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Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rozebud Resource Audit; Pershing County, Nevada, for Hecla Mining Company; January 27, 1995
AUTHOR	Prenn N; Ristorcelli, S; Hardy S
DATE OF DOC(S)	1995
MULTI_DIST Y / (N?) Additional Dist_Nos:	
QUAD_NAME	Sulphur 7½'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Hecla Mining Co, Rosebud Project; Mine Development Associates; South Zone; North Zone; East Zone; Lac Minerals (USA) Inc.
COMMODITY If not obvious	gold; silver
NOTES	Geology; assays; resources NOTE: Scan dividers 53p

Keep docs at about 250 pages if no oversized maps attached (for every 1 oversized page (>11x17) with text reduce the amount of pages by ~25)

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MINE DEVELOPMENT ASSOCIATES, INC.

MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES
SURPAC MINING SYSTEMS

ROSEBUD RESOURCE AUDIT

PERSHING COUNTY, NEVADA

for

HECLA MINING COMPANY

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January 27, 1995

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REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
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MINING
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SECTION I

MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES
SURPAC MINING SYSTEMS

1.0 EXECUTIVE SUMMARY AND CONCLUSIONS

Mine Development Associates (MDA) was asked by Hecla Mining Company (Hecla) to review and perform an audit of the Rosebud Project gold and silver resource, Pershing County, Nevada. For this assessment, MDA reviewed on an intermittent basis the data collection and geology during the second half of 1994 and then reviewed on an ongoing basis the resource estimation procedures and results.

The Rosebud deposits are low-temperature, quartz-sericite, epithermal deposits hosted primarily in a series of Tertiary volcanics and volcaniclastics. Basement in the area is the Jurassic-Triassic Auld Lang Syne group of eugeosynclinal sedimentary rocks. Outcrop is represented only by a silicified fault zone with traces to low-grades of gold and associated epithermal metal association. Two principal structures dominate the area: the Rosebud Shear zone and the South Ridge Fault. The Rosebud shear is a northeast-trending regional fault zone with an estimated 1,700 to 2,500 ft of left lateral offset, in addition to several hundred feet of normal displacement. The South Ridge fault is located in the footwall of the Rosebud Shear and is an arcuate, listric normal fault. The Rosebud deposits exist in four spatially and geologically slightly-different zones: the South, North, East, and Far East zones. Precious metal mineralization is controlled by both structure and lithology and is represented as both stockwork and disseminated mineralization. There appear to be two periods of mineralization. The geologic model was built around this fundamental geologic interpretation with the aid of classical statistics and mineral domains.

Since acquisition in 1993, Hecla has conducted underground drifting, underground drilling, and surface drilling along with the associated geologic, assay, metallurgical, geotechnical and pre-production information gathering. Total drifted footage is just under 3,000 ft while total drilling is about 56,934 ft. The main decline was driven principally for drill access and for crosscutting the high-grade portion of the deposit. Prior to Hecla's acquisition, the database included 203,780 ft of drilling in 304 holes. The database was audited for data entry and found to be in good condition with only a few insignificant errors found..

Most of Hecla's check assay data was prepared by the same lab. More check assaying by independent labs should be completed. Lac Minerals' check assay data on the other hand, though poorly documented, was sent to several labs including Bondar Clegg, Chemex, Barringer, and SGS, all of Reno, Nevada. The results of all the check assay data show good correlation, similarity in means, and are reproduceable. However, essentially all the check assays were run on sample pulps. Analytical results were done by fire assay, cyanide leach, and cyanide leach with a tails assay.

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Hecla performed 959 specific gravity measurements from core samples. Of these, 107 had grades of over 0.05 oz Au/ton and 59 had grades over 0.1 oz Au/ton. The latter had a mean of 2.40 g/cm^3 (13.33 ft^3/ton). One minor caveat to this study is that during sample selection, there may have been a tendency towards measuring non-vuggy and clay-poor samples to obtain more accurate measurements. More work is planned on the density of the Rosebud ore and should concentrate on mineralization in clay-rich zones and fault zones. If open pit mining becomes a potential, it is suggested that density measurements be studied on a unit by unit basis in order to classify waste accordingly. It is interesting to note though that the North and East zones have slightly higher specific gravities than the South. This was anticipated by the Hecla geologic staff as the North and East are more silicified. The densities used for this study were 2.39 g/cm^3 (13.4 ft^3/ton) for domains 1, 2, 3, and 4 and 2.48 g/cm^3 (12.9 ft^3/ton) for domains 5, 6, 7, 8, and 11.

Hecla had over 1,000 samples analyzed for cyanide soluble gold. These samples cover essentially all ore-grade intervals, internal dilution, and a portion of the lower grade halo. Data is incomplete for this analysis though preliminary results show a good correlation and recovery between the original fire assays and the cyanide shake tests.

No. Samples	CNAu (oz Au/t)	FAAu (oz Au/t)	CNAu/FAAu (%)	CNAu/Cal'd Au (%)
711	0.392	0.439	89	97

Because of the results of this study, a separate metallurgical model was not considered necessary though a silver model should be built for planning purposes to allow for increasing amounts of silver relative to the gold. The data should be plotted on the sections to verify that a metallurgical model is not necessary.

For the January, 1995 resource estimate, Hecla based their estimate on fundamental geology and mineral domains in which they performed ordinary kriging. First, Hecla staff placed all the geology on 1 in. = 50 ft sections and performed their interpretations; this included formational units, faults, structures and some alteration. Then Hecla performed statistical studies on the database in order to identify specific mineral domains that correlated with the geology. The breaks used in modelling were 0.01, 0.05, 0.25, and 0.60 oz Au/ton. The 0.60 oz Au/ton boundary was vague and not well-defined but was used to control the possibility of overestimating the high-grades. It became apparent that the gold distribution was intimately associated with lithologic and structural controls. In fact, previously unrecognized structures have been found.

Following the cross sectional geologic and mineral boundary definitions, the mineral boundaries were digitized and sliced onto 10 ft benches. Bench plots of all the boundaries' pierce points and drill hole pierce points were made. The model was redefined on plan and redigitized. After digitizing, the model was compared to composite assays and mineral domain codes. As a check, the total volumes of the cross sectional polygons of the model were very similar to the plan polygons of the model. There was no bias introduced during slicing and rebuilding except in domain 11 where the geology is poorly understood and the data is sparse.

Variography was completed on each domain individually and, when pertinent or necessitated by the limited number of samples, together if they were similar style mineralization. Numerous runs were made on the variography attempting to optimize the semivariogram model. It is interesting to note that the predominant direction of the low-grade domains was azimuth 150^0 and dip -30^0, very close to the plunge of the stratabound mineralization. Though no anisotropy was found in the higher-grade domains, a weight-ing anisotropy paralleling the structural grain was placed on the estimation.

The estimation methods used were all ordinary kriging. The number of samples used for estimation was kept to a minimum to better honor local grades; this was a maximum of 5 and a minimum of either 1 or 2 depending on the domain. The range projection of the high-grade outliers was limited to 75% or 50%, depending on the domain. The following table describes the estimating parameters.

Domain	Method	No. Smpls.		Search	Cut Grade/Range[1]
		Max.	Min.		(oz Au/t ft)
1	Ordinary Kriging	2	5	132	0.05-100
2	Ordinary Kriging	1	5	96	0.25-72
3	Ordinary Kriging	1	5	100	0.60-75
4	Ordinary Kriging	1	5	90	2.0-45
5	Ordinary Kriging	2	5	200	0.05-150
6	Ordinary Kriging	1	5	80	0.25-60
7	Ordinary Kriging	1	5	100	0.60-75
8	Ordinary Kriging	1	5	90	2.0-45
11	Ordinary Kriging	2	5	75	0.15-56

At grades (oz Au/ton) over those listed, the search range (ft) was decreased to those listed.

During estimation, the number of composites was saved and used for classification of the resource into Measured and Indicated. Any block with one or two samples used for estimation was considered Indicated. Any block with three or more composites used in estimation was considered Measured. No more than 2 samples could come from any one hole. The exception is domain 11 which lies above the SRF and is poorly understood geologically; all domain 11 material is classified as Indicated to better reflect the level of understanding. All material lying within the mineral domains that was too far from the required minimum number of points is considered Inferred. The definitions are described in the Introduction under Terms of Reference.

The final Measured, Indicated, and Inferred resource estimate, which includes no economic parameters or dilution, is listed below. The Inferred material grade was calculated from the distribution of grades in the Measured and Indicated categories. MDA feels confident that the Inferred material will become measured or indicated during further development. A cross sectional polygonal estimate was completed by Hecla and correlated well with the kriged model.

Measured

Cutoff (oz Au/t)	Tons	Grade (oz Au/t)	Ounces Au
0.01	11,745,244	0.063	740,425
0.10	1,068,726	0.433	462,796

Indicated

Cutoff (oz Au/t)	Tons	Grade (oz Au/t)	Ounces Au
0.01	1,707,089	0.088	151,035
0.10	358,163	0.320	114,784

Total Measured and Indicated

Cutoff (oz Au/t)	Tons	Au Grade (oz Au/t)	Ounces Au	Ag Grade (oz Ag/t)	Ounces Ag*
0.01	13,452,333	0.066	891,460	0.797	10,721,509
0.10	1,426,889	0.405	577,579	2.496	3,561,515

Inferred

Cutoff (oz Au/t)	Tons	Au Grade (oz Au/t)	Ounces Au	Ag Grade (oz Ag/t)	Ounces Ag
0.01	758,293	0.056	42,791	0.797	604,360
0.10	75,424	0.350	26,430	2.496	188,258

*See note in Section 6.3, Table 6.6.

MDA was involved through much of the process of the definition of the resource at Rosebud with Hecla. MDA found that the caliber of work from sample preparation, to data entry, to geologic mapping and sampling, to geologic modelling, and finally to computer estimation was done in a professional and technical fashion. The qualifications MDA has on the resouce are minimal and in general are mollified by circumstantial evidence explained in the body of this report. These qualifications include:

- The lack of many independent lab analyses for check assaying on sample rejects.
- The lack of metallic check assays to evaluate for coarse gold and the nugget effect.
- The lack of a silver model.
- The lack of a thorough understanding of the geology by domain.
- The lack of many specific gravity tests in the North and East Zones and the tendency to test those samples that were easy to measure, eg., low clay content and few vugs.

- The use of some of the analytical data derived from wet reverse circulation drilling by LAC without sample integrity evaluations.

The confidence in the resource estimate is high because of the high caliber of work and the amount of effort completed to get to this point. The budget and program allowed for studies that are both necessary, in fact critical to any sound resource estimate, are generally above industry standards. MDA found that whenever a potential problem was recognized, Hecla performed due diligence to understand it and consider it in the evaluation process.

SECTION II

2.0 INTRODUCTION

Mine Development Associates (MDA) was asked by Hecla Mining Company (Hecla) to review and perform an audit of the Rosebud Project gold and silver resource, Pershing County, Nevada. For this assesment, MDA reviewed on an intermittent basis the data collection and geology during the second half of 1994 and then reviewed on an ongoing basis the resource estimation procedures and results. The work was principally done through Charlie Muerhoff though there was also significant interaction with all the Rosebud staff and Hecla's technical services staff. MDA's relationship to Hecla Mining is that of client\consultant and MDA has no interest in either shares of Hecla or in the Rosebud Property.

Classification of resources used in this report are categorized according to the following conventions: measured, indicated, and inferred. Measured material includes those tons that are sufficiently close to sample points within defined mineralized units such that no doubt of their existence in either grade, tonnage or location exists. Indicated tons are those tons for which certainty of either grade or tonnage or location is less definitive and some doubt, albeit small, exists. Inferred tons are those tons that lie within the defined mineral boundaries which have sufficient supporting information to be delineated but whose grade cannot be estimated accurately due to the lack of proximal assay data. Once economic parameters are placed on the resource, which has not yet been done and therefore not considered in this report, then those measured and indicated categories become proven and probable reserves, respectively, if they are economically minable.

All units of measure are Imperial unless otherwise noted.

SECTION III

3.0 GEOLOGY

Much of this review of the geology was taken from Hecla and Lac Minerals documents and oral communication with the Hecla staff but principally from Charlie Muerhoff, Project Manager. The Rosebud deposits are low-temperature, quartz-sericite, epithermal deposits hosted primarily in a series of Tertiary volcanics and volcaniclastics, Kamma Mountain volcanoes. Basement in the area is the Jurassic-Triassic Auld Lang Syne group of eugeosynclinal sedimentary rocks. Outcrop is represented only by a silicified fault zone with traces of low-grades of gold and associated epithermal metal association. Two principal structures dominate the area: the Rosebud shear zone and the South Ridge fault. The Rosebud shear is a northeast-trending regional fault zone with an estimated 1,700 to 2,500 ft of left lateral offset, in addition to several hundred feet of normal displacement. The South Ridge fault is located in the footwall of the Rosebud Shear and is an arcuate, listric normal fault. The Rosebud deposits exist in four spatially and geologically slightly-different zones: the South, North, East, and Far East zones.

Precious metal mineralization is controlled by both structure and lithology and is represented as both stockwork and disseminated mineralization. There appear to be two periods of mineralization. The first is dominated by quartz, pyrite, marcasite, chalcopyrite and has replacements of pyrite and traces of arsenopyrite, sphalerite, and galena. This phase is found in stockwork and has a significant component of associated disseminated mineralization. A second stage is dominated by calcite, silver sulfosalts, silver sulfides, selenides and silver-rich electrum.

Recent petrographic and metallurgical studies indicate two distinct populations of gold and electrum grain sizes. The majority of the small sized gold (10 microns) is interpreted to represent the disseminated, and stratabound gold mineralization. The larger grain size fraction (350 micron average and up to 800 microns) appears to represent the stockwork and structurally-controlled mineral occurrence. Visible gold was seen only a dozen times in spite of the detailed logging and when the visible gold was found it was very fine grained. The overall silver to gold ratio is variable but close to 10:1. Kaolinite without associated mineralization post-dates all the periods of mineralization.

The South Zone is located entirely in the hanging wall of the South Ridge fault. The stratabound portion of the ore zone plunges to the north-northeast, dips to the southeast, and contains a vaguely defined high-angle, northeast-trending, high-grade structure which is chimney-like in shape.

The North zone is located down-plunge to the northeast from the South Zone along the same trend and is the deepest portion of the overall deposit. It is considered part of the same deposit. Mineralization in the North Zone is contained in both the upper and lower plates of the South Ridge fault. In the hanging wall, the host rocks are similar to the South zone stratigraphy, but unlike the South Zone, the mineralization is always associated with pervasive silicification. In the footwall of the South Ridge fault, high-grade mineralization is locally contained within the Tertiary volcanic package and within a carbon-rich, volcaniclastic unit of probable Tertiary age.

