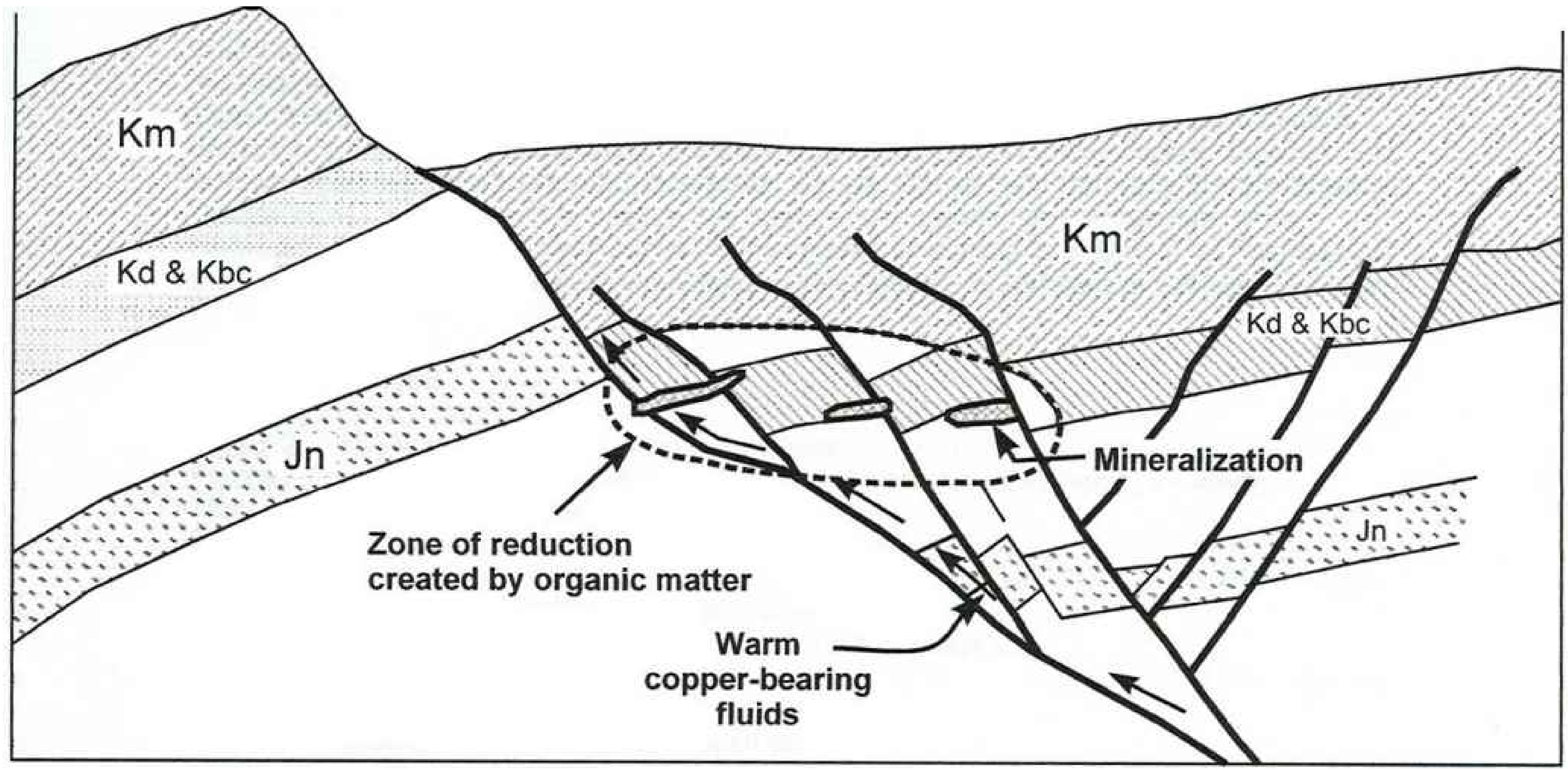
8.0 DEPOSIT TYPES

Lisbon Valley can be considered a "sandstone-hosted copper deposit." Sandstone-hosted copper deposits are a well-known and readily-defined class of deposits, which has been recognized for over a century. The existence of these distinct types of deposits, not related to igneous activity, has been noted for over a century.

Approximately 2/3 of current world copper mine production is from porphyry and skarn systems, with another 1/6 from volcanogenic massive sulfides. The remaining sixth comes from a variety of deposit types, including mafic/ultramafic intrusives (Sudbury, Norilsk, Kambalda, etc), sedex or "Copper-Belt" deposits, epithermal veins, sandstone-hosted deposits, and others (notably Olympic Dam). Most currently producing sandstone-type deposits are small, and current production can only be roughly estimated at perhaps 1 to 3 percent of the world total.

At Lisbon Valley, mineralization consists of low-temperature copper minerals disseminated throughout certain porous and permeable sandstone beds in the Dakota and Burro Canyon formations. The vast majority of contained copper is in malachite, chalcocite, azurite, and tenorite, in that order. Sulfides occur at depth, while the oxides and carbonates predominate within 150 feet or so of the surface.

According to Hahn and Thorson (2003), the Lisbon Valley copper mineralization was deposited by groundwater, which moved in fractures, in this case the Lisbon Valley Fault. When the upward-moving fluids encountered the permeable Dakota and Burro Canyon sandstones with their carbonaceous fossils and possibly iron-sulfide minerals, the copper in solution was deposited preferentially in certain beds. The mineralization model for the Lisbon Valley deposit is shown in Figure 8-1.



(From: Hahn & Thorson, 2003)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 8-1** **MINERALIZATION MODEL FOR LISBON VALLEY DEPOSITS**	**Aug/2004**
Project No. **9434.000**	Project Name Lisbon Valley Project		Drawing Name **Fig8-1.cdr**

9.0 MINERALIZATION

The Lisbon Valley copper mineralization was deposited by groundwater, which moved in fractures, in this case the Lisbon Valley Fault. When the upward-moving fluids encountered the permeable Dakota and Burro Canyon sandstones with their carbonaceous fossils and possibly iron-sulfide minerals, the copper in solution was deposited preferentially in certain beds.

Mineralization at the three Lisbon Valley deposits consists of low-temperature copper minerals disseminated throughout certain porous and permeable sandstone beds in the Dakota and Burro Canyon formations. Copper minerals are either sulfides (chalcocite, djurleite, covellite, bornite, chalcopyrite), carbonates (malachite, azurite), or oxides (tenorite, cuprite, neotocite/copper wad). The vast majority of contained copper is in malachite, chalcocite, azurite, and tenorite, in that order. Particulars of each mineral are shown in Table 9-1. Sulfides occur at depth, while the oxides and carbonates predominate within 150 feet or so of the surface.

TABLE 9-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Copper Minerals In Deposits

Mineral	Formula	% Cu	%S	%Fe	Abundance, LV project	% Soluble H_2SO_4	% Soluble NaCN
native copper	Cu	100	0	0	rare	5	100
chalcocite	Cu_2S	80	20	0	common	3	100
djurleite	$Cu_{31}S_{16}$	79.3	20.7	0	present	approx. 3	approx. 100
covellite	CuS	66.5	33.5	0	rare	5	100
chalcopyrite	$CuFeS_2$	34.6	30.5	34.9	rare	2	7
bornite	Cu_5FeS_4	63.3	11.1	25.5	rare	2	100
tenorite	CuO	80	0	0	uncommon	100	100
cuprite	Cu_2O	85	0	0	uncommon	70	100
malachite	$Cu_2(CO3)(OH)_2$	57.5	0	0	abundant	100	100
azurite	$Cu_2(CO3)_2(OH)_2$	45	0	0	common	100	100

Note: Shaded minerals are the significant economic minerals.

The copper minerals may occur as stratabound disseminations (grains and films between quartz grains) following permeable zones in specific sandstone units, but are often demonstrably associated either with fractures or with organic materials (worm burrows, fossil plant material, possibly former petroleum). They also occur to a lesser extent in shale and coal seams interbedded with sandstones. The copper grade is higher near the branches of the Lisbon Valley Fault, which served as feeders for copper-bearing solutions.

According to Hahn and Thorson (2003), the Sentinel deposit, and to a lesser extent the Centennial deposit, is surrounded by a halo of rocks containing dolomite cement in pore spaces. There is also a poorly documented clay halo around the mineralization. Presumably, the dolomite and clay were removed by the fluids that deposited copper minerals in the mineralized beds.

Erosion of overlying sediments has allowed for near surface weathering and oxidation of the original chalcocite mineralization. The secondary or supergene copper minerals at Lisbon Valley have mainly resulted from the conversion of the chalcocite to malachite and, locally, to azurite and other copper-carbonate/oxide minerals. In general, chalcocite is not abundant closer to the surface than 150 feet. Sooty chalcocite occurring in the transitional zone between oxide and sulfide may be supergene in nature.

Controls to the mineralization at Lisbon Valley can be summarized as follows:

- proximity to fluid-conducting strands of the Lisbon Valley Fault;
- presence of permeable sandstones such as Beds 11,13, and 15
- presence of reductants in those beds, such as fossil plant debris, iron sulfides, and organic-rich worm burrows.
- formation of malachite and azure from chalcocite by exposure to highly-oxidizing meteoric waters.

10.0 EXPLORATION

10.1 *Deposit Exploration*

Copper mineralization in sandstones of the Lisbon Valley deposits is readily visible in outcrop at some localities, showing as green or blue stains of malachite or azurite. The presence of copper was noted during the 1800s by explorers, prospectors, and ranchers. Small-scale mining began during the First World War, and numerous attempts have been made since then to produce copper. The more recent developments are summarized in Table 10-1.

TABLE 10-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Project History

Period	Interested Parties	Nature of Activities
Early 1960s to 1970	Micro Copper	produced copper powder by leaching and chemical precip. at Centennial (“Blackbird Mine”)
1960s	Cleveland Cliffs Iron	drilled 22 holes, Centennial Pit
1970-73	Keystone Wallace Resources	drilled 150 holes, produced 25 M lbs copper by vat leach and scrap-iron cementation from Big Indian, Centennial, and GTO.
1974	Centennial Development	drilled 300 holes each in Centennial and Sentinel, evaluated flotation potential
1975	Noranda Exploration	Drilled 75 holes
mid-1980s	Kelmine	Feasibility Study
1988-91	Sindor Resources	some drilling, unsuccessful column-leach tests
1992-93	Kennecott Exploration	drilled 6 deep holes
1993-97	Constellation Copper (as St. Mary, Summo)	optioned properties, drilling of 150 rotary and core holes, leach tests, feasibility study
1997	Constellation Copper (as St. Mary, Summo)	suspended work in light of low copper prices;
2000	Constellation Copper (as Summo)	Feasibility Study by The Winters Company
2003	Constellation Copper (as Summo)	Update by Winters, Dorsey & Co. of 2000 Feasibility Study

CCC and predecessors completed most of their drilling and test work and had prepared a feasibility study by 1997. The project was fully permitted and financed in 1997, with the Winters Company having conducted a due diligence of the project for the loan. Because of a legal appeal filed by two environmental groups, however, the project was stayed from going to production. Defense of the permit and challenge of the appeal took two years, but was successfully concluded in March 1999. However, a drop in copper prices in mid-1997, followed by several years of low prices, caused CCC to delay its plans for resuming the project development, resulting in a loss of the financing in the meantime.

With some improvement in copper prices by 2000, CCC had The Winters Group prepare a new feasibility study. Surging copper prices in 2003 triggered the preparation of the Update to the 2000 Feasibility Study by Winters Dorsey & Company. Project construction was initiated in November 2004 and initial copper production is planned for November 2005.

11.0 DRILLING

Numerous investigators have drilled at Lisbon Valley since 1960. According to the 2003 Update report, the total inventory of Lisbon Valley drilling by all parties from 1960 through late 2003 was 1,069 holes totaling over 208,000 feet. More than half the holes and the footage are in the Centennial deposit area. Table 11-1 shows the drilling totals by deposit area.

TABLE 11-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Drilling Totals by Deposit Area

Area	Holes	Feet
Centennial	597	141,951
Sentinel	340	36,599
GTO	132	30,228
TOTAL	**1,069**	**208,778**

The various operators that have conducted drilling in the deposit area have used a variety of drilling methods. A significant amount of the historical drilling was by conventional rotary drilling, with more recent drilling by reverse circulation methods. A minor amount of the drilling has been by core methods. A summary of the drilling campaigns is provided in Table 11-2.

TABLE 11-2
Constellation Copper Corporation
Lisbon Valley Copper Project
Summary of Drilling Campaigns

Year	Company	Drill Type	No. Of Holes	Feet
Centennial Area				
1970-1973	Keystone-Wallace and others	rotary	185	approx 23,975
1974	Centennial Development	rotary	228	approx 55,000
1975	Noranda	rotary, core	64	approx 16,000
1992-1993	Kennecott	rotary	1	700
1993-2000	Constellation	reverse circulation, core	151	approx 49,000
GTO Area				
1970-1972	Keystone-Wallace and others	rotary	130	approx 26,000
1975	Noranda	rotary, core	7	3,421
1992-1993	Kennecott	rotary	3	approx 1,500
1993-2003	Constellation	reverse circulation	20	approx 7,000
Sentinel Area				
1970-1974	Keystone-Wallace and others	rotary	338	approx 30,000
1992-1993	Kennecott	rotary	2	approx 1,500
1994-1998	Constellation	reverse circulation	47	approx 11,500

The drilling database consists mainly (about 86 percent) of holes drilled by earlier companies in the district, and only about 14 percent of holes drilled by Constellation Copper and predecessors. Some of the earlier holes are known only from assay logs, with minimal data on geology, recovery, etc. and few cuttings or pulps on hand. Since acquiring the initial properties in 1993, CCC has completed over 150 core and (mainly) reverse-circulation drill holes on the property. The total inventory of drilling by all parties from 1960 through late 2003 was 1,069 holes totaling over 208,000 feet. More than half the holes are in the Centennial deposit area.

The vast majority of the drilling undertaken for copper exploration purposes over the years has been incorporated into the geological model for resource calculation. Thus, the drilling database is a mixture of reverse-circulation, cased rotary, open-hole rotary, and air-track drilling, utilizing various types of bits. The amount and type of drilling used in each of the deposit area is shown in Table 11-3 for Sentinel, Table 11-4 for Centennial, and Table 11-5 for GTO. Drill hole location maps are shown in Figure 11-1 for Sentinel, Figure 11-2 for Centennial, and Figure 11-3 for GTO.

TABLE 11-3
Constellation Copper Corporation
Lisbon Valley Copper Project
Sentinel Deposit Drilling Summary

Drilling Type	No. of Holes	Footage
Rotary or reverse circulation	168	25,317
Core	16	1,560
RC deepened by core	0	--
Air track	156	9,722
Unknown	0	--

Note: 1) Information from WDC 2003 Update To Feasibility report.

TABLE 11-4
Constellation Copper Corporation
Lisbon Valley Copper Project
Centennial Deposit Drilling Summary

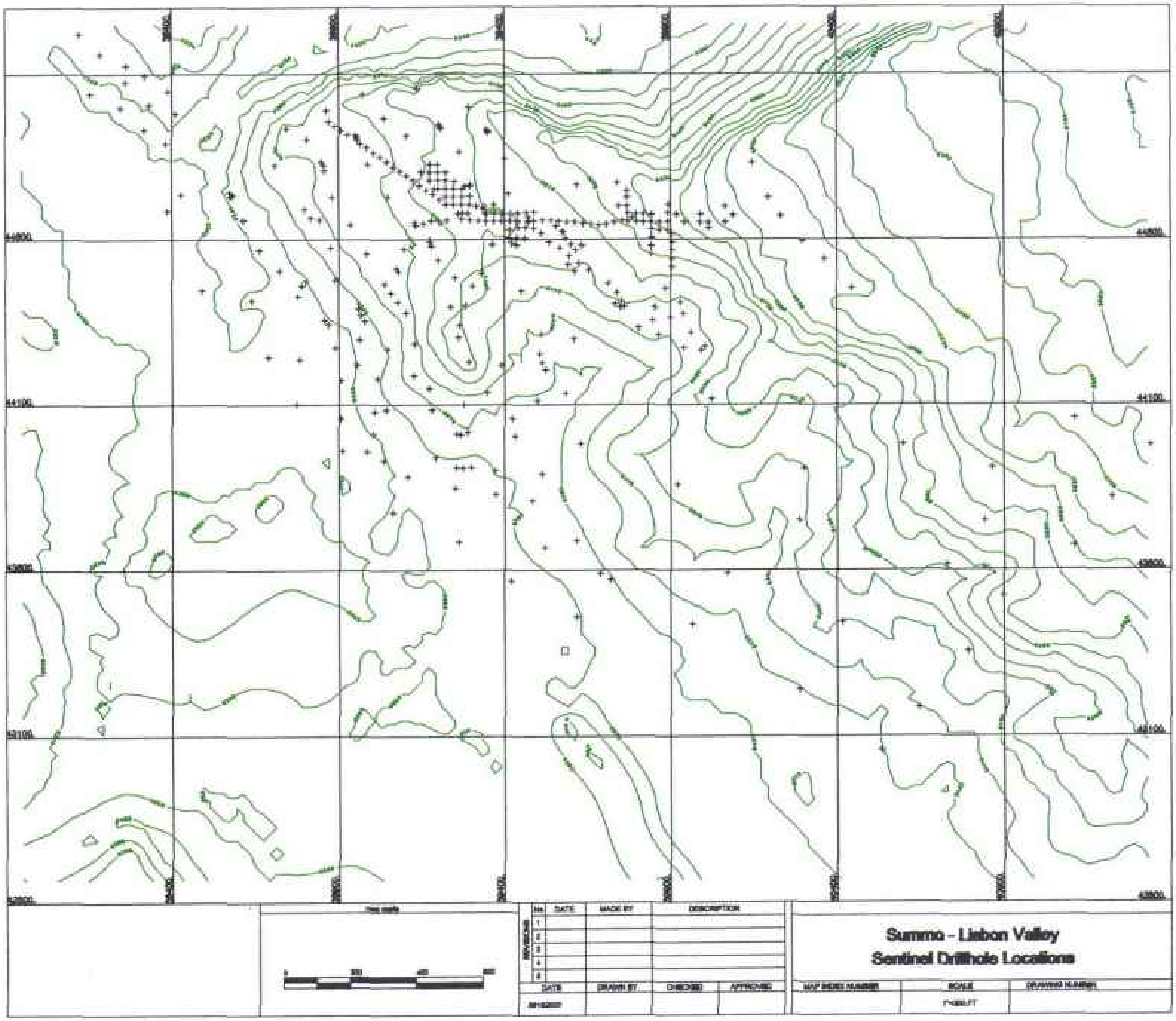
Drilling Type	No. of Holes	Footage
Rotary or reverse circulation	532	130,712
Core	12	1,815
RC deepened by core	31	6,919
Air track	4	285
Unknown	18	2,220

Note: 1) Information from WDC 2003 Update To Feasibility report.

