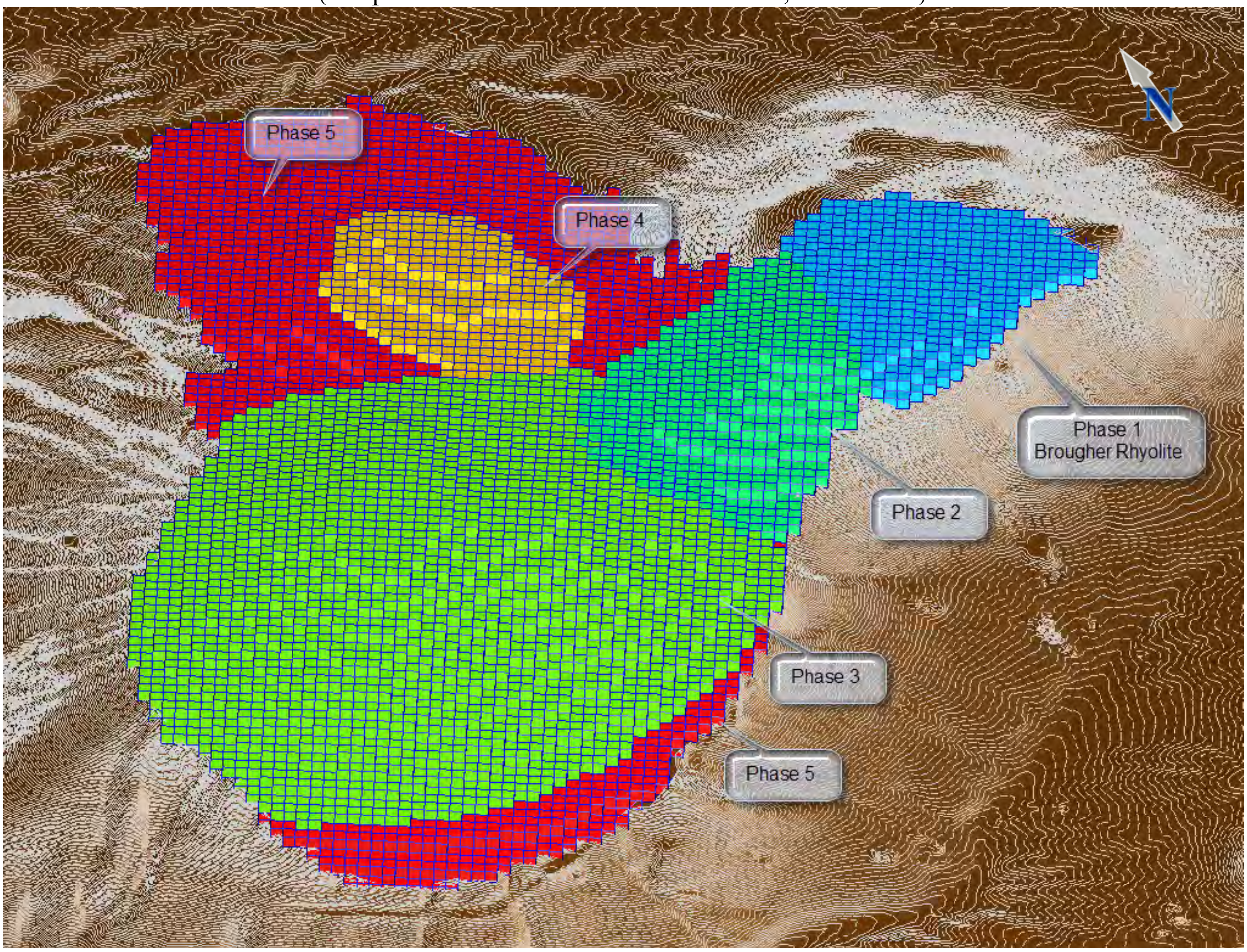
- Phase 4: Mines ore and waste from the top of the northern hill down to the 5,880ft elevation.
- Phase 5: Mines the remaining ore and waste to complete the ultimate pit.

Note that phase 1 was designed to include only Brougher Rhyolite material and to be mined approximately 300 feet to the east of the existing fiber optic cable that runs through the proposed ultimate pit. This allows for mining of this material prior to moving the fiber optic cable. This was done to facilitate the construction mining schedule.

It should also be noted that the phase 1 pit design was created outside of the optimized pit shell in order to provide the Brougher Rhyolite material. In all, a total of 347,000 tons of additional waste is mined due to this requirement. Additional testing is yet to be completed on the Oddie Rhyolite formation to determine if it would be suitable for construction materials. Should this be successful, then some of the additional waste may be reduced.

Figure 15.5 Perspective View of Three Hills Mine Pit Phases
(Perspective View of Three Hills Pit Phases; MDA 2016)



Note: Not to scale

Hasbrouck was designed to achieve the ultimate pit using 4 pit phases. These start at the top of the mountain and mine downward. The pits primarily work from west to east. The 4 pit phases are described as follows:

- Phase 1: Start mining on the top of the mountain at 6,270ft elevation. The bottom bench of phase 1 is at 5,700ft elevation. Access will be developed on the surface inside the pit boundary, and then mined out as phase 1 is mined down. The uppermost crest that is left behind is at the 6,170ft elevation. A ramp is left in the southeast high-wall of the pit for easy access to phase 2. The phase 1 pit design is shown in Figure 15.6.
- Phase 2: Mining starts at the crest of phase 1 (the 6,170ft elevation) and mines down to the bottom of phase 2 at the 5,600ft bench. The upper most crest of phase 2 is at approximately 6,110ft in elevation. Phase 2 pit design is shown in Figure 15.7.
- Phase 3: Mining starts at the crest of phase 2 (the 6,100ft bench) and continues to phase 3's ultimate depth at the 5,440ft elevation. Access is gained using the phase 2 ramp that was left behind. Again, a ramp is left in the high-wall of phase 3 to provide access for phase 4. Phase 3 pit design is shown in Figure 15.8.
- Phase 4: Mining starts at the phase 3 crest on the 6,060ft bench. Phase 4 achieves the ultimate pit with the bottom bench located at the 5,400ft elevation. This is the final pit phase and no ramps are left in the final high-wall. However, the wall is accessible every 120ft in height from the crest via the 65ft wide geotechnical benches. The ultimate pit shown in Figure 15.4 represents the phase 4 design.