The East Zone occurs within and around the South Ridge fault itself as disseminated stratabound mineralization, structurally-controlled mineralization and in the footwall of the fault. Most of the mineralization occurs in the Tertiary volcanic package. But it also occurs in both the Auld Lang Syne Group which in itself is a good exploration target. As a result of the recent resource study, it was found that the East zone has two principal components of mineralization: a northeast-trending zone and a northwest-trending zone. The northwest-trending zone has potential to expand the known mineralization of the area as it was previously unrecognized. It lies along a structure that had been previously only hypothesized. The Rosebud Far East Zone is still in the early stages of development and is not considered in this evaluation.

SECTION IV

4.0 DATABASE REVIEW

Since acquisition in 1993, Hecla has performed underground drifting, underground drilling, and surface drilling along with the associated geologic, assay, metallurgical, geotechnical and pre-production information gathering. Total drifted footage is just under 3,000 ft while total drilling is about 56,934 ft. The main decline was driven principally for drill access and for crosscutting the high-grade portion of the deposit. Prior to Hecla's acquisition the database included 203,780 ft of drilling in 304 holes.

In general, Hecla has been diligent in data collection. All the data is well catalogued, organized and documented. Hecla has gathered enough pertinate information to accurately evaluate the deposit.

An audit of the database was made. A total of over 900 samples was checked for accuracy in data posting. Of these, three errors were found in Hecla's database in one hole and these were consequently edited. Numerous small differences in the Lac database were found, however; as none were found to be significant. It is assumed that their database represents the average of two or more check assays (as does Hecla's in many cases) when they were available, but this was not documented and could not be reconstructed given the available data. Over 15 holes were checked for proper survey coordinate entry and no errors were found. One hole was found to be misplotted on the cross sections and this error was corrected. MDA concludes that the database used in the resource calculation is in good condition and fairly reflects the gold and silver distribution in the ground. In fact, Hecla has taken above industry-standard care in collecting and analyzing their data.

Drilling done by Hecla was performed both from the surface and underground. The surface holes were pre-collared with reverse circulation (RVC) drill holes to about 500 ft. Diamond drilling followed through the ore zone (using a UDR 650 drill or Longyear 38) except in the South Zone where essentially all the surface drill holes were core holes (Longyear 38). The RVC holes were 5 1/2 in. in diameter and the core was all HQ. Underground drilling was done by Hagby On-Ram 1000 core rigs and drilled either NDBGM or NQ size core. All the underground drilling was core. MDA spot checked core recovery and found that in 55 samples with over 428 ft of "ore-grade" material the recovery averaged 94%. Almost all Hecla holes were downhole surveyed and most of Lac Minerals' holes were downhole surveyed. A summary of the Rosebud database is given in Table 4.

Table 4.1 Rosebud Database

Operator	Type Sample	No. Holes	No. of Feet
LAC Minerals[1]	Drilling: RVC and core	304	203,780
Hecla Mining	Drilling: RVC and core	130	56,934
Hecla Mining	Underground Channel	n/a	211

[1] Includes 10 holes drilled by Freeport Exploration in about 1980 and several water well holes

A total of 211 rib samples were taken in the decline and crosscut and entered into the database for resource calculation. The crosscut intercepts the high-grade "chimney". Sampling in the decline, which was generally unmineralized, was done with vertical channels of less than 10 ft. In the crosscut, sub-horizontal channel samples, muck samples, and face samples were taken. It was found that the face samples were generally higher-grade than the channel samples which in turn were higher-grade than the muck samples. The face and muck samples were not used in the resource estimation. The channel samples were taken across structures by the geologic staff. Channel samples from both the ribs of the cross cut were used individually in the database while the channel samples from the decline were composited from across the drift and entered as single samples. All these samples were entered as drill holes; one for each rib on the crosscut and one down the center of the decline with samples from each rib composited into one.

All the diamond drill core was logged for geology and photographed. About one half of the diamond drill core was logged for geotechnical characteristics. Both were done professionally and with high-standards. There was consistency in the logging as much of it was done by one individual. The core was then sampled based on geologic breaks - though sample lengths of about 5 ft were maintained - and sent in its entirety to American Assay Labs in Sparks, Nevada. At the lab, the entire sample of up to 35 lbs was dried and crushed in a jaw crusher to about 6 to 8 mesh. Then the sample was pulverized, again in its entirety, in a Keegor mill to about -60 mesh. A 2 1/5 lb split was taken and spin pulverized to 100% passing -80 mesh. Then a 0.5 lb split was taken and pulverized to -120 to -150 mesh in a ring pulverizer. The gold and silver assaying was done with two assay ton samples with atomic absorbtion finish. All samples assaying over 0.05 oz Au/ton were reassayed and finished gravimetrically. These check assays along with all internal lab checks were used in the database and averaged to derive the final assay.

A second set of check assays was taken from the coarse rejects of the above samples and sent to a different lab for analysis. The results have not yet been received. The entire coarse reject was pulverized to -40 to -60 mesh, riffle split to a minimum of 2 lbs to -80 mesh. The sample was then screened through a -120 mesh screen and a two assay ton sample was taken to -120 mesh fraction and the entire plus -120 mesh fraction was assayed. The two values were mathematically recombined for a total gold content.

Most of Hecla's check assay data was prepared by the same lab except the metallic screen data listed above. More check assaying by independent labs should be completed. Lac Minerals' check assay data on the other hand was poorly documented, but was sent to several labs including Bondar Clegg, Chemex, Barringer, and SGS, all of Reno, Nevada. The results of all the check assay data are given in Table 4.2. All the means were within 5% of each other. Essentially all the check assays were run on sample pulps.

Table 4.2 Check Assay Data

	r	n
Au^1-AuG	0.981	1038
Au^1-Au^3	0.931	738
Au^1-Au^2	0.968	4924

Cyanide soluble gold, silver, and copper analyses were performed on about 1,100 samples. The procedure was to add about the equivalent of 6 lbs per short ton of lime to the sample to maintain a pH target of 10.8 to 11.2; slurry the solids and add cyanide solution of 0.3% initially; agitate the sample for 48 hours at ambient temperature and report soluble gold, silver, and copper along with cyanide consumption. The distribution of recoveries forms a good normal distribution centered on 100% recovery and shows only a few low recovery outliers of less than 20%. The correlation between calculated head and cyanide recovery is 1 with the average grades of 0.403 and 0.313 oz Au/ton, respectively. Upon reviewing the locations of the few samples with anomalously low recoveries, it became apparent that the majority of these samples were from the East and North zones. They occur in areas of pervasive silicification and/or with late-occurring stibnite. Hecla feels that the fine-grained gold fraction (10 micron) is predominant in portions of the North and East zones and may be encapsulated locally in silica and not well-liberated at the final sample preparation stage (-120 to 150 mesh). In the case of occurrence with antimony, the cyanide preferentially dissolves the antimony. The average recovered copper grade from the cyanide leach is 0.233 oz/ton.

A statistical analysis of the database was made. It was analyzed in total and in separate groups defined by location: South Zone, North Zone, and East Zone. A statistical summary of the database is given in Table 4.3. The silver to gold ratio fluctuates little from zone to zone, staying near 10.

Table 4.3 Statistical Review of the Rosebud Sample Database (weighted averages)

Zone	No.	Max[1]	Mean	St. Dev.	CV	No.	Max[1]	Mean	St. Dev.	CV	MAg/MAu[2]
		oz Au/ton					oz Ag/ton				
All	38876	13.77	0.017	0.116	6.824	36960	88.00	0.18	1.48	8.22	10.6
South	21182	13.77	0.029	0.238	8.207	19730	88.00	0.26	1.93	7.34	9.0
North	8732	843	0.009	0.056	6.222	8268	73.03	0.12	1.02	8.50	13.3
East	8962	5.071	0.013	0.101	7.769	8962	72.71	0.16	1.50	9.38	12.3

1 The minimum values for all assays are 0.0 for undetected.
2 Mean Ag divided by mean Au

A plot showing the relationship between gold and silver indicates that there are two different populations: a relatively high-grade silver and a relatively low-grade silver compared to gold. This is reflected in the geology where there seems to be a late period of high-grade silver mineralization associated in veinlets. A high-grade population of silver lies in the upper tabular zone in the South Zone and is poorly understood. Silver grades are also generally higher in the East and North zones.

Hecla performed 959 specific gravity measurements from core samples. Of these, 107 had grades of over 0.05 oz Au/ton and 59 had grades over 0.1 oz Au/ton. The latter had a mean of 2.40 g/cm^3 (13.33 ft^3/ton). The results, broken down by zone are given in Table 4.4. One minor caveat to this study is that during sample selection, there may have been a tendency toward measuring non-vuggy and clay-poor samples to obtain more accurate measurements. More work is planned on the density of the Rosebud ore and should concentrate on mineralization in clay-rich zones and fault zones. If open pit mining becomes a potential it is suggested that density measurements be studied on a unit by unit basis in order to classify waste accordingly. It is interesting to note though that the North and East Zones have slightly higher specific gravities than the South (Table 4.4). This was anticipated by the Hecla geologic staff as the North and East are more silicified. The densities used for this study were 2.39 g/cm^3 (13.4 ft^3/ton) for zones 1, 2, 3, and 4 and 2.48 g/cm^3 (12.9 ft^3/ton) for zones 5, 6, 7, 8, and 11.

Table 4.4 Specific Gravity

	All			>0.05 oz Au/ton		
Zone	Number	Mean g/cm^3	2XSt. Dev. g/cm^3	Number	Mean g/cm^3	2XSt. Dev. g/cm^3
South	480	2.40	0.18	78	2.39	0.22
North	127	2.47	0.25	8	2.48	0.20
East	352	2.45	0.20	21	2.49	0.17

Though the majority of the samples was taken from weakly or unmineralized rock, a sufficient number of samples were taken from the mineralized material (109 over 0.05 oz Au/ton) to yield confidence in the specific gravity study and results. The very low standard deviations - essentially all the samples lie within 10% of the mean - suggest that there is little need to separate different domains by density. These numbers corroborate the results obtained by previous operators at Rosebud. The few anomalously low specific gravity measurement results were located and plotted on cross sections and it was found that they generally correspond to a vitrophyric member of the LBT unit in the South Zone and to an unusually intensely argillized zone within the Dozer tuff of the footwall of the South Ridge Fault in the East Zone, or were from the rare error in measurement or calculation. All these samples were used in the density determinations. The anomalously high-density results were almost exclusively due to silicification. There is no significant correlation in grade versus specific gravity.

SECTION V

5.0 METALLURGY

Hecla had over 1,000 samples analyzed for cyanide soluble gold. These samples cover essentially all ore-grade intervals, internal dilution, and a portion of the lower grade halo. The samples came from the 1994 drilling. Sample preparation was the same as for the fire assay procedures. Sixty gram (two assay ton) pulps (-150 mesh) were agitated leached at ambient temperature for 48 hours. Initial conditions were 40% solids, 6 lbs/ton lime, and 0.3% sodium cyanide concentration. At the conclusion of leaching, samples were centrifuged and the solution was analyzed for gold, silver, copper and sodium cyanide consumption. The cyanide soluble gold was analyzed and the residues were analyzed. Data is incomplete for this analysis though preliminary results show a good correlation between the original fire assays and the cyanide shake tests. The statistics on the results are given in Table 5.1. Because of the results of this study, a separate metallurgical model was not considered necessary though a silver model should be built for planning purposes to allow for increasing amounts of silver relative to the gold. The data should be plotted on the sections to verify that a metallurgical model is not necessary.

Table 5.1 Statistics on the Cyanide Recoveries

No. Samples	CNAu (oz Au/t)	FAAu (oz Au/t)	CNAu/FAAu (%)	Calc'd Au (oz Au/t)	CNAu/Calc'd Au (%)
711	0.392	0.439	89	0.403	97

There was concern about the existence of organic material possibly being preg-robbing. Carbonaceous-matrix breccia and carbon on fracture surfaces commonly occur with ore-grade values in a portion of the stratabound mineralization in the southern half of the South Zone. Preliminary bottle roll tests indicate the carbon does not have a detrimental effect on the gold and silver recoveries. In summary, the existing data suggests that the metallurgical component of the resource model is not necessary to build as the cyanide recoveries are consistently high and do not vary on a consistent basis. It may be prudent to apply a different recovery factor to the East and North Zones as the silicification, as previously noted, does play a role locally in possible encapsulation.

SECTION VI

6.0 RESOURCE

6.1 Background

Previous resource estimates have been conducted (Table 6.1). The Hecla, Equinox, and Lac estimates were effectively polygonal estimates; Mineral Resource Associates (MRA) performed an outlier restricted kriged estimate.

Table 6.1 Previous Resource Estimates

Source	Tons (X1000)	Oz Au/ton	Ounces Au	Comments
MRA	1,984	0.258	512,000	Restricted Outlier Krige
Hecla	1,928	0.377	727,000	Plan Polygonal
Equinox	1,800	0.321	578,000	Cross Sectional Polygonal
Lac	1,300	0.363	472,000	Cross Sectional Polygonal

6.2 Methodology

For the January, 1995 resource estimate, Hecla based their estimate on fundamental geology and mineral domains in which they performed ordinary kriging. First, Hecla staff placed all the geology on 1 in. = 50 ft sections and performed their interpretations; this included formational units, faults, structures and some alteration. Continuity was mandated throughout the sections. Then Hecla performed statistical studies on the database in order to identify specific mineral domains that correlated with the geology. The breaks used in modelling were 0.01, 0.05, 0.25, and 0.60 oz Au/ton and these are described in Table 6.2. The 0.60 oz Au/ton boundary was vague and not well-defined but was used to control the possibility of overestimating the high-grades. These grade boundaries were generally consistent throughout the three deposits with some failings in the East Zone. A second set of sections was used for plotting these grade boundaries and these were used in conjunction with the geology. These grade boundaries were defined with classical statistics and were modelled with the benefit of detailed geology.

Table 6.2 Mineral Domains

Domain	Grade oz Au/ton	Geologic Description[1]
1	0.01 - 0.05	Halo of disseminated mineralization (mzn) in the hanging wall of the South Ridge Fault (SRF)
2	0.05 - 0.25	Structurally- and lithologically-controlled mzn in the hanging wall of the SRF
3	0.25 - 0.60	Restricted structurally- and lithologic-controlled mineralization in hanging wall of the SRF
4	>0.60	Predominantly structurally-controlled mineralization in hanging wall of SRF
5	0.01 - 0.05	Halo of disseminated mineralization in the hanging wall and footwall of the SRF
6	0.05 - 0.25	Structurally- and lithologically-controlled mzn in the hanging wall and footwall of the SRF
7	0.25 - 0.60	Restricted structurally- and lithologic-controlled mzn in hanging wall and footwall of SRF
8	>0.60	Predominantly structurally-controlled mineralization in hanging wall and footwall of SRF
9	n/a	Quaternary Alluvium; segregated for open pit optimizations
10	<0.01	Unmineralized rock[2]; preliminary suggestions are that this unit need not, or presently cannot, be segregated for specific gravity or geotechnical reasons. Mineralization can occur but is not considered in the resource (10) if there is no continuity.
11	>0.01	Mineralization in the hanging wall of the SRF; spatially separate and poorly understood geologically. None of this material is placed in the Measured category.