TABLE 11-5
Constellation Copper Corporation
Lisbon Valley Copper Project
GTO Deposit Drilling Summary

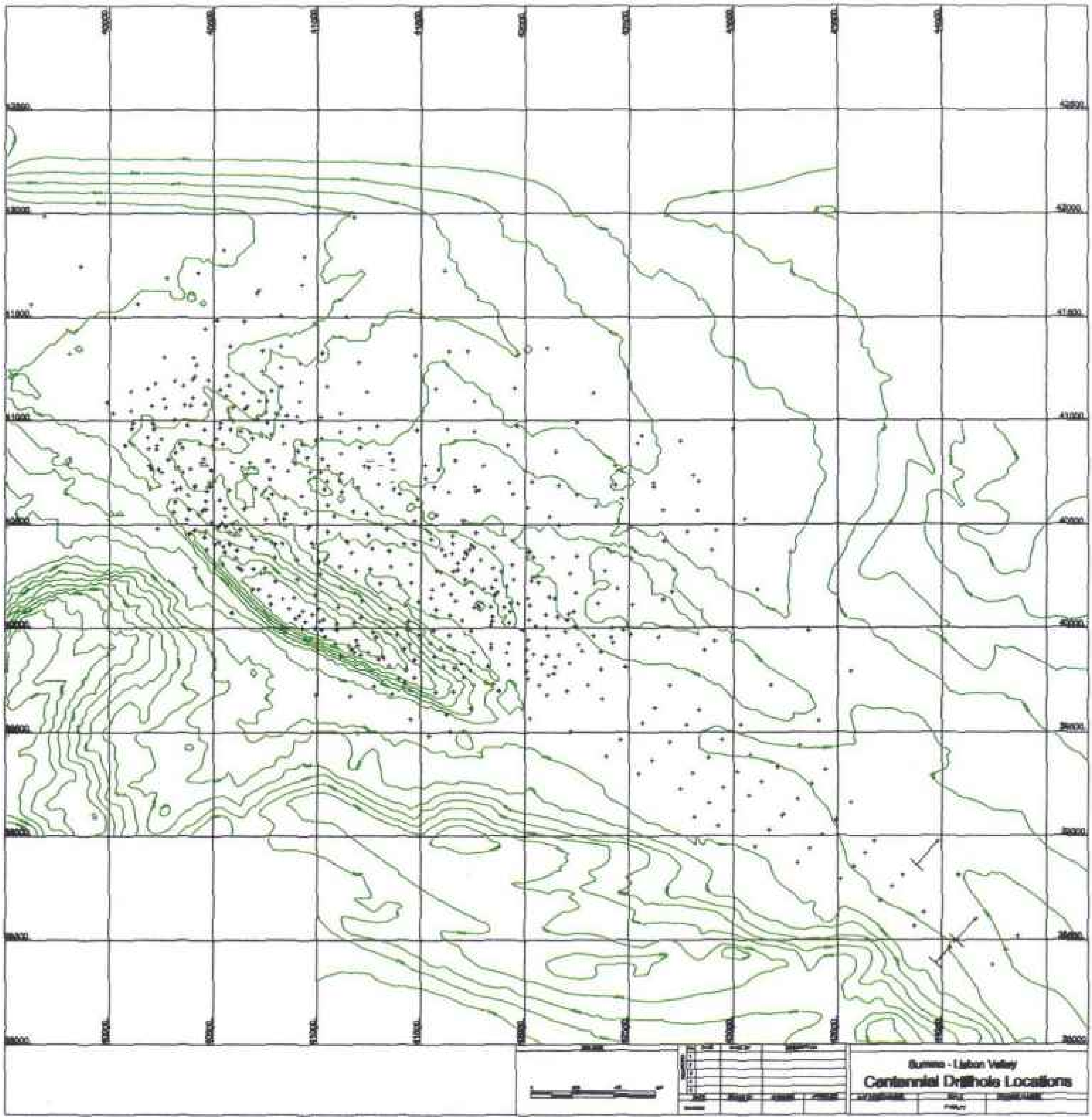
Drilling Type	No. of Holes	Footage
Rotary or reverse circulation	127	29,202
Core	5	1,027
RC deepened by core	0	--
Air track	0	--
Unknown	0	--

Note: 1) Information from WDC 2003 Update To Feasibility report.



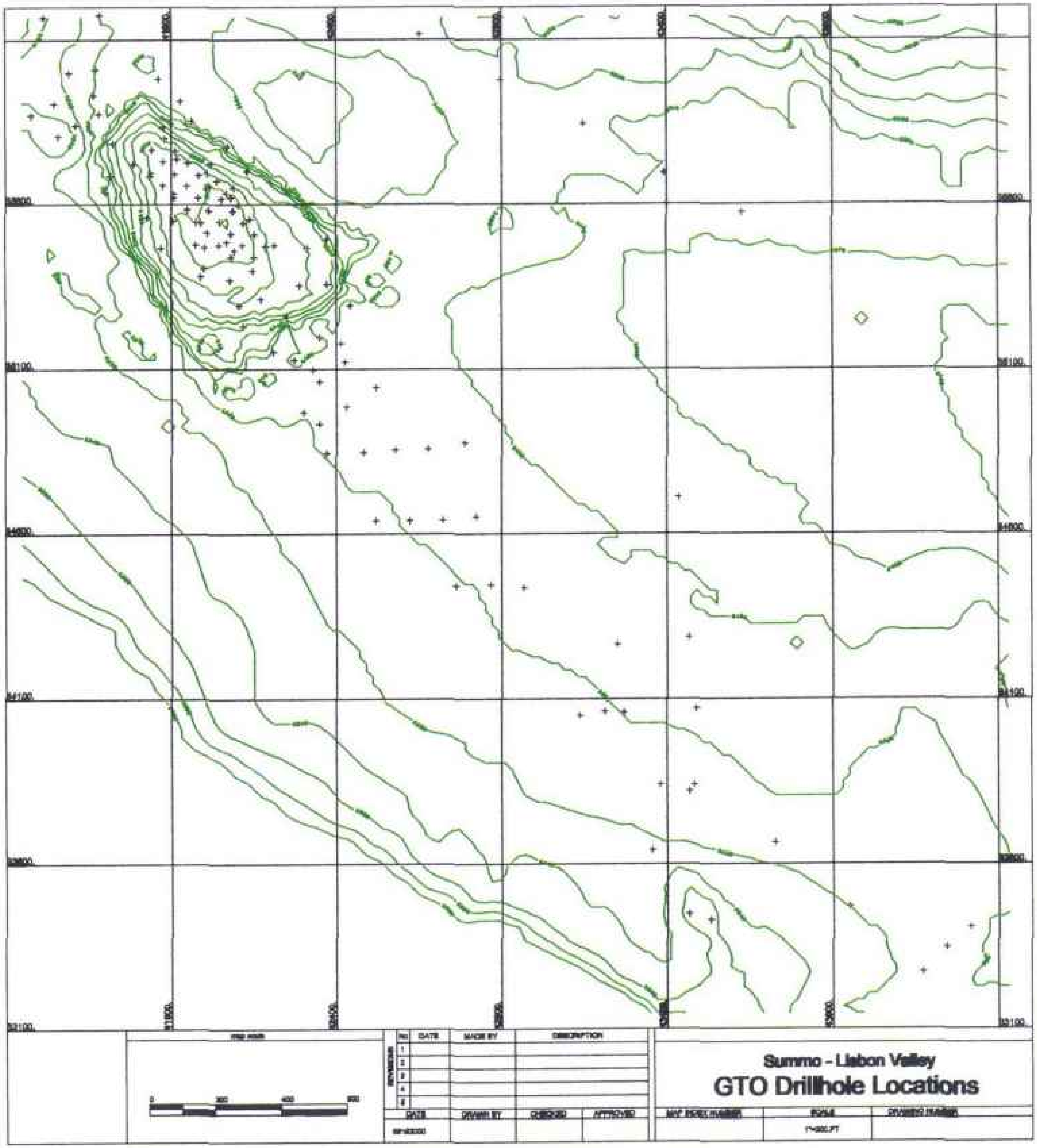
(From: Winters & Dorsey)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	INVESTEC BANK (UK) LIMITED	**FIGURE 11-1** **DRILL HOLE LOCATIONS FOR SENTINEL DEPOSIT**	Sept/2005
Project No. 9434.00	Project Name Lisbon Valley Project		Drawing Name Fig11-1.cdr



(From: Winters & Dorsey)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 11-2 DRILL HOLE LOCATIONS FOR CENTENNIAL DEPOSIT**	**Sept/2005**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig11-2.cdr**



(From: Winters & Dorsey)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 11-3** **DRILL HOLE LOCATIONS FOR GTO DEPOSIT**	**Sept/2005**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig11-3.cdr**

PAH examined some typical logging forms used by Constellation drill geologists at Lisbon Valley at various times during the 1990s and 2000s. They contain columns for observations and sketches of drill cuttings/core, alteration, iron oxides, sulfides, carbonates, water circulation, and assay results. In PAH's judgment, the logging forms are sufficient, and appear to have been regularly utilized.

The drilling undertaken prior to Centennial Development's involvement in 1974 has little or no documentation. Centennial Development's exploration in 1974 is reasonably documented, with good records for the more recent drilling and sampling.   For almost all of the historical drilling, assay results are available, but few geological logs from the older work currently exist. However, the actual chipboards made from cuttings of much of the early drilling at Sentinel and Centennial does exist, which serve as backup logs.

12.0 SAMPLING METHOD AND APPROACH

12.1 *Sampling Methods*

Little information is available relating to sampling procedures used by the various operators prior to CCC in 1993. CCC used 4 ¾ to 5 ¼-inch diameters down-hole-hammer or tri-cone bits, with reverse-circulation recovery, for most drilling at Lisbon Valley. Drilling was dry above the water table, and wet below. A uniform 5-foot sampling interval was used for reverse-circulation drilling. Samples were collected from the cyclone discharge, from a triple-tier Jones splitter for dry drilling, and from a rotary splitter for wet drilling. The collected sample weighed 8 to 15 pounds. Sample recovery is believed to have been 85 to 95 percent except in rare instances when a drill hole passed through rare underground workings.

13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

13.1 *Sample Preparation and Analyses*

Little information is available relating to sampling procedures used by the various operators prior to CCC in 1993. For almost all of the historical drilling, however, analytical results are available. In some cases the identities of the laboratories, which analyzed pre-Constellation samples, are known, and they are reputable laboratories. However, details of the analytical techniques are not available.

Samples collected by CCC were assayed by various well-known labs at different times: Rocky Mountain Geochemical (Salt Lake City), Cone Geochemical (Denver), and BSI Inspectorate (Reno). These laboratories are reputable companies and followed industry-standard procedures to prepare pulps and carry out assaying.

Constellation's practice since 1993 has been to conduct further copper analysis on samples that are in excess of 0.1 percent total copper. For these samples, additional splits of the sample pulp are used for a CuAS (H_2SO_4-soluble Cu) analysis and a CuCS (cyanide-soluble Cu) analysis. Each of these samples was separately analyzed for sulfuric-acid consumption (pounds of acid per ton of rock).

At times, Constellation also routinely analyzed samples for cadmium (Cd), due to initial concerns about cadmium levels in groundwater.

13.2 *Density Test Work*

The tonnage factor used for resource and reserve estimation by CCC for all types of ore and waste is 14.0 cubic feet per short ton. This figure derives from a memo to files by Greg Hahn dated March 31, 1994, and entitled "Bulk Density Determinations, Lisbon Valley Ore and Waste". In the memo is an explanation that 14 samples of core were submitted to Core Laboratories in Bakersfield, California for test work. It is assumed that Core Laboratories, a reputable company, used standard density methods for its test work.

The mineralized samples represented Beds 11 to 15, and included the major copper hosts of the project in addition to some intercalated shales that would likely be mined with ore. The waste samples used to calculate tonnage factor were from Beds 9 to 14, which are shales, siltstones, mudstones, sandstones, and limestones occurring between ore beds in the Sentinel and Centennial pits. Two samples of coal were measured, but these were very light and were not used in the averaging.

The mineralized sample values ranged from 13.13 to 14.56 cubic feet per short ton, averaging 13.90. A figure of 14.0 cubic feet per short ton was adopted for project use. This equates to a specific gravity of 2.28 grams per cubic centimeter, which is within the range of 2.0 to 3.2 cited by the American Geological Institute for sandstones. The Lisbon Valley sandstones would be expected to be at the low end of the range, as they contain mainly quartz with few mafic minerals, and they are porous with little cement. A pure quartz sandstone having a specific gravity of 2.28, would theoretically have a porosity of 14 percent, which appears reasonable in this case. The presence of feldspar, dolomite, or calcite in the rock would have only a negligible effect on density. The presence of about 1 percent malachite, azurite, and chalcocite in the rock would make the rock very slightly denser.

Values for waste rock (excluding two coal samples) ranged from 12.27 to 15.63 cubic feet per short ton, averaging 13.38. A figure of 14.0 was adopted for project use. Use of a uniform figure of 14.0 is slightly conservative (about 1%) for calculating waste rock tonnage, and somewhat overstates (by about 5%) to tonnage of waste. Use of this figure is believed by PAH to be acceptable, although modifications during mining operations might be expected.

13.3 *Sample Security*

CCC's analytical samples were normally under the control of CCC's long-time geologist Charles Bauer, or occasionally other geologists. Cuttings samples and core were transported to CCC's Moab office, where any additional sample logging was completed. Core samples were sawn in half at the office. Samples for assay were then delivered to laboratory representatives, or sent by common carrier. PAH considers this to be reasonable and customary procedures for the security of the samples.

14.0 DATA VERIFICATION

Much of the drilling, especially during the 1960s and early 1970s, up to the 1974 Centennial Development exploration, was done by open-hole rotary methods, with no surviving records of drilling information, including percentage sample recovery, sampling methods, sample preparation, or laboratory methods. No chain of custody has been documented as this was not a common practice at that time. This data must be considered undocumented, with little or no ability to check the data back to the source documents or to offer a general opinion on the methodologies used.

Because the quality and comparability of the sampling from older exploration work is not well documented, as is current industry standard practice, it might be considered "undocumented data." PAH notes, however, that resource model comparisons run by TWC (2000) using: 1) all holes, and using 2) select holes with "undocumented holes" removed, found a 1 percent difference in the resource estimates, which is not considered significant. As such, PAH believes that, overall, the sample data is sufficient to allow for the reliable estimation of resources and reserves.

Drilling by Centennial Development (1974) is somewhat better documented, with chip boards largely serving as the source information. Subsequent Noranda (1975) and Kennecott (1992-1993) drilling is better documented. The 1993 and later drilling at Lisbon Valley was carried out under CCC's immediate control and is the best-documented data, representing current standards of practice.

According to the 2003 WDC Update, a statistical test was undertaken to compare rotary and core holes drilled by Centennial Development in the 1970s at the Centennial deposit, to Constellation reverse-circulation drilling in 1993. Results showed that the older core holes averaged 9 to 20 percent higher in grade than the newer rotary and reverse circulation drill results, possibly due to loss of copper bearing fines. The older rotary holes averaged 6 percent lower than the newer reverse circulation holes, possibly due to down hole dilution in the rotary holes. PAH believes that various drilling campaigns or individual holes are subject to some variability in the results, with some having potentially significant differences, however, the differences would appear to average out given the number of holes of various drilling campaigns placed across the deposit area.

During recent drilling and sampling of the Lisbon Valley property, mostly affecting 2003 CCC drilling in the GTO area, copper analyses by BSI Laboratories in Reno, Nevada used a weaker aqua regia (two acid digestion), while previous analysis by Rocky Mountain Labs in Salt Lake City and Cone Geochemical in Denver were by a stronger four acid digestion. In 2004, CCC found that the aqua regia analysis tended to underreport the total copper content by about 4 percent for the GTO samples due to incomplete digestion of the sample pulp. Samples in question have since been reanalyzed by four acid digestion; however, these results have not yet been implemented in the GTO resource model.

Given the large number of samples already collected by various operators that consistently reflect copper occurring within generally reasonable ranges of variability, PAH did not collect and analyze additional samples.

15.0 ADJACENT PROPERTIES

CCC controls all of the land covering the known copper deposits and other significant showings. There are no adjacent mineral properties for copper. CCC has made a copper discovery at their Flying Diamond Property approximately 5 miles to the southeast of the Lisbon Valley Property.

16.0 METALLURGY

This section discusses the metallurgical test work performed historically on ore samples from Lisbon Valley deposits. Metallurgical data from the testwork was presented in the October 2000 feasibility study for the Lisbon Valley Project by The Winters Company (TWC), and the November 2003 feasibility update by Winters, Dorsey & Company LLC (WDC).

16.1 *Metallurgical Test Programs – Lisbon Valley Ores*

A number of metallurgical test reports were included in Appendix 11 to the November 2003 Feasibility Study by WDC. They are shown in Table 16-1.

TABLE 16-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Appendix 11 Metallurgical Test Reports

1. "Interim Progress Report on the Treatment of Centennial and Sentinel Ore," Mountain States R&D International, Inc. October 1994.
2. "Summary of Heap Leach Metallurgy of Lisbon Valley Copper Ores," Chamberlin & Associates, February 1995.
3. "Metallurgy of Lisbon Valley Ores," H.C. Osborne & Associates, May 1996.
4. "Results of Acid Leach Column Test Work on Lisbon Valley Phase III Core Samples," Dawson Metallurgical Laboratories, Inc., July 1997.

PAH also reviewed a report prepared by Mountain State R&D International (MSRDI) on test work performed after the data reported in the above listed MSRDI report. The second MSRDI report was issued on February 1, 1996. Test conditions and copper recoveries for the MSRDI column leach tests are shown in Table 16-2.

TABLE 16-2
Constellation Copper Corporation
Lisbon Valley Copper Project
Mountain States R&D Column Leach Test Conditions and Results

Ore Type	Agglomeration lb H_2SO_4 / ton	Crush Size, inch	% Cu Recovery	Column No.
Sentinel	150	-3	92.7	B
Centennial Phases I & II	150	-1 ½	85.6	EH-1
Centennial Phases I & II	150	- 1 ½	93.5	EH-2
Centennial Phases I & II	100	-3	69.0	EH-3
70% Centennial, 30% Sentinel	102	-3	83.7	EH-4

In 1995, Paul Chamberlin studied the copper extractions versus crush sizes in test work on the various ores. His conclusions are presented in Table 16-3, which was adapted from Table 4 of his report, and updated by PAH with data from MSRDI.