Figure 15.6 Hasbrouck Phase 1 Pit Design

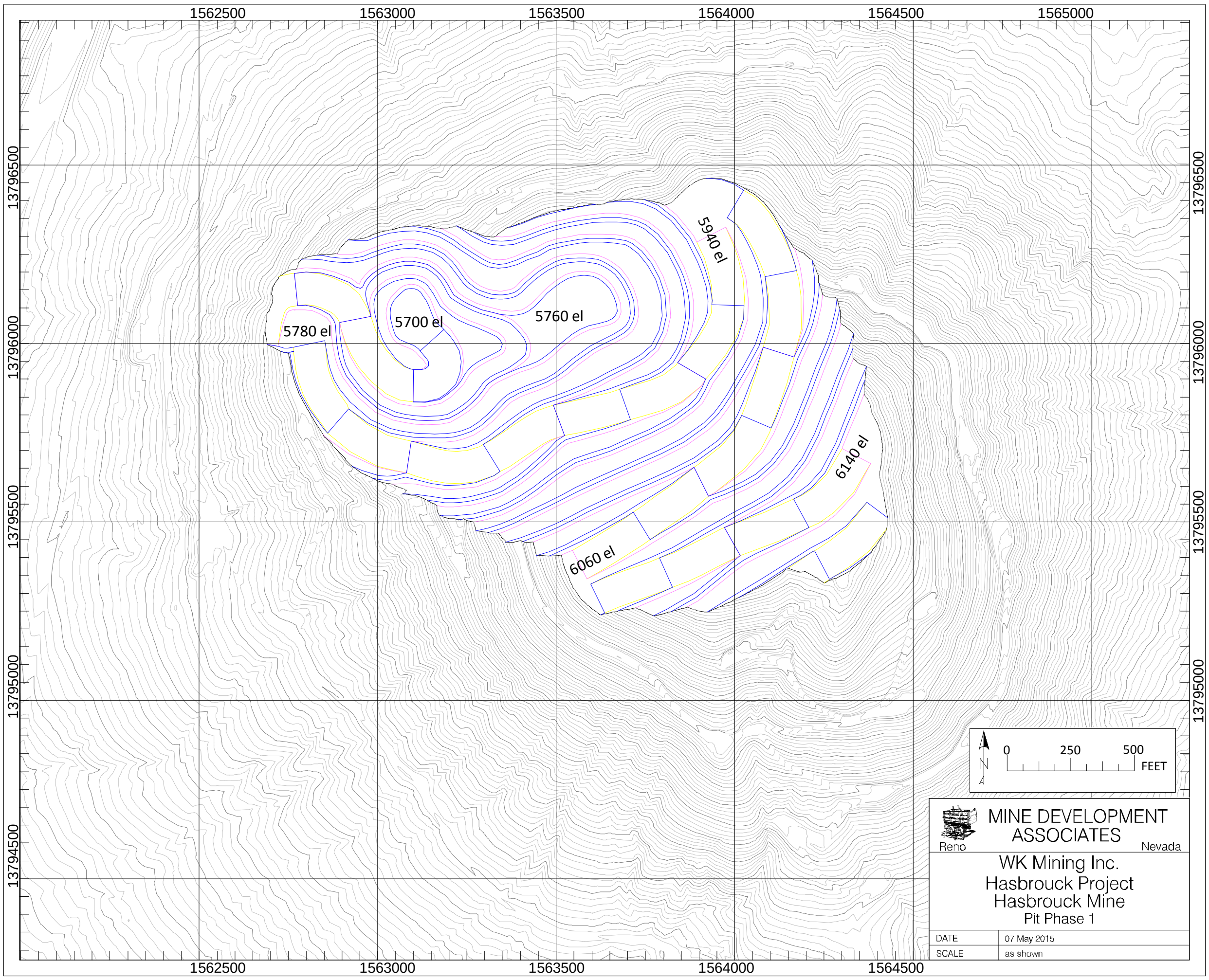


Figure 15.7 Hasbrouck Phase 2 Pit Design

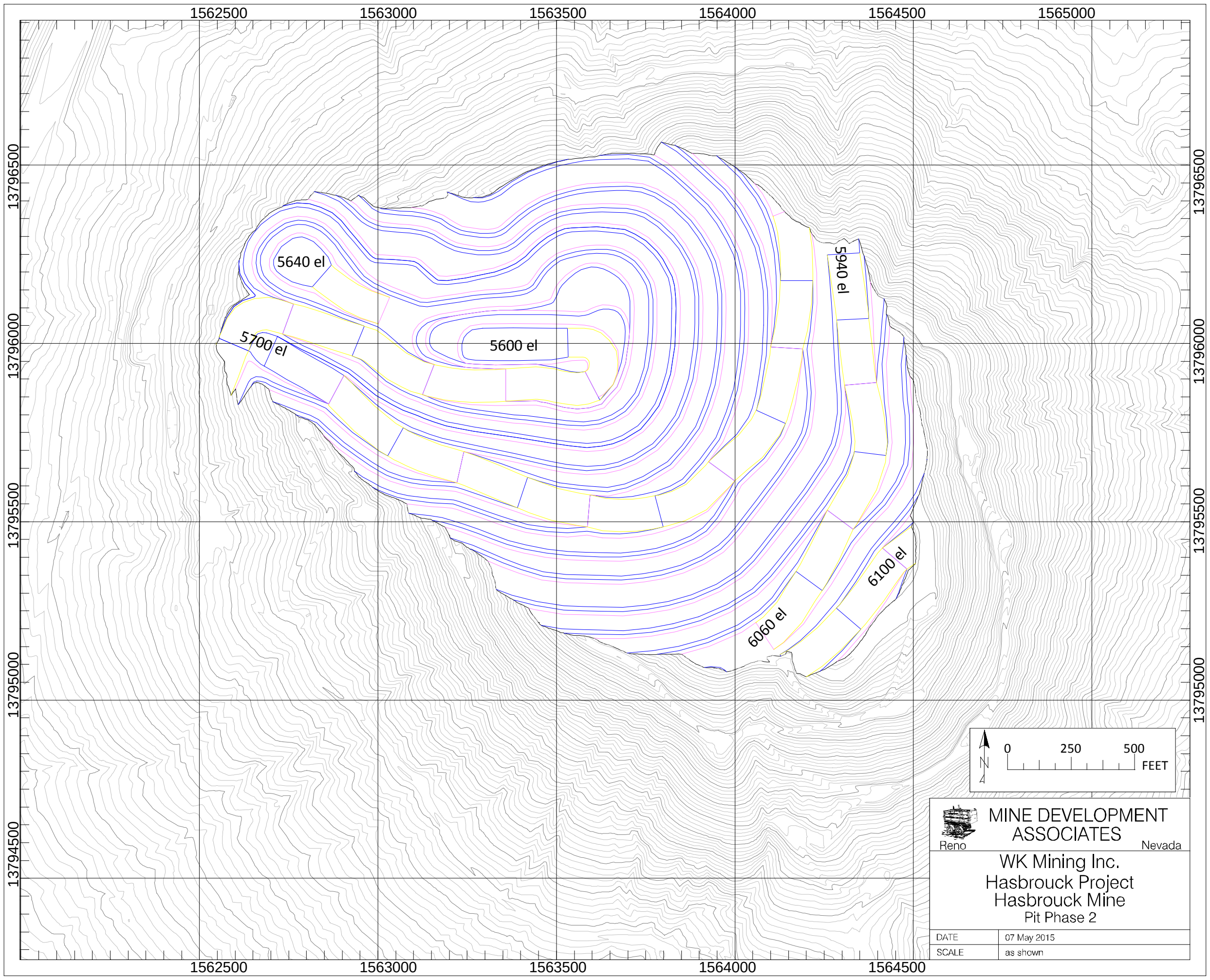
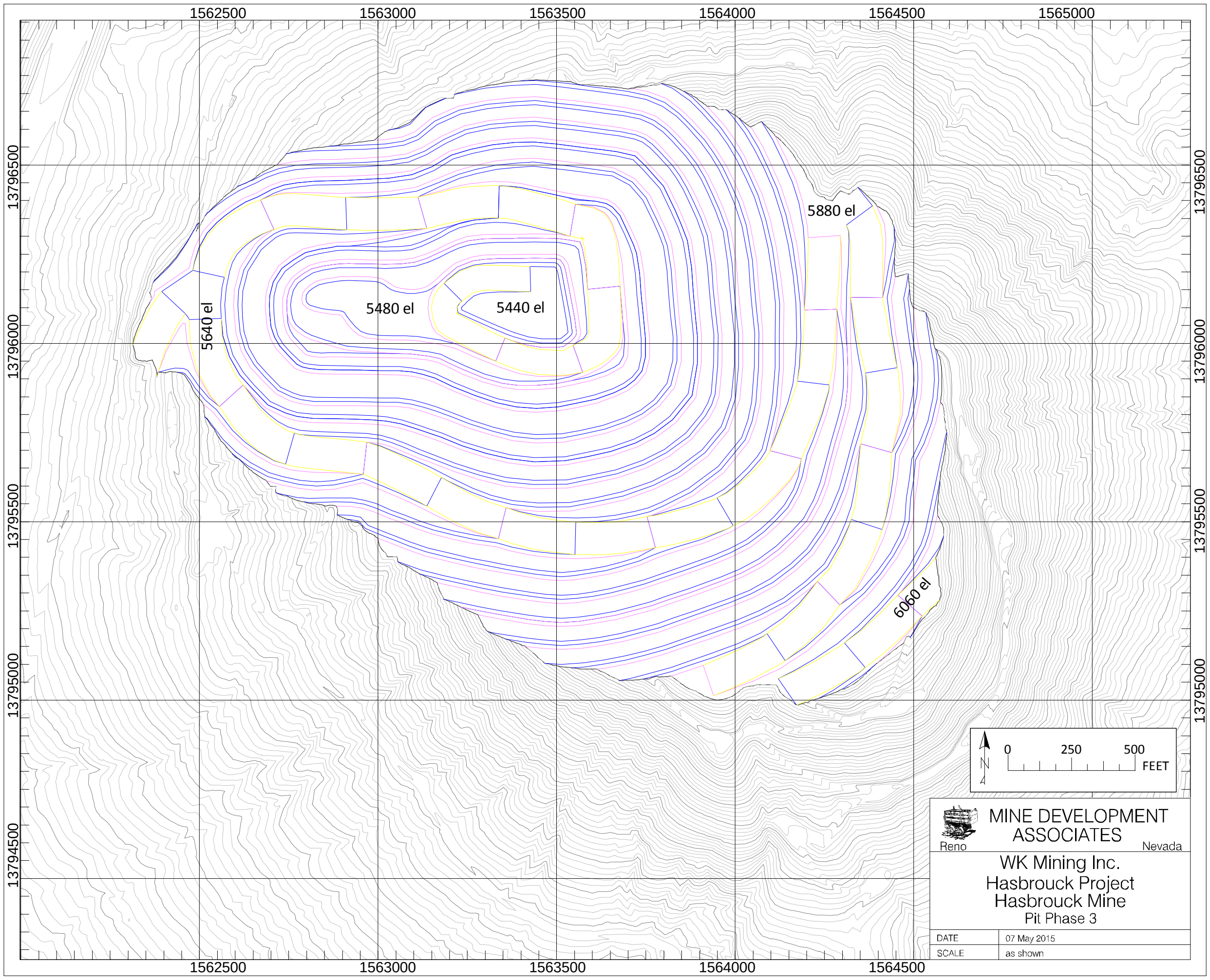


Figure 15.8 Hasbrouck Phase 3 Pit Design



15.4 Dilution

The resource models for the Three Hills and Hasbrouck deposits were created using 3-dimensional mineralized domains to confine the estimations by reporting grade and portion of each block within the various domains. The domains were then diluted back to the block size based on the contribution of each domain to the block. The resource models have block dimensions of 20ft long by 20ft wide by 20ft high for both Three Hills and Hasbrouck.

Because the resource models have been diluted to the block grades, MDA considers the block size to be reasonable and believes that this represents an appropriate amount of dilution for statement of reserves.

15.5 Three Hills and Hasbrouck Mine Proven and Probable Reserves

Table 15.12 through Table 15.15 report the Proven and Probable reserves for the Three Hills and Hasbrouck mines, based on the pit designs discussed in previous sections. These reserves are shown to be economically viable based on the Hasbrouck project cash flows created for the PFS and MDA believes that they are reasonable for the statement of Proven and Probable reserves. The reference point for the estimated reserves is at the exit from the respective open pits at the Three Hills and Hasbrouck mines. Summation discrepancies may be noticeable due to minor rounding issues.

Table 15.12 Three Hills Probable Reserves
(0.005oz Au/ton cutoff)

	K Tons	oz Au/ton	K Ozs Au
Probable	9,653	0.018	175

Cutoff grade for Three Hills reserves: 0.005 oz Au/ton

Table 15.13 Hasbrouck Proven and Probable Reserves

Upper Siebert	K Tons	oz Au/ton	K Ozs Au	oz Ag/ton	K Ozs Ag
Proven	1,301	0.020	26	0.387	504
Probable	5,576	0.016	89	0.260	1,452
Proven & Probable	6,877	0.017	114	0.284	1,955
Lower Siebert					
Proven	4,942	0.021	101	0.417	2,058
Probable	23,798	0.016	372	0.275	6,555
Proven & Probable	28,740	0.016	473	0.300	8,614
Total Hasbrouck					
Proven	6,242	0.020	127	0.410	2,562
Probable	29,374	0.016	461	0.273	8,007
Proven & Probable	35,617	0.017	588	0.297	10,569

Cutoff grade for Hasbrouck reserves: upper Siebert 0.008 oz Au/ton, and Hasbrouck lower Siebert 0.007 oz Au/ton

Table 15.14 Combined Three Hills and Hasbrouck Proven and Probable Reserves

	K Tons	oz Au/ton	K Ozs Au	oz Ag/ton	K Ozs Ag
Proven	6,242	0.020	127	0.410	2,562
Probable	39,028	0.016	635	0.205	8,007
Proven & Probable	45,270	0.017	762	0.233	10,569

Cutoff grade for Three Hills reserves: 0.005 oz Au/ton
Cutoff grade for Hasbrouck reserves: upper Siebert 0.008 oz Au/ton, and Hasbrouck lower Siebert 0.007 oz Au/ton