1 Increase in grades implies an increase in any one of argillization, silicification, pyritization, fracturing, rebrecciation, and/or the existence of organic carbon.
2 Preliminary data suggests that this unit need not, or cannot, be segregated for specific gravity or geotechnical reasons.

It became apparent that the gold distribution was intimately associated with lithologic and structural controls. First, there is a large halo of low-grade material surrounding the higher-grade material which takes on the geometries of the high-grade mineralization. The higher-grade mineralization is broken down into essentially three types: tabular or stratabound, structural or controlled by a wrench fault, and post-mineral controlled by the South Ridge fault. It appears that these grade boundaries are not well-understood geologically except in certain instances. For example, in the North and East zones, the 0.05 oz Au/ton boundary is often coincident with silicification. Higher-grades are associated with more intense deformation or lithologic permeability. Contacts of each domain are usually difficult to pinpoint. Detailed petrographic studies will shed some insight on the specific controls of mineralization and geologic manifestations of the mineral domains. It is recommended that this be done. For example, it is thought that increased grades are related to increases in argillization, silicification, pyritization, fracturing, rebrecciation, and the existence of organic carbon. Gradational mineral boundaries do exist in scales of less than 10 ft and these boundaries were placed on the model through geologic interpretations and mineral zoning. The mineral domains used in the model are both necessary and real though as of yet not completely understood geologically. The domains do form a spatially predictable, geologically logical, and, MDA feels, conservative estimate of grade distribution in the three presently-defined Rosebud zones: East, North, and South.

Further, these zones are conservative in the inferred category principally because external drilling is insufficient to define extensions to existing geologically-favorable zones and locate new ones. The assessment of the high-grade material is fair because of the strict hard boundaries placed on them. One possible exception is the chimney area in the South Zone which, because of its high-grade nature, should have conservative limits placed on it. MDA feels that the existing limits are fair, though maybe not conservative. The chimney is well-defined by the exploration drift and several holes. There is no question of its existence though the locations of its contacts are not definitively delineated in a few places.

The zones match up well with the underlying geology. In the South Zone there is structurally-controlled and stratigraphically-controlled mineralization in the hanging wall of the South Ridge Fault (SRF). These controls are northeast-trending, high-angle, and west-dipping. This mineralization is intimately associated with several pre-South Ridge Fault faults which probably controlled its location. The stratabound mineralization is controlled by a medium-grained, laminated, argillized waterlain (?) tuff and a matrix-supported argillized tuff breccia. It is found in up to two spatially separate units which plunge northeasterly into the North zone. The North zone appears to be the downdip extension of the stratabound mineralization in the South Zone but there is also a component of structural-control. The intersection of the two zones - structural and stratabound - forms a north-northeast rake with a moderate north plunge. Not coincidentally, this was often the major direction in the variography.

In the East Zone, high-grade mineralization is found generally within the SRF and in the immediate footwall. It is associated with pervasive silica replacement of the host rock. Stibnite often occurs in the immediate hanging wall of the high-grade material and in the upper portions of the high-grade zones. The mineralization is not confined to the SRF which trends generally northeast. A second structure trends west-northwest which controls mineralization and is also an exploration target.

In the North zone, there appears to be a combination of South and East zone mineralization styles. The structures and stratigraphic controls of the South zone persist down plunge into the North zone. Silica flooding of the host rock occurs as does stibnite near the hanging wall of the ore grade material. There are a few high grade intercepts in the South Ridge Fault zone itself and in the carbonaceous Tertiary sediments and basement metasediments in the footwall of the fault.

Silver models were not built. Though it was shown that two populations exist, one with a relatively high-grade of gold and one with lower-grade, a silver model was not made. It was found that the domains built for gold contained increasingly higher grades of silver but the silver had greater variance for each domain. For this estimate, the gold model was also used for controlling the silver grades and will produce a fair estimate of the in-place silver resource, but local variations and distributions will not be as accurate as for gold. Within some gold domains there is apparently mixing of silver domains and geologically it is apparent that a late silver mineralization phase exists. This is based on classical statistics, histograms and scatterplots of gold to silver. It is recommended that a silver model be completed to fine-tune the silver resource estimate of distribution and for planning and metallurgical considerations.

In summary, further breakdowns may prove to be necessary for economic reasons. In particular, zones of higher clay should be studied for modelling/segregation for milling and possibly density considerations. Antimony may also need modelling and the previously mentioned silver model.

The cross sections previously described were used to define mineral domain codes in the assay database. A program was run that assigned the code of the cross sectional polygon to the composite. This database was composited to a maximum of 10 ft honoring the mineral boundaries. Statistics were run on the composite database (Table 6.3).

Table 6.3 Length-Weighted Composite Statistics

Gold (oz/ton)

Domain	Number,	Mean	Std.Dev.	CV[1]	Min	Max
1	1520	0.021	0.019	0.905	0.0	0.221
2	575	0.091	0.084	0.923	0.0	1.106
3	189	0.297	0.215	0.724	0.020	2.423
4	154	1.238	1.314	1.061	0.143	7.981
5	833	0.022	0.016	0.727	0.002	0.231
6	188	0.101	0.065	0.644	0.007	0.718
7	46	0.382	0.245	0.641	0.054	1.506
8	31	1.218	2.052	1.685	0.307	15.07
11	247	0.029	0.074	2.552	0.0	0.745

Silver (oz/ton)

Domain	Number,	Mean	Std.Dev.	CV[1]	Min	Max
1	1492	0.25	0.49	1.96	0.0	7.54
2	548	1.01	2.07	2.05	0.0	21.07
3	180	2.89	4.59	1.59	0.39	33.50
4	146	5.85	8.19	1.40	0.25	45.83
5	833	0.70	3.36	4.80	0.0	87.82
6	188	1.94	9.04	4.66	0.0	117.50
7	46	1.53	4.11	2.69	0.11	26.75
8	29	1.64	1.22	0.74	0.22	5.03
11	160	0.81	3.66	4.52	0.0	37.43

1 CV = Coefficient of Variation = Standard Deviation/Mean

Following the cross sectional geologic and mineral boundary definitions, the mineral boundaries were digitized and sliced onto 10 ft benches. Bench plots of all the boundaries' pierce points and drill hole pierce points were made. The model was redefined on plan and redigitized. After digitizing, the model was compared to composite assays and mineral domain codes. As a check, the total volumes of the cross sectional polygons of the model were very similar to the plan polygons of the model. There was no bias introduced during slicing and rebuilding except in domain 11 where the geology is poorly understood and the data is sparse. All of the domain 11 material was classified as Indicated.

Variography was completed on each domain individually and, when pertinent or necessitated by the limited number of samples, on mutiple domains if they had similar style mineralization. Numerous runs were made on the variography attempting to optimize the semivariogram model. It is interesting to note that the predominant direction of the low-grade zones was azimuth 150° and dip -30°, very close to the dip of the stratabound mineralization. Though no anisotropy was found in the higher-grade zones, anisotropy paralleling the structural grain was placed on the estimation.

Little effort was placed on optimizing the silver variography for two reasons: First it showed good models with long ranges, and second the silver model is not the final model for the resource base (additional modelling should be done). The final accepted semivariogram results are given in Table 6.4.

Table 6.4 Variography - From Covariograms

Gold

Domain	Nugget	Sill	Range	Azimuth	Dip	Tilt	Comments
1	0.00009	0.00012	132	150	-60	-30	Major
			118				Semi-Major
			58				Minor
2	0.00244	0.00046	96	150	-60	-30	Major
			75				Semimajor
			48				Minor
3,7	0.0119	0.00341	100	50	-60	0	Major
			50				Semimajor
			50				Minor
4,8	0.33759	0.0395	90	50	-60	0	Major
			45				Semimajor
			45				Minor
5	0.0001	0.00001	200	60	30	-60	Major
			135				Semimajor
			75				Minor
6	0.0022	0.00054	80				Spherical
11	0.00032	0.0001	75				Spherical

Silver

Domain	Nugget	Sill	Range	Azimuth	Dip	Tilt	Comments
1(Nested)	0.16595	0.07352	58				Spherical
		0.03797	313				Nested
2	3.15491	1.24843	134				Spherical
3,7	4.80598	4.63894	170				Spherical
4,8	7.4032	8.84014	35				Spherical
5	0.39947	0.20185	140				Spherical
6	14.90573	4.78211	65				Spherical
11	0.00475	0.00181	75				Spherical

The above range and geostatistical parameters were used for estimation. Cross validation was used to fine-tune the remaining estimation parameters (Table 6.5) from the composite database. It was found that the fine-tuning effort had little effect on the estimated means and standard deviations. As expected, the kriged estimate produced a low standard deviation relative to the composites, smoothing out the extremes. The estimated means for each domain were very close to the composite means within each domain. Length-weighting was used during estimation as composite lengths were variable. The mean composite length is 8.96 ft for all sample composites over 0.01 oz Au/ton with a standard deviation of 2.22 ft.

The estimation method used in all domains was ordinary kriging. Domain 6 was particularly difficult to model due in part to the low number of pairs. MDA is not overly concerned with this situation since the tight controls on these domains will control the estimation. The number of samples used for estimation was kept to a minimum to better honor local grade variations; this was a maximum of 5 and a minimum of either 1 or 2 depending on the domain (Table 6.5). As there are numerous similar-styled zones of mineralization (eg., silicified, disseminated, stockwork) that are distinctly separate spatially, and of similar grades, projection of these grades to other similar domains was reduced by this limiting of number of samples. Further, the search was allowed to be spherical in order to increase the chances of finding composites for estimation while the weighting was oriented to variography. The range projection of the high-grade outliers was limited to 75% or 50%, depending on the domain (Table 6.5).

During estimation, the number of composites was saved and used for classification of the resource into Measured and Indicated. Any block with one or two samples used for estimation was considered Indicated. Any block with three or more composites used in estimation was considered Measured. No more than 2 samples could come from any one hole. The exception is domain 11 which lies above the SRF and is poorly understood geologically; all domain 11 material is classified as Indicated to better reflect the level of understanding. All material lying within the mineral domains that was too far from the required minimum number of points is considered Inferred. The definitions are described in the Introduction under Terms of Reference.

Table 6.5 Estimation Parameters

Domain	Method	No. Smpls. Max.	No. Smpls. Min.	Search	Cut Grade/Range[1] (oz Au/t-ft)	Max Dist. for 1 Composite
1	Ordinary Kriging	2	5	132	0.05-100	100
2	Ordinary Kriging	1	5	96	0.25-72	72
3	Ordinary Kriging	1	5	100	0.60-75	75
4	Ordinary Kriging	1	5	90	2.0-45	45
5	Ordinary Kriging	2	5	200	0.05-150	150
6	Ordinary Kriging	1	5	80	0.25-60	60
7	Ordinary Kriging	1	5	100	0.60-75	75
8	Ordinary Kriging	1	5	90	2.0-45	45
11	Ordinary Kriging	2	5	75	0.15-56	56

[1] At grades (oz Au/ton) over those listed, the search range (ft) was decreased to those listed.

Block sizes of 10 ft x 10 ft x 10 ft were used for modelling. As the deposit is intricate and this block size would not be sufficiently detailed to reflect the metal distribution based solely on whether block centers were in or out of the resource, domain volumes were assigned to each block from the digitized bench domain boundaries. Thus each block has a grade value for each domain accompanied by a percentage from 0 to 100 representing the proportion of the block that is within that domain. Then during estimation, each domain's composites were used to estimate the appropriate values in any block. Following all the estimation passes, the average gold and silver grades per block was calculated from the weighted average of each domain grade and percent; no block with a percentage of 0 therefore would be tabulated. This more accurately reflects the true tonnages of each domain and also has the effect of making the boundaries more gradational, eg. on a scale of about ten feet which simulates actual mineral boundaries.

6.3 Resources

The final Measured, Indicated, and Inferred resource estimate, which includes no economic parameters or dilution, is summarized in Table 6.6 and a detailed listing is given in Appendix A. The Inferred material grade was approximated from the distribution of grades in the Measured and Indicated categories. MDA feels confident that the Inferred material will become measured or indicated during further development.

Table 6.6 Rosebud Resources

Measured

Cutoff (oz Au/t)	Tons	Grade (oz Au/t)	Ounces Au
0.01	11,745,244	0.063	740,425
0.10	1,068,726	0.433	462,796

Indicated

Cutoff (oz Au/t)	Tons	Grade (oz Au/t)	Ounces Au
0.01	1,707,089	0.088	151,035
0.10	358,163	0.320	114,784

Total Measured and Indicated

Cutoff (oz Au/t)	Tons	Au Grade (oz Au/t)	Ounces Au	Ag Grade (oz Ag/t)	Ounces Ag*
0.01	13,452,333	0.066	891,460	0.797	10,721,509
0.10	1,426,889	0.405	577,579	2.496	3,561,515

Inferred

Cutoff (oz Au/t)	Tons	Au Grade (oz Au/t)	Ounces Au	Ag Grade (oz Ag/t)	Ounces Ag
0.01	758,293	0.056	42,791	0.797	604,360
0.10	75,424	0.350	26,430	2.496	188,258

* Silver values were derived by averaging the silver grades in mineralized blocks where the gold grade was at or above the appropriate gold cutoff. Measured, Indicated, and Inferred silver resources were not calculated separately. Measured, Indicated, and Inferred silver classifications are based on the respective categorization of gold blocks. Because there were fewer silver composites the estimated silver tonnage was less than the estimated gold tonnage (about 1.6 million tons less). The silver grades were extrapolated over the additional material under the assumption that all mineralized blocks containing gold values above the given cutoffs would also contain silver. MDA

SECTION VII

7.0 CONCLUSIONS AND QUALIFICATIONS

MDA was involved through much of the process of the definition of the resource at Rosebud with Hecla. MDA found that the work from sample preparation, to data entry, to geologic mapping and sampling, to geologic modelling, and finally to computer estimation was done in a professional and technical fashion. The final resource estimation was done in the MDA office under the supervision of Hecla staff. The confidence in the resource estimate is high because of the high caliber of work and the amount of effort completed to get to this point. The budget and program allowed for studies to be completed that are both necessary, in fact critical to any sound resource estimate, and are generally above industry standards. MDA found that whenever a potential problem was recognized, Hecla performed due diligence to understand it and consider it in the evaluation process. This is in part portrayed by the large percentage of Measured material compared to Indicated.

The qualifications MDA has on the resource are minimal and in general are mollified by circumstantial evidence explained in the body of this report. These qualifications include:

- The lack of many independent lab analyses for check assaying on sample rejects. Ongoing metallic assays by an independent lab on close to 1,000 assays is in progress. The numerous types of analytical procedures (fire assay with atomic absorption finish, fire assay with gravimetric finish, and cyanide leach analyses), although completed by the same lab, show excellent correlation.

- The lack of metallic check assays to evaluate for coarse gold and the nugget effect. Metallic assaying is ongoing while reproduceability in the two-assay ton samples suggests that there may not be a great problem.