TABLE 16-3
Constellation Copper Corporation
Lisbon Valley Copper Project
Analysis by Paul Chamberlin of Crush Size vs. Copper Extraction, February 1995

	< 1" to < 1.5"				< 3" to <4"		
Test	**Sentinel**	**Phase I**	**Phase II**	**GTO**	**Sentinel**	**Phase I**	**Phase II**
MSRDI (5) Col B					94.0		
EH-1 1997		85.6					
EH-2 1997			93.5				
EH-3 1997						69.0	
EH-4 1997					83.7		
BS-1		88.7 (3)					
BS-2		92.6 (3)					
HRI (6), 1993 (1,4)						85	
MCC (7) P1		89.9 (3)					
P3		84.2 (3)					
P4		88.7 (3)					
P5		89.4 (3)					
P7		78.8 (3)					
P8		88.7 (3)					
P9		82.6 (3)					
HRI, CL-2 (2) 1991		92.6					
Average	NA	81	94		94	NA	NA
Avg, Ph I & II		87.1				78	
Avg, Sent + Cent				84			
GTO Sulfide Pile				92.6			

Notes:
1. Surface Centennial ore.
2. GTO Stockpile; extraction obtained in column test, not extrapolated; old weathered sulfides.
3. Splits of same sample of Centennial surface ore; extraction per column test, not extrapolated.
4. Cu extraction extrapolated to ~270 days of leach time.
5. Mountain States Research and Development International.
6. Hazen Research, Inc.
7. McClelland Laboratories, 1991.

In his 1995 report, Mr. Chamberlin made the following statement regarding copper recoveries:

"An estimate of copper extraction from Phase I and Phase II ores (Centennial and Sentinel) crushed to -1.5" can be made as follows. Phase I ore (EH-1) yielded 81 percent extraction and Phase II yielded 94 percent. An average of the two is 87.5 percent. This is a representative extraction for these ores because the tests were performed on core taken throughout the depth of the deposits. Another estimate of Phase I and II ores is the 87.4 percent extraction average of all the 'P' series and 'BS' series tests. But the ore for these tests was surface material and, thus, not as representative of the deposits as the "EH" series tests. Still, the results of the two series of tests are very close and an extraction of 87.55 will be used to represent the Centennial ores when crushed to -1.5". The 94 percent extraction from Sentinel ore will also be used even though it was obtained on -3" ore; it is expected that -1.5" Sentinel will not yield any more copper extraction because of the very friable nature of the ore. The overall extraction for -1.5" ore is estimated to be [0.7 x 87.5%] + [0.3 x 94%] = 89.4%, i.e., 89%. Therefore, it is assumed that 89 percent copper extraction can be expected from minus 1.5" mixtures of Lisbon Valley ores when they are in the ratio of Centennial:Sentinel = 70:30."

H.C. Osborne, in his report of May 30, 1996 and more recently in a conversation with PAH, concluded that the recoveries shown in Table 16-4 should be expected from the various Lisbon Valley ores.

TABLE 16-4
Constellation Copper Corporation
Lisbon Valley Copper Project
H.C. Osborne Recovery Data

	Copper Recovery		
Ore Type	**%**	**Size Crush, inch**	**Days Leach**
SENTINEL (oxide ore)	95	-3	150
CENTENNIAL PHASE I (layer 2 sulfide ore)	90	-1 ½	390
CENTENNIAL PHASE II (oxide ore)	92	-1 ½	390
CENTENNIAL PHASE III (layer 2 & 3 sulfide ore)	87.6	-1	390
GTO (layer 3 sulfide)	87.6	-1	390

The recovery data indicated in Mr. Osborne's report was used by WDC in their Feasibility Studies of 2000 and 2003.   Mr. Osborne made his recovery predictions based on preliminary data from Dawson Laboratories and did not have access to the final report on the work performed by Dawson Laboratories issued in 1997. He reviewed the final Dawson report and indicated to PAH that the expected recoveries on the phase III Lisbon Valley ones may be 3 or 4 percent lower than those based on the interpretation of the data available in May 1996.

During 1996 and 1997, Dawson Metallurgical Laboratories conducted a series of tests on core samples of Phase III sulfide ores from the Centennial ore body. The column test results are shown in Table 16-5.

For these tests on Phase III ore, the copper extraction averaged 72 percent for ores crushed to minus 2 inches, 81 percent for ores crushed to minus 1-inch, and 86 percent for ores crushed to minus ½ inch. This series of tests appear to be better for defining the response of Phase III sulfide ores to acid heap leaching because they are on core samples, and because the test conditions most closely represent the leach operations scheduled for Lisbon Valley ores.

The impact on overall copper recovery (weighted average) for the project, if using the later Dawson data, could result in 1 to 2 percent lower copper recovery (from about 90 percent down to 88 or 89 percent).

TABLE 16-5
Constellation Copper Corporation
Lisbon Valley Copper Project
Dawson Metallurgical Laboratories, 1997

P-2243 Summo Minerals Acid Column Leach Test Summary Phase III Ore						
Test	T12	T13	T18	T14	T15	T19
Ore Crush Size	-1"	-1"	-1"	-2"	-2"	- ½ "
lb/ton H_2SO_4	24.0	24.0	50.0	24.0	24.0	90.0
lb/ton H_2SO_4 consumed	58.2	69.4	85.7	59.7	59.0	97.9
flow rate target, gpm/ft^2	0.005	0.001*	0.005	0.005	0.005	0.005
Fe added at 68 days**	-	yes**	-	-	yes**	-
days leached	246	475	321	362	362	321
% Cu – calculated head	0.472	0.577	0.511	0.471	0.501	0.484
% Cu – leach residue	0.103	0.119	0.078	0.138	0.131	0.067
% Cu extracted	**78.2**	**79.4**	**84.7**	**70.7**	**73.9**	**86.2**
* Increased to 0.005 after 21 days ** Ferrous sulfate to increase Fe from about 2.0 to 6.5 gm/l target.						

16.2 *Metallurgical Samples*

The Constellation core holes cited in metallurgical reports are listed in Table 16-6 to show location and rock type of metallurgical test samples.

TABLE 16-6
Constellation Copper Corporation
Lisbon Valley Copper Project
Drill Core (4-inch diameter) Used for Metallurgical Tests, Centennial Pit

Hole #	Interval Used	Test Lab	Type Of Rock	%Cu Total
93-C1	48-165	MSRDI, 1994, Phase I & II ores	ox + sulfide	ore- data avail.
93-C2	39-160	"	ox + sulfide	ore- data avail.
93-C3	150-162	"	ox + sulfide	0.28
93-C4	35-172	"	ox + sulfide	ore- data avail.
93-C5	39-158	"	sulfide, some oxide	ore- data avail.
93-C6	150-230	"	oxide + sulfide	ore- data avail.
94-C1	160.0-239.9	Dawson, 1997, Phase III ore	sulfide	ore- data avail.
94-C2	225.1-290.6	"	sulfide	ore- data avail.
94-C3	244.0-344.0	"	?	ore- data avail.
94-C4	180.0-321.2	"	?	ore- data avail.
94-C5	183.6-264.8	"	?	ore- data avail.

Testwork was also performed by Henkel Corporation to evaluate the response of the leach liquors from Lisbon Valley ore to solvent extraction and electrowinning. The unidentified leach liquor responded well to solvent extraction loading and stripping.

16.3 *PAH Conclusions*

PAH has reviewed metallurgical testwork performed on material from the three Lisbon Valley deposits and believes that the metallurgical testing was sufficiently adequate to develop the process flowsheet and plant design criteria for the project. Overall copper recovery from heap leaching of the Lisbon Valley ores is projected in the WDC report to be about 90 percent.

Copper recoveries projected for the Sentinel and Centennial oxide ores are projected to be 95 percent and 92 percent, respectively. Copper recovery from the Centennial Layer 1 Sulfide ores is projected to be 90 percent. PAH concurs with the recovery projections for these ores.

Copper recoveries for the Centennial Layers 2 and 3 sulfide ores and the GTO ores are projected in the WDC report to be similar and at 87.6 percent. PAH notes, however, that 3 to 4 percent lower copper recovery may be realized when leaching these ores based on review of the later test work.

17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

The mineral resource for the Lisbon Valley project was estimated from computer block models of the deposits developed by The Winters Company (TWC) in 2000 and used in the TWC 2000 Feasibility Study. Models were constructed for each of the three separate deposits (Centennial, Sentinel, and GTO). The computer models served as the basis for the follow-on engineering work in mine design and mineral reserve estimation in the TWC 2000 Feasibility Study. The mine design and mineral reserve was updated in the Winters Dorsey & Company (WDC) 2003 Update To The Feasibility Study. PAH reviewed the details of the Centennial model as it contains the bulk of the resource. The two smaller models were constructed using the same techniques and comments and concerns relating to the Centennial model would also apply to the Sentinel and GTO. Figure 17-1 shows the relative location of the three model areas.

The Centennial deposit model is defined in plan by orthogonal state plane coordinates and in elevation by feet above mean sea level. The model covers an area of 5,200 feet by 5,000 feet. Individual model blocks were 20 feet by 20 feet in plan, with a 20-foot bench height.

17.1 *Mineral Resource*

17.1.1 Topographic Data

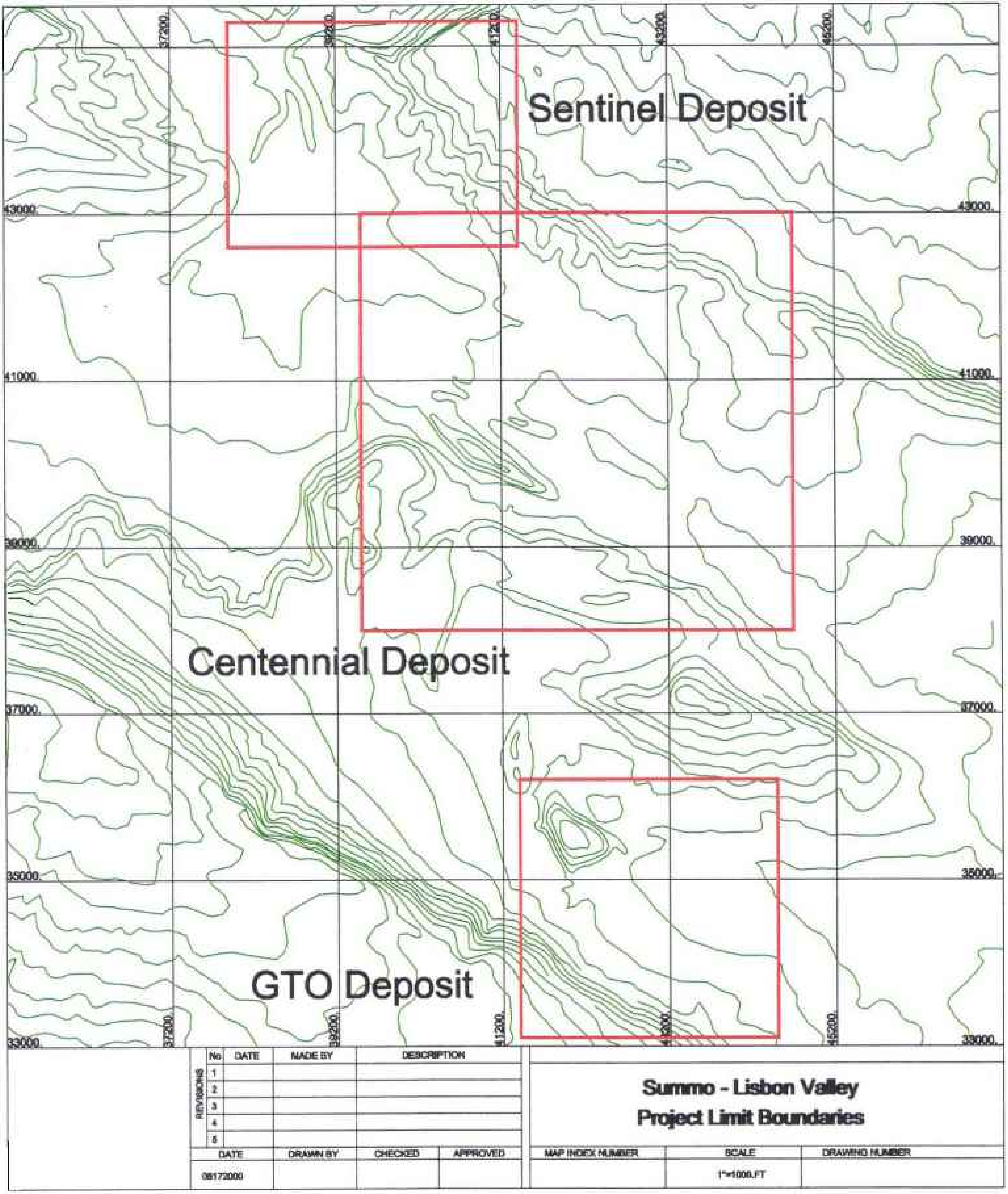
The topographic maps used in the various Lisbon Valley reports were produced from aerial photos. PAH have not tested the accuracy the topography as depicted, but on inspection it appears to be adequate.

17.1.2 Geological Model Development

CCC geologists prepared cross-sections through the deposit to form the basis for the geologic interpretation to be applied to the model. Down-hole drilling information displayed on the cross-sections included total copper grades on five-foot increments, rock type units defined by drill hole lithologic logs, and surface mapping. Lithologic logs were available only for holes drilled by CCC and its predecessor companies. Only 58 holes out of the 597 holes in the Centennial deposit database (approximately 10 percent) contained lithological information in the electronic database, the remaining 539 have only total copper grades.

The sectional geologic interpretation included the correlation of rock units and the delineation of an ore-waste boundary. The boundary was based on a cutoff grade of 0.10 percent total copper within mineralized rock units. Oxide and several sulfide zones were bounded and coded separately so as to properly assign ore material to the appropriate plant process.

The cross-sections were digitized and the ore-waste boundaries were transferred to bench plans. The plan boundaries were then digitized and loaded into the model to provide the control for the estimation of



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PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 17-1** **RESOURCE MODEL LOCATIONS**	**Sept/2005**
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block copper grades. These controls are hard boundaries in that no drill hole data outside of the boundary can be used in estimating a grade for a block within the mineral envelope. Typical procedures when using this type of grade bounding would be to select copper values outside the economic zone in order to provide access to material below cutoff. The effect is that the estimated block grade near the ore-waste contact is increased slightly.

17.1.3 Drill Hole Sample Statistics

As noted above, the database provided to PAH for the Centennial deposit contained a mixed set of drill holes with approximately 80 percent of the holes from previous operators and 20 percent from CCC. As a check on the acceptability of the older drilling information, the pre-CCC (CD holes) and two of the CCC drilling campaigns (93R-95R holes and R holes) were broken out and frequency distribution histograms and cumulative probability graphs based on total copper values were developed for each grouping. In the case of each population, a lower bound of 0.05 percent total copper was imposed so as to be more representative of the material that could be expected to be within the mine plan. The summary statistics from each are shown in Table 17-1. The mean copper grades vary somewhat between the separate populations but the differences are probably not significant.

TABLE 17-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Sample Statistics

Drill Hole Series	Number	Minimum (% Cu)	Maximum (% Cu)	Mean (% Cu)	Std. Dev. (% Cu)	Coef. Of Variation
Pre-Constellation Copper Corporation Drill Holes						
CD	4,851	0.05	11.40	0.46	0.67	1.45
Constellation Copper Corporation Drill Holes						
93R-95R	893	0.05	5.50	1.40	0.46	1.13
R	429	0.05	5.90	0.57	0.62	1.08
All Drill Holes						
All Holes	9,037	0.05	11.40	0.53	0.69	1.31

17.1.4 Composites

Compositing Methodology

The compositing method selected was down hole fixed length composites of mostly 20-foot lengths (PAH notes that composite of less than 20 feet can occur at the grade contour boundary). The report states that this approach was used to better confine the above cutoff composites to the grade contour boundaries and to prevent sub-cutoff material at the tops and bottoms of the grade zones from diluting the estimation. Earlier modeling studies for this deposit had used the more typical bench compositing method in which samples are length weight averaged over the bench height interval. The WDC (2003) report states that in comparing the two methods, fixed length composites reduced ore tonnage by 14 percent and increased average total copper grade by 17 percent. The method used, therefore, restricts the introduction of dilutional considerations that would have been introduced using bench compositing.

Data Declustering

For the 2000 Feasibility Study, TWC under-took a study to determine if there might be a problem with the higher-grade areas in the deposit being over-drilled and therefore upwardly biasing the average grade of the deposit. Two data sets were prepared: one containing the original clustered drill hole data, and a second that had been thinned or declustered. The results indicate that there is very little difference between the declustered mean grades and the clustered means. The methodology applied was appropriate and PAH agrees that declustering of the drilling data is not warranted.

Composite Statistics

A frequency distribution histogram of total copper composites was generated for the Centennial deposit. The composite file we received does not have any lithologic codes, so no break-out of the statistics by rock type was possible. A summary of the composite results by cutoff grade are shown in Table 17-2.

TABLE 17-2
Constellation Copper Corporation
Lisbon Valley Copper Project
Composite Grades By Copper Cutoff

Cu Cutoff Grade	No. of Composites	% Composites Above Cutoff	Average Cu Grade	Standard Deviation
0.000	6848	100.00	0.194	0.379
0.100	2369	34.59	0.525	0.496
0.200	1804	26.34	0.643	0.513
0.300	1414	20.65	0.752	0.530
0.400	1094	15.98	0.871	0.549
0.500	828	11.99	1.012	0.566

Variography

The TWC variography work was to define search orientations and distances for an inverse distance weighting function interpolation to be applied in the estimation of model block grades. The study determined that the directions of best continuity followed the strike of the mineralized beds with a down-dip component as the secondary direction of continuity.

A set of variograms were run to verify the results of this work from the Feasibility Study. Thirty-six vector direction correlograms were generated to provide a spread covering all possibilities. Results indicate that the search orientations and distances selected for model interpolation were reasonable and should produce acceptable block grade estimation.

17.1.5 Grade Model Development

Modeling Methodology

The interpolation method employed in this model is an inverse distance weighting function to the third power. The search ellipse orientation is based on the variogram continuity directions and distances. Within the search, a block copper grade estimate is based on a maximum of three composites, a minimum of one composite, and, with only one composite allowed from any single drill hole. Only blocks with centers falling within the ore-waste grade contour boundary received an estimate grade. The model contains separate codes for oxide and two sulfide mineral types. The oxide and sulfide mineral types were interpolated separately to maintain the integrity of each zone.

Block Statistics

A frequency distribution histogram of model block total Cu grades was compiled as a check to determine how well the estimated grades reflect the actual drill hole composite data. A summary of the histogram is shown in Table 17-3.