Table 15.15 Proven and Probable Reserves and Stripping by Pit Phase

		Proven Reserves					Probable Reserves					Proven & Probable Reserves					Waste	Total	Strip
	Pit	K Tons	oz Au/ton	K Ozs Au	oz Ag/ton	K Ozs Ag	K Tons	oz Au/ton	K Ozs Au	oz Ag/ton	K Ozs Ag	K Tons	oz Au/ton	K Ozs Au	oz Ag/ton	K Ozs Ag	K Tons	K Tons	Ratio
Three Hills	Ultimate Pit	-	-	-	-	-	9,653	0.018	175	-	-	9,653	0.018	175	-	-	8,331	17,984	0.86
Hasbrouck	Phase 1	2,467	0.025	63	0.493	1,217	7,915	0.018	142	0.282	2,232	10,383	0.020	205	0.332	3,449	5,091	15,474	0.49
	Phase 2	1,683	0.020	34	0.470	791	7,217	0.018	126	0.316	2,282	8,901	0.018	160	0.345	3,073	8,988	17,888	1.01
	Phase 3	1,253	0.013	16	0.300	376	8,627	0.014	117	0.281	2,420	9,880	0.013	133	0.283	2,796	10,595	20,475	1.07
	Phase 4	839	0.017	14	0.212	178	5,615	0.013	75	0.191	1,074	6,453	0.014	89	0.194	1,252	14,929	21,382	2.31
	Total	6,242	0.020	127	0.410	2,562	29,374	0.016	461	0.273	8,007	35,617	0.017	588	0.297	10,569	39,602	75,219	1.11
All Deposits	Total	6,242	0.020	127	0.410	2,562	39,028	0.016	635	0.205	8,007	45,270	0.017	762	0.233	10,569	47,933	93,203	1.06

15.5.1 Three Hills and Hasbrouck Mines In-pit Inferred Resources

Inferred resources at both Three Hills and Hasbrouck were considered as waste and not used in the economic analysis. The CIM definition of Inferred Resources is given below, with CIM's explanatory material shown in italics:

> An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.
>
> An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
>
> *An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.*
>
> *There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.*

In-pit Inferred resources are shown in Table 15.16. In-pit resources are presented using a 0.005 oz Au/ton cutoff grade for Three Hills, 0.008 oz Au/ton for Hasbrouck upper Siebert, and 0.007 oz Au/ton lower Siebert. The cutoff grades are reflective of the cutoffs used to report reserves. Note that resources use a cutoff of 0.005 oz Au/ton for all deposits.

Table 15.16 Total In-Pit Inferred Resources, Hasbrouck Project

	K Tons	oz Au/ton	K Ozs Au	oz Ag/ton	K Ozs Ag
Three Hills	342	0.007	2	-	-
Hasbrouck					
Upper Siebert	560	0.010	6	0.099	56
Lower Siebert	2,105	0.012	25	0.184	386
Total	2,665	0.011	31	0.166	442
Total In Pit Inferred Material	3,007	0.011	33	0.147	442

Cutoff grade for Three Hills: 0.005 oz Au/ton
Cutoff grade for Hasbrouck: upper Siebert 0.008 oz Au/ton, and Hasbrouck lower Siebert 0.007 oz Au/ton

16.0 MINING METHODS

The pre-feasibility for the Hasbrouck project includes mining at both the Three Hills Mine and the Hasbrouck Mine. These are planned as open-pit, truck and loader operations. The truck and loader method provides reasonable costs and selectivity for these deposits. Only open pit mining methods are considered for mining at the Hasbrouck project.

16.1 Definition of Mine Material Types

For production scheduling, material types were classified into ore or waste categories. Ore consists of only Proven and Probable reserves. For the Hasbrouck Mine, these are further divided into upper and lower Siebert ore, which have been tracked separately in order to recognize their different metallurgical recoveries. All ore is oxide.

Waste material was defined as all material inside of the pit designs that did not meet Proven and Probable reserve classifications. For Three Hills, waste was further divided into Brougher Rhyolite and other waste. All Inferred material was considered waste. A total of 8,331,000 tons of waste have been defined at Three Hills and 39,602,000 tons have been defined at Hasbrouck. Table 15.15 in Section 15.5 shows the tons of ore and waste to be mined by pit.

16.2 Mine Roads and Equipment Access

In-pit ramp dimensions were discussed previously in the Reserves section of this report. Haulage routes constructed outside of the pit were designed to all allow for two-way traffic. Sufficient running surface is to be maintained to allow for about 3.5 times the width of the haul trucks, and a sufficient berm at least half of the tallest tire of any vehicle using the road will have to be maintained. Roads outside of the pit that have a hill or dump next to them will require about 90 feet minimum width (including the berm), and roads where two berms are to be maintained will require 115 feet of width or more (also including berm widths).

The main haul roads from the pit exit to the crusher pad have been designed using gradients between 5% and 8%.

16.3 Waste Rock Storage Areas

16.3.1 Geotechnical Aspects of Waste Rock Storage Areas

The waste rock storage areas (“WRSA”) at the Three Hills site were investigated during the September, 2014 geotechnical field investigation. Five test pits were excavated within the footprint of the proposed facility. The WRSA is currently sited along the west slopes of the topographic feature that is identified as the Three Hills. The upper portions of the WRSA will be founded on bedrock and the lower portions are founded on granular soils located along the base of Three Hills. Bedrock within the footprint of the WRSA is composed of rhyolite and tuff. The tuff is the same rock unit that underlies the HLF and is described as weak to extremely weak, slightly to moderately weathered, and relatively unfractured. When highly weathered or pulverized, the bedrock exhibited low plasticity. The rhyolite is described as slightly to moderately weathered, welded, and medium strong with localized strong silicified zones. The tuff is considered rippable with an appropriately sized dozer, while the rhyolite is considered marginally rippable with localized non-rippable zones.

Soils encountered along the base of the Three Hills slopes are described as silty and clayey sands, likely reworked from the volcanic tuff. Bedrock was encountered within 2ft of the ground surface for the majority of the test pits, with one test pit that encountered bedrock 8ft below ground surface. Roots were present to approximately 2ft below ground surface. Groundwater is not anticipated to influence the design, construction or operation of the waste rock storage areas.

The WRSAs at the Hasbrouck Mine will be sited along the south and east slopes of Hasbrouck Peak. It is anticipated the upper portions of the WRSAs will be founded directly on bedrock, and on granular soils in the lower portions of the WRSAs. Shallow bedrock is anticipated in areas of surficial soil cover. The areas along the base of Hasbrouck Peak are mapped as alluvial deposits and form the northern perimeter of the broad alluvial drainages that transmit water during periods of heavy precipitation. Bedrock along the slopes of Hasbrouck Peak is mapped as volcanic tuff, and is anticipated to be of similar properties to the tuff observed at the Three Hills site. Groundwater is not anticipated to influence the design, construction or operation of the WRSAs at the Hasbrouck Mine, as it is at considerable depth.

16.3.2 Waste Rock Storage Area Designs

Mined waste will initially be used as fill for construction in areas as required, such as for roads, leach pads, and for fill around the crusher. For the Hasbrouck Mine, some waste may be used for berm construction to contain rock that may roll off of the mountain during initial mining.

Mine waste storage has been designed as a single facility for Three Hills and two waste facilities for Hasbrouck (East and South waste rock storage areas). The Three Hills waste storage area includes a haul road leading from the base of the dump in the north to the upper dump lifts. This road has been designed with a 90 foot wide ramp at less than 10% gradient to provide two-way haul truck access. In addition, the lower portion of the dump contains a built in haul road that leads around the base of the dump to the ROM heap leach pad.

The Three Hills waste dump was designed to be constructed from the base up, starting with dumping of waste material to define the haul road to the leach pad. The dump would then be constructed in 20ft to 40ft lifts depending on the efficiencies and operations preference. The dump design assumes a 34° dump face and leaves catch benches 40ft wide for every 40ft in dumping height. This gives an inter-ramp slope of about 2.5H:1V. The overall slope of the dump is approximately 3.0H:1V and minimizes the effort required for reclamation at that overall slope. The Three Hills waste storage area is shown in Section 18.1 (Figure 18.1) and in the yearly pit position maps in Appendix B.

The Hasbrouck east waste rock storage area will be used primarily for waste mined from the upper benches in each phase, and thereafter the south waste storage area will be used as the main waste storage area. The east waste dump will be accessed from roads developed directly off of the upper mining benches over to the upper portion of the waste dump. It is currently envisioned that the dump will be built by starting from the upper benches, so no ramps are built into the lower portions of it. Dumping will begin at the crest of the designed dump and continue until a dumping face between 50ft and 100ft tall is developed. MDA believes that lifts up to 100ft tall can be safely dumped in this manner; however, it will be important to monitor these dump faces for stability during operation to ensure safety.

Once the upper lift has been dumped to a height of 100ft, a road will be established to the base of the dump, or slightly higher, where a second lift will be established and built out in a similar fashion. Once the lower lift has been dumped in, dumping can be continued on the upper lift. A dump toe is to be established by leaving a berm on the lower lift so that waste dumped from the upper lift is contained leaving room for a 76ft wide catch bench. This will allow for the return of truck traffic to the lower lift if additional dumping is to be done, and also allows for grading of the dump to a 3H:1V slope during final reclamation.

The east waste storage area has been designed to have a height of up to 330ft from the final crest to the lowest dump toe. The east waste storage area is shown in Section 18.1 (Figure 18.2) and in the yearly pit position maps in Appendix C.

The Hasbrouck south waste storage area is designed to be just south of the main haul road that comes out of the pit exits as shown in Section 18.1 (Figure 18.2) and in the yearly pit position maps in Appendix C. The road is intended to be the upper boundary of the dump and to provide access for equipment onto the various lifts. The dump will be constructed in the same manner as described for the east dump, dumping from the top until a 100ft lift height is established. Then a second lift will be started at, or just above, the dump toe and extended to the south until it has a desired lift height.

The Hasbrouck south waste storage area has been designed to have a height of up to 360ft from the final crest to the lowest dump toe.

Lift heights will need to be monitored to maintain a safe dump face. When dumping, the lift gradient should rise toward the dump face between 2% and 4% to allow for settling and solidification of the dump floor. The dump face should be tended to by a dozer to maintain a proper berm to keep trucks from backing over the edge. The dozer operator should be trained to watch for issues such as cracking or sloughing at the dump face. It is important that a wide dump face is worked to allow time for settling and inspection.

16.4 Stockpiles

Long term stockpiling strategies were not used for either the Three Hills or Hasbrouck mines. All ore from Three Hills will be placed directly on the ROM leach pad by haul trucks. At the Hasbrouck Mine, the ore will be hauled and directly dumped into the crusher as much as possible. A short term stockpiled has been planned near the crusher for when the crusher temporarily cannot keep up with ore haulage (such as unexpected down time at the primary crusher). This stockpile will be re-handled by the contract miner as required. The estimated mining costs include a provision that up to 3.5% of the ore would be re-handled.

16.5 Mine-Production Schedule

The pre-feasibility study has been based on contract mining of Three Hills and Hasbrouck mines. The mine production schedule has been assuming the use of loaders and 100-ton class trucks.