- The lack of a silver model. Hecla is planning to build a separate silver model which will better reflect the silver distribution which is in part not associated with the gold.

- The lack of a thorough understanding of the geology by domain. Though the increase in grades is related to increases in argillization, silicification, pyritization, fracturing, rebrecciation, and the existence of organic carbon, it is not well defined.

- The lack of many specific gravity tests in the North and East Zones and the tendency to test those samples that were easy to measure, eg., low clay content and few vugs. The low standard deviation of the sample testing results suggests that there probably is not a problem, the increase in clay content with grade in some areas puts a small bit of concern in the specific gravity used in this estimate though the correlation between grade and specific gravity is non-existent.

- The use of some of the analytical data derived from wet reverse circulation drilling by LAC without sample integrity evaluations. The reverse circulation samples are a minority in the database.

Recommendations on future work at Rosebud should include the following:

- If open pit mining becomes a viable option, it is suggested that density measurements be studied on a unit by unit basis in order to classify waste accordingly.

- Detailed petrographic studies will shed some insight on the specific controls of mineralization and geologic manifestations of the mineral domains.

- More work is planned on the density of the Rosebud ore and should concentrate on mineralization in clay-rich zones, fault zones and the North and East zones.

- The silver distribution should be studied to better model it as it will be important for planning estimation, and metallurgical reasons.

- All the cyanide leach data should be plotted on the sections to verify that a metallurgical model is not necessary.

- A full suite of geochemical analyses should be done in selected areas to better understand mineralization as well as be a guide for future exploration.

SECTION VIII

MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES
SURPAC MINING SYSTEMS

AUTHOR'S CERTIFICATE

I, Steven Ristorcelli, of Gardnerville, Nevada do hereby certify:

1. That I am employed at Mine Development Associates, a Consulting Engineering Firm, whose address is 230 South Rock Blvd., Suite 29, Reno, Nevada 89502.

2. That I am a Registered Professional Geologist in the states of California (#3964), Wyoming (#153) and South Carolina (#431).

3. That I am a graduate of Colorado State University (1977) with a Bachelor of Science degree in Geology and the University of New Mexico with a Masters of Science degree in Geology (1980) and that I have practiced my profession continuously for over 16 years.

4. That I have no material interest, direct or indirect, in the property discussed in this report or in the securities of Hecla Mining Company.

5. That I consent to the publication of this report dated January 27, 1995 entitled "Rosebud Resource Audit, Pershing County, Nevada" prepared by Mine Development Associates.

6. That I visited the Rosebud Project several times during 1994.

7. Mine Development Associates and its employees have prepared this report almost exclusively on the basis of information that has been provided by employees of Hecla Mining Company. Mine Development Associates and its employees do not accept liability to any organization or person for any damages whatsoever arising from the use of this document by such organization or person. This report has been prepared solely for the purpose of providing information and no representations or warranties of any kind are intended, implied or inferred.

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I, Neil Prenn, of Reno, Nevada do hereby certify:

1. That I am employed at Mine Development Associates, a Consulting Engineering Firm, whose address is 230 South Rock Blvd., Suite 29, Reno, Nevada 89502.

2. Than I am a Registered Professional Geologist in the state of Nevada.

3. That I am a graduate of Colorado School of Mines (1967) and that I have practiced my profession continuously for over 28 years.

4. That I have no material interest, direct or indirect, in the property discussed in this report or in the securities of Hecla Mining Company.

5. That I consent to the publication of this report dated January 27, 1995 entitled "Rosebud Resource Audit, Pershing County, Nevada" prepared by Mine Development Associates.

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I, Scott Hardy, of Reno, Nevada do hereby certify:

1. That I am employed at Mine Development Associates, a Consulting Engineering Firm, whose address is 230 South Rock Blvd., Suite 29, Reno, Nevada 89502.

2.. That I am a graduate of Oregon State University (1978) with a degree in Engineering and University of Wyoming (1984) with a degree in Geology and have been working continuously in this profession for 12 years.

3. That I have no material interest, direct or indirect, in the property discussed in this report or in the securities of Hecla Mining Company.

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APPENDIX A

DETAILED LISTING OF ROSEBUD RESOURCE

Domain 1

Cutoff	Measured			Indicated			Measured + Indicated			Inferred			Total		
	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	3,748,949	0.022	82,980	193,609	0.019	3,756	3,942,558	0.022	86,736	55,149	0.022	1,213	3,997,706	0.022	87,950
0.01	3,673,776	0.022	81,167	172,188	0.020	3,444	3,845,964	0.022	84,611	53,797	0.023	1,230	3,899,761	0.022	85,841
0.02	2,031,857	0.028	57,049	78,548	0.026	2,042	2,110,405	0.028	59,091	29,520	0.029	853	2,139,925	0.028	59,944
0.03	673,168	0.038	25,601	10,343	0.036	372	683,510	0.038	25,973	9,561	0.038	363	693,071	0.038	26,336
0.04	211,132	0.049	10,345	342	0.051	17	211,474	0.049	10,362	2,958	0.049	145	214,432	0.049	10,507
0.05	65,773	0.062	4,082	342	0.051	17	66,116	0.062	4,099	925	0.062	57	67,041	0.062	4,156
0.06	29,654	0.072	2,135				29,654	0.072	2,135	415	0.072	30	30,068	0.072	2,165
0.07	16,429	0.078	1,281				16,429	0.078	1,281	230	0.078	18	16,659	0.078	1,299
0.08	5,998	0.084	504				5,998	0.084	504	84	0.084	7	6,082	0.084	511
0.09	275	0.091	25				275	0.091	25	4	0.091	0	279	0.091	25

	Domain 2														
	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	876,736	0.093	81,512	71,024	0.080	5,682	947,760	0.092	87,194	4,945	0.092	455	952,705	0.092	87,649
0.01	876,736	0.093	81,512	71,024	0.080	5,682	947,760	0.092	87,194	4,945	0.092	455	952,705	0.092	87,649
0.02	876,663	0.093	81,784	63,561	0.089	5,657	940,224	0.093	87,441	4,906	0.093	455	945,130	0.093	87,896
0.03	874,600	0.093	81,461	61,503	0.091	5,597	936,103	0.093	87,058	4,884	0.093	453	940,987	0.093	87,511
0.04	863,042	0.094	81,247	60,325	0.092	5,550	923,367	0.094	86,797	4,818	0.094	452	928,185	0.094	87,249
0.05	833,262	0.096	79,786	51,854	0.100	5,185	885,115	0.096	84,971	4,618	0.096	444	889,734	0.096	85,415
0.06	772,355	0.099	76,362	50,615	0.101	5,112	822,969	0.099	81,474	4,294	0.099	426	827,263	0.099	81,899
0.07	652,637	0.105	68,574	46,873	0.104	4,875	699,510	0.105	73,449	3,650	0.106	386	703,160	0.105	73,835
0.08	544,800	0.112	60,835	30,479	0.118	3,596	575,279	0.112	64,431	3,002	0.112	337	578,280	0.112	64,768
0.09	425,630	0.120	50,929	24,511	0.126	3,088	450,141	0.120	54,017	2,349	0.119	280	452,489	0.120	54,297
0.10	303,115	0.129	39,080	21,595	0.130	2,807	324,709	0.129	41,887	1,694	0.129	219	326,403	0.129	42,106
0.11	209,182	0.141	29,449	20,420	0.132	2,695	229,602	0.140	32,144	1,198	0.140	168	230,800	0.140	32,312
0.12	133,928	0.156	20,885	15,315	0.137	2,098	149,243	0.154	22,983	779	0.153	119	150,022	0.154	23,103
0.13	92,046	0.170	15,611	7,743	0.149	1,154	99,789	0.168	16,765	521	0.168	88	100,309	0.168	16,852
0.14	60,592	0.188	11,404	3,851	0.168	647	64,442	0.187	12,051	336	0.187	63	64,779	0.187	12,114
0.15	38,726	0.212	8,225	1,541	0.202	311	40,268	0.212	8,537	210	0.213	45	40,478	0.212	8,581
0.16	30,646	0.228	7,000	1,149	0.217	249	31,795	0.228	7,249	166	0.228	38	31,960	0.228	7,287
0.17	22,570	0.252	5,680	1,149	0.217	249	23,718	0.250	5,930	124	0.249	31	23,842	0.250	5,960
0.18	17,641	0.272	4,805	1,149	0.217	249	18,790	0.269	5,054	98	0.269	26	18,888	0.269	5,081
0.19	14,522	0.291	4,232	1,149	0.217	249	15,671	0.286	4,482	82	0.286	23	15,752	0.286	4,505
0.20	13,930	0.296	4,123	674	0.231	156	14,604	0.293	4,279	76	0.293	22	14,681	0.293	4,301
0.21	12,880	0.304	3,910	674	0.231	156	13,554	0.300	4,066	71	0.299	21	13,625	0.300	4,087
0.22	10,992	0.319	3,505	101	0.335	34	11,092	0.319	3,538	58	0.318	18	11,150	0.319	3,557
0.23	9,001	0.339	3,052	26	0.649	17	9,027	0.340	3,069	47	0.340	16	9,074	0.340	3,085
0.24	7,943	0.353	2,804	26	0.649	17	7,969	0.354	2,821	42	0.355	15	8,010	0.354	2,836
0.25	7,512	0.360	2,704	26	0.649	17	7,538	0.361	2,721	39	0.361	14	7,578	0.361	2,736
0.26	7,250	0.364	2,639	26	0.649	17	7,276	0.365	2,656	38	0.365	14	7,314	0.365	2,669
0.27	7,213	0.364	2,625	26	0.649	17	7,239	0.365	2,642	38	0.365	14	7,277	0.365	2,656
0.28	7,213	0.364	2,625	26	0.649	17	7,239	0.365	2,642	38	0.365	14	7,277	0.365	2,656
0.29	7,100	0.365	2,591	26	0.649	17	7,127	0.366	2,608	37	0.366	14	7,164	0.366	2,622
0.30	7,059	0.366	2,583	26	0.649	17	7,085	0.367	2,600	37	0.367	14	7,122	0.367	2,614
0.31	6,738	0.369	2,486	26	0.649	17	6,764	0.370	2,503	35	0.370	13	6,799	0.370	2,516
0.32	6,464	0.371	2,397	26	0.649	17	6,490	0.372	2,414	34	0.372	13	6,524	0.372	2,427
0.33	6,369	0.372	2,368	26	0.649	17	6,395	0.373	2,385	33	0.373	12	6,428	0.373	2,398
0.34	6,092	0.374	2,277	26	0.649	17	6,118	0.375	2,294	32	0.374	12	6,150	0.375	2,306
0.35	5,495	0.377	2,070	26	0.649	17	5,521	0.378	2,087	29	0.378	11	5,550	0.378	2,098
0.36	5,012	0.379	1,898	26	0.649	17	5,039	0.380	1,915	26	0.380	10	5,065	0.380	1,925
0.37	3,684	0.383	1,411	26	0.649	17	3,710	0.385	1,428	19	0.386	7	3,729	0.385	1,436
0.38	1,702	0.394	671	26	0.649	17	1,728	0.398	688	9	0.398	4	1,737	0.398	691
0.39	895	0.403	361	26	0.649	17	921	0.410	378	5	0.410	2	926	0.410	380
0.40	466	0.411	191	26	0.649	17	492	0.424	208	3	0.424	1	494	0.424	210
0.41	164	0.425	70	26	0.649	17	190	0.456	87	1	0.456	0	191	0.456	87
0.42	90	0.438	39	26	0.649	17	116	0.486	56	1	0.486	0	116	0.486	56
0.43	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.44	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.45	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.46	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.47	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.48	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.49	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.50	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.51	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.52	15	0.529	8	26	0.649	17	41	0.605	25				41	0.605	25
0.53				26	0.649	17	26	0.649	17				26	0.649	17
0.54				26	0.649	17	26	0.649	17				26	0.649	17
0.55				26	0.649	17	26	0.649	17				26	0.649	17
0.56				26	0.649	17	26	0.649	17				26	0.649	17
0.57				26	0.649	17	26	0.649	17				26	0.649	17
0.58				26	0.649	17	26	0.649	17				26	0.649	17
0.59				26	0.649	17	26	0.649	17				26	0.649	17
0.58				26	0.649	17	26	0.649	17				26	0.649	17
0.59				26	0.649	17	26	0.649	17				26	0.649	17
0.60				26	0.649	17	26	0.649	17				26	0.649	17
0.61				26	0.649	17	26	0.649	17				26	0.649	17
0.62				26	0.649	17	26	0.649	17				26	0.649	17