TABLE 17-3
Constellation Copper Corporation
Lisbon Valley Copper Project
Block Grades By Copper Cutoff

Cu Cutoff Grade	No. of Blocks	% Blocks Above Cutoff	Average Cu Grade	Standard Deviation
0.000	58632	100.00	0.515	0.401
0.100	57629	98.29	0.523	0.399
0.200	50508	86.14	0.575	0.401
0.300	40815	69.61	0.652	0.410
0.400	29778	50.79	0.765	0.427
0.500	21202	36.16	0.893	0.445

At the projected total copper cutoff grade of 0.100 percent, the average estimated copper grade of the blocks virtually identical to that of the composites (0.523 to 0.525 respectively). As the cutoff rises, the average grade of the blocks increases faster than the composite grades at similar cutoffs which is to be expected and is not a concern. The excellent correlation between model block and drillhole composite grades indicates good model representation of the composite grades.

Dilution

PAH found the approach used to construct the grade model limited the introduction of dilution effects typically incorporated during the modeling process. As such, the resource model is considered to be an undiluted model, requiring the incorporation of dilution in order to state the mineral reserve. PAH believes that this was not done and hence, incorporated an average 10 percent dilution at zero grade into the subsequent mineral reserve.

Grade Capping

There was no grade capping applied to the sample assay values nor to the composite values. The cumulative probability plot shows an inflection point at approximately the 5.00 percent copper grade level, which usually indicates the point where grades are capped. The number of samples above the inflection point is small. The impact is localized and likely has no impact on the global resource or reserve estimate.

Confidence Classification

The resource was classified into measured, indicated, and inferred mineral resource categories based on distance from a block center to the nearest drillhole composite. Blocks falling within a distance of two-thirds of the variogram range were classified as inferred. Blocks falling within one-quarter of the indicated distance were classified as measured. Any blocks estimated by a distance greater than two-thirds of the variogram range were classified as inferred. For the Centennial deposit, the actual block-to-composite distances are; measured - 0 to 58 feet, indicated – 59 to 233 feet, inferred – greater than 234 feet. PAH finds the classification approach reasonable and conforms to accepted industry standards.

PAH Model Validation

The model was validated by plotting bench plans showing both block grades and composite grade pierce points and making a visual comparison of the block estimates by the surrounding composite grades. No inconsistency was detected, and the interpolation technique appeared to be doing a good job.

A second validation of the model was noted with the almost perfect matching of the average block grade to the average composite grade at the 0.100 copper cutoff.

A global bias check was also run for the Centennial model. In this process, block grades are assigned by a nearest neighbor composite and then the mean copper grades from the inverse distance estimate are compared to the nearest neighbor grades. There should be no bias between the two mean grades at a zero cutoff. In this case the copper grades are 0.507 for the inverse distance estimate and 0.505 for the nearest neighbor. This small difference is insignificant and the test confirms that the model is reasonable.

17.1.6 Mineral Resource Estimate

The measured + indicated mineral resource for the Lisbon Valley project (Centennial, Sentinel, and GTO), at a 0.10 percent total copper cutoff grade, is 48.9 million tons at an average grade of 0.48 percent total copper. In addition, the inferred mineral resource is 1.1 million tons at an average grade of 0.42 percent total copper. The mineral resource is base on a uniform density of 14.0 cubic feet per ton for all rock types as discussed in Section 13. The mineral resources for the Centennial, Sentinel, GTO, and Total at various cutoff grades are listed in Tables 17-4, 17-5, 17-6, and 17-7, respectively. PAH performed a

TABLE 17-4
Constellation Copper Corporation
Lisbon Valley Copper Project
Centennial Deposit Mineral Resource

	Measured			Indicated			Inferred			Measured + Indicated		
Cutoff (%)	**Tons** (000)	**CU** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)
0	20,356	0.536	218,210	12,067	0.459	110,763	86	0.410	703	32,423	0.507	328,972
0.1	20,029	0.544	217,863	11,841	0.467	110,554	86	0.410	703	31,870	0.515	328,417
0.2	17,724	0.594	210,504	10,165	0.517	105,187	71	0.459	651	27,889	0.566	315,691
0.3	14,463	0.671	194,158	8,049	0.587	94,495	42	0.603	510	22,513	0.641	288,653
0.4	10,658	0.787	167,786	5,644	0.690	77,885	35	0.652	462	16,303	0.753	245,671
0.5	7,758	0.915	141,897	3,741	0.813	60,855	26	0.723	372	11,499	0.882	202,751

TABLE 17-5
Constellation Copper Corporation
Lisbon Valley Copper Project
Sentinel Deposit Mineral Resource

	Measured			Indicated			Inferred			Measured + Indicated		
Cutoff (%)	**Tons** (000)	**CU** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)
0	3,127	0.301	36,938	6,561	0.234	31,909	897	0.202	3,616	12,688	0.271	68,846
0.1	5,951	0.309	36,724	6,100	0.259	31,558	805	0.222	2,565	12,051	0.283	68,283
0.2	4,960	0.338	33,576	4,276	0.301	25,786	487	0.262	2,553	9,236	0.321	59,362
0.3	2,799	0.403	22,568	1,598	0.391	12,493	68	0.373	510	4,397	0.399	35,061
0.4	1,027	0.506	10,386	504	0.500	5,039	17	0.464	162	1,531	0.504	15,425
0.5	350	0.629	4,398	149	0.628	1,865	1	0.538	12	498	0.629	6,263

TABLE 17-6
Constellation Copper Corporation
Lisbon Valley Copper Project
GTO Deposit Mineral Resource

	Measured			Indicated			Inferred			Measured + Indicated		
Cutoff (%)	**Tons** (000)	**CU** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)
0	2,273	0.759	34,484	2,988	0.655	39,147	277	0.939	5,204	5,260	0.700	73,631
0.1	2,174	0.791	34,393	2,789	0.700	39,029	251	1.037	5,203	4,962	0.740	73,451
0.2	2,042	0.832	33,986	2,615	0.736	38,485	250	1.039	5,201	4,657	0.778	72,471
0.3	1,852	0.892	33,024	2,372	0.785	37,252	239	1.075	5,147	4,223	0.832	70,276
0.4	1,646	0.959	31,575	2,107	0.840	35,401	237	1.082	5,129	3,753	0.892	66,976
0.5	1,394	1.050	29,292	1,726	0.926	31,957	213	1.157	4,920	3,121	0.981	91,250

TABLE 17-7
Constellation Copper Corporation
Lisbon Valley Copper Project
Centennial, Sentinel, and GTO Deposits Combined - Mineral Resource

	Measured			Indicated			Inferred			Measured + Indicated		
Cutoff (%)	**Tons** (000)	**CU** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)	**Tons** (000)	**Cu** (%)	**Lbs** (000)
0	28,756	0.504	289,632	21,616	0.421	181,819	1,260	0.378	9,523	50,372	0.468	471,451
0.1	28,154	0.513	288,980	20,730	0.437	181,141	1,142	0.415	9,471	48,884	0.481	470,121
0.2	24,726	0.562	278,066	17,056	0.497	169,458	808	0.520	8,405	41,782	0.536	447,524
0.3	19,114	0.653	249,750	12,019	0.600	144,240	349	0.884	6,167	31,133	0.633	393,990
0.4	13,331	0.787	209,747	8,255	0.717	118,325	289	0.995	5,753	21,586	0.760	328,072
0.5	9,502	0.924	175,587	5,616	0.843	94,677	240	1.105	5,304	15,118	0.894	270,264

check tabulation of the resource from each of the three deposit models and was able to reproduce exactly the resource numbers provided in the previous feasibility reports.

PAH believes that the mineral resource models were created using standard engineering methods. The models provide a reasonable representation of the distribution of the mineralogic zones. The models provide an acceptable basis for which subsequent mine engineering work can be conducted in order to delineate mineral reserves consistent with NI 43-101 requirements.

17.2 *Mineral Reserve*

17.2.1 Mining Plan

The Lisbon Valley Copper Project will be mined using conventional open pit mining methods. Both ore and waste rock will be drilled, blasted, loaded and hauled by front-end loaders and trucks. Ore is hauled to a primary crusher and waste rock to dumps or backfilled into mined out pit areas. Lisbon Valley plans to mine three pit areas: Centennial (the largest, consisting of oxide and sulfide ore), Sentinel (the first to be mined, consisting of all oxide ore with low stripping ratio) and GTO (all sulfide with high stripping ratio).

The Lisbon Valley Feasibility Study is based on a cutoff grade of 0.10 percent total copper, which was used in mine plan designs, schedules and reserves. The cutoff grade strategy incorporates variable cutoff grade based on net value by block. The ultimate pit designs are based on Lerchs-Grossman (LG) optimized pits using parameters in line with projected operating costs, a slightly lower copper price ($0.85 per pound copper) than assumed in the project economics ($0.90 per pound copper) and the same resource block model used for the 2000 Feasibility Study.

17.2.2 Cutoff Grade

The Lisbon Valley Feasibility Study used a fixed cutoff grade of 0.10 percent total copper which was used in mine plan designs, schedules and reserves. The cutoff grade strategy incorporates a variable cutoff grade based on net value by block. This method accounts for haulage cost differentials; as the pit gets deeper, waste stripping required and different copper recovery rates by ore type. The incremental net value per block is calculated assuming the block will be mined and a determination made whether it is more economic to send the block to the primary crusher (leach ore) or to the waste dump. This process is conducted using Mintec’s MineSight mine planning software.

PAH performed cutoff grade analyses as a check on the economics of the various mining areas and ore types. Breakeven cutoff grades include all operating costs. The recovery factor varies by ore type due to the difference between oxide and sulfide leach time. PAH finds that the 0.10 percent copper cutoff grade is reasonable.

17.2.3 Pit Slope Angles

Pit slope angles used by WDC in developing the Sentinel, Centennial, and GTO ultimate pit designs are based on the slope angles per Call & Nicholas, Inc. (CNI). CNI recommended using a 52-degree inter-ramp angle, triple benching, with a minimum 27-foot wide catch bench.

17.2.4 Mine Design

The Lisbon Valley mine plan and mineral reserve, as presented in the Technical Update Study (November 2003), is developed in a straightforward manner. Three main pit areas are included in the current Lisbon Valley feasibility study; Sentinel (includes two pits), Centennial, and GTO. The Lisbon Valley mining area, including waste dumps and the primary crusher area is about 2 miles long and 1 mile wide. The area is relatively amenable to mining, favorable terrain and weather, no major waterways, and good access. A general site layout is shown in Section 22.

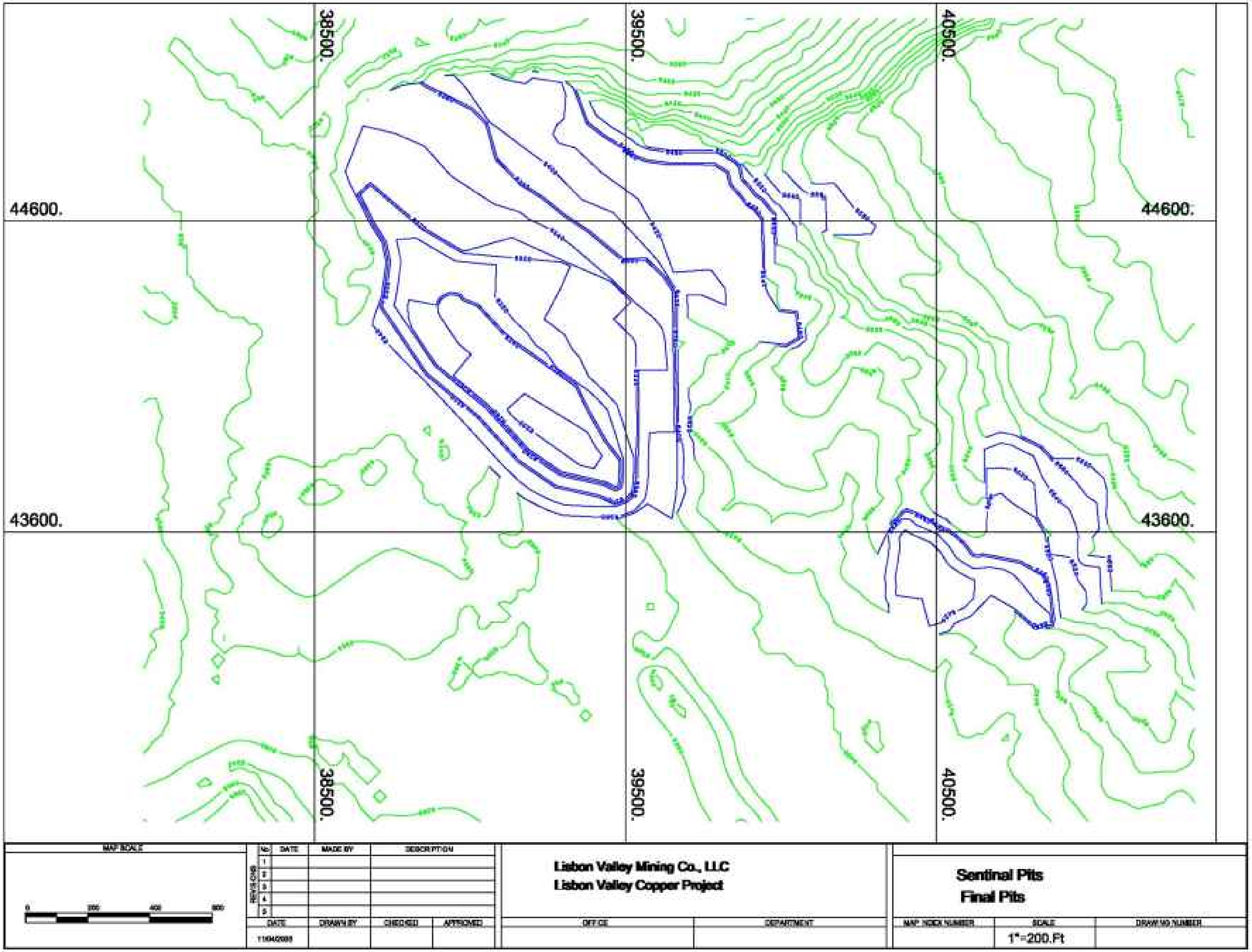
The ultimate pit designs are based on Lerchs-Grossman (LG) optimized pits using parameters based on projected operating costs, a slightly lower copper price ($0.85 per pound copper) than assumed in the project economics ($0.90 per pound copper) and the same resource block model used for the 2000 Feasibility Study.

Adequate access ramps and appropriate mining geometry have been designed into the pits. The pit designs mine nearly all of the LG identified economic material from the Centennial and GTO pits and 88 percent of the Sentinel ore. Waste dump designs are adequate to handle required volumes of waste rock.

Sentinel Mine Plan

Sentinel is located to the north of the plant area adjacent to the main access road. Sentinel mining area includes a main west phase expanding on an existing mine and a smaller east phase. Sentinel is lower grade than either Centennial or GTO but is scheduled first due to the availability of oxide ore exposed at surface. The Sentinel open pit design is shown in Figure 17-2.

Sentinel west area is about 1,000 feet square and about 300 feet deep. Distance to the primary ore crusher is less than one mile. The upper portion of the pit forms a side-hill cut. A small ridge is left above the 6420 bench, separating Sentinel from the La Salle drainage to the north. These upper benches will likely produce blocky material and higher than average secondary blasting or rock breaking will be required. LV has planned for a rock breaker at the primary crusher. The Sentinel ultimate pit design shows the pit bottom at the 6220 bench, but the mineral reserve table indicates minor ore tons (158,000 tons) from the 6140 and 6160 benches.



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Project No. **9434.00**

Prepared for

INVESTEC BANK (UK) LIMITED

Project Name

Lisbon Valley Project

FIGURE 17-2
FINAL LIMITS FOR SENTINEL OPEN PIT

Date of Issue **Sept/2005**

Drawing Name **Fig17-2.cdr**

Centennial Mine Plan

The largest pit, Centennial with 75 percent of total reserves, contains all three ore types (oxide, mixed sulfide layer 1 and sulfide layer 3). The Centennial open pit design is shown in Figure 17-3. The current Centennial area includes an existing pit and plant foundations, which will be removed during the initial months of construction.

Centennial ultimate pit design is about 5,000 feet long by 2,000 feet wide. The pit bottoms at the 6080 feet bench, 460 below the existing surface. The topography rises steeply to the southwest above the final pit rim. The northeast final pit limit generally follows the center of the flat valley floor.

Centennial is designed with four phases. The Phases are stand-alone designs indicating adequate independent access ramps and benching but scheduled such that multiple phases are mined during any year. Phase 1 opens-up the existing pit and mines out the slump along the west wall. Phase 2 expands the pit to the south and east. Phase 3 continues the pit expansion to the east and establishes a second access ramp for waste haulage. Phase 4 is a narrow extension to the southeast along the deposit strike. The ore haul ramp exits the pit about 3,000 feet from the primary crusher location. The initial waste haul route uses the same ramp as the ore but by year 2 a second waste haulage ramp exits the southeast corner near a proposed waste dump location.