Production scheduling was completed using Geovia's MineSched™ (version 9.01) software. Proven and Probable reserves were used to schedule mine production, and Inferred resources inside of the pit were considered as waste. Additional detail was given to the mining of waste material required for fill and leach-pad over-liner material to be used for construction at Three Hills.

16.5.1 Three Hills Production Schedule

Three Hills production schedules have been completed based on a 15,000tpd production requirement for the ROM heap leach pad. As the ore is generally low grade, it may not be profitable to incur re-handling costs, so a major assumption was that stockpiles would not be used for Three Hills ore. In addition, a limit of 1 bench per month of mining was imposed, with the exception of the upper few benches which were not confined by a pit crest and will be small in total tonnage. The 1 bench limit was used as a rule of thumb to ensure that the mining schedule allows for the development and mining of benches in a realistic fashion and not overly aggressive.

Detailed monthly schedules were created for the construction period based on construction requirements for heap-leach over-liner and fill material requirements defined by NewFields. Waste scheduled to be mined for construction includes:

- 235,000 cubic yards (334,000 tons) of Brougher Rhyolite for over-liner material sent to a stockpile for crushing;
- 24,000 cubic yards (34,000tons) of Brougher Rhyolite sent to a stockpile for crushing prior to use for coarse road surfacing material;
- 134,000 cubic yards (185,000 tons) of fill material for fill around pond and plant facilities;
- 42,000 cubic yards (59,000 tons) of fill material for the heap-leach facility; and
- 69,000 cubic yards (90,000 tons) of fill material for roads.

In total, 504,000 cubic yards (702,000 tons) of waste material is now scheduled for construction purposes. The density of the material is assumed from the bulk density from the block model. A net swell factor of 1.3 was assumed based on about 1.4 through mining, followed by subsequent compaction when placed.

Construction material is mined from Three Hills phases 1 and 2, which corresponds to months -9 through -4. Production mining starts in month -2.

The production schedule was produced using monthly periods. Ore placed on the pad had a lag time applied so that gold production was not assumed at time of placement. The lag time was developed by MDA in coordination with Herb Osborne of H.C. Osborne and Associates and Carl Defilippi of KCA, who are QP's for the metallurgy and processing sections of this report, respectively. The schedule assumed that the full extraction of recoverable gold placed on the pad would take up to 7 months. Additional recovery of gold was applied during the drain-down period based on direction from H.C. Osbourne. For Three Hills, additional drain-down recovery of 2.5% was spread out over a 12 month period after operational recoveries were achieved. The operational recovery used was 79%, leading to an ultimate, total recovery of 81.5% after drain down. The percentage of that recovery assumed for each month is derived from Table 13.20 (see Section 13.8). The additional drain-down recoveries are also shown in Table 13.20.

16.5.2 Hasbrouck Production Schedule

Hasbrouck production schedules were completed based on a 17,500tpd production requirement. As mentioned previously, no long term stockpiles were assumed for Hasbrouck, and all ore is to be delivered to the crusher. A short term stockpile is planned near the crusher so that when the crusher is not available, trucks can dump without delay.

Subsequent to the 2015 PFS, additional studies were made to reduce the capital required to start the Hasbrouck Mine. It was determined that a 4-month delay would allow the Three Hills Mine to generate the returns required to fully fund the Hasbrouck Mine capital investment. Thus, mining at Hasbrouck was assumed to start 4 months after completion of Three Hills mining. This places the startup of Hasbrouck Mine in month 25 (25th month after the start of production at Three Hills). Little pre-stripping is required as ore is located near the surface, though waste is mined early to assist in obtaining construction fill material. During the initial startup at Hasbrouck, some ore may be stockpiled in the short term stockpile until the crusher is available. The construction schedule for Hasbrouck Mine has not yet been detailed.

The production schedule for Hasbrouck was produced using monthly periods, and like Three Hills, a lag time for gold recovery was applied to ore sent through the crusher. The schedule assumed that the full extraction of recoverable gold placed on the pad would take 8 months. Upper Siebert ore was assigned a 55.6% recovery and lower Siebert was assigned a 76.6% recovery. Both ore types were assigned 11% recovery for silver. The recoverable ounces were calculated, and the lag times were applied as shown in Table 13.20. This table also shows the drain-down recovery used at the end of the operational recovery. A total of 1.5% additional recovery was used, and the drain-down recovery was completed over a 24-month period.

All waste material will be hauled to waste dumps as previously described for both Three Hills and Hasbrouck mines, except that material need for construction.

16.5.3 Combined Annual Production Schedule

Mine and process annual production schedules are shown in Table 16.1 and Table 16.2 respectively. Yearly pit and dump positions are shown in Appendix B and Appendix C.

Table 16.1 Annual Mine Production Schedule

		Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
Three Hills	Ore Mined	K Tons	540	5,450	3,664	-	-	-	-	-	-	-	9,653
		oz Au/ton	0.014	0.015	0.023	-	-	-	-	-	-	-	0.018
		K Ozs Au	8	84	83	-	-	-	-	-	-	-	175
	Pit to Dump	K Tons	966	4,735	2,630	-	-	-	-	-	-	-	8,331
	Total Tons	K Tons	1,506	10,185	6,293	-	-	-	-	-	-	-	17,984
	Strip Ratio	W:O	1.79	0.87	0.72								0.86
Hasbrouck Phase 1	Ore Mined	K Tons	-	-	905	4,675	3,048	1,755	-	-	-	-	10,383
		oz Au/ton	-	-	0.011	0.017	0.022	0.027	-	-	-	-	
		K Ozs Au	-	-	10	80	66	48	-	-	-	-	205
		oz Ag/ton	-	-	0.099	0.309	0.371	0.447	-	-	-	-	
		K Ozs Ag	-	-	89	1,444	1,130	785	-	-	-	-	3,449
	Pit to Dump	K Tons	-	-	2,065	2,264	505	256	-	-	-	-	5,091
	Total Tons	K Tons	-	-	2,970	6,940	3,553	2,011	-	-	-	-	15,474
	Strip Ratio	W:O			2.28	0.48	0.17	0.15					0.49
Hasbrouck Phase 2	Ore Mined	K Tons	-	-	-	1,273	2,521	2,954	2,152	-	-	-	8,901
		oz Au/ton	-	-	-	0.013	0.017	0.019	0.020	-	-	-	
		K Ozs Au	-	-	-	16	44	56	44	-	-	-	160
		oz Ag/ton	-	-	-	0.254	0.273	0.364	0.458	-	-	-	
		K Ozs Ag	-	-	-	323	689	1,074	987	-	-	-	3,073
	Pit to Dump	K Tons	-	-	675	5,667	1,032	1,251	362	-	-	-	8,988
	Total Tons	K Tons	-	-	675	6,940	3,553	4,206	2,515	-	-	-	17,888
	Strip Ratio	W:O			NA	4.45	0.41	0.42	0.17				1.01
Hasbrouck Phase 3	Ore Mined	K Tons	-	-	-	97	819	1,678	3,819	3,467	-	-	9,880
		oz Au/ton	-	-	-	0.010	0.012	0.013	0.013	0.015	-	-	
		K Ozs Au	-	-	-	1	10	22	51	50	-	-	133
		oz Ag/ton	-	-	-	0.032	0.153	0.177	0.283	0.373	-	-	
		K Ozs Ag	-	-	-	3	125	297	1,079	1,292	-	-	2,796
	Pit to Dump	K Tons	-	-	-	2,122	2,150	2,291	3,355	678	-	-	10,595
	Total Tons	K Tons	-	-	-	2,219	2,969	3,969	7,173	4,146	-	-	20,475
	Strip Ratio	W:O				21.90	2.62	1.37	0.88	0.20			1.07
Hasbrouck Phase 4	Ore Mined	K Tons	-	-	-	-	-	-	416	2,913	1,746	-	5,076
		oz Au/ton	-	-	-	-	-	-	0.010	0.012	0.017	-	
		K Ozs Au	-	-	-	-	-	-	4	36	29	-	69
		oz Ag/ton	-	-	-	-	-	-	0.014	0.106	0.238	-	
		K Ozs Ag	-	-	-	-	-	-	6	309	415	-	729
	Pit to Dump	K Tons	-	-	-	-	-	-	4,242	8,638	1,228	-	14,109
	Total Tons	K Tons	-	-	-	-	-	-	4,659	11,551	2,975	-	19,184
	Strip Ratio	W:O							10.19	2.97	0.70		2.78
Hasbrouck Phase 5	Ore Mined	K Tons	-	-	-	-	-	-	-	25	1,353	-	1,378
		oz Au/ton	-	-	-	-	-	-	-	0.013	0.015	-	
		K Ozs Au	-	-	-	-	-	-	-	0	20	-	20
		oz Ag/ton	-	-	-	-	-	-	-	0.411	0.378	-	
		K Ozs Ag	-	-	-	-	-	-	-	10	512	-	522
	Pit to Dump	K Tons	-	-	-	-	-	-	-	87	733	-	820
	Total Tons	K Tons	-	-	-	-	-	-	-	112	2,086	-	2,198
	Strip Ratio	W:O								3.50	0.54		0.60
Total	Ore Mined	K Tons	540	5,450	4,568	6,045	6,388	6,388	6,388	6,405	3,099	-	45,270
		oz Au/ton	0.014	0.015	0.020	0.016	0.019	0.020	0.015	0.014	0.016	-	0.017
		K Ozs Au	8	84	93	98	120	126	98	87	49	-	762
		oz Ag/ton	-	-	0.020	0.293	0.304	0.338	0.324	0.252	0.299	-	0.233
		K Ozs Ag	-	-	89	1,770	1,944	2,156	2,071	1,611	927	-	10,569
	Pit to Dump	K Tons	966	4,735	5,370	10,053	3,687	3,798	7,959	9,403	1,962	-	47,933
	Total Tons	K Tons	1,506	10,185	9,938	16,099	10,075	10,185	14,347	15,808	5,061	-	93,203
	Strip Ratio	W:O	1.79	0.87	1.18	1.66	0.58	0.59	1.25	1.47	0.63		1.06
	Rehandle	K Tons	-	-	-	377	641	639	639	639	624	5	3,562