Domain 3

Cutoff	Measured Tons	Measured Au op	Measured Ounces	Indicated Tons	Indicated Au op	Indicated Ounces	Measured + Indicated Tons	Measured + Indicated Au op	Measured + Indicated Ounces	Inferred Tons	Inferred Au op	Inferred Ounces	Total Tons	Total Au opt	Total Ounces
0.00	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.01	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.02	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.03	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.04	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.05	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.06	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.07	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.08	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.09	254,053	0.282	71,722	43,799	0.355	15,549	297,852	0.293	87,271	1,845	0.293	540	299,697	0.293	87,811
0.10	253,754	0.283	71,690	41,140	0.372	15,304	294,894	0.295	86,994	1,826	0.295	538	296,720	0.295	87,532
0.11	253,176	0.282	71,519	41,140	0.372	15,304	294,316	0.295	86,823	1,823	0.295	537	296,138	0.295	87,361
0.12	252,966	0.282	71,457	41,140	0.372	15,304	294,106	0.295	86,761	1,821	0.295	537	295,927	0.295	87,298
0.13	252,127	0.282	71,210	41,140	0.372	15,304	293,267	0.295	86,514	1,816	0.296	537	295,083	0.295	87,051
0.14	251,726	0.284	71,384	41,140	0.372	15,304	292,866	0.296	86,688	1,814	0.296	536	294,679	0.296	87,225
0.15	251,256	0.284	71,245	41,140	0.372	15,304	292,396	0.296	86,549	1,811	0.297	537	294,206	0.296	87,086
0.16	250,025	0.285	71,178	41,056	0.372	15,273	291,081	0.297	86,451	1,803	0.297	535	292,884	0.297	86,986
0.17	245,116	0.287	70,253	41,038	0.373	15,307	286,154	0.299	85,560	1,772	0.300	531	287,927	0.299	86,091
0.18	239,151	0.290	69,313	40,993	0.373	15,291	280,144	0.302	84,603	1,735	0.302	523	281,879	0.302	85,127
0.19	231,271	0.293	67,750	40,993	0.373	15,291	272,264	0.305	83,040	1,686	0.305	515	273,950	0.305	83,555
0.20	224,663	0.296	66,542	40,832	0.373	15,230	265,495	0.308	81,772	1,644	0.308	507	267,139	0.308	82,279
0.21	216,608	0.299	64,744	40,316	0.376	15,159	256,924	0.311	79,903	1,591	0.311	495	258,515	0.311	80,399
0.22	206,088	0.303	62,458	40,316	0.376	15,159	246,404	0.315	77,617	1,526	0.316	482	247,930	0.315	78,100
0.23	189,648	0.311	58,890	40,316	0.376	15,159	229,964	0.322	74,048	1,424	0.322	458	231,388	0.322	74,507
0.24	176,099	0.316	55,620	40,081	0.376	15,070	216,180	0.327	70,691	1,339	0.327	438	217,518	0.327	71,129
0.25	163,575	0.322	52,714	39,919	0.377	15,050	203,495	0.333	67,764	1,260	0.333	420	204,755	0.333	68,183
0.26	147,965	0.329	48,658	33,560	0.400	13,424	181,525	0.342	62,082	1,124	0.342	385	182,649	0.342	62,466
0.27	127,415	0.339	43,244	33,466	0.400	13,387	160,881	0.352	56,630	996	0.352	351	161,877	0.352	56,981
0.28	110,906	0.348	38,605	30,262	0.413	12,498	141,168	0.362	51,103	874	0.363	317	142,042	0.362	51,420
0.29	95,493	0.360	34,330	29,279	0.417	12,209	124,772	0.373	46,540	773	0.373	288	125,544	0.373	46,828
0.30	85,483	0.366	31,286	29,279	0.417	12,209	114,762	0.379	43,495	711	0.380	270	115,473	0.379	43,765
0.31	76,392	0.375	28,622	28,529	0.420	11,982	104,920	0.387	40,604	650	0.387	251	105,570	0.387	40,856
0.32	64,297	0.385	24,732	28,050	0.422	11,837	92,347	0.396	36,569	572	0.397	227	92,919	0.396	36,796
0.33	54,986	0.396	21,747	24,526	0.436	10,693	79,512	0.408	32,441	492	0.408	201	80,004	0.408	32,642
0.34	43,061	0.412	17,738	22,717	0.444	10,086	65,779	0.423	27,824	407	0.423	172	66,186	0.423	27,997
0.35	34,346	0.429	14,737	22,633	0.444	10,049	56,979	0.435	24,786	353	0.436	154	57,332	0.435	24,940
0.36	29,434	0.442	13,017	22,633	0.444	10,049	52,067	0.443	23,066	322	0.443	143	52,390	0.443	23,209
0.37	26,881	0.450	12,084	22,633	0.444	10,049	49,514	0.447	22,133	307	0.448	137	49,820	0.447	22,270
0.38	21,489	0.469	10,070	22,563	0.444	10,018	44,051	0.456	20,087	273	0.457	125	44,324	0.456	20,212
0.39	16,743	0.493	8,259	22,563	0.444	10,018	39,306	0.465	18,277	243	0.465	113	39,549	0.465	18,391
0.40	15,240	0.503	7,666	20,559	0.449	9,231	35,799	0.472	16,897	222	0.472	105	36,021	0.472	17,002
0.41	14,365	0.508	7,302	19,342	0.452	8,742	33,707	0.476	16,044	209	0.477	100	33,915	0.476	16,144
0.42	13,469	0.515	6,937	19,196	0.452	8,677	32,665	0.478	15,614	202	0.478	97	32,867	0.478	15,711
0.43	12,250	0.523	6,410	8,106	0.495	4,012	20,356	0.512	10,422	126	0.513	65	20,482	0.512	10,487
0.44	11,642	0.529	6,158	8,106	0.495	4,012	19,748	0.515	10,170	122	0.516	63	19,870	0.515	10,233
0.45	10,901	0.534	5,823	5,030	0.524	2,636	15,931	0.531	8,459	99	0.531	52	16,029	0.531	8,512
0.46	10,275	0.540	5,544	3,154	0.567	1,788	13,430	0.546	7,333	83	0.546	45	13,513	0.546	7,378
0.47	9,118	0.548	5,001	2,557	0.592	1,514	11,675	0.558	6,515	72	0.559	40	11,747	0.558	6,555
0.48	8,569	0.553	4,739	2,557	0.592	1,514	11,127	0.562	6,253	69	0.563	39	11,196	0.562	6,292
0.49	7,800	0.560	4,369	2,557	0.592	1,514	10,358	0.568	5,883	64	0.568	36	10,422	0.568	5,920
0.50	7,325	0.565	4,139	2,557	0.592	1,514	9,882	0.572	5,653	61	0.573	35	9,944	0.572	5,688
0.51	6,815	0.569	3,875	2,557	0.592	1,514	9,373	0.575	5,389	58	0.576	33	9,431	0.575	5,423
0.52	6,466	0.572	3,701	2,557	0.592	1,514	9,023	0.578	5,215	56	0.578	32	9,079	0.578	5,248
0.53	5,661	0.579	3,277	2,557	0.592	1,514	8,218	0.583	4,791	51	0.584	30	8,269	0.583	4,821
0.54	4,533	0.590	2,677	2,557	0.592	1,514	7,091	0.591	4,191	44	0.591	26	7,135	0.591	4,217
0.55	3,740	0.600	2,246	2,557	0.592	1,514	6,298	0.597	3,760	39	0.597	23	6,337	0.597	3,783
0.56	2,892	0.613	1,772	2,557	0.592	1,514	5,449	0.603	3,286	34	0.604	20	5,483	0.603	3,306
0.57	2,481	0.620	1,539	2,557	0.592	1,514	5,039	0.606	3,053	31	0.607	19	5,070	0.606	3,072
0.58	2,109	0.630	1,328	2,557	0.592	1,514	4,666	0.609	2,842	29	0.609	18	4,695	0.609	2,859
0.59	1,834	0.635	1,165	1,407	0.600	844	3,241	0.620	2,010	20	0.621	12	3,261	0.620	2,022
0.60	1,826	0.636	1,162	859	0.601	516	2,685	0.625	1,678	17	0.625	10	2,702	0.625	1,688
0.61	1,667	0.639	1,065				1,667	0.639	1,065	10	0.640	7	1,678	0.639	1,072
0.62	1,667	0.639	1,065				1,667	0.639	1,065	10	0.640	7	1,678	0.639	1,072
0.63	934	0.649	606				934	0.649	606	6	0.650	4	940	0.649	610
0.64	445	0.665	296				445	0.665	296	3	0.666	2	448	0.665	298
0.65	363	0.671	243				363	0.671	243	2	0.672	2	365	0.671	245
0.66	229	0.682	156				229	0.682	156	1	0.683	1	230	0.682	157
0.67	210	0.683	144				210	0.683	144	1	0.684	1	212	0.683	145
0.68	77	0.700	54				77	0.700	54				77	0.700	54
0.69	75	0.701	52				75	0.701	52				75	0.701	52
0.70	75	0.701	52				75	0.701	52				75	0.701	52

	Domain 4														
	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.01	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.02	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.03	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.04	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.05	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.06	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.07	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.08	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.09	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.10	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.11	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.12	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.13	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.14	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.15	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.16	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.17	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.18	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.19	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.20	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.21	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.22	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.23	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.24	193,703	1.241	240,377	39,886	0.802	31,989	233,590	1.166	272,365	3,305	1.163	3,845	236,895	1.166	276,211
0.25	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.26	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.27	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.28	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.29	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.30	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.31	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.32	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.33	193,629	1.241	240,289	39,886	0.802	31,989	233,515	1.166	272,278	3,304	1.163	3,844	236,819	1.166	276,122
0.34	193,554	1.242	240,436	39,886	0.802	31,989	233,440	1.167	272,425	3,303	1.164	3,845	236,744	1.167	276,270
0.35	193,554	1.242	240,436	39,886	0.802	31,989	233,440	1.167	272,425	3,303	1.164	3,845	236,744	1.167	276,270
0.36	193,554	1.242	240,436	39,886	0.802	31,989	233,440	1.167	272,425	3,303	1.164	3,845	236,744	1.167	276,270
0.37	193,479	1.242	240,349	39,886	0.802	31,989	233,366	1.167	272,338	3,302	1.164	3,844	236,668	1.167	276,182
0.38	193,330	1.242	240,175	39,886	0.802	31,989	233,217	1.167	272,164	3,300	1.165	3,844	236,517	1.167	276,008
0.39	193,330	1.242	240,175	39,886	0.802	31,989	233,217	1.167	272,164	3,300	1.165	3,844	236,517	1.167	276,008
0.40	193,330	1.242	240,175	39,886	0.802	31,989	233,217	1.167	272,164	3,300	1.165	3,844	236,517	1.167	276,008
0.41	193,330	1.242	240,175	39,886	0.802	31,989	233,217	1.167	272,164	3,300	1.165	3,844	236,517	1.167	276,008
0.42	193,330	1.242	240,175	39,886	0.802	31,989	233,217	1.167	272,164	3,300	1.165	3,844	236,517	1.167	276,008
0.43	193,292	1.242	240,130	39,886	0.802	31,989	233,179	1.167	272,119	3,300	1.165	3,843	236,478	1.167	275,963
0.44	193,218	1.244	240,276	39,886	0.802	31,989	233,104	1.168	272,265	3,299	1.165	3,842	236,402	1.168	276,107
0.45	192,997	1.244	240,019	39,886	0.802	31,989	232,884	1.168	272,008	3,295	1.166	3,841	236,179	1.168	275,849
0.46	192,747	1.245	240,062	34,259	0.858	29,394	227,005	1.187	269,455	3,212	1.184	3,803	230,218	1.187	273,258
0.47	192,672	1.245	239,973	34,259	0.858	29,394	226,931	1.187	269,367	3,211	1.184	3,801	230,142	1.187	273,168
0.48	192,448	1.247	239,934	34,259	0.858	29,394	226,707	1.188	269,328	3,208	1.185	3,800	229,915	1.188	273,128
0.49	192,233	1.247	239,764	34,042	0.860	29,276	226,274	1.189	269,040	3,202	1.186	3,797	229,476	1.189	272,837
0.50	191,690	1.250	239,570	34,042	0.860	29,276	225,731	1.191	268,846	3,194	1.188	3,793	228,925	1.191	272,639
0.51	191,520	1.250	239,369	34,042	0.860	29,276	225,562	1.191	268,644	3,192	1.188	3,793	228,754	1.191	272,437
0.52	190,340	1.254	238,717	30,252	0.903	27,317	220,592	1.206	266,034	3,121	1.204	3,758	223,713	1.206	269,792
0.53	190,049	1.256	238,661	29,401	0.914	26,872	219,449	1.210	265,533	3,105	1.207	3,749	222,554	1.210	269,283
0.54	189,805	1.257	238,585	29,401	0.914	26,872	219,205	1.211	265,457	3,102	1.208	3,747	222,307	1.211	269,205
0.55	189,340	1.258	238,241	29,401	0.914	26,872	218,740	1.212	265,113	3,095	1.209	3,742	221,836	1.212	268,855
0.56	188,983	1.260	238,027	29,401	0.914	26,872	218,383	1.213	264,899	3,090	1.211	3,741	221,473	1.213	268,640
0.57	188,695	1.261	237,896	29,401	0.914	26,872	218,096	1.214	264,768	3,086	1.211	3,738	221,182	1.214	268,507
0.58	188,194	1.263	237,723	29,401	0.914	26,872	217,595	1.216	264,595	3,079	1.213	3,735	220,674	1.216	268,330
0.59	187,427	1.266	237,224	29,401	0.914	26,872	216,828	1.218	264,096	3,068	1.215	3,726	219,896	1.218	267,823
0.60	187,018	1.267	236,939	29,390	0.914	26,863	216,408	1.219	263,802	3,062	1.216	3,724	219,471	1.219	267,526
0.61	185,715	1.272	236,211	29,390	0.914	26,863	215,105	1.223	263,074	3,044	1.219	3,711	218,149	1.223	266,785
0.62	183,714	1.278	234,829	29,390	0.914	26,863	213,104	1.228	261,691	3,016	1.226	3,696	216,119	1.228	265,388
0.63	181,117	1.288	233,229	28,197	0.926	26,111	209,314	1.239	259,340	2,962	1.236	3,662	212,276	1.239	263,002
0.64	179,050	1.295	231,880	25,177	0.962	24,220	204,226	1.254	256,100	2,890	1.252	3,618	207,116	1.254	259,718
0.65	176,209	1.306	230,131	25,177	0.962	24,220	201,386	1.263	254,351	2,850	1.260	3,591	204,236	1.263	257,941
0.66	173,399	1.317	228,309	23,474	0.984	23,099	196,874	1.277	251,408	2,786	1.274	3,550	199,660	1.277	254,958
0.67	172,313	1.320	227,508	23,471	0.984	23,095	195,784	1.280	250,603	2,770	1.278	3,539	198,554	1.280	254,143
0.68	169,443	1.331	225,571	23,471	0.984	23,095	192,914	1.289	248,666	2,730	1.287	3,512	195,644	1.289	252,178
0.69	167,239	1.340	224,064	23,471	0.984	23,095	190,710	1.296	247,160	2,699	1.293	3,490	193,408	1.296	250,649
0.70	164,353	1.352	222,202	23,471	0.984	23,095	187,823	1.306	245,297	2,658	1.303	3,463	190,481	1.306	248,760
0.71	162,831	1.358	221,146	23,471	0.984	23,095	186,301	1.311	244,241	2,636	1.308	3,448	188,938	1.311	247,689
0.72	160,017	1.369	219,105	23,462	0.984	23,086	183,479	1.320	242,192	2,596	1.317	3,418	186,075	1.320	245,610
0.73	157,160	1.381	217,033	23,283	0.986	22,957	180,444	1.330	239,990	2,553	1.327	3,388	182,997	1.330	243,378
0.74	154,402	1.392	214,964	23,283	0.986	22,957	177,686	1.339	237,921	2,514	1.336	3,358	180,200	1.339	241,280
0.75	151,391	1.405	212,678	23,283	0.986	22,957	174,674	1.349	235,635	2,472	1.346	3,327	177,146	1.349	238,962
0.76	148,888	1.416	210,889	21,091	1.010	21,302	169,979	1.366	232,191	2,405	1.362	3,277	172,384	1.366	235,468
0.77	145,277	1.433	208,119	17,132	1.067	18,280	162,409	1.394	226,398	2,298	1.390	3,195	164,707	1.394	229,593
0.78	142,879	1.443	206,169	16,058	1.087	17,455	158,937	1.407	223,624	2,249	1.404	3,157	161,186	1.407	226,781
0.79	139,611	1.458	203,594	16,058	1.087	17,455	155,668	1.420	221,049	2,203	1.417	3,122	157,871	1.420	224,171
0.80	135,747	1.478	200,625	15,966	1.089	17,387	151,713	1.437	218,012	2,147	1.433	3,076	153,860	1.437	221,088
0.81	132,697	1.492	198,041	15,286	1.101	16,830	147,983	1.452	214,871	2,094	1.449	3,034	150,077	1.452	217,906
0.82	129,710	1.509	195,711	14,596	1.115	16,275	144,306	1.469	211,986	2,042	1.466	2,993	146,348	1.469	214,978
0.83	127,687	1.519	194,020	14,596	1.115	16,275	142,284	1.478	210,295	2,013	1.474	2,968	144,297	1.478	213,263