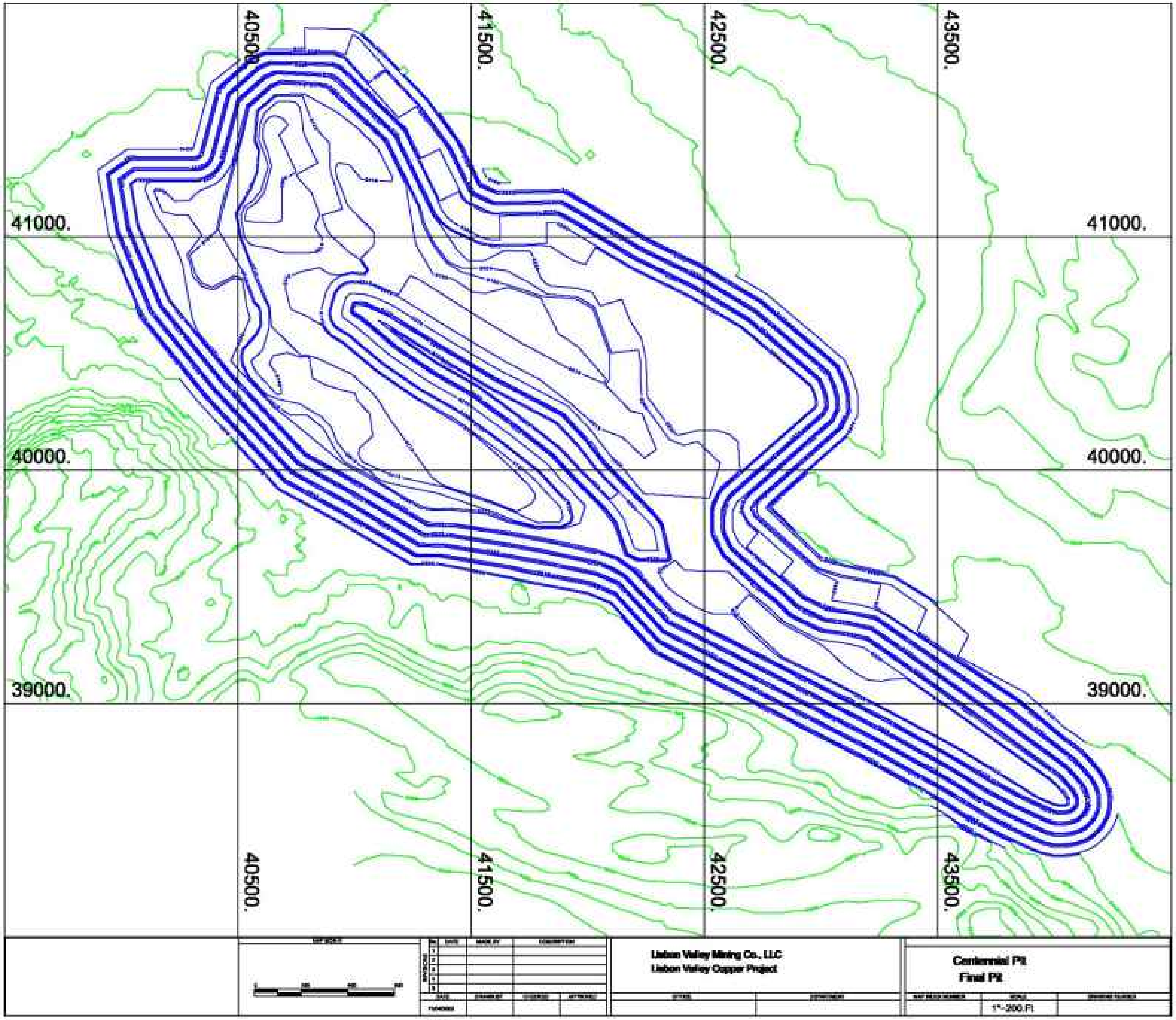
The production schedule shows year one mining from the top of the existing Centennial slump area to the west and opening up large benches to the southeast. The upper ten benches (6,520 to 6,340 ft elevation) contain waste greater than the average strip ratio. Two haul road access ramps are maintained for most Centennial mining areas in the annual mines designs. The Centennial phase designs and annual plans appear well engineered taking into account a reasonable balance between ore production requirements, mining efficiency and safety.

The Centennial mine design is engineered to industry standard with adequate access and mining room. The ultimate pit design is insensitive to changes in copper price, slope angle and mine operating cost.

GTO Mine Plan

The GTO mining area is located about 1 mile south of Centennial. The current design enlarges an existing pit in all directions, but mostly to the southeast. The ultimate pit dimensions are about 1,500 feet by 900 feet and 380 feet deep. A single 80 feet wide, 10 percent, haul ramp wraps around the inside of the pit. Most of the waste rock must be mined (benches 6360 to 6500) before significant ore is released. Mining width is adequate (plus 200 feet) along the major mining walls (east and south) but is narrow along the west wall. The GTO open pit design is shown in Figure 17-4.

SRK at CCC's request has developed a new block model to include 2003 drilling (about 25 new RCD drill holes). SRK tested the ultimate pit design using floating cones. SRK concluded that potential to enlarge the GTO ultimate pit and open pit reserves with new drilling or higher copper prices was low. This model was not used for the mineral reserve estimate.



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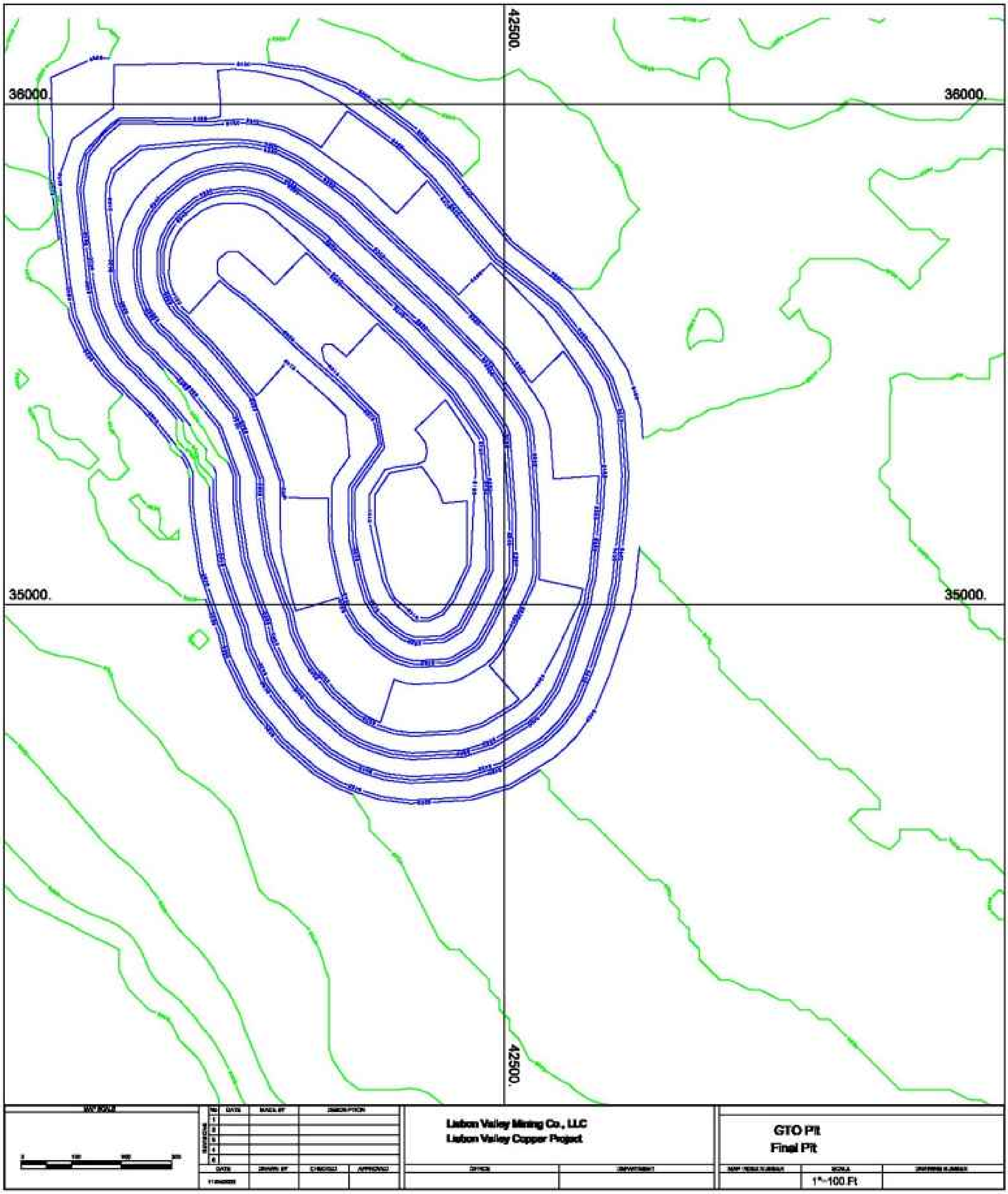
Project Name
Lisbon Valley Project

FIGURE 17-3
FINAL LIMITS FOR CENTENNIAL OPEN PIT

Date of Issue **Sept/2005**

Drawing Name **Fig17-3.cdr**



(From: Winters & Dorsey)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	***INVESTEC BANK (UK) LIMITED***	**FIGURE 17-4** **FINAL LIMITS FOR GTO OPEN PIT**	**Sept/2005**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig17-4.cdr**

17.2.5 Mineral Reserve Estimate

The Lisbon Valley total probable mineral reserves were estimated to be 40.4 million tons of ore averaging 0.46 percent total copper, containing 372 million copper pounds, as shown in Table 1-2. The probable reserves are based on the 2003 WDC Feasibility Study with two adjustments by PAH. The 2003 WDC Feasibility Study did not provide a split between proven and probable mineral reserves and, hence, they are considered to all be at the lower of the two categories. The 2003 WDC Feasibility Study did not provide for adequate mining dilution and, hence, PAH has incorporated an average 10 percent dilution at zero grade into the mineral reserve.

TABLE 17-8
Constellation Copper Corporation
Lisbon Valley Copper Project
Mineral Reserves (with Dilution)

	Ore Tons, millions	% Total copper	Contained copper, million pounds	Strip ratio, waste/ore
Centennial	30.3	0.49	295	2.0
GTO	2.3	0.68	31	4.1
Sentinel	7.8	0.29	45	1.0
Total	40.4	0.46	372	1.9

Note: 1) Mineral reserves all considered at a probable confidence level.
2) PAH has adjusted the WDC (2003) reserves to incorporate a mining dilution consideration.

The reserves have been estimated using generally accepted engineering practices and procedures. The reserves are relatively insensitive to changes in pit slope angles, copper prices, copper recovery or operating costs. The mineral reserve is compliant with NI 43-101 reporting requirements.

18.0 OTHER RELEVANT DATA AND INFORMATION

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

19.0 INTERPRETATION AND CONCLUSIONS

19.1 *Mineral Resource Conclusions*

Significant upside potential exists at Lisbon Valley for possible extensions to the current resource in the area between the planned Sentinel and Centennial pits. Limited drilling in this area has shown that copper mineralization occurs in the Burro Canyon horizons. CCC has just recently completed drilling of two holes in this interval, with drilling ongoing as of the time of this report.

The drilling database at Lisbon Valley consists mainly (86%) of holes drilled by earlier companies in the district, and only 14 percent of holes drilled by CCC and its predecessors. Thus, the sample database is a mixture of drilling types by different operators applying different sampling procedures. The quality of the sampling is variable and some of the older sampling is not documented, as is current industry practice. PAH notes, however, that resource model comparisons by TWC (2000) using all holes and using only select holes with undocumented holes removed, found a 1 percent difference in the resource estimates, which is not considered significant.

PAH believes that the mineral resource models were created using standard engineering methods. The models provide a reasonable representation of the distribution of the mineralogic zones and can be considered undiluted models. The models provide an acceptable basis for which subsequent mine engineering work was conducted in order to estimate mineral reserves consistent with NI 43-101 requirements.

19.2 *Mineral Reserve Conclusions*

The mine designs have been engineered to standard industry practice with mining dilution, adequate access, and mining room. The pit designs are relatively insensitive to changes in copper price, slope angle and mine operating cost. Centennial has upside potential for increased reserves at depth and between it and the Sentinel deposit. The 0.10 percent copper cutoff grade is reasonable.

The reserves have been estimated using generally accepted engineering practices and procedures. The reserves are relatively insensitive to changes in pit slope angles, copper prices, copper recovery or operating costs. The mineral reserve is compliant with NI 43-101 reporting requirements.

19.3 *Project Conclusions*

PAH has reviewed metallurgical test work performed on material from the three Lisbon Valley deposits and believes that the metallurgical testing was sufficiently adequate to develop the process flowsheet and plant design criteria for the project. Overall copper recovery from heap leaching of the Lisbon Valley ores is projected in the WDC report to be about 90 percent.

PAH found the cash flow model to be complete, inputs were accurate and reflected project costs and development plans. The result indicates a positive project cash flow that justifies the material being categorized as reserves.

No material deficiencies were identified during the PAH work that would preclude the Project from meeting the designed production and cost objectives within the range of the cost estimates presented in the 2003 Feasibility Study.

20.0 RECOMMENDATIONS

PAH finds that the Lisbon Valley Copper Project is an economically viable operation as outlined in the 2003 WDC Update to the Feasibility Study. PAH notes that the feasibility is based on a U.S.$0.90 per pound copper price, which is conservative compared to the three-year average price of US$1.00 per pound or the current spot market price of US$1.70 per pound. With the mine in construction and copper production anticipated in upcoming months, the project will enjoy the benefit of significantly higher than planned copper prices. The primary recommendation is that the project is justified in advancing into production.

21.0 REFERENCES

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5. Merit Consultants Ltd., 2004, Monthly Progress Report #4 – June 2004.

6. Mountain States R&D, October 2004, Interim Progress Report on the Treatment of Centennial and Sentinel Ore, internal company report.

7. Osborne, H.C., May 1996, Metallurgy of Lisbon Valley Ores, internal company report.

8. Pincock Allen & Holt, 2004, Technical Due Diligence Audit of the Lisbon Valley Copper Project and the Cashin Copper Project, prepared for Investec Bank (UK) Limited, September 2004.

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22.0 ADDITIONAL REQUIREMENTS FOR DEVELOPING OR PRODUCING PROPERTIES

22.1 *Mining Operations*

The Lisbon Valley deposits will be mined using conventional open pit methods utilizing off-highway trucks and front-end loaders. Mining will occur from three pits known as Centennial, Sentinel and GTO. The mine pit designs were based on optimized pit shells using the Lerchs-Grossmann algorithm within Mintec's MEDS mine planning software.

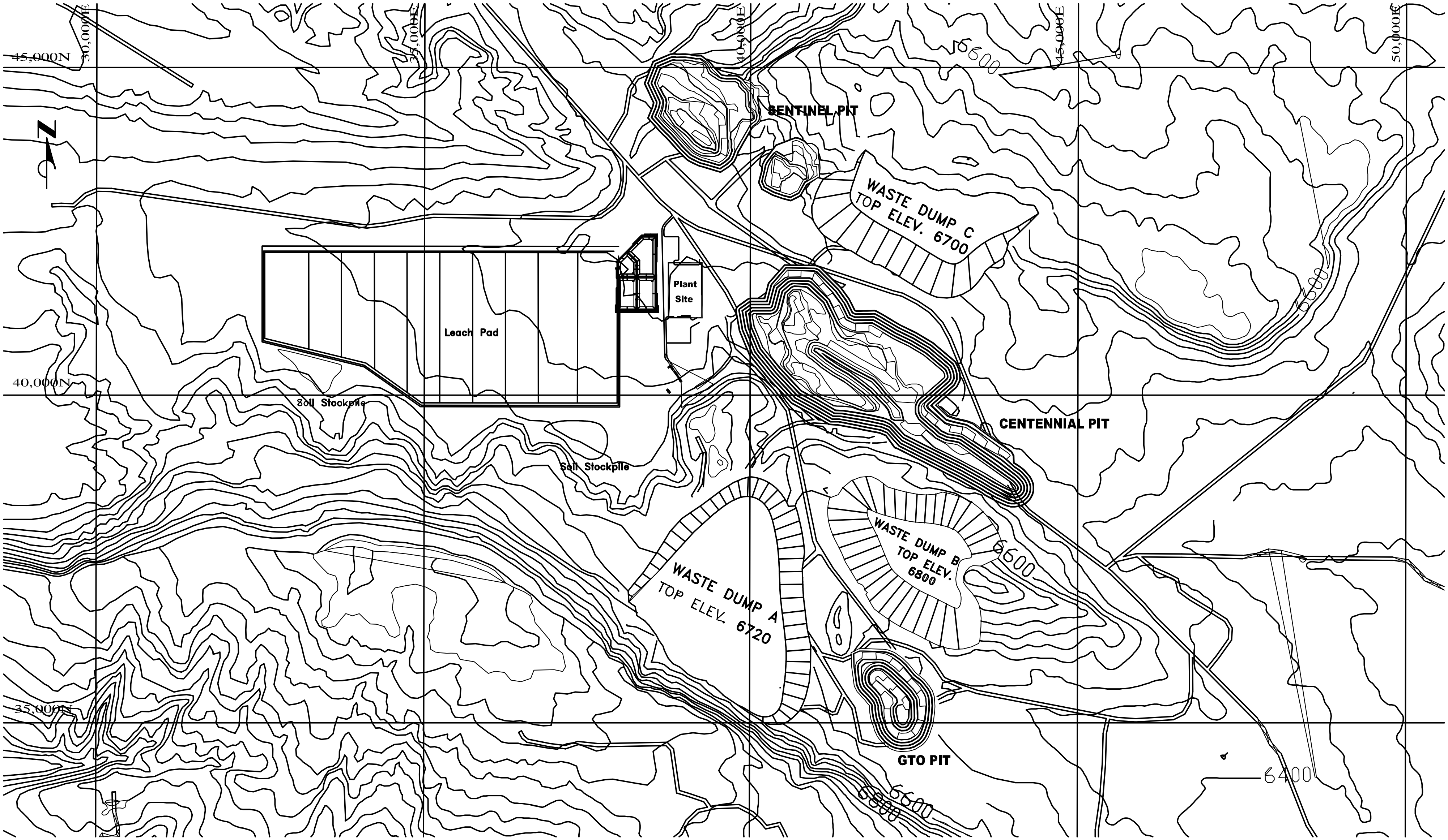
The final pit designs are complete with 80 ft. wide haul roads and a maximum 10 percent grade. Pit slope parameters, as suggest from Call and Nicholas, Inc., are 52 degrees maximum. Bench configuration is based on triple benching the 20-ft mining benches with 27 ft. catch benches. Figure 22-1 shows the three pit locations relative to the general site layout.

The GTO deposit consists of a single pit design, Sentinel consists of two separate pits and Centennial consists of four phases within a single pit shell for scheduling purposes. Mining will be accomplished with the typical drill, blast, load and haul cycles. Ore will be hauled to a primary crusher. Waste will be placed adjacent to the various pits to minimize haul distances. The Centennial phase four waste will be backfilled into the exhausted portions of the previously mined Centennial phases.

Table 22-1 provides a list of the expected mine equipment. Although the mine equipment will be leased, the operation's personnel will operate and maintain the equipment. Mine equipment was sized based on a maximum annual material movement of slightly less than 24 million tons and an operating schedule of three 8-hour shifts per day, seven days per week and 52 weeks per year. Table 22-2 shows the expected mine production schedule from each of the deposits.