Table 16.2 Annual Process Production Schedule

	Three Hills Leach	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total
	Material	K Tons	540	5,450	3,664	-	-	-	-	-	-	-	-	9,653
	Placed on	oz Au/ton	0.014	0.015	0.023	-	-	-	-	-	-	-	-	0.018
	Pad	K Ozs Au	8	84	83	-	-	-	-	-	-	-	-	175
	Recoverable	K Ozs Au	6	67	65	-	-	-	-	-	-	-	-	138
	Recovered	K Ozs Au	-	54	83	5	-	-	-	-	-	-	-	142
	Cumulative Recovery	%		59.0%	78.6%	81.5%								
	Hasbrouck Leach													
Upper	Material	K Tons	-	-	905	4,208	1,561	201	3	-	-	-	-	6,877
Seibert	Placed on	oz Au/ton	-	-	0.011	0.016	0.022	0.024	0.008	-	-	-	-	0.017
	Pad	K Ozs Au	-	-	10	66	34	5	0	-	-	-	-	114
		oz Ag/ton	-	-	0.099	0.281	0.367	0.553	0.000	-	-	-	-	0.284
		K Ozs Ag	-	-	89	1,182	573	111	0	-	-	-	-	1,955
	Recoverable Au	K Ozs Au	-	-	5	37	19	3	0	-	-	-	-	64
	Recovered Au	K Ozs Au	-	-	0	35	23	5	0	0	-	1	1	65
	Cumulative Au Recovery	%			3.0%	46.4%	53.1%	55.6%	55.6%	55.6%		56.2%	57.1%	
	Recoverable Ag	K Ozs Ag	-	-	10	130	63	12	0	-	-	-	-	215
	Recovered Ag	K Ozs Ag	-	-	0	115	79	22	0	0	-	-	-	215
	Cumulative Ag Recovery	%			0.1%	9.0%	10.5%	11.0%	11.0%	11.0%				
Non-Upper	Material	K Tons	-	-	-	1,838	4,827	6,187	6,384	6,405	3,099	-	-	28,740
Seibert	Placed on	oz Au/ton	-	-	-	0.017	0.018	0.020	0.015	0.014	0.016	-	-	0.016
	Pad	K Ozs Au	-	-	-	32	86	121	98	87	49	-	-	473
		oz Ag/ton	-	-	-	0.320	0.284	0.331	0.324	0.252	0.299	-	-	0.300
		K Ozs Ag	-	-	-	588	1,371	2,045	2,071	1,611	927	-	-	8,614
	Recoverable Au	K Ozs Au	-	-	-	24	66	93	75	66	38	-	-	363
	Recovered Au	K Ozs Au	-	-	-	15	58	93	81	65	51	3	4	370
	Cumulative Au Recovery	%				47.8%	62.0%	69.4%	73.1%	73.4%	76.6%	77.2%	78.1%	
	Recoverable Ag	K Ozs Ag	-	-	-	65	151	225	228	177	102	-	-	948
	Recovered Ag	K Ozs Ag	-	-	-	40	136	212	243	191	125	-	-	948
	Cumulative Ag Recovery	%				6.9%	9.0%	9.7%	10.4%	10.7%	11.0%			
All HBM Material	Material	K Tons	-	-	905	6,045	6,388	6,388	6,388	6,405	3,099	-	-	35,617
(Upper &	Placed on	oz Au/ton	-	-	0.011	0.016	0.019	0.020	0.015	0.014	0.016	-	-	0.017
Lower Seibert)	Pad	K Ozs Au	-	-	10	98	120	126	98	87	49	-	-	588
		oz Ag/ton	-	-	0.099	0.293	0.304	0.338	0.324	0.252	0.299	-	-	0.297
		K Ozs Ag	-	-	89	1,770	1,944	2,156	2,071	1,611	927	-	-	10,569
	Recoverable Au	K Ozs Au	-	-	5	61	85	96	75	66	38	-	-	426
	Recovered Au	K Ozs Au	-	-	0	50	81	98	81	65	51	4	5	435
	Cumulative Au Recovery	%			3.0%	46.8%	57.7%	64.9%	68.6%	69.6%	72.5%	73.1%	74.0%	
	Recoverable Ag	K Ozs Ag	-	-	10	195	214	237	228	177	102	-	-	1,163
	Recovered Ag	K Ozs Ag	-	-	0	155	215	234	243	191	125	-	-	1,163
	Cumulative Ag Recovery	%			0.1%	8.3%	9.7%	10.1%	10.5%	10.8%	11.0%			
	Total Au Production	K Ozs Au	-	54	83	55	81	98	81	65	51	4	5	577
	Total Ag Production	K Ozs Ag	-	-	0	155	215	234	243	191	125	-	-	1,163
	Total - All Leach													
	Material	K Tons	540	5,450	4,568	6,045	6,388	6,388	6,388	6,405	3,099	-	-	45,270
	Placed on	oz Au/ton	0.014	0.015	0.020	0.016	0.019	0.020	0.015	0.014	0.016	-	-	0.017
	Pad	K Ozs Au	8	84	93	98	120	126	98	87	49	-	-	762
		oz Ag/ton	-	-	0.020	0.293	0.304	0.338	0.324	0.252	0.299	-	-	0.233
		K Ozs Ag	-	-	89	1,770	1,944	2,156	2,071	1,611	927	-	-	10,569
	Total Au Production	K Ozs Au	-	54	83	55	81	98	81	65	51	4	5	577
	Total Ag Production	K Ozs Ag	-	-	0	155	215	234	243	191	125	-	-	1,163
	Cumulative Recovery - Au	%	0.0%	59.0%	74.6%	68.3%	68.1%	70.4%	72.2%	72.5%	74.6%	75.0%	75.7%	
	Cumulative Recovery - Ag	%			0.1%	8.3%	9.7%	10.1%	10.5%	10.8%	11.0%			

16.6 Consumables

Major mining consumables include ANFO used in blasting operations and fuel used for equipment and blasting. Table 16.3 shows estimated ANFO and fuel consumptions.

Table 16.3 Major Mining Consumables

Blasting Consumables	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
Bulk ANFO	Tons	140	955	928	1,512	941	952	1,340	1,477	473	-	8,718
Fuel Requirements												
Drilling	K Gal	32	222	214	351	219	222	313	344	110	-	2,027
Blasting	K Gal	13	28	27	34	27	27	32	34	15	-	237
Loading	K Gal	39	263	260	435	281	284	391	429	141	-	2,523
Haulage	K Gal	85	625	645	1,002	571	563	901	977	344	-	5,714
Support	K Gal	144	209	214	210	209	209	209	210	123	-	1,740
Maintenance	K Gal	26	39	39	39	39	39	39	39	23	-	323
Total	K Gal	339	1,386	1,400	2,072	1,347	1,345	1,886	2,033	756	-	12,564

16.7 Equipment Selection and Productivities

The production schedules were established to mine required waste while fulfilling ore requirements to the leach pad or crusher. Mine production was scheduled assuming contractors would mine using Cat 992 style loaders and 100-ton capacity haul trucks. Three Hills mining productivity rates will vary between about 500,000 tons per month at startup, to around 900,000 tons of month during peak mining. Ramp up of production is done over about 4 months. Mining starts in month -9 to mine waste material required for over-liner material and construction fill. Production mining starts in Month -2 where both waste and ore is mined. The ore will be placed directly on the leach pad assuming that permission to load the pad is given by permitting agencies. The average mining rate is about 860,000 tons per month after ramp up of production. Maximum tons per day of 1,500 tons per day to the pad is assumed.

Mining rates at Hasbrouck were developed in order to supply a maximum of 1,750 tons per day to processing facilities. The average peak mining rate of about 1.4 million tons per month.

Mining productivities assumed a mining schedule, equipment productivities, operating efficiencies, and availabilities.

The following subsections describe the mine operating scheduled and productivity assumptions.

16.7.1 Mine Operating Schedule

The mine operating schedule assumes 2 shifts, 12-hours per shift, 365 days per year. The operating schedule assumes 6 days of holidays and 4 weather delay days per year. However, holidays will likely use skeleton crews to achieve production. Table 16.4 shows the yearly mine operating schedule. This includes estimates for standby and delay times. Overall, the shift operating efficiency, a measure of available work time in the shift compared to 12 hours per shift, is 87.5%. Yearly operating efficiency taking into consideration holidays and weather delays, is 85.1%.

Table 16.4 Mine Operating Schedule

	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
	K Tons Mined	1,506	10,185	9,938	16,099	10,075	10,185	14,347	15,808	5,061	-	93,203
	K Tons Rehandel	-	-	90	605	639	639	639	641	310	-	3,562
	Total K Tons Moved	1,506	10,185	10,029	16,703	10,714	10,824	14,985	16,449	5,371	-	96,765
Standby Time	Days per Period	243	365	365	366	365	365	365	366	215	-	3,015
Standby Time	Holidays per Period	4	6	6	6	6	6	6	6	5	-	51
Standby Time	Weather Delays	3	4	4	4	4	4	4	4	2	-	33
Standby Time	Days per Week	7	7	7	7	7	7	7	7	7	-	
Standby Time	Shifts per Day	2	2	2	2	2	2	2	2	2	-	
Standby Time	Hrs per Shift	12	12	12	12	12	12	12	12	12	-	
	Scheduled Hrs / Period	5,664	8,520	8,520	8,544	8,520	8,520	8,520	8,544	4,992	-	70,344
Delays / Efficiency	Lunch Breaks	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	-	
Delays / Efficiency	Shift Startup / Shutdown	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	-	
Delays / Efficiency	Breaks	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-	
Delays / Efficiency	Safety / Training Hrs/Shift	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-	
Delays / Efficiency	Misc - Blast & Move	-	-	-	-	-	-	-	-	-	-	
Delays / Efficiency	Operator Hours after Misc	4,956	7,455	7,455	7,476	7,455	7,455	7,455	7,476	4,368	-	61,551
Delays / Efficiency	Shift Operator Efficiency	87.5%	87.5%	87.5%	87.5%	87.5%	87.5%	87.5%	87.5%	87.5%	0.0%	87.5%
Delays / Efficiency	Schedule Operator Efficiency	85.0%	85.1%	85.1%	85.1%	85.1%	85.1%	85.1%	85.1%	84.7%	0.0%	85.1%

16.7.2 Equipment Requirements

Equipment requirements were determined using the mine operating schedule, applying operating efficiency, equipment availability, and productivity estimates. Estimated equipment requirements are shown in Table 16.5.