Domain 4 Con't

	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.84	124,494	1.537	191,387	14,596	1.115	16,275	139,090	1.493	207,661	1,968	1.489	2,931	141,058	1.493	210,592
0.85	122,754	1.547	189,887	14,177	1.123	15,921	136,931	1.503	205,807	1,938	1.500	2,906	138,869	1.503	208,713
0.86	120,541	1.559	187,967	13,851	1.129	15,638	134,392	1.515	203,604	1,902	1.511	2,874	136,294	1.515	206,478
0.87	117,741	1.576	185,566	13,851	1.129	15,638	131,592	1.529	201,204	1,862	1.525	2,840	133,454	1.529	204,044
0.88	110,189	1.624	178,981	13,851	1.129	15,638	124,040	1.569	194,619	1,755	1.565	2,747	125,795	1.569	197,366
0.89	108,192	1.638	177,238	11,338	1.183	13,412	119,530	1.595	190,650	1,691	1.591	2,691	121,221	1.595	193,341
0.90	105,365	1.658	174,671	9,833	1.227	12,065	115,198	1.621	186,736	1,630	1.617	2,637	116,828	1.621	189,372
0.91	103,023	1.674	172,495	8,678	1.271	11,030	111,701	1.643	183,525	1,581	1.640	2,592	113,282	1.643	186,117
0.92	101,095	1.689	170,754	8,678	1.271	11,030	109,773	1.656	181,784	1,553	1.652	2,566	111,326	1.656	184,350
0.93	99,889	1.698	169,626	8,678	1.271	11,030	108,567	1.664	180,656	1,536	1.660	2,550	110,104	1.664	183,206
0.94	96,833	1.722	166,756	8,678	1.271	11,030	105,511	1.685	177,786	1,493	1.682	2,511	107,004	1.685	180,297
0.95	95,657	1.732	165,714	8,678	1.271	11,030	104,335	1.694	176,744	1,476	1.690	2,495	105,812	1.694	179,239
0.96	92,693	1.757	162,822	8,678	1.271	11,030	101,372	1.715	173,852	1,434	1.711	2,455	102,806	1.715	176,307
0.97	91,449	1.768	161,689	8,678	1.271	11,030	100,127	1.725	172,719	1,417	1.721	2,438	101,544	1.725	175,158
0.98	90,095	1.780	160,342	8,678	1.271	11,030	98,773	1.735	171,372	1,398	1.731	2,420	100,171	1.735	173,791
0.99	88,983	1.790	159,257	8,626	1.272	10,972	97,609	1.744	170,230	1,381	1.740	2,403	98,990	1.744	172,633

Domain 5

	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	6,229,089	0.022	137,557	64,578	0.014	904	6,293,667	0.022	138,461	57,175	0.031	1,774	6,350,842	0.022	140,235
0.01	6,205,915	0.022	136,791	43,553	0.016	697	6,249,468	0.022	137,488	56,773	0.031	1,765	6,306,241	0.022	139,254
0.02	3,478,919	0.027	93,959	4,686	0.021	98	3,483,605	0.027	94,057	31,647	0.038	1,210	3,515,252	0.027	95,267
0.03	1,014,841	0.035	35,520	307	0.032	10	1,015,148	0.035	35,530	9,222	0.050	457	1,024,370	0.035	35,987
0.04	103,793	0.047	4,878				103,793	0.047	4,878	943	0.067	63	104,736	0.047	4,941
0.05	21,368	0.068	1,453				21,368	0.068	1,453	194	0.096	19	21,562	0.068	1,472
0.06	12,515	0.076	951				12,515	0.076	951	114	0.108	12	12,628	0.076	963
0.07	9,577	0.079	757				9,577	0.079	757	87	0.112	10	9,664	0.079	766
0.08	5,684	0.082	466				5,684	0.082	466	52	0.116	6	5,736	0.082	472
0.09	2	0.091	0				2	0.091	0				2	0.091	0

Domain 6

Cutoff	Measured			Indicated			Measured + Indicated			Inferred			Total		
	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	422,996	0.101	42,868	257,826	0.111	28,619	680,823	0.105	71,486	44,175	0.108	4,783	724,998	0.105	76,270
0.01	422,996	0.101	42,868	257,749	0.111	28,610	680,745	0.105	71,478	44,170	0.108	4,783	724,915	0.105	76,261
0.02	422,996	0.101	42,868	257,749	0.111	28,610	680,745	0.105	71,478	44,170	0.108	4,783	724,915	0.105	76,261
0.03	422,208	0.101	42,785	257,749	0.111	28,610	679,957	0.105	71,395	44,119	0.108	4,778	724,076	0.105	76,173
0.04	419,483	0.101	42,500	257,703	0.111	28,605	677,186	0.105	71,105	43,939	0.108	4,759	721,126	0.105	75,863
0.05	409,142	0.103	42,273	250,816	0.113	28,342	659,958	0.107	70,616	42,822	0.110	4,726	702,780	0.107	75,341
0.06	386,643	0.105	40,493	226,436	0.119	26,946	613,079	0.110	67,439	39,780	0.114	4,555	652,859	0.110	71,993
0.07	363,103	0.108	39,294	217,135	0.121	26,273	580,238	0.113	65,567	37,649	0.117	4,391	617,887	0.113	69,958
0.08	294,860	0.115	34,030	183,081	0.130	23,800	477,940	0.121	57,831	31,011	0.125	3,889	508,951	0.121	61,720
0.09	243,335	0.123	29,988	155,754	0.138	21,494	399,089	0.129	51,483	25,895	0.133	3,448	424,984	0.129	54,931
0.10	200,091	0.128	25,661	135,093	0.145	19,588	335,184	0.135	45,250	21,748	0.140	3,044	356,932	0.135	48,294
0.11	155,309	0.136	21,070	113,897	0.153	17,426	269,206	0.143	38,497	17,468	0.148	2,585	286,674	0.143	41,081
0.12	114,581	0.144	16,479	101,169	0.157	15,884	215,750	0.150	32,362	13,999	0.155	2,171	229,749	0.150	34,534
0.13	85,258	0.151	12,875	85,005	0.163	13,856	170,263	0.157	26,731	11,048	0.162	1,787	181,310	0.157	28,518
0.14	57,026	0.158	9,010	59,085	0.176	10,380	116,111	0.167	19,391	7,534	0.173	1,305	123,645	0.167	20,696
0.15	31,641	0.169	5,347	45,716	0.186	8,500	77,357	0.179	13,847	5,019	0.185	929	82,376	0.179	14,776
0.16	21,058	0.177	3,727	25,974	0.208	5,397	47,032	0.194	9,124	3,052	0.201	612	50,083	0.194	9,736
0.17	11,855	0.187	2,217	22,318	0.216	4,823	34,173	0.206	7,040	2,217	0.213	472	36,390	0.206	7,511
0.18	8,058	0.193	1,555	12,548	0.247	3,102	20,606	0.226	4,657	1,337	0.234	313	21,943	0.226	4,970
0.19	3,622	0.206	746	8,797	0.275	2,421	12,419	0.255	3,167	806	0.263	212	13,224	0.256	3,379
0.20	1,719	0.220	378	7,800	0.285	2,221	9,519	0.273	2,599	618	0.282	174	10,137	0.274	2,773
0.21	1,544	0.222	343	6,925	0.295	2,045	8,468	0.282	2,388	549	0.292	160	9,018	0.283	2,548
0.22	1,544	0.222	343	5,613	0.314	1,762	7,156	0.294	2,105	464	0.304	141	7,621	0.295	2,246
0.23				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.24				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.25				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.26				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.27				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.28				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.29				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.30				5,613	0.314	1,762	5,613	0.314	1,762	364	0.324	118	5,977	0.315	1,880
0.31				5,578	0.314	1,752	5,578	0.314	1,752	362	0.324	117	5,940	0.315	1,869
0.32				782	0.323	253	782	0.323	253	51	0.334	17	833	0.324	270

	Domain 7														
	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.01	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.02	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.03	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.04	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.05	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.06	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.07	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.08	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.09	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.10	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.11	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.12	59,069	0.334	19,737	51,193	0.336	17,201	110,262	0.335	36,938	10,457	0.330	3,452	120,719	0.335	40,390
0.13	59,069	0.334	19,737	51,172	0.336	17,194	110,241	0.335	36,931	10,455	0.330	3,451	120,695	0.335	40,382
0.14	59,069	0.334	19,737	51,086	0.336	17,165	110,155	0.335	36,902	10,446	0.330	3,448	120,602	0.335	40,351
0.15	59,069	0.335	19,796	50,988	0.337	17,183	110,057	0.336	36,979	10,437	0.331	3,450	120,494	0.336	40,429
0.16	59,069	0.335	19,796	50,988	0.337	17,183	110,057	0.336	36,979	10,437	0.331	3,450	120,494	0.336	40,429
0.17	59,069	0.335	19,796	50,988	0.337	17,183	110,057	0.336	36,979	10,437	0.331	3,450	120,494	0.336	40,429
0.18	59,069	0.335	19,796	50,988	0.337	17,183	110,057	0.336	36,979	10,437	0.331	3,450	120,494	0.336	40,429
0.19	59,069	0.335	19,796	50,988	0.337	17,183	110,057	0.336	36,979	10,437	0.331	3,450	120,494	0.336	40,429
0.20	56,301	0.342	19,263	48,469	0.344	16,673	104,769	0.343	35,936	9,936	0.337	3,353	114,705	0.343	39,289
0.21	56,153	0.341	19,164	48,183	0.345	16,623	104,336	0.343	35,787	9,895	0.338	3,343	114,230	0.343	39,131
0.22	53,614	0.349	18,700	48,183	0.345	16,623	101,797	0.347	35,324	9,654	0.341	3,292	111,451	0.346	38,616
0.23	49,667	0.359	17,820	48,183	0.345	16,623	97,851	0.352	34,443	9,280	0.346	3,211	107,130	0.351	37,654
0.24	49,389	0.359	17,716	46,475	0.349	16,220	95,864	0.354	33,936	9,091	0.348	3,168	104,956	0.354	37,104
0.25	48,147	0.363	17,462	42,996	0.357	15,350	91,143	0.360	32,812	8,643	0.354	3,059	99,787	0.359	35,870
0.26	45,045	0.370	16,652	40,221	0.364	14,640	85,266	0.367	31,293	8,086	0.361	2,917	93,352	0.366	34,210
0.27	42,812	0.375	16,056	31,914	0.389	12,414	74,726	0.381	28,470	7,087	0.374	2,653	81,812	0.380	31,123
0.28	40,196	0.381	15,327	29,949	0.397	11,890	70,145	0.388	27,216	6,652	0.382	2,539	76,797	0.387	29,755
0.29	36,785	0.389	14,319	29,102	0.400	11,641	65,887	0.394	25,959	6,248	0.388	2,425	72,135	0.393	28,384
0.30	35,987	0.392	14,106	28,894	0.401	11,586	64,881	0.396	25,693	6,153	0.390	2,398	71,034	0.395	28,090
0.31	34,017	0.397	13,513	17,187	0.468	8,044	51,204	0.421	21,557	4,856	0.414	2,011	56,060	0.420	23,568
0.32	30,712	0.406	12,457	17,187	0.468	8,044	47,899	0.428	20,501	4,542	0.421	1,914	52,441	0.427	22,415
0.33	26,362	0.419	11,055	14,290	0.498	7,117	40,652	0.447	18,171	3,855	0.440	1,695	44,507	0.446	19,866
0.34	22,621	0.433	9,803	14,137	0.500	7,068	36,758	0.459	16,872	3,486	0.451	1,574	40,243	0.458	18,445
0.35	19,403	0.449	8,706	13,709	0.505	6,923	33,112	0.472	15,629	3,140	0.464	1,457	36,252	0.471	17,086
0.36	17,507	0.459	8,030	13,697	0.505	6,917	31,204	0.479	14,947	2,959	0.471	1,394	34,163	0.478	16,340
0.37	13,380	0.488	6,534	12,312	0.521	6,414	25,691	0.504	12,948	2,436	0.495	1,207	28,128	0.503	14,155
0.38	12,213	0.499	6,093	12,312	0.521	6,414	24,524	0.510	12,507	2,326	0.501	1,166	26,850	0.509	13,673
0.39	10,754	0.513	5,521	11,856	0.526	6,236	22,610	0.520	11,757	2,144	0.512	1,098	24,754	0.519	12,855
0.40	9,265	0.533	4,937	11,856	0.526	6,236	21,121	0.529	11,173	2,003	0.521	1,043	23,124	0.528	12,216
0.41	8,545	0.544	4,644	9,920	0.550	5,456	18,465	0.547	10,100	1,751	0.538	942	20,216	0.546	11,043
0.42	7,917	0.554	4,384	9,533	0.556	5,300	17,449	0.555	9,684	1,655	0.546	904	19,104	0.554	10,588
0.43	7,372	0.563	4,149	9,533	0.556	5,300	16,904	0.559	9,450	1,603	0.550	882	18,507	0.558	10,331
0.44	5,897	0.595	3,510	9,533	0.556	5,300	15,430	0.571	8,810	1,463	0.562	823	16,893	0.570	9,633
0.45	5,193	0.616	3,196	9,533	0.556	5,300	14,725	0.577	8,496	1,396	0.568	793	16,121	0.576	9,289
0.46	4,653	0.635	2,956	9,533	0.556	5,300	14,186	0.582	8,256	1,345	0.573	770	15,531	0.581	9,026
0.47	4,461	0.641	2,858	9,533	0.556	5,300	13,993	0.583	8,158	1,327	0.574	762	15,320	0.582	8,920
0.48	4,461	0.641	2,858	9,533	0.556	5,300	13,993	0.583	8,158	1,327	0.574	762	15,320	0.582	8,920
0.49	4,461	0.641	2,858	9,533	0.556	5,300	13,993	0.583	8,158	1,327	0.574	762	15,320	0.582	8,920
0.50	4,442	0.644	2,861	9,533	0.556	5,300	13,975	0.584	8,161	1,325	0.574	761	15,300	0.583	8,922
0.51	4,381	0.645	2,825	9,533	0.556	5,300	13,914	0.584	8,126	1,319	0.575	758	15,233	0.583	8,884
0.52	4,381	0.645	2,825	9,533	0.556	5,300	13,914	0.584	8,126	1,319	0.575	758	15,233	0.583	8,884
0.53	4,316	0.646	2,787	9,533	0.556	5,300	13,849	0.584	8,088	1,313	0.575	755	15,162	0.583	8,843
0.54	4,161	0.652	2,715	9,223	0.556	5,128	13,384	0.586	7,843	1,269	0.576	731	14,653	0.585	8,574
0.55	4,085	0.654	2,673	4,544	0.572	2,599	8,629	0.611	5,272	818	0.601	491	9,447	0.610	5,764
0.56	3,885	0.658	2,555	4,334	0.573	2,483	8,219	0.613	5,038	779	0.603	470	8,998	0.612	5,508
0.57	3,796	0.660	2,506	1,678	0.588	987	5,474	0.638	3,492	519	0.628	326	5,993	0.637	3,818
0.58	3,433	0.668	2,295	1,678	0.588	987	5,111	0.642	3,281	485	0.632	306	5,596	0.641	3,588
0.59	3,280	0.673	2,207				3,280	0.673	2,207	311	0.662	206	3,591	0.672	2,413
0.60	3,055	0.679	2,074				3,055	0.679	2,074	290	0.668	194	3,345	0.678	2,268
0.61	2,967	0.681	2,020				2,967	0.681	2,020	281	0.670	189	3,248	0.680	2,209
0.62	2,857	0.684	1,954				2,857	0.684	1,954	271	0.673	182	3,128	0.683	2,136
0.63	2,806	0.685	1,922				2,806	0.685	1,922	266	0.674	179	3,072	0.684	2,102
0.64	2,629	0.688	1,809				2,629	0.688	1,809	249	0.677	169	2,878	0.687	1,977
0.65	2,461	0.691	1,700				2,461	0.691	1,700	233	0.680	159	2,694	0.690	1,859
0.66	2,147	0.697	1,496				2,147	0.697	1,496	204	0.686	140	2,350	0.696	1,636
0.67	2,087	0.697	1,455				2,087	0.697	1,455	198	0.686	136	2,285	0.696	1,590
0.68	1,759	0.702	1,235				1,759	0.702	1,235	167	0.691	115	1,926	0.701	1,350
0.69	1,333	0.707	942				1,333	0.707	942	126	0.696	88	1,459	0.706	1,030
0.70	794	0.715	568				794	0.715	568	75	0.704	53	870	0.714	621
0.71	500	0.720	360				500	0.720	360	47	0.709	34	547	0.719	394
0.72	147	0.733	108				147	0.733	108	14	0.721	10	161	0.732	118
0.73	141	0.733	103				141	0.733	103	13	0.721	10	154	0.732	113