TABLE 22-1
Constellation Copper Corporation
Lisbon Valley Copper Project
Mine Equipment

Quantity	Major Equipment Description	
5	Komatsu 730E 200 t Haul Truck	New
1	Komatsu WA1200 26.2 yd Wheel Loader	New
2	CAT 994 18.5 yd Wheel Loader	Used
2	Komatsu D375A-5 24.2 yd Crawler Dozer	New
2	Dresser 325M 18,000 gal Water Truck	Used
2	Dril Tech D45KS 6" - 9" Blast Hole Drill	New
2	Dril Tech D75K 9" - 11" Blast Hole Drill	Rebuild
2	CAT 16H 16 ft Motor Grader	Used

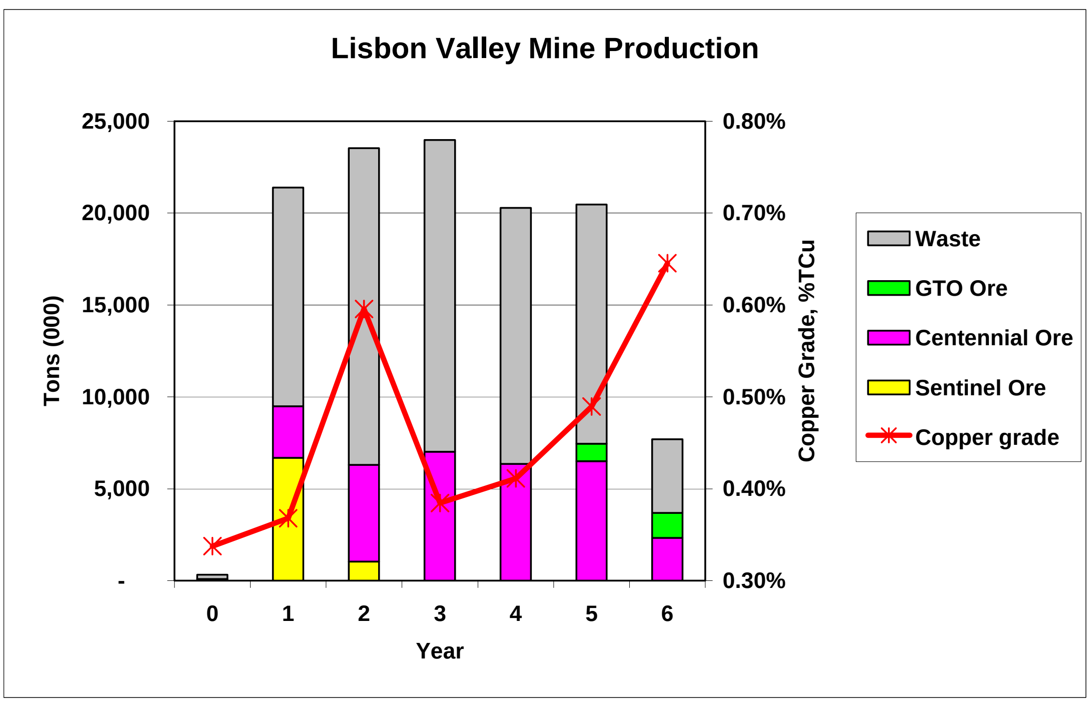


(From: Winters & Dorsey, 2003)

Reviewed by PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	Prepared for **INVESTEC BANK (UK) LIMITED**	**FIGURE 22-1** **MINE LAYOUT - LISBON VALLEY COPPER PROJECT**	Date of Issue **Aug/2004**
Project No. **9434.00**	Project Name Lisbon Valley Project		Drawing Name **Fig22-1.cdr**

TABLE 22-2
Constellation Copper Corporation
Lisbon Valley Copper Project
Mine Production Schedule (with Dilution @ 10%)

	Units	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
Sentinel										
Ore	tons (000)	90	6,683	1,041						7,813
Copper Grade	% TCu	0.34%	0.29%	0.25%						0.29%
Waste	tons (000)	231	4,234	3,496						7,961
Total Material	tons (000)	321	10,916	4,537						15,774
Strip ratio	waste / ore	2.6	0.6	3.4						1.0
Centennial										
Ore	tons (000)		2,800	5,259	7,015	6,360	6,500	2,329		30,262
Copper Grade	% TCu		0.54%	0.66%	0.38%	0.41%	0.46%	0.62%		0.49%
Waste	tons (000)		7,679	13,731	16,961	13,919	4,767	2,861		59,918
Total Material	tons (000)		10,478	18,990	23,976	20,279	11,267	5,190		90,180
Strip ratio	waste / ore		2.7	2.6	2.4	2.2	0.7	1.2		2.0
GTO										
Ore	tons (000)						954	1,349		2,302
Copper Grade	% TCu						0.66%	0.70%		0.68%
Waste	tons (000)						8,238	1,151		9,390
Total Material	tons (000)						9,192	2,500		11,692
Strip ratio	waste / ore						8.6	0.9		4.1
Total										
Ore	tons (000)	90	9,482	6,300	7,015	6,360	7,454	3,677		40,378
Copper Grade	% TCu	0.34%	0.37%	0.60%	0.38%	0.41%	0.49%	0.65%		0.46%
Waste	tons (000)	231	11,912	17,227	16,961	13,919	13,005	4,013		77,268
Total Material	tons (000)	321	21,394	23,527	23,976	20,279	20,459	7,690		117,646
Strip ratio	waste / ore	2.6	1.3	2.7	2.4	2.2	1.7	1.1		1.9
Daily mining rates										
Ore	tons per day	1,002	25,978	17,259	19,218	17,425	20,421	30,644		19,842
Waste	tons per day	2,564	32,636	47,198	46,469	38,134	35,631	33,439		37,970
Total	tons per day	3,567	58,614	64,458	65,688	55,559	56,052	64,083		57,811
operating days	days	90	365	365	365	365	365	120		2,035



22.2 *Ore Processing*

The copper ore processing facilities to be constructed at the Lisbon Valley site will employ conventional crushing, sulfuric acid heap leaching and solvent extraction/electrowinning (SX/EW) techniques to produce cathode copper. Figure 22-2 presents the process flowsheet.

The facility has been designed to recover about 27,000 tons of cathode copper per year and will require new facilities for mining, processing and infrastructure with the exception of the access road to the Lisbon Valley property. Almost all of the processing equipment has been moved from the Tonopah Copper Project in Nevada to the Lisbon Valley site. A site plan for the processing facilities is shown in Figure 22-3 and a general arrangement for SX/EW in Figure 22-4. These drawings were taken from work being performed at Roberts & Schaefer Company in Salt Lake City, Utah on the design of the plant.

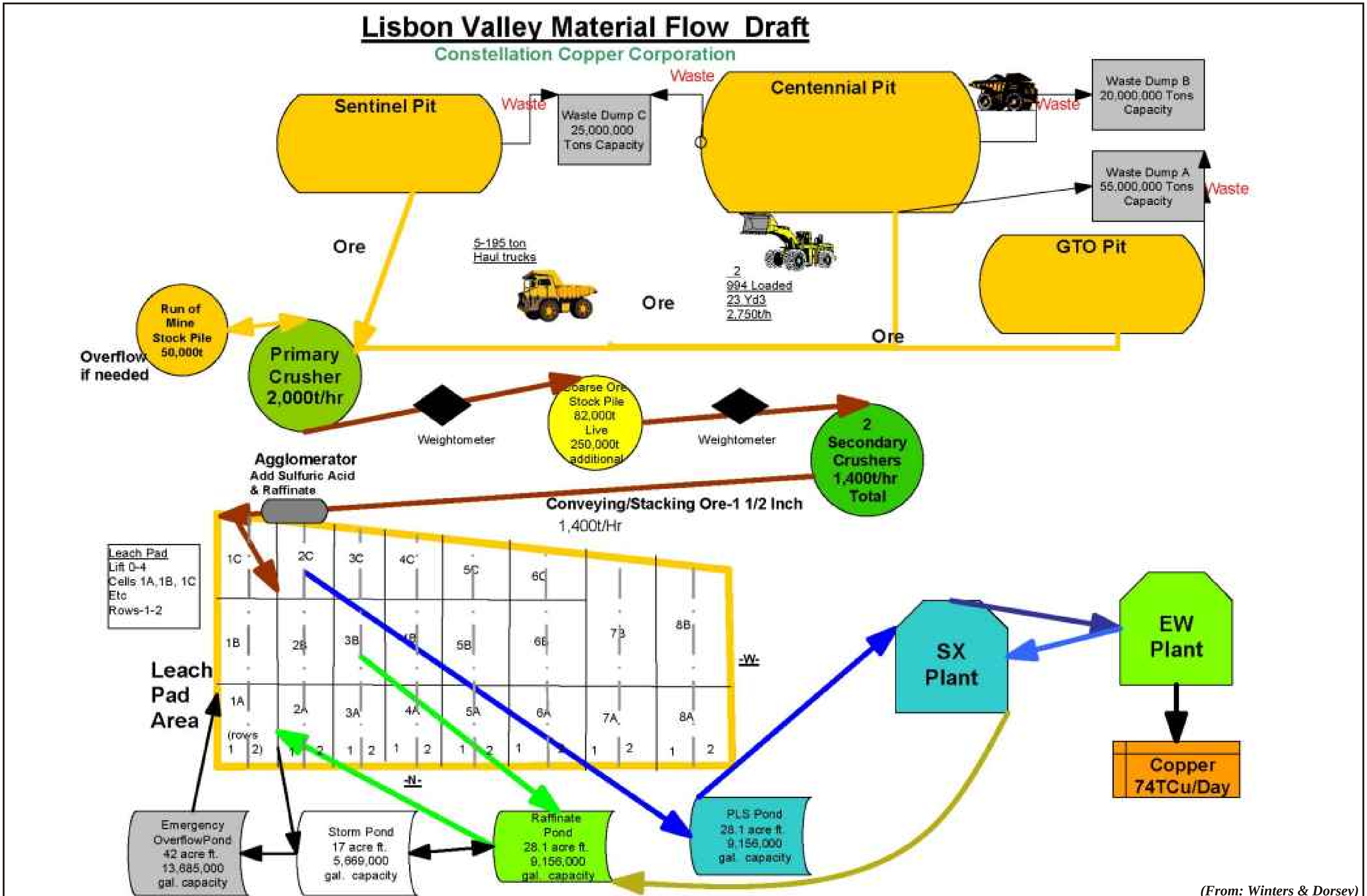
Ore from the mine pits will be trucked to the primary crusher where it will be reduced to minus 6 inches and conveyed to an intermediate ore pile, from which it will be conveyed to screens ahead of two parallel secondary cone crushers. The screen undersize and the cone crusher products, both at minus 1-½ inches, will be conveyed to the agglomerator where the ore will be mixed with a solution of sulfuric acid. The agglomerator discharge will be conveyed and stacked on the leach heaps.

Raffinate (tailings solution from the solvent extraction section) will be pumped to the heaps and distributed on the surface. The distributed solution will percolate through the heaps to dissolve the copper minerals. The resulting solution will flow to the pregnant leach solution (PLS) pond to provide the feed to the solvent extraction section.

In the solvent extraction section, copper is recovered from the PLS in a counter-current series of mixer-settlers where most of the copper is transferred to an organic solution containing an extractant which is specific for copper. The barren aqueous solution flows to the raffinate pond for re-use in leaching. Copper is re-extracted from the organic solution with a strong acid aqueous solution from the cell house. The pregnant aqueous strip solution (strong electrolyte) is directed to the electrowinning (EW) circuit where copper is plated from the solution onto stainless steel cathodes. The copper cathodes are saleable as LME Grade A 99.99 percent copper.

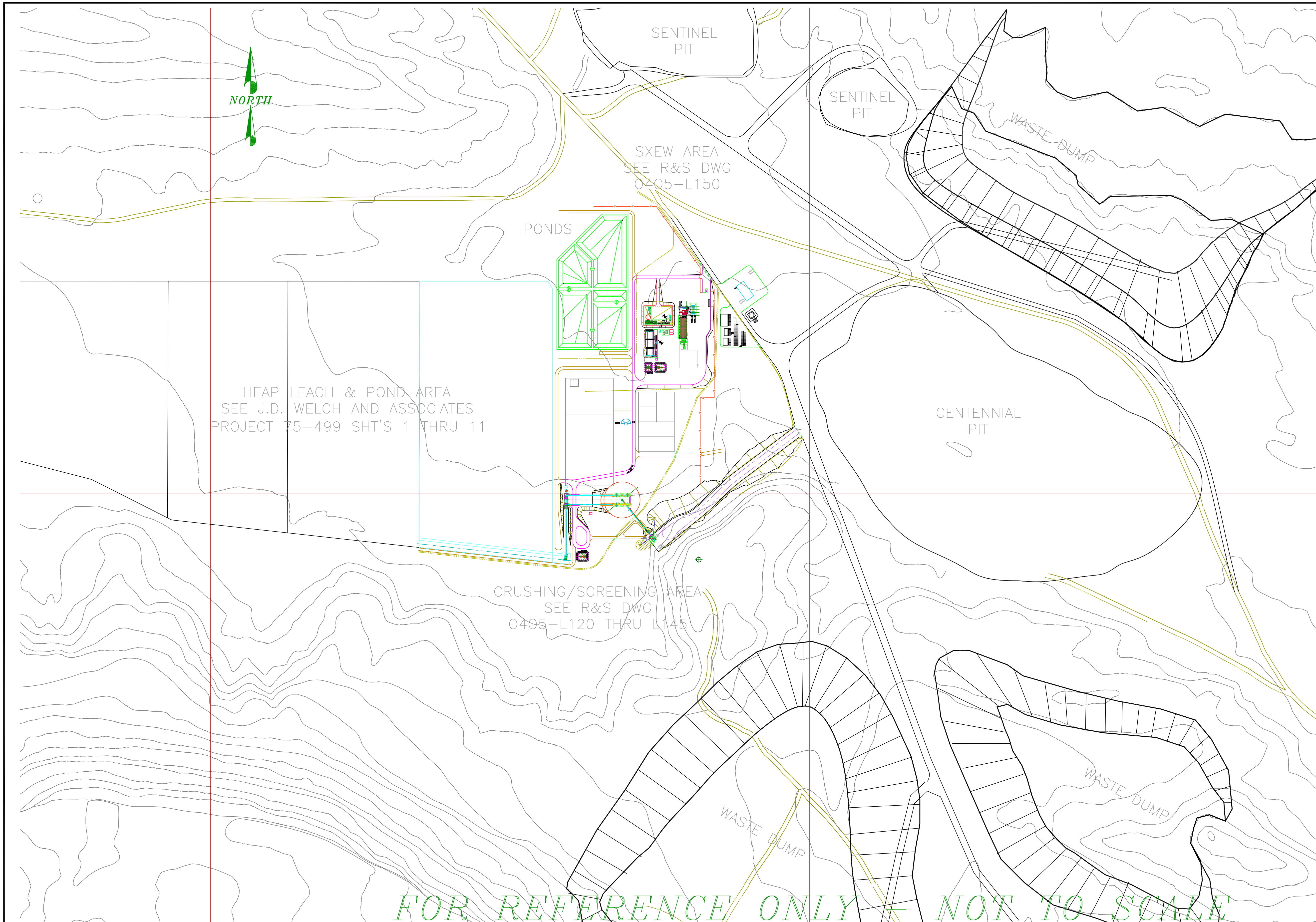
The process plant has been designed in a logical and complete manner. The design is well conceived and should be capable of meeting the average design ore throughput rate of 18,300 tons of ore per day and the average copper production rate of 27,000 tons per year.

The copper recovery based on metallurgical test work is about 90 percent and is reflected in the copper production schedule. Details of the metallurgical recovery are discussed in Section 16.



(From: Winters & Dorsey)

Report by	Prepared for		Date of Issue
PINCOCK, ALLEN & HOLT 274 Union Boulevard, Suite 200 Lakewood, Colorado 80228 Phone (303) 986-6950	*INVESTEC BANK (UK) LIMITED*	**FIGURE 22-2** **PROCESS FLOW DIAGRAM**	**Sept/2005**
Project No. **9434.00**	Project Name: Lisbon Valley Project		Drawing Name: **Fig22-2.cdr**



(PAH) FIGURE 22-3

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Aug/2004
9434.00

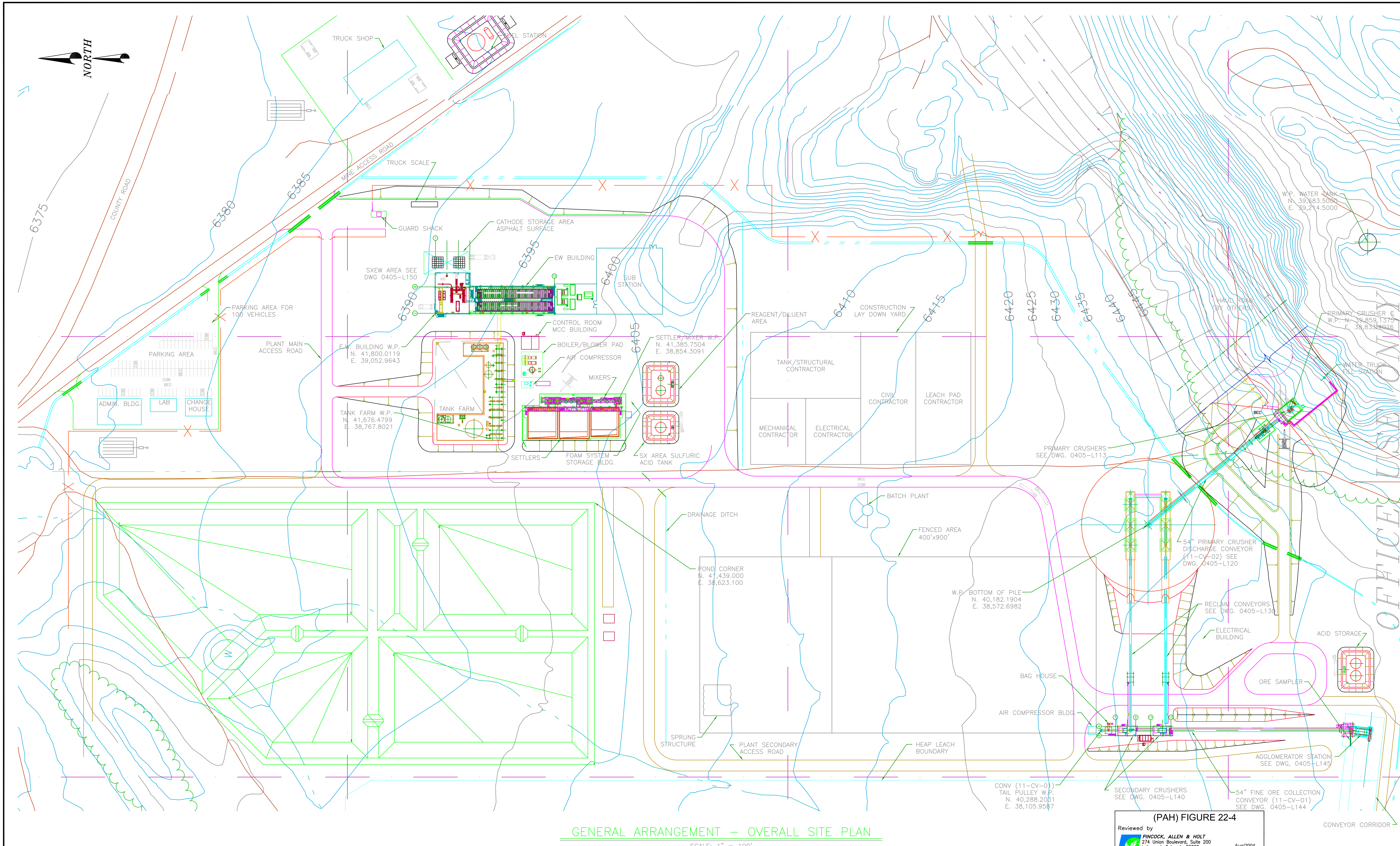
REV	DATE	DRAWN	CHECK	DIRECT	DESCRIPTION
D	6/30/04	MTR		RJB	FOR BID
A	6/14/04	MTR		RJB	ORIGINAL RELEASE