Table 16.5 Equipment Requirements

Drill Requirements	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
Number of Production Drills	#	1	2	2	3	3	2	4	5	3	-	5
Operating Efficiency	%	85%	85%	85%	85%	85%	85%	85%	85%	85%	0%	85%
Drill Availability	%	90%	89%	59%	88%	87%	86%	85%	85%	85%	0%	84%
Operating Hours	Op Hrs	1,365	11,013	10,126	17,410	10,892	11,011	15,510	17,090	5,471	-	99,889
Available Equipment Hours	Avail Hrs	3,326	13,333	9,249	19,681	13,482	12,785	17,886	20,652	7,997	-	118,392
Use of Available Equipment Hours	%	41%	83%	109%	88%	81%	86%	87%	83%	68%	0%	84%
Loader Requirements												
Number of Loaders	#	1	2	3	3	2	2	3	3	2	-	3
Operating Efficiency	%	85%	85%	85%	85%	85%	85%	85%	85%	85%	0%	85%
Loader Availability	%	90%	90%	88%	84%	80%	80%	81%	81%	79%	0%	83%
Operating Hours	Op Hrs	1,403	9,487	9,363	15,700	10,128	10,231	14,107	15,471	5,075	-	90,965
Equipment Hours	Eq Hrs	1,603	10,842	10,700	17,942	11,575	11,693	16,123	17,681	5,800	-	103,960
Available Equipment Hours	Op Hrs	4,460	13,363	14,348	19,818	19,538	19,377	19,147	19,126	11,138	-	140,316
Use of Available Equipment Hours	%	36%	81%	75%	91%	59%	60%	84%	92%	52%	0%	74%
Haulage Requirements												
Number of Trucks	#	4	5	8	8	8	8	10	10	7	-	10
Operating Efficiency	%	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	1.00	-	0.86
Truck Availability	%	0.90	0.89	0.88	0.88	0.87	0.86	0.86	0.86	1.00	-	0.88
Operating Hours	Op Hrs	4,312	31,568	32,579	50,626	28,846	28,444	45,522	49,340	17,355	-	288,592
Equipment Hours	Eq Hrs	4,929	36,078	37,233	57,858	32,967	32,507	52,025	56,388	19,835	-	329,819
Available Equipment Hours	Op Hrs	13,435	38,022	42,110	60,279	59,428	58,747	64,734	71,764	24,104	-	432,623
Use of Available Equipment Hours	%	37%	95%	88%	96%	55%	55%	80%	79%	82%	0%	76%
Support Equipment												
Water Truck - 20,000 Gallon	#	1	1	1	1	1	1	1	1	1	-	1
430 Kw Dozer (D10)	#	-	-	-	-	-	-	-	-	-	-	-
300 Kw Dozer (D9)	#	1	1	1	1	1	1	1	1	1	-	1
230 Kw Dozer (D8)	#	1	1	1	1	1	1	1	1	1	-	1
14' Motor Grader (14M)	#	1	1	1	1	1	1	1	1	1	-	1
50 ton Crane	#	1	1	1	1	1	1	1	1	1	-	1
Pit Pumps (5299 lpm)	#	-	-	-	-	-	-	-	-	-	-	-
Light Plants	#	1	3	3	3	3	3	3	3	3	-	3

16.7.3 Drill & Blast Productivity

Drilling productivities were based on the operating schedule, drill penetration rates, blast pattern dimensions, bit sizes, and non-drill time. Blast patterns were defined for production, trim row, and pioneer drilling. The bulk of the drilling for blasting operations is done with production drilling using 45,000 pound pull-down type rotary blast hole drills with 8.75-inch diameter drills. Trim-row blasting is a technique used for controlled blasting around the perimeter of the ultimate pit. This drilling is done using the production drills, but with a 6.75-inch drill bit. Pioneer drilling is only done at the start of mining using smaller drills that are more mobile. These drills are only used during the first two months of mining at each deposit and use a 4.75-inch drill bit.

Drilling parameters for production, trim-row, and pioneer drilling is shown in Table 16.6.

Penetration rates were estimated using the Bauer and Calder equation adjusted to achieve reasonable penetration rates based on MDA experience. Penetration rates of 78, 105, and 106 feet per hour were used for production, trim row, and pioneer drilling respectively.

Non-drill times account for the steel handling and setup and move times. A total of 1.70, 1.70, and 2.20 minutes were used for production, trim-row, and pioneer drilling.

Table 16.6 Blast-Hole Drilling Parameters

		Production	Trim Rows	Pioneering
	Units	Imperial	Imperial	Imperial
Bench Height	Feet	20.0	20.0	20.0
Hole Diameter	Inches	8.75	6.75	4.75
Spacing	Feet	15.00	13.00	9.00
Burden	Feet	15.00	13.00	9.00
Area of Influence	$Feet^2$	225.00	169.05	80.99
Sub Drill	Feet	5.00	4.30	3.00
Stemming	Feet	10.00	8.67	6.00
Powder Colum	Feet	15.01	15.65	17.01
Loading Density	Lbs/Ft	4.96	2.95	1.46
Powder/hole	Lbs	74.52	46.22	24.90
ANFO SG	SG	0.85	0.85	0.85
Rock SG	SG	2.70	2.70	2.70
Tons per Hole	Tons	379.5	285.1	136.6
Powder Factor	Lb/Ton	0.196	0.162	0.182
Powder Factor	Lbs/ft^3	0.017	0.014	0.015

16.7.4 Loading Productivity

Loading productivities assume the use of CAT 100-ton trucks with CAT 992 style loaders. Bucket size of 15.2 cubic yards is assumed along with a fill factor of 95%. A cycle time of 50 seconds per bucket is assumed, and the loading assumes that trucks are loaded to full 100 wet-ton capacity. The loading productivity parameters and calculations are shown in Table 16.7. Theoretical productivity is estimated to be 1,263 tons per hour and with operating efficiency of 85% is estimated to be 1,050 tons per hour.

Loader availabilities were assumed to start at 90% and then reduced 1% per year until a minimum of 85% is reached.

Table 16.7 Loading Productivity Calculations

Loading Parameters		**992K 777G**
Shovel Mech. Avail.	%	85%
Operating Efficiency	%	83%
Bucket Capacity	cy	16
Bucket Fill Factor	%	95%
Avg. Cycle Time	sec	50
Truck Parameters		
Truck Mech. Avail.	%	85%
Operating Efficiency	%	83%
Volume Capacity	cym	78.6
Tonnage Capacity	lt (Wet)	100
Truck Spot Time	sec	24
Truck Operating Width	m	5.98

Shovel Productivity		**992K 777G**
Effective Bucket Capacity	cyd	15.20
Tonnes per Pass - Wet	lst (Wet)	20.2
Tonnes per Pass - Dry	lst (Dry)	19.4
Theoretical Passes - Vol	passes	5.17
Theoretical Passes - Wt	passes	4.95
Actual Passes Used	passes	5.0
Truck Tonnage - Wet	wmt/load	100
Truck Tonnage - Dry	dmt/load	96
Truck Capacity Utilized - Vol	%	96%
Truck Capacity Utilized - Wt	%	100%
Load Time	min	4.57
Theoretical Productivity	dst/hr	1,263
Tonnes per Operating Hour	dst/hr	1,050
Tonnes per Day	dst/day	18,700
Potential - 355 day year	ton/year	6,638,500

16.7.5 Haul Truck Productivity

Mine loading and haulage requirements were determined based on the amount of tonnage needed to be moved to achieve the desired process production rate. MineSched software was used to determine the truck hours and the number of trucks required to achieve the production. Road centerlines were developed and input into MineSched to represent the haulage routes. Speeds were flagged into the centerlines based on CAT 777 performance curves. Maximum speed limits were set to:

- Level travel – 30 mph (downhill gradient less than 4%);
- Downhill loaded – 25 mph; and
- Downhill empty – 30 mph.

Travel uphill on ramps is governed by the truck performance curve. Bench travel was assumed to be 12 mph.

Haul truck efficiencies were assumed to be 85%, of available working time. Availabilities assumed a starting point of 90% for new fleets declining at 1% per year down to a low of 85%. Haulage truck hours calculated in MineSched ("MS Hrs") are shown in Table 16.8 for ore and waste by deposit. Haul cycle times include 4.70 minutes spot and load time and 1.00 minute turn and dump time per 90 ton load. Productivity calculations assumed 100-ton trucks would carry 90-dry tons per load to coordinate the tonnage with dry tonnage in the resource model. Haul cycles for stockpile re-handle of 8.70 minutes per load were assumed which includes load, spot, and dump times.

Note that the MS Hrs were considered to be theoretical or productive hours without any operational interruptions. Operating hours were calculated from the productive hours by dividing them by the operational efficiency of 85%. Further, the equipment hours assumed that the trucks would be running through standby time determined from the mine operating schedule. Thus, the equipment hours used to determine haulage equipment cost were calculated by dividing the operating hours by 87.5% shift operator efficiency.

Table 16.8 Haulage Hours and Cycle Times

	Material	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
Three Hills	Waste	MS Hrs	1,937	10,568	6,445	-	-	-	-	-	-	-	18,950
	Ore	MS Hrs	1,728	16,265	10,637	-	-	-	-	-	-	-	28,630
	Waste	K Tons	966	4,735	2,630	-	-	-	-	-	-	-	8,331
	Ore	K Tons	540	5,450	3,664	-	-	-	-	-	-	-	9,653
	Waste	CT Min	5.16	6.36	7.53	-	-	-	-	-	-	-	6.64
	Ore	CT Min	11.58	10.43	9.98	-	-	-	-	-	-	-	10.33
Hasbrouck	Waste	MS Hrs	-	-	8,062	27,373	9,058	9,265	22,472	23,747	5,399	-	105,377
	Ore	MS Hrs	-	-	2,403	14,685	14,432	13,883	15,192	17,160	8,854	-	86,608
	Waste	K Tons	-	-	2,740	10,053	3,687	3,798	7,959	9,403	1,962	-	39,602
	Ore	K Tons	-	-	905	6,045	6,388	6,388	6,388	6,405	3,099	-	35,617
	Waste	CT Min	-	-	10.19	9.11	7.57	7.52	10.45	7.94	1.06	-	8.53
	Ore	CT Min	-	-	8.64	7.43	6.51	6.06	7.21	8.77	1.04	-	6.66
Rehandle	Ore	MS Hrs	-	-	154	1,028	1,086	1,086	1,086	1,089	527	-	6,057
(Hasbrouck Only)		K Tons	-	-	90	605	639	639	639	641	310	-	3,562
		CT Min	-	-	8.70	8.70	8.70	8.70	8.70	8.70	8.70	-	8.70
Total - All Mining	Waste	MS Hrs	1,937	10,568	14,507	27,373	9,058	9,265	22,472	23,747	5,399	-	124,327
	Ore	MS Hrs	1,728	16,265	13,039	14,685	14,432	13,883	15,192	17,160	8,854	-	115,238
	Waste	K Tons	966	4,735	5,370	10,053	3,687	3,798	7,959	9,403	1,962	-	47,933
	Ore	K Tons	540	5,450	4,568	6,045	6,388	6,388	6,388	6,405	3,099	-	45,270
	Waste	CT Min	5.16	6.36	9.01	9.11	7.57	7.52	10.45	7.94	1.06	-	8.24
	Ore	CT Min	11.58	10.43	9.73	7.43	6.51	6.06	7.21	8.77	1.04	-	7.57

16.7.6 Support and Maintenance Equipment

Support and maintenance equipment assumed 85% availability, 85% operating efficiency, and a utilization factor based on MDA experience. The utilization factors were intended to reflect the amount of use required based on the equipment type. The following utilization was used for support and maintenance equipment:

- Water truck – 50% utilization;
- D9 Dozer – 50% utilization;
- D8 Dozer – 50% utilization;
- 14G Grader – 70% utilization;
- 50-ton Crane – 16% utilization (includes 40% utilization during construction periods followed by 10% utilization during operations);
- Light Plants – 85% utilization;
- Lube Truck – 70% utilization;
- Service / Mechanic Truck – 70% utilization;
- Tire Truck – 50% utilization; and
- Flat Bed Truck – 15% utilization.