Domain 8

	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.01	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.02	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.03	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.04	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.05	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.06	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.07	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.08	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.09	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.10	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.11	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.12	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.13	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.14	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.15	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.16	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.17	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.18	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.19	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.20	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.21	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.22	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.23	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.24	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.25	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.26	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.27	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.28	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.29	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.30	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.31	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.32	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.33	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.34	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.35	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.36	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.37	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.38	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.39	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.40	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.41	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.42	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.43	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.44	58,995	1.123	66,251	17,333	0.780	13,511	76,327	1.045	79,762	6,781	1.051	7,129	83,108	1.046	86,892
0.45	58,995	1.123	66,251	16,302	0.800	13,037	75,297	1.053	79,287	6,689	1.059	7,087	81,986	1.054	86,374
0.46	58,995	1.123	66,251	16,225	0.798	12,955	75,219	1.053	79,206	6,682	1.060	7,084	81,901	1.054	86,290
0.47	58,995	1.123	66,251	16,225	0.798	12,955	75,219	1.053	79,206	6,682	1.060	7,084	81,901	1.054	86,290
0.48	58,995	1.123	66,251	16,225	0.798	12,955	75,219	1.053	79,206	6,682	1.060	7,084	81,901	1.054	86,290
0.49	58,995	1.123	66,251	13,281	0.873	11,590	72,276	1.077	77,841	6,421	1.084	6,957	78,696	1.078	84,798
0.50	58,995	1.123	66,251	12,602	0.890	11,217	71,597	1.082	77,468	6,360	1.089	6,927	77,957	1.083	84,395
0.51	58,995	1.123	66,251	12,602	0.890	11,217	71,597	1.082	77,468	6,360	1.089	6,927	77,957	1.083	84,395
0.52	58,995	1.123	66,251	12,602	0.890	11,217	71,597	1.082	77,468	6,360	1.089	6,927	77,957	1.083	84,395
0.53	58,750	1.126	66,152	12,602	0.888	11,193	71,352	1.084	77,345	6,339	1.091	6,918	77,690	1.085	84,264
0.54	57,348	1.140	65,376	11,180	0.938	10,484	68,528	1.107	75,860	6,088	1.114	6,781	74,616	1.108	82,641
0.55	57,048	1.143	65,206	11,025	0.939	10,355	68,073	1.110	75,561	6,047	1.117	6,757	74,120	1.111	82,318
0.56	57,048	1.143	65,206	11,000	0.945	10,396	68,048	1.111	75,601	6,045	1.118	6,756	74,093	1.112	82,358
0.57	57,048	1.143	65,206	11,000	0.945	10,396	68,048	1.111	75,601	6,045	1.118	6,756	74,093	1.112	82,358
0.58	57,048	1.143	65,206	11,000	0.945	10,396	68,048	1.111	75,601	6,045	1.118	6,756	74,093	1.112	82,358
0.59	57,048	1.143	65,206	11,000	0.945	10,396	68,048	1.111	75,601	6,045	1.118	6,756	74,093	1.112	82,358
0.60	57,048	1.143	65,206	11,000	0.945	10,396	68,048	1.111	75,601	6,045	1.118	6,756	74,093	1.112	82,358
0.61	57,048	1.143	65,206	11,000	0.945	10,396	68,048	1.111	75,601	6,045	1.118	6,756	74,093	1.112	82,358
0.62	57,048	1.143	65,206	11,000	0.945	10,396	68,048	1.111	75,601	6,045	1.118	6,756	74,093	1.112	82,358
0.63	57,048	1.143	65,206	10,979	0.945	10,372	68,026	1.111	75,577	6,043	1.118	6,755	74,070	1.112	82,333
0.64	57,048	1.143	65,206	10,979	0.945	10,372	68,026	1.111	75,577	6,043	1.118	6,755	74,070	1.112	82,333
0.65	57,048	1.143	65,206	9,223	0.999	9,217	66,271	1.123	74,422	5,887	1.130	6,654	72,158	1.124	81,076
0.66	57,048	1.143	65,206	9,223	0.999	9,217	66,271	1.123	74,422	5,887	1.130	6,654	72,158	1.124	81,076
0.67	56,738	1.146	65,010	9,223	0.997	9,196	65,961	1.125	74,206	5,860	1.133	6,637	71,821	1.126	80,844
0.68	54,335	1.167	63,388	9,223	0.997	9,196	63,559	1.142	72,584	5,646	1.150	6,493	69,205	1.143	79,077
0.69	52,902	1.180	62,435	9,223	0.997	9,196	62,126	1.153	71,631	5,519	1.161	6,405	67,644	1.154	78,036
0.70	52,902	1.180	62,435	9,223	0.997	9,196	62,126	1.153	71,631	5,519	1.161	6,405	67,644	1.154	78,036
0.71	52,160	1.186	61,886	9,223	0.997	9,196	61,383	1.158	71,082	5,453	1.166	6,359	66,836	1.159	77,441
0.72	50,228	1.204	60,493	9,109	1.000	9,109	59,337	1.173	69,602	5,271	1.181	6,227	64,608	1.174	75,830
0.73	49,364	1.213	59,890	9,109	1.000	9,109	58,474	1.180	68,999	5,195	1.188	6,170	63,668	1.181	75,169
0.74	48,903	1.218	59,578	9,109	1.000	9,109	58,013	1.184	68,687	5,154	1.192	6,142	63,166	1.185	74,829
0.75	48,748	1.220	59,452	9,109	1.000	9,109	57,858	1.185	68,561	5,140	1.192	6,129	62,997	1.186	74,690
0.76	48,748	1.220	59,452	9,109	1.000	9,109	57,858	1.185	68,561	5,140	1.192	6,129	62,997	1.186	74,690
0.77	48,593	1.221	59,326	9,109	1.000	9,109	57,703	1.186	68,435	5,126	1.194	6,121	62,829	1.187	74,556
0.78	48,097	1.225	58,908	9,109	1.000	9,109	57,206	1.189	68,018	5,082	1.197	6,084	62,288	1.190	74,102
0.79	47,618	1.230	58,567	9,109	1.000	9,109	56,728	1.193	67,676	5,039	1.201	6,053	61,767	1.194	73,729
0.80	42,517	1.281	54,476	8,597	1.012	8,700	51,114	1.236	63,176	4,541	1.245	5,653	55,654	1.237	68,829
0.81	42,493	1.282	54,481	5,782	1.114	6,441	48,274	1.262	60,922	4,288	1.270	5,448	52,562	1.263	66,370
0.82	41,932	1.288	54,013	5,782	1.114	6,441	47,714	1.267	60,453	4,239	1.275	5,406	51,952	1.268	65,859
0.83	41,777	1.289	53,864	5,782	1.114	6,441	47,559	1.268	60,304	4,225	1.277	5,396	51,784	1.269	65,700

Domain 8 Con't

	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.84	41,213	1.296	53,422	4,203	1.218	5,119	45,416	1.289	58,541	4,035	1.297	5,235	49,450	1.290	63,775
0.85	35,110	1.374	48,228	4,203	1.218	5,119	39,313	1.357	53,347	3,492	1.366	4,772	42,805	1.358	58,119
0.86	33,520	1.399	46,901	4,203	1.218	5,119	37,723	1.379	52,020	3,351	1.388	4,652	41,074	1.380	56,672
0.87	33,520	1.399	46,901	4,203	1.218	5,119	37,723	1.379	52,020	3,351	1.388	4,652	41,074	1.380	56,672
0.88	33,520	1.399	46,901	4,203	1.218	5,119	37,723	1.379	52,020	3,351	1.388	4,652	41,074	1.380	56,672
0.89	33,375	1.401	46,773	2,594	1.423	3,691	35,969	1.403	50,464	3,195	1.412	4,512	39,164	1.404	54,976
0.90	33,375	1.401	46,773	2,594	1.423	3,691	35,969	1.403	50,464	3,195	1.412	4,512	39,164	1.404	54,976
0.91	33,375	1.401	46,745	2,396	1.466	3,513	35,771	1.405	50,258	3,178	1.415	4,496	38,949	1.406	54,754
0.92	33,221	1.404	46,636	2,396	1.466	3,513	35,617	1.408	50,149	3,164	1.417	4,483	38,781	1.409	54,632
0.93	33,221	1.404	46,636	2,396	1.466	3,513	35,617	1.408	50,149	3,164	1.417	4,483	38,781	1.409	54,632
0.94	33,026	1.406	46,432	2,396	1.466	3,513	35,422	1.410	49,945	3,147	1.420	4,467	38,569	1.411	54,412
0.95	32,947	1.407	46,356	2,396	1.466	3,513	35,343	1.411	49,869	3,140	1.420	4,460	38,483	1.412	54,329
0.96	32,947	1.407	46,356	2,396	1.466	3,513	35,343	1.411	49,869	3,140	1.420	4,460	38,483	1.412	54,329
0.97	32,947	1.407	46,356	2,396	1.466	3,513	35,343	1.411	49,869	3,140	1.420	4,460	38,483	1.412	54,329
0.98	32,942	1.407	46,350	2,396	1.466	3,513	35,338	1.411	49,862	3,139	1.420	4,459	38,478	1.412	54,322
0.99	32,942	1.407	46,350	2,396	1.466	3,513	35,338	1.411	49,862	3,139	1.420	4,459	38,478	1.412	54,322

Domain 11 (No measured material in this Domain)

	Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces
0.00	1,335,963	0.027	36,071	761,912	0.027	20,572	2,097,875	0.027	56,643
0.01	1,010,364	0.034	34,352	576,220	0.034	19,591	1,586,584	0.034	53,944
0.02	406,858	0.064	26,039	232,035	0.064	14,850	638,893	0.064	40,889
0.03	194,968	0.108	21,056	111,192	0.108	12,009	306,159	0.108	33,065
0.04	12[illegible],760	0.147	18,634	72,292	0.147	10,627	199,052	0.147	29,261
0.05	89,368	0.190	16,980	50,968	0.190	9,684	140,336	0.190	26,664
0.06	75,810	0.215	16,299	43,235	0.215	9,296	119,045	0.215	25,595
0.07	68,829	0.230	15,831	39,254	0.230	9,028	108,082	0.230	24,859
0.08	63,928	0.242	15,471	36,459	0.242	8,823	100,387	0.242	24,294
0.09	57,912	0.258	14,941	33,028	0.258	8,521	90,940	0.258	23,462
0.10	51,924	0.277	14,383	29,612	0.277	8,203	81,536	0.277	22,585
0.11	26,816	0.440	11,799	15,293	0.440	6,729	42,109	0.440	18,528
0.12	26,104	0.449	11,721	14,887	0.449	6,684	40,991	0.449	18,405
0.13	25,809	0.452	11,666	14,719	0.452	6,653	40,528	0.452	18,319
0.14	25,243	0.459	11,587	14,396	0.459	6,608	39,640	0.459	18,195
0.15	23,707	0.480	11,379	13,520	0.480	6,490	37,228	0.480	17,869
0.16	22,053	0.504	11,115	12,577	0.504	6,339	34,631	0.504	17,454
0.17	14,942	0.667	9,966	8,522	0.667	5,684	23,464	0.667	15,650
0.18	14,117	0.696	9,826	8,051	0.696	5,604	22,169	0.696	15,429
0.19	13,890	0.704	9,779	7,922	0.704	5,577	21,812	0.704	15,356
0.20	13,890	0.704	9,779	7,922	0.704	5,577	21,812	0.704	15,356
0.21	13,890	0.704	9,779	7,922	0.704	5,577	21,812	0.704	15,356
0.22	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.23	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.24	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.25	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.26	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.27	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.28	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.29	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.30	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.31	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.32	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.33	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.34	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.35	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.36	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.37	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.38	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.39	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.40	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.41	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.42	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.43	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.44	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.45	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.46	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.47	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.48	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.49	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.50	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.51	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.52	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.53	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.54	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.55	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.56	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.57	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.58	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.59	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.60	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.61	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.62	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.63	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.64	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.65	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.66	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.67	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.68	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.69	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.70	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.71	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.72	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124
0.73	13,176	0.731	9,632	7,514	0.731	5,493	20,690	0.731	15,124