ROBERTS & SCHAEFER Company
ENGINEERS AND CONTRACTORS
CHICAGO – SALT LAKE CITY
0405

DRAWN BY: MTR
CHECKED BY: RJB
DESIGNED BY:
DIRECTED BY:
R&S APPROVED BY:
CLIENT APPROVED BY:

OVERALL SITE PLAN – REFERENCE ONLY
MIMING AND PROCESS AREAS
LISBON VALLEY MINING COMPANY, LLC.
LISBON VALLEY PROJECT

SCALE: NOT TO SCALE
DATE: 6/14/04
DRAWING NUMBER: 0405–L–100
REVISION: D



(PAH) FIGURE 22-4

Reviewed by
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274 Union Boulevard, Suite 200
Lakewood, Colorado 80228
Phone (303) 986-6950
Aug/2004
9434.00

REFERENCE	REFERENCE

REV	DATE	DRAWN	CHECK	DIRECT	DESCRIPTION
G	6/30/04	MTR		RJB	FOR BID
F	6/28/04	MTR		RJB	ADD ACCESS ROADS AND WORK POINT
E	6/10/04	MTR		RJB	ADD PLANT ROAD AND H.V. LINE
D	04JNE04	LJM		RJB	REVISED TO NEW LAYOUT, GAVE NEWDWG#
C	4/29/04	MTR		RJB	ADDED HAUL ROAD, FOR REVIEW
B	4/27/04	MTR		RJB	FOR REVIEW
A	4/28/04	MTR		RJB	ISSUED FOR INFORMATION

ROBERTS & SCHAEFER Company
ENGINEERS AND CONTRACTORS
CHICAGO – SALT LAKE CITY
0405

DRAWN BY: MTR	DESIGNED BY: MTR
CHECKED BY:	DIRECTED BY: RJB
R&S APPROVED BY:	CLIENT APPROVED BY:

GENERAL ARRANGEMENT
SITE PLAN
LISBON VALLEY MINING COMPANY, LLC.
LISBON VALLEY PROJECT

SCALE:	DATE:
NOTED	4/28/04
DRAWING NUMBER: 0405-L101	REVISION: G

22.3 *Markets*

The estimated 27,000 tons per year of LME Grade A cathode copper produced should be easily placed in the metal markets. On June 8, 2004, CCC received a copper off-take agreement proposal from Sempra Metals and Concentrates Corporation for 100 percent of the mine's production. The cathode premium to be applied will be based upon cathode quality and priced based on Kennecott and Noranda's published premiums for U.S. deliveries, less freight cost. Currently, Noranda cathode premiums are running 5 to 5-1/2 cents per pound of cathode copper with Kennecott being slightly higher. For Lisbon Valley, the cathode premiums alone will provide $2 to $3 million per annum in revenues above the actual COMEX high-grade copper price per pound realized when sold. This additional revenue has not been included in the economic cash flow model.

22.4 *Environmental Considerations*

The Lisbon Valley Copper Project has been permitted by the U.S. Bureau of Land Management (BLM) and the State of Utah through the National Environmental Protection Act (NEPA) process. This process was thorough, evaluating alternatives and involving public comment. The permits are detailed in the Final Environmental Impact Statement (FEIS), the Record of Decision (ROD), Ground Water Discharge Permit, Air Quality Permit, and a Process Pond Dam Permit. The project, as designed and permitted, should meet all applicable environmental standards.

Other miscellaneous local permits will be required prior to construction. Obtaining the remaining permits should be a low risk for the project since the primary permitting process has been approved by the BLM and State.

The project was permitted in 1997. Since there have been no operational activities, the construction and air permits have expired. The operation has submitted new construction plans to the State of Utah for updating the Ground Water Discharge Permit. Obtaining a new construction permit will be a simple process and low risk. The State of Utah has recently approved the new air quality permit.

Reclamation costs are several years old and have been recalculated and a project bond submitted to the State. Payment to the U.S. Fish and Wildlife Service for estimated potential impacts to fisheries in the Colorado River has been made.

Environmental monitoring programs have been developed and are being further expanded into detailed operating plans. These include a Best Available Technology (BAT) Plan for Construction, a BAT Performance Plan for leach pad and pond monitoring, and a potentially acid generating waste rock encapsulation plan. These have been submitted and waiting approval by the State prior to construction. The Company has submitted and is awaiting approval for a QA/QC construction plan prior to construction, finalization of a Fugitive Dust Control Plan, a Spill Containment Plan, and Conceptual Closure Plan. Other operational plans are expected to be in place before construction begins, for such issues as hazardous materials, solid waste disposal, and environmental training. It is reasonable to expect that all necessary permits will be obtained prior to commencement of construction and production activity.

22.5 *Capital and Operating Cost Estimates*

22.5.1 Capital Cost

The project capital cost estimates from WDC's November 2003 Feasibility Study report and supplemental information from CCC in August 2004 are included in the cash flow analysis. The estimates are based on quotations obtained in the latter part of 2003, from previous studies and recent adjustments by other consultants.

Contingencies have been included in the SX-EW plant capital estimate to cover estimate errors, design improvements, pricing variations, schedule delays, equipment and material delays, and subcontractor's claims. Although CCC has obtained mine equipment leasing terms indicating lower lease costs than indicated in the WDC study (about $900,000 per year), the cash flow contains the original lease cost.

All costs are expressed in 2004 U.S. dollars. The capital cost estimate excludes escalation, inflation, financial fees, interest on capitalized costs, and loan interest. Costs prior to January 2004 are considered sunk costs. The pre-production period (3 months) costs are capitalized.

The capital cost estimates have been prepared in a reasonable and professional manner and accurately reflect the project costs based upon the current project development plan.

The total initial project capital cost estimated at $53 million includes mill capital (purchase, dismantle and re-erection at Lisbon Valley), plant roads and mine access, reclamation bond, initial environmental monitoring, working capital, BLM land exchange and project staffing.

The Merit capital cost estimate presented in their June 2004 project progress report that indicates the initial capital cost estimate could be about $2.6 million higher than the WDC estimate. This increase is a direct result of the need for a 138 kV power line rather than the 69 kV line assumed available in the WDC estimate, and results in a 5 percent increase in the project initial capital cost. The initial project capital cost estimate is summarized by area in Table 22-3.

Project sustaining capital costs of $20.5 million have also been estimated to cover the period after startup and continue through to project closure. Closure activities commence after the planned 6.5 years of operation and will last for five years.

TABLE 22-3
Constellation Copper Corporation
Lisbon Valley Copper Project
Project Initial Capital Cost Estimate

Area	Initial Capital ($ 000's)
Purchase Equatorial Process Equipment	5,700
Dismantle/transport Process Equipment	3,084
Re-Erect facilities and Lisbon Valley	25,778
Mining Equipment, Roads, GPS, General Mine	2,970
Contingency on Direct Costs per Merit (8%)	2,175
Reclamation Bond & Environmental Monitoring	4,234
Taxes	550
Project Staffing	1,530
Land Exchange w/ BLM	1,000
Initial Working Capital	2,991
Total	$50,012
Additional Capital per Merit (for 138 kV power line)	$2,600
Total Capital Cost	$52,612

22.5.2 Operating Cost

Operating costs presented in the WDC report for the Lisbon Valley operation are estimated to be $4.26 per ton of ore processed, or $0.47 per pound of copper produced, and includes costs for mining, processing, general and administrative costs, severance taxes and property taxes.

The mine operating costs for the Lisbon Valley deposits vary by year with the weighted average cost equating to $0.61 per ton of material. The mining costs are on the low side compared to other North American operations with similar equipment and operating conditions.

Operating costs presented in the WDC report for processing of Lisbon Valley ores are estimated to be $2.00 per ton of ore processed, or $0.22 per pound of copper produced. The cost estimate includes costs for all labor, consumables, utilities and equipment maintenance and repairs.

22.6 *Economic Analysis*

The economic model prepared by CCC has been reviewed by PAH for completeness and accuracy of inputs. The economic model assumptions tie closely with the WDC Feasibility Study. The transfer of data from the WDC Feasibility Study to the cash flow worksheets were checked by PAH and found to be accurate. The cash flow model is based only on probable mineral reserves. The cash flow model is presented in Table 22-4.

PAH evaluated the cash flow model using $0.90 per pound copper and 100 percent owner equity with no debt financing. The $0.90 per pound copper price is conservative compared to the three year average

TABLE 22-4
Constellation Copper Corporation
Lisbon Valley Copper Project
Cash Flow Analysis - Equity Case w/Incr Cap - $000s

Copper Price **$0.90**

Operating Cost Incr/Decr
Cap Cost Incr/Decr

			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
		PreProd.	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**TOTAL**
Waste Tons Mined	000s	231	11,912	17,227	16,961	13,919	13,005	4,013							77,268
Waste Tons Mined	000s	231	11,912	17,227	16,961	13,919	13,005	4,013							77,268
Ore Tons Mined	000s	90	9,482	6,300	7,015	6,360	7,454	3,677							40,378
Ore Tons Mined	000s	90	9,482	6,300	7,015	6,360	7,454	3,677							40,378
Copper Grade	%	0.34%	0.37%	0.60%	0.38%	0.41%	0.49%	0.65%							0.46%
Contained Copper lbs.	000s	612	70,167	75,600	53,314	52,152	73,049	47,801							372,695
Cumulative Recovery			59.7%	65.8%	75.3%	81.1%	79.5%	83.8%	91.1%	91.1%	91.1%	91.1%	91.1%	91.1%	
Ultimate Recoverable Copper	91.1%		66,658	71,820	47,983	46,937	63,918	41,826							339,142
- Cu Inventory (pads,etc)	Klbs		24,790	42,610	36,593	29,529	39,447	27,273							200,243
Copper Sold	Klbs		41,868	54,000	54,000	54,000	54,000	54,000	27,274						339,142
Copper Sold	**Klbs**		**41,868**	**54,000**	**54,000**	**54,000**	**54,000**	**54,000**	**27,274**						**339,142**
Spot Copper Price	$/lb		$0.90	$0.90	$0.90	$0.90	$0.90	$0.90	$0.90	$0.90	$0.90	$0.90	$0.90	$0.90	$0.90
Sales Revenues	**$000's**		**37,682**	**48,600**	**48,600**	**48,600**	**48,600**	**48,600**	**24,547**						**305,228**
Royalty Expenses	variable		922	291	199	306	325	756	557						3,356
Cash Operating Costs	WDC Feas		29,485	31,141	32,581	30,630	32,029	17,599	3,787						177,252
Cash Operating Costs	Sensitivity		29,485	31,141	32,581	30,630	32,029	17,599	3,787						177,252
Cash Costs/lb (inc. royalties)			$0.73	$0.58	$0.61	$0.57	$0.60	$0.34	$0.16						$0.53
Cashflow before Capex; Taxes			7,274	17,168	15,820	17,664	16,246	30,246	20,203						124,620
Sustaining Capital/Salvage	WDC Feas + SRK		3,930	3,996	3,194	1,048	1,546	1,164	1,291	(511)	583	(259)	212	(3,425)	12,770
Reclamation	Inc. above														
On going Working Capital (Yr 1 in Capex)			2,784	984	144	(195)	140	(1,443)	(3,185)	(2,220)					(2,991)
Income Taxes	Calc			255	665	1,088	1,176	5,146	6,020						14,351
Cashflow before Debt Service			**560**	**11,932**	**11,817**	**15,723**	**13,384**	**25,378**	**16,077**	**2,731**	**(583)**	**259**	**(212)**	**3,425**	**100,490**
Inital Capex per WDC		44,491													44,491
Cap increase per Merit		2,600													
Capitalized PreProd Op Costs		1,530													1,530
Initial Working Capital		2,991													2,991
Land Exchange w/BLM		1,000													
Net Cashflow		**(52,612)**	**560**	**11,932**	**11,817**	**15,723**	**13,384**	**25,378**	**16,077**	**2,731**	**(583)**	**259**	**(212)**	**3,425**	**47,878**

Net Present Value (as of July 2004)

8%	**$14,934**		
10%	**$9,459**	**DCFROR**	**14.4%**
12%	**$4,752**		
14%	**$695**		

price of over $1.00 per pound or current spot market price of $1.70 per pound. The cash flow model is based on capital and operating cost estimates from the WDC Feasibility Study with an increase in capital of $2.6 M included per Merit's report.

The economic evaluations were conducted using a constant dollar basis; inflation and escalation were not included for costs or metal prices. The economic analysis is performed on a project stand-alone basis. All losses are carried forward against future income. Sunk costs are not included except as a loss carry forward item for tax calculations.

Annual royalty costs have been included in the cash flow model. The royalty calculations were estimated based on the royalty information presented in Section 4.2.2. Only 38 percent of the recoverable copper is subject to royalty agreements.

Taxes have been accounted for in the cash flow model, which consist of Federal and State income taxes, a mine severance tax, and property taxes. Federal and State taxes have been estimated using a 40 percent combined rate, where the Federal rate is 35 percent and the State rate is 5 percent. The mine severance tax is calculated by multiplying 30 percent of gross revenue by the taxable value rate of 2.6 percent. Property taxes have been estimated based on the net present value multiplied by the San Juan County tax rate of 1.47 percent.

The cash flow analysis indicates that the project would produce a discounted cash flow rate of return (DCFROR) of 14.4 percent and a net present value (NPV) of $9.5 million at a 10 percent discount rate. The NPV at various discount rates is presented in Table 22-5.

TABLE 22-5
Constellation Copper Corporation
Lisbon Valley Copper Project
Net Present Value at Various Discount Rates ($ million)

Discount Rate (%)	Base Case (Increased Capital)
8	14.9
10	9.5
12	4.8

Sensitivity analyses were performed at plus and minus 10 percent for copper price, capital cost, and operating cost. Table 22-6 presents the NPV_{10} for these additional cases. Although the project is most sensitive to copper price changes, the project shows high sensitivity to changes in operating costs. The fact that mine equipment is leased rather than purchased is the main reason why the operating costs are sensitive; the total annual operating costs are relatively high compared to the initial capital costs. Sensitivity in capital cost changes is about half the sensitivity of copper price. Grade sensitivities are the same as copper price sensitivities.

TABLE 22-6
Constellation Copper Corporation
Lisbon Valley Copper Project
Net Present Value Sensitivity at 10 percent ($ million)

	-10%	Base	+10%
Copper Price	(5.3)	9.5	24.2
Capital Cost	14.0	9.5	4.9
Operating Cost	18.7	9.5	0.7

23.0 CERTIFICATE OF QUALIFIED PERSON

As an author of the report entitled “Technical Report Of The Lisbon Valley Copper Project, San Juan County, Utah,” dated September 22, 2005 (the “Technical Report”) and prepared on behalf of Constellation Copper Corporation (the “Issuer”), I, Mark G. Stevens, C.P.G., P.G., do hereby certify that:

1. I am currently employed as a Chief Geologist by:

   Pincock, Allen & Holt
   165 S. Union Blvd., Suite 950
   Lakewood, CO 80228
   USA

   My residential address is 4229 E. 106th Place, Thornton, Colorado 80233.

2. I graduated from Colorado State University with a Bachelor of Science degree in geology in 1977 and subsequently obtained a Master of Science degree in geology from the University of Utah 1981, and I have practiced my profession continuously since 1981.

3. I am a Professional Geologist (PG-651) in the state of Wyoming, USA, a Licensed Geologist (PG-477) in the state of Washington, USA, a member of the American Institute Of Professional Geologists (CPG-08388), a member of the American Institute Of Mining, Metallurgical, and Petroleum Engineers, Inc. (SME), and a member of the Society Of Economic Geologists (SEG).

4. I have worked as a geologist for a total of 25 years since my graduation from university and have been involved in mineral exploration and evaluation of mineral properties for gold, silver, copper, lead, zinc, coal, and industrial minerals in the United States, Canada, Mexico, Costa Rica, Panama, Peru, Chile, Spain, Sweden, Portugal, Philippines, Kazakhstan, Russia, India, and Australia.

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 the Qualified Person responsible for the overall Technical Report. I have prepared the Technical Report sections for geology (Sections 7-9), exploration (Sections 10-15), and resource/reserve (Section 17). I have supervised other experienced PAH professionals in the preparation of the other Technical Report sections, including general information (Sections 4-6), Mineral Processing And Metallurgical Testing (Section 16) and Additional Requirements For

Developing Or Producing Properties (Section 22) and take responsibility for this work. I have visited the Lisbon Valley property in September 2005.

7. I have had prior involvement with the property that is the subject of the current Technical Report, contributing to the preparation of a PAH Technical Due Diligence Audit report in September 2004.

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 in accordance with Section 1.5 of NI 43-101.

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

11. I consent to the filing of the Technical Report with any securities regulatory authority, stock exchange or other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated in Lakewood, Colorado, this 22nd day of September 2005.

"Mark G. Stevens, C.P.G."

____

Mark G. Stevens, C.P.G., P.G.