16.8 Mining Personnel and Staffing

It is anticipated that the mining contractor will have between 60 and 80 operators and staff involved with the operation. It has been assumed that the contractor will work between 12 hour shifts, 2 shifts per day, 7 days per week. The contractor will supply personnel and equipment as required to ensure ore flow is available 24 hours per day and 7 days per week to process facilities.

Other mine personnel will be employed by the owner for general activities, including mine supervision, engineering, surveying, geology, and ore control. Table 16.9 list the personnel requirements by department. Process personnel requirements were estimated by KCA.

Table 16.9 Owners General Mine Personnel

Yearly Personnel Requirements	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Maximum
Administration	#	10	8	8	8	8	8	8	8	8	7	3	3	10
Mine General Personnel	#	10	10	10	10	10	10	10	10	10	-	-	-	10
Hourly Mine Operations Personnel	#	45	69	88	92	89	84	109	114	84	-	-	-	114
Process Personnel	#	35	35	63	63	63	63	63	63	63	63	-	-	63
Total Personnel	#	100	122	169	173	170	165	190	195	165	70	3	3	195

16.9 Mine Pit Dewatering

All mining is anticipated to be above the water table, so no dewatering wells will be required. Storm water that enters the pit will be handled using in-pit sumps as needed. Any excess water that doesn't naturally infiltrate into the ground will be placed in water trucks using a portable pump and then used for dust control on haul roads.

17.0 RECOVERY METHODS

The Hasbrouck heap-leach project includes two separate facilities to be located 5 miles apart. The Three Hills Mine will be constructed first, followed by the Hasbrouck Mine. The Three Hills Mine will be a ROM heap-leach operation with carbon-column adsorption and support infrastructure facilities. Loaded carbon produced at the Three Hills Mine will be processed offsite by "toll stripping". If necessary, loaded carbon will be processed by "ashing". The Hasbrouck Mine will be a crushed ore, heap-leach operation with mining, a full recovery plant and associated infrastructure.

17.1 Three Hills Proposed Mine Recovery Methods

17.1.1 Three Hills Process Description Summary

The Three Hills Mine will be a 15,000 ton per day ROM heap-leach operation. Processing at Three Hills will be by conventional heap-leaching of ROM ore stacked on a single use pad. Gold will be leached from the mineralized material with dilute cyanide solution and recovered from the solution in a carbon adsorption circuit. Loaded carbon will be processed offsite by "toll stripping" where the carbon is stripped of metal in a desorption-recovery plant and returned for re-use along with the doré product. In the event that there is insufficient capacity or other circumstances that prevent the processing of loaded carbon by toll stripping, carbon will be processed by "ashing" (carbon is smelted directly) to produce doré bars.

17.1.2 Three Hills Process Design Criteria

The criteria used for the design of the Three Hills heap-leach and ADR operation are summarized below in Table 17.1. Administrative and maintenance support will be provided on site. Laboratory support will be at a facility rented in the town of Tonopah. All process equipment has been sized for 5.475 million tons per year. Doré bars will be exported from the Three Hills property to a third party for refining and sale.

Table 17.1 Three Hills Process Design Criteria Summary

ITEM	DESIGN CRITERIA
Annual Ore Processing Rate	5.475 million tons– Design
Stacking Operation	12 hours/shift, 1 shift/day, 7 days/week, 365 days/ year
Leaching Operation	12 hours/shift, 2 shifts/day, 7 days/week, 365 days/yr
Average Production Rate	15,000 ton/day
Life of Mine	2 Years
Crushing	None - ROM
Average Gold Grade	0.018 oz Au/ton
Gold Recovery	79.0%
Primary Heap-leaching Cycle	114 days
Secondary Heap-leaching Cycle	57 days

17.1.3 Three Hills Lime Storage and Addition

Pebble lime will be required for pH control in the heap-leach and will have a nominal consumption of 4.0 lb/ton of ore. Lime will be stored in a 150 ton silo (5 days capacity) equipped with a variable speed feeder, which meters the lime directly into the loaded haul trucks for delivery to the heap-leach pad. Lime will be added in proportion to the tonnage of ore being hauled.

17.1.4 Three Hills Stacking

The ore at Three Hills will be processed in a truck-stacked ROM heap-leach. Ore from the mine will be loaded into haul trucks, mixed with lime for pH control as described above, and delivered to the heap-leaching facility ("HLF") where it will be placed in 30ft lifts by the haul trucks. A dozer will be used to periodically assist the trucks in heap construction and rip the heap surface prior to the start of leaching.

17.1.5 Three Hills Solution Application and Leaching

The ore will be leached using a dilute solution of sodium cyanide applied by a system of drip emitters. Leach solutions will be applied to the crushed ore heap at a nominal application rate of 0.0025 gpm/ft^2. Drip emitters will be used as they generate less evaporation than sprays and will minimize the make-up water requirement.

The dilute cyanide leach solution will percolate through the stacked ore, dissolve gold and drain by gravity to a pregnant solution tank, which will store the solution prior to further processing.

Vertical turbine pumps in the pregnant solution tank will pump solution to the head tank of the carbon columns. The solution will flow by gravity, through the carbon in columns, to a barren solution tank.

High-strength cyanide solution and antiscalant will be added to the barren tank by metering pumps. The barren solution will be pumped to the heap-leach pad using a vertical turbine pump. In-line strainers will be installed on the barren solution header to minimize the plugging of sprays by fine particulates. If desired, or if the grade of the pregnant solution collected from the heap is not at the desired level, the pregnant solution coming from the heap can be transferred to the barren solution tank instead of to the pregnant solution tank via valves and piping. Pregnant solution transferred this way will bypass the adsorption plant and be returned to the heap where it will increase in grade and so reduce the volume of pregnant solution treated in the adsorption plant.

17.1.6 Three Hills Leach-Pad Design and Solution Collection

17.1.6.1 Three Hills Basic Design

The HLF will be a multiple-lift, single-use type leach pad designed to accommodate 10 million tons of ROM ore. The HLF has been designed with a lining system in accordance with International Cyanide Code requirements. These requirements meet or exceed North American standards and practices for lining systems, piping systems, and process ponds, which are intended to lessen the environmental risk of the facilities impacting local soils, surface water, and ground water, in and around the site.

The HLF has been sized using an average stacked material density of 97 lb/ft3 and a maximum heap height of 150ft. ROM material will be truck-stacked at an average rate of 13,223 tons per day, 365 days per year. Material will be stacked in lifts varying in height from 20 to 30ft. Benches provided between lifts will create an average overall slope of 3:1 (horizontal to vertical), which provides operational and post-closure stability of the heap, and minimizes grading during reclamation.

The HLF will be lined with a composite lining system consisting of a prepared subgrade, a layer of 12in thick compacted low-permeability soil layer or geosynthetic clay liner ("GCL"), and an 80mil high-density polyethylene ("HDPE") geomembrane liner.

The HLF will be constructed in a single phase providing a total lined leach-pad surface area of 3 million square feet. The construction of the leach pad will include the perimeter access road, pad geomembrane lining system, solution collection system, and permanent and temporary storm water diversion facilities. Solutions collected from the HLF will drain by gravity to either the barren or pregnant tanks located within the geomembrane-lined event pond.

17.1.6.2 Three Hills Mine Heap Leach Facilities Geotechnical

A geotechnical investigation was completed at the Three Hills Mine site in September, 2014 in support of the design activities. During this investigation, three boreholes and three test pits were excavated within the footprint of the proposed heap-leach facility ("HLF"). Logs of the subsurface conditions were created, and samples of subsurface materials were collected and tested in the laboratory.

Surface topography at the Three Hills HLF site slopes gently to the northwest with a low relief valley that runs through the center of the proposed leach pad. The valley was dry at the time of the investigation, and appears to host water only at times of high precipitation. Sage brush and native grasses were present throughout the surface of the site.

The Three Hills HLF site is characterized with a shallow bedrock surface that is overlain by granular soils typically less than 8 feet thick and described as silty and clayey sand. The soils appear to be a reworked form of the volcanic tuff encountered elsewhere at the site, possibly transported and deposited by alluvial means. Roots were present from the surface to a depth of about 2 feet.

Bedrock was a rhyolitic volcanic tuff described as weak to extremely weak rock, slightly to moderately weathered, and relatively un-fractured. Often a residual bedrock veneer, up to 2 feet thick, was present at the top of bedrock surface. When highly weathered or pulverized, the bedrock exhibited low plasticity. The tuff was relatively homogeneous through the depth of the borings with localized highly weathered and extremely weak zones. Bedrock adjacent to the slope of Three Hills was welded, locally silicified and marginally rippable, while rock encountered within the footprint of the leach pad was not silicified and considered rippable with a D-9 to D-8 sized dozer.

Slope stability analysis for the Three Hills HLF was performed for both static and seismic conditions. A representative cross section was analyzed for the slope stability analysis. The section represented an ultimate heap height of 150ft with ROM ore placed in 30ft lifts at the angle of repose (approximately 1.4H:1V), and subsequent lifts setback to maintain an overall slope of 3H:1V. The critical section selected for analysis is located on the northern end of the HLF, adjacent to the event pond. At this location the base grade slopes toward the facility toe and the HLF is at its maximum height. The modeled liner system consisted of a GCL under a HDPE geomembrane.