All Domains

	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.00	11,843,590	0.063	743,003	2,075,212	0.074	153,282	13,918,802	0.064	896,284	945,743	0.046	43,765	14,864,545	0.063	940,049
0.01	11,745,244	0.063	740,425	1,707,089	0.088	151,035	13,452,333	0.066	891,460	758,293	0.056	42,791	14,210,626	0.066	934,252
0.02	7,376,255	0.091	673,746	963,613	0.146	140,696	8,339,869	0.098	814,443	364,666	0.102	37,117	8,704,534	0.098	851,560
0.03	3,550,[illegible]37	0.164	583,454	677,080	0.198	133,895	4,227,718	0.170	717,349	201,366	0.164	33,027	4,429,083	0.169	750,376
0.04	2,163,270	0.248	537,056	597,342	0.219	131,056	2,760,613	0.242	668,112	147,338	0.210	31,012	2,907,950	0.240	699,124
0.05	1,895,364	0.277	525,680	544,593	0.236	128,775	2,439,957	0.268	654,455	121,914	0.245	29,897	2,561,870	0.267	684,352
0.06	1,766,986	0.293	518,027	505,072	0.251	126,607	2,272,058	0.284	644,634	110,224	0.266	29,285	2,382,283	0.283	673,919
0.07	1,607,565	0.316	507,992	485,049	0.258	125,229	2,092,614	0.303	633,220	103,256	0.279	28,800	2,195,870	0.301	662,020
0.08	1,417,161	0.349	493,921	429,699	0.282	121,117	1,846,861	0.333	615,039	92,994	0.301	28,029	1,939,855	0.332	643,068
0.09	1,235,063	0.388	479,029	390,389	0.302	117,774	1,625,451	0.367	596,802	83,662	0.325	27,217	1,709,114	0.365	624,019
0.10	1,068,726	0.433	462,796	358,163	0.320	114,784	1,426,889	0.405	577,579	75,424	0.350	26,430	1,502,313	0.402	604,009
0.11	929,434	0.482	448,403	310,686	0.354	109,926	1,240,120	0.450	558,328	56,324	0.434	24,445	1,296,444	0.450	582,774
0.12	813,242	0.535	435,186	292,141	0.369	107,707	1,105,382	0.491	542,893	52,029	0.460	23,938	1,157,411	0.490	566,831
0.13	741,197	0.575	426,060	268,088	0.390	104,673	1,009,285	0.526	530,733	48,644	0.483	23,490	1,057,929	0.524	554,223
0.14	681,110	0.614	418,163	237,625	0.423	100,583	918,735	0.565	518,746	44,613	0.514	22,936	963,348	0.562	541,681
0.15	633,390	0.649	411,241	220,311	0.446	98,177	853,701	0.597	509,419	41,084	0.546	22,425	894,785	0.594	531,844
0.16	613,495	0.666	408,329	198,440	0.477	94,717	811,935	0.620	503,046	38,121	0.576	21,948	850,055	0.618	524,994
0.17	591,308	0.684	404,574	187,654	0.496	93,029	778,962	0.639	497,602	33,158	0.638	21,142	812,120	0.639	518,745
0.18	576,616	0.697	402,097	177,015	0.515	91,150	753,631	0.654	493,247	31,744	0.658	20,891	785,375	0.655	514,138
0.19	561,181	0.711	399,152	173,037	0.523	90,422	734,217	0.667	489,575	31,019	0.669	20,752	765,236	0.667	510,327
0.20	549,310	0.723	396,934	168,884	0.530	89,559	718,195	0.677	486,492	30,282	0.681	20,608	748,476	0.678	507,100
0.21	539,882	0.731	394,789	167,208	0.534	89,262	707,090	0.685	484,051	30,114	0.683	20,572	737,203	0.685	504,623
0.22	524,935	0.746	391,634	164,608	0.539	88,710	689,542	0.697	480,343	29,302	0.696	20,402	718,844	0.697	500,745
0.23	501,014	0.771	386,390	164,533	0.539	88,693	665,548	0.714	475,083	28,715	0.706	20,271	694,263	0.713	495,353
0.24	486,128	0.787	382,768	162,590	0.542	88,201	648,718	0.726	470,969	28,436	0.711	20,207	677,154	0.725	491,176
0.25	471,858	0.804	379,421	158,949	0.549	87,310	630,807	0.740	466,731	27,906	0.719	20,077	658,713	0.739	486,808
0.26	452,883	0.827	374,489	149,814	0.567	84,975	602,698	0.762	459,464	27,212	0.731	19,900	629,909	0.761	479,365
0.27	430,063	0.857	368,465	141,414	0.585	82,712	571,476	0.789	451,177	26,084	0.751	19,602	597,560	0.788	470,779
0.28	410,939	0.884	363,097	136,244	0.597	81,299	547,183	0.812	444,396	25,528	0.762	19,454	572,710	0.810	463,850
0.29	392,001	0.913	357,781	134,415	0.601	80,761	526,415	0.833	438,542	25,022	0.772	19,311	551,437	0.830	457,853
0.30	381,152	0.930	354,516	134,206	0.601	80,707	515,359	0.845	435,222	24,864	0.775	19,266	540,222	0.841	454,488
0.31	369,770	0.950	351,162	121,715	0.632	76,926	491,485	0.871	428,088	23,502	0.802	18,859	514,987	0.868	446,946
0.32	354,096	0.977	346,127	116,440	0.647	75,282	470,536	0.896	421,409	22,798	0.817	18,637	493,334	0.892	440,046
0.33	340,339	1.004	341,711	109,238	0.668	72,959	449,576	0.922	414,669	21,980	0.836	18,374	471,557	0.918	433,044
0.34	324,322	1.038	336,505	107,275	0.674	72,303	431,597	0.947	408,809	21,523	0.847	18,226	453,121	0.942	427,034
0.35	311,792	1.065	332,199	106,763	0.676	72,121	418.555	0.966	404,320	21,120	0.857	18,090	439,675	0.961	422,410
0.36	304,502	1.083	329,631	106,751	0.676	72,114	411,253	0.977	401,745	20,906	0.862	18,014	432,159	0.971	419,760
0.37	296,418	1.102	326,629	105,366	0.680	71,612	401,784	0.991	398,241	20,359	0.875	17,818	422,143	0.986	416,058
0.38	287,727	1.123	323,259	105,296	0.680	71,581	393,023	1.005	394,840	20,203	0.879	17,761	413,225	0.998	412,600
0.39	280,717	1.142	320,567	104,840	0.681	71,403	385,557	1.017	391,970	19,987	0.885	17,679	405,544	1.010	409,649
0.40	277,295	1.151	319,220	102,836	0.687	70,616	380,132	1.026	389,836	19,822	0.889	17,615	399,954	1.019	407,451
0.41	275,399	1.156	318,442	99,683	0.696	69,347	375,082	1.034	387,789	19,556	0.895	17,508	394,637	1.027	405,297
0.42	273,725	1.161	317,755	99,150	0.697	69,125	372,875	1.038	386,880	19,452	0.898	17,467	392,327	1.031	404,347
0.43	271,909	1.166	316,941	88,060	0.732	64,461	359,968	1.060	381,402	19,324	0.901	17,412	379,292	1.051	398,814
0.44	269,751	1.172	316,195	88,060	0.732	64,461	357,811	1.064	380,656	19,179	0.905	17,350	376,990	1.056	398,006
0.45	268,085	1.176	315,290	83,953	0.746	62,610	352,038	1.073	377,900	18,994	0.909	17,266	371,032	1.065	395,166
0.46	266,670	1.181	314,812	76,372	0.774	59,086	343,042	1.090	373,898	18,837	0.913	17,196	361,879	1.081	391,094
0.47	265,245	1.184	314,083	75,775	0.776	58,811	341,020	1.093	372,894	18,807	0.914	17,181	359,827	1.084	390,075
0.48	264,473	1.186	313,782	75,775	0.776	58,811	340,248	1.095	372,593	18,800	0.914	17,178	359,048	1.086	389,771
0.49	263,488	1.189	313,242	72,614	0.789	57,328	336,103	1.103	370,571	18,528	0.920	17,046	354,631	1.093	387,616
0.50	262,452	1.192	312,821	71,936	0.792	56,955	334,387	1.106	369,776	18,455	0.922	17,009	352,842	1.096	386,785
0.51	261,711	1.193	312,320	71,936	0.792	56,955	333,647	1.107	369,275	18,444	0.922	17,004	352,091	1.097	386,280
0.52	260,181	1.197	311,494	68,146	0.807	54,997	328,327	1.116	366,491	18,371	0.924	16,968	346,699	1.106	383,459
0.53	258,775	1.201	310,878	67,269	0.810	54,511	326,043	1.121	365,389	18,322	0.925	16,945	344,366	1.110	382,334
0.54	255,847	1.209	309,353	65,536	0.818	53,629	321,383	1.129	362,983	18,017	0.931	16,778	339,400	1.119	379,761
0.55	254,213	1.213	308,366	60,703	0.840	50,972	314,916	1.141	359,338	17,514	0.942	16,507	332,430	1.131	375,845
0.56	252,807	1.217	307,559	60,468	0.842	50,897	313,275	1.144	358,455	17,463	0.944	16,481	330,737	1.134	374,936
0.57	252,020	1.219	307,147	57,812	0.854	49,400	309,832	1.151	356,547	17,196	0.950	16,332	327,028	1.140	372,879
0.58	250,784	1.222	306,551	57,812	0.854	49,400	308,596	1.153	355,951	17,152	0.951	16,308	325,748	1.143	372,259
0.59	503,642	0.750	377,524	98,783	0.641	63,292	602,425	0.732	440,817	18,803	0.890	16,735	621,229	0.737	457,551
0.60	503,000	0.750	377,103	98,225	0.641	62,955	601,225	0.732	440,058	18,773	0.891	16,718	619,997	0.737	456,776
0.61	501,450	0.750	376,224	97,366	0.641	62,439	598,816	0.733	438,663	18,739	0.891	16,696	617,555	0.737	455,359
0.62	499,338	0.751	374,776	97,366	0.641	62,439	596,704	0.733	437,214	18,701	0.892	16,675	615,405	0.738	453,889
0.63	495,958	0.751	372,686	96,151	0.641	61,663	592,109	0.734	434,348	18,636	0.893	16,634	610,745	0.738	450,982
0.64	493,225	0.752	370,912	93,130	0.642	59,772	586,355	0.735	430,684	18,544	0.894	16,577	604,899	0.739	447,261
0.65	236,080	1.259	297,280	47,576	0.905	43,068	283,656	1.200	340,348	16,487	0.964	15,898	300,143	1.187	356,246
0.66	232,823	1.268	295,167	45,873	0.914	41,947	278,696	1.210	337,114	16,392	0.966	15,837	295,089	1.196	352,951
0.67	231,348	1.271	294,117	45,870	0.914	41,922	277,218	1.212	336,039	16,344	0.967	15,806	293,562	1.199	351,846
0.68	225,614	1.286	290,248	45,870	0.914	41,922	271,484	1.224	332,170	16,057	0.972	15,614	287,541	1.210	347,784
0.69	221,549	1.298	287,494	45,870	0.914	41,922	267,418	1.232	329,416	15,858	0.976	15,476	283,277	1.218	344,892
0.70	218,124	1.308	285,257	45,870	0.914	41,922	263,994	1.239	327,180	15,766	0.978	15,414	279,760	1.225	342,594
0.71	215,490	1.315	283,392	45,870	0.914	41,922	261,360	1.245	325,314	15,651	0.980	15,334	277,011	1.230	340,648
0.72	210,392	1.329	279,706	45,747	0.914	41,827	256,139	1.255	321,533	15,396	0.984	15,149	271,534	1.240	336,682
0.73	206,666	1.340	277,026	45,569	0.915	41,698	252,234	1.264	318,724	15,276	0.986	15,060	267,510	1.248	333,785
0.74	203,306	1.350	274,541	32,393	0.990	32,067	235,698	1.301	306,608	7,668	1.239	9,500	243,366	1.299	316,108
0.75	200,139	1.360	272,130	32,393	0.990	32,067	232,532	1.308	304,197	7,612	1.242	9,456	240,143	1.306	313,653
0.76	197,636	1.368	270,341	30,200	1.007	30,411	227,837	1.320	300,752	7,545	1.247	9,406	235,382	1.318	310,158
0.77	193,871	1.380	267,445	26,241	1.044	27,389	220,112	1.339	294,834	7,424	1.255	9,316	227,536	1.337	304,150
0.78	190,975	1.388	265,077	25,167	1.056	26,564	216,142	1.349	291,641	7,331	1.261	9,241	223,473	1.346	300,882
0.79	187,229	1.400	262,161	25,167	1.056	26,564	212,396	1.359	288,725	7,242	1.267	9,175	219,638	1.356	297,900
0.80	178,264	1.431	255,101	24,563	1.062	26,087	202,827	1.386	281,188	6,688	1.305	8,729	209,514	1.384	289,917
0.81	175,189	1.441	252,522	21,068	1.105	23,271	196,257	1.405	275,793	6,382	1.329	8,482	202,640	1.403	284,275
0.82	171,642	1.455	249,723	20,378	1.115	22,715	192,020	1.419	272,439	6,281	1.337	8,399	198,300	1.416	280,838
0.83	169,465	1.463	247,884	20,378	1.115	22,715	189,842	1.425	270,599	6,238	1.341	8,364	196,080	1.423	278,963

All Domains Con't

	Measured			Indicated			Measured + Indicated			Inferred			Total		
Cutoff	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au op	Ounces	Tons	Au opt	Ounces
0.84	165,707	1.477	244,809	18,799	1.138	21,394	184,506	1.443	266,202	6,003	1.360	8,166	190,509	1.440	274,368
0.85	157,864	1.508	238,115	18,380	1.145	21,040	176,244	1.470	259,155	5,430	1.414	7,678	181,674	1.469	266,832
0.86	154,062	1.525	234,868	18,054	1.150	20,757	172,116	1.485	255,625	5,253	1.433	7,525	177,368	1.484	263,150
0.87	151,261	1.537	232,468	18,054	1.150	20,757	169,315	1.496	253,224	5,213	1.437	7,492	174,528	1.494	260,716
0.88	143,710	1.572	225,882	18,054	1.150	20,757	161,763	1.525	246,639	5,106	1.449	7,399	166,870	1.522	254,038
0.89	141,567	1.582	224,010	13,932	1.228	17,104	155,498	1.551	241,114	4,887	1.474	7,203	160,385	1.548	248,317
0.90	138,740	1.596	221,443	12,427	1.268	15,756	151,166	1.569	237,200	4,825	1.481	7,148	155,992	1.566	244,348
0.91	136,398	1.607	219,241	11,075	1.313	14,543	147,472	1.585	233,784	4,758	1.490	7,088	152,231	1.582	240,871
0.92	134,316	1.619	217,390	11,075	1.313	14,543	145,390	1.595	231,933	4,717	1.494	7,049	150,108	1.592	238,982
0.93	133,110	1.625	216,262	11,075	1.313	14,543	144,185	1.601	230,805	4,700	1.496	7,033	148,885	1.597	237,838
0.94	129,859	1.642	213,188	11,075	1.313	14,543	140,933	1.616	227,731	4,640	1.504	6,978	145,573	1.612	234,709
0.95	128,604	1.649	212,070	11,075	1.313	14,543	139,678	1.622	226,613	4,616	1.507	6,954	144,295	1.619	233,568
0.96	125,640	1.665	209,178	11,075	1.313	14,543	136,715	1.636	223,721	4,574	1.512	6,915	141,289	1.632	230,636
0.97	124,396	1.672	208,046	11,075	1.313	14,543	135,470	1.643	222,589	4,557	1.514	6,898	140,027	1.639	229,487
0.98	123,037	1.680	206,691	11,075	1.313	14,543	134,112	1.650	221,234	4,537	1.516	6,879	138,649	1.645	228,113
0.99	121,925	1.686	205,607	11,022	1.314	14,485	132,947	1.655	220,092	4,521	1.518	6,863	137,468	1.651	226,955