24.0 APPENDICES

Exhibit A: Unpatented Federal Mining Claims (1/2)
Exhibit B: Unpatented Federal Mining Claims (2/2)

EXHIBIT A

Lisbon Valley Project

Unpatented Claims Situated in San Juan County, Utah

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Oxide #1	707 734	30S/25E/23,26	327776
Oxide #2	707 735	30S/25E/23,26	327777
Oxide #3	705 119	30S/25E/23	327778
Oxide #4	705 120	30S/25E/23,26	327779
Oxide #5	705 121	30S/25E/23	327780
Oxide #6	705 122	30S/25E/23,26	327781
Oxide Fraction	708 345	30S/25E/23,26	331632

EXHIBIT B

Lisbon Valley Project

Unpatented Claims Situated in San Juan County, Utah

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Knox	33 42A	31S/25E/1	130288
Amended	243 60		
Loomis	33 43	31S/25E/1	130289
Amended	243 59		
Rainey	33 44	31S/25E/1	130290
Amended	243 58		
Reeves	33 43	31S/25E/1	130291
Amended	243 59		
Silvey	33 42A	31S/25E/1	130292
Amended	243 60		
Wright	33 44	31S/25E/1	130293
Amended	243 58		
STEP 1	733 470	30S/25E/27	354577
STEP 2	733 472	30S/25E/27	354578
STEP 3	733 474	30S/25E/27	354579
STEP 4	733 476	30S/25E/27	354580
STEP 5	733 478	30S/25E/27	354581
STEP 6	733 480	30S/25E/27	354582
STEP 7	733 482	30S/25E/27	354583
STEP 8	733 484	30S/25E/27	354584
STEP 9	733 486	30S/25E/27	354585
STEP 10	733 488	30S/25E/27	354586
STEP 11	733 490	30S/25E/27	354587
STEP 12	733 492	30S/25E/27	354588
STEP 13	733 494	30S/25E/27	354589
STEP 14	733 496	30S/25E/27	354590
STEP 15	733 498	30S/25E/27	354591
STEP 16	733 500	30S/25E/27	354592
STEP 17	733 502	30S/25E/27&28	354593

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
STEP 18	733 504	30S/25E/27&28	354594
STEP 19	733 506	30S/25E/27&34	354595
STEP 20	733 508	30S/25E/27&34	354596
STEP 21	733 510	30S/25E/27&34	354597
STEP 22	733 512	30S/25E/27&34	354598
STEP 23	733 514	30S/25E/27&34	354599
STEP 24	733 516	30S/25E/27&34	354600
STEP 25	733 518	30S/25E/27&34	354601
STEP 26	733 520	30S/25E/27&34	354602
STEP 27	733 522	30S/25E/27&28	354603
		33&34	
STEP 28	733 524	30S/25E/35	354604
STEP 29	733 526	30S/25E/35	354605
STEP 30	733 528	30S/25E/35	354606
STEP 31	733 530	30S/25E/35	354607
STEP 32	733 532	30S/25E/35	354608
STEP 33	733 534	30S/25E/35	354609
STEP 34	733 536	30S/25E/35	354610
RP-21	733 305	30S/26E/30	354543
RP-22	733 306	30S/26E/30	354544
RP-23	733 307	30S/26E/30	354545
RP-24	733 308	30S/26E/30	354546
RP-28	733 309	30S/26E/30	354547
RP-29	733 310	30S/26E/30	354548
RP-30	733 311	30S/26E/30	354549
RP-31	733 312	30S/26E/30	354550
RP-32	733 313	30S/26E/30	354551
RP-33	733 314	30S/26E/30	354552
RP-36	733 315	30S/26E/30	354553
		30S/25E/25	
RP-37	733 316	30S/26E/30	354554
		30S/25E/25	
RP-38	733 317	30S/26E/30	354555
		30S/25E/25	
RP-39	733 318	30S/26E/30	354556
		30S/25E/25	
RP-40	733 319	30S/26E/30	354557
		30S/25E/25	
RP-41	733 320	30S/26E/30	354558
		30S/25E/25	

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
RP-42	733 321	30S/26E/30	354559
		30S/25E/25	
RP-46	733 322	30S/25E/24&25	354560
RP-47	733 323	30S/25E/25	354561
RP-48	733 324	30S/25E/25	354562
RP-49	733 325	30S/25E/25	354563
RP-50	733 326	30S/25E/25	354564
RP-51	733 327	30S/25E/25	354565
RP-52	733 328	30S/25E/25	354566
RP-53	733 329	30S/25E/25	354567
RP-54	733 330	30S/25E/25	354568
RP-58	733 331	30S/25E/24	354569
RP-59	733 332	30S/25E/24&25	354570
RP-60	733 333	30S/25E/25	354571
RP-61	733 334	30S/25E/25	354572
RP-66	733 335	30S/25E/24	354573
RP-67	733 336	30S/25E/24&25	354574
RP-74	733 337	30S/25E/23&24	354575
RP-75	733 338	30S/25E/23,24	354576
		25,26	
LADY BUFF 1	743 306	30S/25E/26	356889
LADY BUFF 2	743 309	30S/25E/26	356890
LADY BUFF 3	743 312	30S/25E/23,26	356891
LADY BUFF 4	743 315	30S/25E23,/26	356892
LADY BUFF 5	743 318	30S/25E/23	356893
LADY BUFF 6	743 321	30S/25E/22,23,26	356894
LADY BUFF 7	743 324	30S/25E/23	356895
LADY BUFF 8	743 327	30S/25E/22,23	356896
LADY BUFF 9	743 330	30S/25E/23	356897
LADY BUFF 10	743 333	30S/25E/22,23	356898
LADY BUFF 11	743 336	30S/25E/23	356899
LADY BUFF 12	743 339	30S/25E/22,23	356900
LADY BUFF 13	743 342	30S/25E/22,23	356901
GKS 1	745 664	30S/25E/23	357400
GKS 2	745 666	30S/25E/23	357401
GKS 3	745 668	30S/25E/24	357402
GKS 4	745 670	30S/25E/24	357403
Amended	783 450		
Amended	785 836		
GKS 5	745 672	30S/25E/24	357404
GKS 6	745 674	30S/25E/24	357405

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
GKS 7	745 676	30S/25E/23	357406
GKS 8	745 678	30S/25E/23	357407
Amended	746 787		
GKS 9	745 680	30S/25E/23	357408
GKS 10	745 682	30S/25E/35	357409
GKS 11	745 684	30S/25E/35	357410
GKS 12	745 686	30S/25E/35	357411
GKS 13	745 688	30S/25E/35	357412
Amended	783 451		
Amended	785-837		
GKS 14	745 690	30S/25E/35	357413
GKS 15	745 692	30S/25E/35	357414
GKS 16	745 694	30S/25E/35	357415
GKS 17	745 696	30S/25E/35	357416
GKS 18	745 698	30S/25E/35	357417
GKS 19	745 700	30S/25E/35	357418
GKS 20	745 702	30S/25E/35	357419
GKS 21	745 704	30S/25E/35	357420
GKS 22	745 706	30S/25E/35	357421
GKS 23	745 708	30S/25E/35	357422
GKS 24	745 710	30S/25E/35	357423
GKS 25	745 712	30S/25E/35	357424
GKS 26	745 714	30S/25E/35	357425
Amended	746 786		
GKS 27	745 716	31S/25E/1	357426
GKS 28	745 718	31S/25E/1	357427
GKS 29	745 720	31S/25E/1	357428
GKS 30	745 722	31S/25E/1	357429
GKS 31	745 724	31S/25E/1	357430
GKS 32	745 726	31S/25E/1	357431
GKS 33	745 728	31S/25E/1	357432
GKS 34	745 730	31S/25E/1	357433
GKS 35	745 732	31S/25E/1	357434
GKS 36	745 734	31S/25E/1	357435
GKS 37	745 736	31S/25E/1	357436
GKS 38	745 738	31S/25E/1	357437
GKS 39	785 767	31S/25E/1	367233
GKS 40	785 769	31S/25E/1	367234
GKS 41	745 744	31S/25E/1&12	357440
GKS 42	745 746	31S/25E/1&12	357441
GKS 43	745 748	31S/25E/1&12	357442
GKS 44	745 750	31S/25E/1&12	357443
GKS 45	745 752	31S/25E/1&12	357444

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
GKS 46	745 754	31S/25E/1&12	357445
GKS 47	785 771	31S/25E/1&12	367235
GKS 48	749 76	30S/25E/26	359001
GKS 49	749 78	30S/25E/26	359002
GKS 50	749 80	30S/25E/26,35	359003
GKS 51	749 82	30S/25E/35	359004
GKS 52	749 84	30S/25E/35	359005
Amended	785 838		
GKS 53	749 86	30S/25E/22	359006
GKS 54	749 88	30S/25E/22	359007
GKS 55	749 90	30S/25E/22&27	359008
GKS 56	749 92	30S/25E/27	359009
GKS 57	749 94	30S/25E/27	359010
GKS 58	752 208	30S/25E/23&26	360263
Amended	783 449		
Amended	785 840		
Camel	25 453	30S/25E/25,26	129728
Amended	231 261		
Amended	821 47/48		
Cat	25 454	30S/25E/25,26	129729
Amended	231 262		
Amended	821 49/50		
Colt	25 455	30S/25E/25,26	129730
Amended	231 263		
Amended	821 51/52		
Cougar	25 455	30S/25E/25,26,35,36	129731
Amended	231 263		
Amended	821 53/54		
Cow	25 454	30S/25E/25,26	129732
Amended	231 262		
Amended	821 55/56		
Coyote	25 456	30S/25E/35,36	129733
Amended	231 264		
Amended	821 57/58		
Cub	25 456	30S/25E/35,36	129734
Amended	231 264		
Amended	821 59/60		

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Sentinal No 1	47 44	30S/25E/25	129718
Amended	231 256		
Amended	821 27/28		
Sentinal No 2	47 45	30S/25E/25	129719
Amended	231 257		
Amended	821 29/30		
Sentinal No 3	47 45	30S/25E/25	129720
Amended	231 257		
Amended	821 31/32		
Sentinal No 4	47 46	30S/25E/25,26	129721
Amended	231 258		
Amended	821 33/34		
Sentinal No 5	47 46	30S/25E/25	129722
Amended	231 258		
Amended	821 35/36		
Sentinal No 6	47 47	30S/25E/25,26	129723
Amended	231 259		
Amended	821 37/38		
Sentinal No 7	47 47	30S/25E/25	129724
Amended	231 259		
Amended	821 39/40		
Sentinal No 8	47 48	30S/25E/25,26	129725
Amended	231 260		
Amended	821 41/42		
Sentinal No 9	47 48	30S/25E/25	129726
Amended	231 260		
Amended	821 43/44		
Sentinal No 10	47 49	30S/25E/25,26	129727
Amended	231 261		
Amended	821 45/46		
Climax No. 1	R2 382	30S/25E/25	129763
Amended	41 229		
Amended	487 185		
Amended	821 909/910		
Climax No. 2	R2 382	30S/25E/25	129764
Amended	41 230		
Amended	487 186		
Amended	821 911/912		

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Alpha #1	270 83	30S/25E/25	129765
Amended	821 69/70		
Alpha #2	270 84	30S/25E/25	129766
Amended	821 71/72		
Alpha #3	270 84	30S/25E/25	129767
Amended	821 73/74		
Alpha #4	270 85	30S/25E/25	129768
Amended	821 75/76		
Alpha #5	270 85	30S/25E/25	129769
Amended	821 77/78		
Alpha #6	270 86	30S/25E/25	129770
Amended	821 79/80		
Alpha #7	270 86	30S/25E/25	129771
Amended	821 81/82		
Alpha #8	270 87	30S/25E/25	129772
Amended	821 83/84		
CW No. 1	510 62	30S/25E/25,26,	129811
Amended	821 91/92	35,36	
CW No. 2	510 63	30S/25E/25,36	129812
Amended	821 93/94		
CW No. 3	510 64	30S/25E/25,26	129813
Amended	821 95/96		
CW No. 4	510 65	30S/25E/25,36	129814
Amended	821 97/98		
CW No. 5	510 66	30S/25E/25	129815
Amended	821 99/100		
CW No. 6	510 67	30S/25E/25,26	129816
Amended	821 101/102		
CW No. 7	510 68	30S/25E/25,36	129817
Amended	821 103/104		
CW No. 8	510 69	30S/25E/25,36	129818
Amended	821 105/106		
CW No. 9	510 70	30S/25E/25	129819
Amended	821 905/906		
CW No. 10	510 71	30S/25E/25	129820
Amended	821 109/110		
CW No. 11	510 72	30S/25E/25	129821
Amended	821 111/112		
CW No. 12	510 73	30S/25E/25,36	129822
Amended	821 113/114		
CW No. 13	510 74	30S/25E/25,36	129823
Amended	821 115/116		

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
CW 14	510 75	30S/25E/25,26	129824
Amended	821 117/118		
CW 15	511 596	30S/25E/25	129825
Amended	821 119/120		
CW 16	511 597	30S/25E/25	129826
Amended	821 121/122		
CW 19	511 598	30S/25E/25	129827
Amended	521 8		
Amended	821 123/124		
CW 22	511 599	30S/25E/24,25	129828
Amended	521 9		
Amended	821 907/908		
KWR #1	487 130	30S/25E/26	129789
Amended	821 1/2		
KWR #2	487 131	30S/25E/26	129790
Amended	821 3/4		
KWR #3	487 132	30S/25E/26	129791
Amended	821 5/6		
KWR #4	487 133	30S/25E/26	129792
Amended	821 7/8		
KWR #5	487 134	30S/25E/26	129793
Amended	821 9/10		
KWR #6	487 135	30S/25E/26	129794
Amended	821 11/12		
KWR #7	487 136	30S/25E/26	129795
Amended	821 13/14		
KWR #8	487 137	30S/25E/26	129796
Amended	821 15/16		
K.W.R. 9 (Fract)	501 345	30S/25E/26	129797
Amended	821 17/18		
K.W.R. 10	501 346	30S/25E/23,26	129798
Amended	821 19/20		
K.W.R.11 (Fract)	501 347	30S/25E/25	129799
Amended	821 21/22		
K.W.R. 12 (Fract)	501 348	30S/25E/25	129800
Amended	821 23/24		
K.W.R. 13 (Fract)	501 349	30S/25E/25	129801
Amended	821 25/26		
G.M. Wallace Fraction	484 636	30S/25E/25	129829
Amended	487 129		
Amended	821 143/144		

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Nu Zuni 45	707 500	30S/25E/35	330150
Nu Zuni 46	707 501	30S/25E/35	330151
Nu Zuni 47	707 502	30S/25E/35	330152
C-W-G Fraction	517 275	30S/25E/26	129786
Amended	821 85/86		
C-W-G Fraction 1	517 276	30S/25E/26	129787
Amended	821 87/88		
C-W-G Fraction 2	517 277	30S/25E/26	129788
Amended	821 89/90		
CD 1	509 508	30S/25E/25&26	129773
Amended	821 131/132		
CD 2 Fraction	509 509	30S/25E/25,36	129774
Amended	821 133/134		
CD 3 Fraction	509 510	30S/25E/25,36	129775
Amended	821 135/136		
CD 4 Fraction	509 511	30S/25E/25,36,	129776
Amended	821 137/138	30S/26E/30,31	
CD 5 Fraction	509 512	30S/25E/25	129777
Amended	821 139/140		
CD 6 Fraction	509 550	30S/25E/35	129737
Amended	821 141/142		
CD-7A Amended	724 350	30S/25E/25	349339
CD-8A	722 134	30S/25E/25	349340
CD-9A Amended	724 352	30S/25E/25	349341
CD-10A Amended	724 354	30S/25E/25	349342
GLOBE NO. 1	486 16	30S/25E/26	129782
Amended	489 392		
Amended	821 61/62		
GLOBE NO. 2	486 17	30S/25E/26	129783
Amended	489 393		
Amended	821 63/64		
GLOBE NO. 9	486 24	30S/25E/26	129784
Amended	489 400		
Amended	821 65/66		
GLOBE NO. 10	486 25	30S/25E/23&26	129785
Amended	489 401		
Amended	821 67/68		

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Security #3	377 402	30S/26E/31	140827
Amended	783 456		
Amended	785 773		
Security #5	377 403	30S/26E/31	140607
Amended	783 457		
Amended	785 774		
Security #7	377 404	30S/26E/31	140608
Amended	783 458		
Amended	785 775		
Security #9	377 405	30S/26E/31	140609
Amended	783 459		
Amended	785 776		
Security #11	377 406	30S/26E/31	140610
Amended	783 460		
Amended	785 777		
Security #14	377 407	31S/26E/6	140611
Amended	783 461		
Amended	785 778		
Security #15	377 408	31S/26E/6	140612
Amended	783 462		
Amended	785 779		
Security #16	377 409	31S/26E/6	140613
Amended	783 463		
Amended	785 780		
Security #18	377 410	31S/26E/6	140614
Amended	783 464		
Amended	785 781		
Security #19	377 411	31S/26E/6	140615
Amended	783 465		
Amended	785 782		
Security #20	377 412	31S/26E/6	140616
Amended	783 466		
Amended	785 783		
Security #25	377 413	31S/26E/6	140617
Amended	783 467		
Amended	785 784		
Security #26	377 414	31S/26E/5,6	140618
Amended	783 468		
Amended	785 785		
Security #27	377 415	30S/26E/31	140619
Amended	783 469		
Amended	785 786		

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Security #28	377 416	30S/26E/31	140620
Amended	783 470		
Amended	785 787		
Security #29	377 417	30S/26E/31	140621
Amended	783 471		
Amended	785 788		
Security #30	377 418	30S/26E/31	140622
Amended	783 472		
Amended	785 789		
Security #31	377 419	30S/26E/31	140623
Amended	783 473		
Amended	785 790		
Security #32	377 420	30S/26E/31	140624
Amended	783 474		
Amended	785 791		
Security #33	377 421	30S/26E/31	140625
Amended	783 475		
Amended	785 792		
Security #34	377 422	30S/26E/31	140626
Amended	783 476		
Amended	785 793		
Security #35	377 423	30S/26E/31	140627
Amended	783 477		
Amended	785 794		
Security #36	377 424	30S/26E/31	140628
Amended	783 478		
Amended	785 795		
Security #37	377 425	30S/26E/31	140629
Amended	783 479		
Amended	785 796		
Security #38	377 426	30S/26E/31	140630
Amended	783 480		
Amended	785 797		
Security #39	377 427	30S/26E/31	140631
Amended	783 481		
Amended	785 798		
Security #40	377 428	30S/26E/31	140632
Amended	783 482		
Amended	785 799		
Security #41	377 429	30S/26E/31	140633
Amended	783 483		
Amended	785 800		

Claim Name	Book/Page	Twn/Rge/Sec	BLM Serial No. UMC
Security #42	377 430	30S/26E/31	140634
Amended	783 484		
Amended	785 801		
Security #43	377 431	30S/26E/31	140635
Amended	783 485		
Amended	785 802		
Security #44	377 432	30S/26E/31	140636
Amended	783 486		
Amended	785 803		
Security #45	377 433	30S/26E/31	140637
Amended	783 487		
Amended	785 804		
Security #46	377 434	30S/26E/31	140638
Amended	783 488		
Amended	785 805		
Security #47	377 435	30S/26E/31	140639
Amended	783 489		
Amended	785 806		
Security #48	377 436	30S/26E/31	140640
Amended	783 490		
Amended	785 807		
Security #49	378 341	30S/26E/31	140641
Amended	783 491		
Amended	785 808		
Security #50	378 342	30S/26E/31	140642
Amended	783 492		
Amended	785 809		
Security #51	378 343	30S/26E/31	140643
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Amended	785 810		
Security #52	378 344	30S/26E/31	140644
Amended	783 494		
Amended	785 811		
Security #53	378 345	30S/26E/31	140645
Amended	783 495		
Amended	785 812		
Security #54	378 346	30S/26E/31	140646
Amended	783 496		
Amended	785 813		
Security #55	378 347	30S/26E/31	140647
Amended	783 497		
Amended	785 814		
Security #56	378 348	30S/26E/31	140648
Amended	783 498		
Amended	785 839		