The analysis for static conditions indicate factors of safety for both circular and block failure modes of 1.9 and 1.3, respectively. The results for the pseudo-static conditions during operations indicate factors of safety for both circular and block failure modes of 1.6 and 1.0, respectively. The results for the pseudo-static conditions during closure indicate factors of safety for both circular and block failure modes as 1.3 and 0.8, respectively. The results indicate that the slopes will remain stable throughout the lifetime of the facility for static conditions and the operating basis earthquake (475 year return event). In the event of an extreme seismic event (2,475 year return event), slope movement up to 24in may occur, which may result in minor sloughing but would not compromise the integrity of the slope.
Groundwater was not encountered during the field investigation and it is not anticipated to influence the design, construction or operation of the Three Hills HLF.

17.1.7 Three Hills Solution Storage

17.1.7.1 Three Hills Event Pond

The event pond will have a total storage capacity of approximately 7.5 million gallons. The capacity is based on the runoff from the estimated 100-year, 24-hour storm event and anticipated drain-down resulting from a 12-hour power outage, plus 110% of the capacity of the largest tank within the containment area of the pond. Excess solution would consist of a mixture of process solutions and storm water collected by the leach pad.

The event pond lining system will consist of two layers of HDPE geomembrane liner sandwiching a geonet layer to provide dual containment with leak detection. This lining system will be installed over a soil bedding layer. The pond bottom will slope towards a sump where solutions collected in the event pond will be pumped back to the process.

17.1.7.2 Three Hills Pregnant and Barren Solution Tanks

Leach solution draining from the heap to the pregnant and barren solution tanks will be monitored during operation with higher grade solution being routed to the pregnant solution tank and the remaining solution being routed to the barren tank. The pregnant solution tank is sized with sufficient capacity to operate for 30 minutes at the nominal primary leach rate of 3,000 gpm, which equates to 90,000 gallons of capacity.

The barren solution tank is sized to store fluids for 30 minutes of operation at the nominal secondary leach rate of 1,500 gpm plus the 3,000 gpm barren solution flow from the open-top carbon columns. This equates to a tank size of 135,000 gallons. Solution in the barren solution tank will be pumped to the active leach areas of the heap.

In the event of power outage or equipment malfunction, or if flows from the HLF exceed the storage capacity of the solution tanks and associated pumps, solution will flow into the event pond to maintain containment.

17.1.8 Three Hills Solution Management

The Three Hills process system is designed as a zero discharge facility. Based on weather data and the HLF water balance, the project will operate in a monthly water deficit under all weather conditions; cyanide neutralization will not be required.

Several methods of solution management will be employed at the HLF to maintain adequate solution storage within the process tanks and event pond, and to reduce the need for make-up water and water treatment. The following elements have been incorporated into the design:

- Large event pond for solution storage during storm events and upset conditions;
- Drip irrigation emitters on the heap;
- Barren solution tank; and
- Pregnant solution tank.

The event pond will remain substantially empty and will not have seasonal accumulation under normal operating conditions. Solution collected in the event pond during storm events will be returned to the leach system as makeup solution as soon as practical. Solution in the pregnant and barren tanks will be maintained at the mid- to lower-range of their working capacities. Solution overflowing from either tank will be directed to the event pond.

17.1.9 Three Hills Process Water Balance

Ecological Resource Consultants, Inc. ("ERC") completed a water balance for the heap-leach facility at the Three Hills Mine. The evaluation included development of a stochastic water balance that accounts for inflows such as rain and make-up water, outflows such as evaporation, and consumptive loss due to ore wetting.

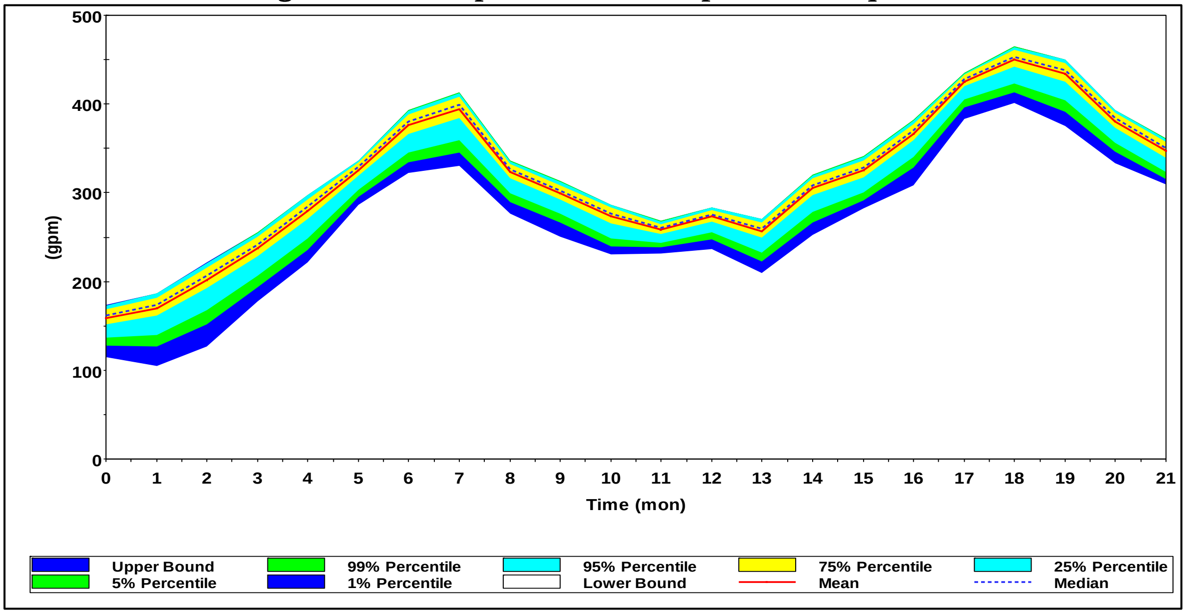
To estimate inflow and outflow water requirements, the following criteria were considered:

- Total lined leach-pad area.
- Solution application flow rate and area.
- Heap-leach facility capacity.
- Climactic conditions and the 100-year, 24-hour storm event for the site, based upon data derived from local weather stations.
- Runoff coefficients for actively leached area, non-active leached area, side slopes and exposed liner.
- Make-up water volume will be available, if required.
- Average as-mined moisture content and specific moisture retention of the ore.
- Nominal solution application rate of 0.0025 gpm/ft^2.
- Maximum solution application rate of 0.0040 gpm/ft^2.
- Nominal side slope solution application rate of 0.00125 gpm/ft^2.
- Nominal solution flow rate is 4,500 gpm.
- Nominal 1,800,000 square feet of the top of the heap under leach.
- Minimum 1,125,000 square feet of the top of the heap under leach.

17.1.9.1 Three Hills Process Solution and Makeup Water

Losses are expected to exceed meteorological inputs. Make-up water is expected to be required during all months in all reviewed conditions. The make-up water requirement calculated by the ERC water balance does not include water needed for dust suppression or construction. The heap-leach facility make-up water rates are anticipated to range from approximately 170 gpm at the beginning of operations to nearly 450 gpm during the second summer when evaporation losses are greatest, assuming average precipitation conditions. The anticipated make-up water requirements are presented in Figure 17.1.

Figure 17.1 Heap-Leach Make-up Water Requirement



17.1.9.2 Three Hills Precipitation Data

Estimates of monthly precipitation at Three Hills were developed based on a review of regional data published by the Western Regional Climate Center. Monthly and annual precipitation statistics used in the water balance model, including standard deviations and correlation coefficients are summarized in Table 17.2.

Table 17.2 Mean Modeled Monthly Precipitation

Month	Mean Precipitation (in)	Standard Deviation (in)	Correlation Coefficient
January	0.37	0.36	0.129
February	0.44	0.5	0.013
March	0.49	0.55	0.073
April	0.45	0.48	0.418
May	0.47	0.55	-0.027
June	0.26	0.4	0.145
July	0.47	0.53	-0.086
August	0.5	0.63	0.001
September	0.39	0.51	-0.093
October	0.43	0.48	-0.036
November	0.37	0.52	0.145
December	0.31	0.3	0.113
Annual	**4.92**	**1.96**	

17.1.9.3 Three Hills Water Balances

ERC completed a comprehensive water balance using the software GoldSim (version 9.60) which is a stochastic modeling tool that can be used to model a range of potential outcomes. A Monte Carlo Simulation model was developed using a monthly timestep for a period of 22 months, which is considered the operational period for the facility.

The water balance, in essence, tracks the inputs (process water and precipitation) and outputs (evaporation and ore uptake) through the system over time. Initially, process water added to fresh ore is absorbed (uptake) to increase the gravimetric moisture content ("MC") from the natural MC of 3 percent to the under-leach MC of 13 percent. Process water will be added to the heap at an average rate of 0.0025 gpm/ft^2. At the end of a leach cycle, interstitial free water will drain from the heap until a MC of 9.7 percent is achieved.

A heap loading rate of 15,000 tons per day was used in the water balance. This information was used to calculate drain-down timing related to various heap heights and storm runoff from the different surface areas (heap top, heap slopes and exposed geomembrane).

The water balance was conducted using both deterministic (average precipitation) and stochastic methods. Both methods use a set of fixed variables, but the deterministic method uses average precipitation data, whereas the stochastic method uses statistics to vary the precipitation to capture maximum and minimum precipitation cycles.

17.1.10 Three Hills Adsorption & Recovery

17.1.10.1 Three Hills Adsorption

The adsorption facility at Three Hills will consist of a single train of 6 up-flow, open-top carbon columns ("CIC"s). The columns are capable of holding six tons of carbon each, thus providing a CIC process inventory of 36 tons of carbon.

Pregnant solution will be pumped to the carbon adsorption feed tank of the CICs at a nominal flow rate of 3,000 gpm. A magnetic flow meter and a wire sampler will be installed on the feed to the CICs to allow the calculation of total gold ounces fed to the carbon columns.

Pregnant solution will flow by gravity through the set of 5 columns in series, exiting the lowest adsorption column as barren solution. Barren solution from the fifth, lowest, carbon column will be continuously sampled by a wire sampler for metallurgical accounting, then discharged to the carbon safety screen to recover any floating carbon particles.

Underflow from the safety screen will flow by gravity to the barren solution tank. Any carbon recovered on the safety screen will be collected into a carbon super-sack for reuse.

The adsorption columns will operate in this fashion until the carbon contained in the first, upper, column achieves the desired precious-metal loading or the barren solution grade increases to an unacceptably high level. Loaded carbon from the first carbon adsorption column will then be pumped to the acid wash vessel. Carbon in each of the lower adsorption columns will be sequentially moved up the adsorption train, counter-current to the solution flow. This will continue from the fifth carbon column to the second carbon column. Once carbon has been advanced through the carbon columns, the barren, regenerated carbon will be pumped into the fifth column.

17.1.10.2 Three Hills Carbon Handling

Carbon that is loaded with gold will be transferred, by truck, to either a "toll-stripper" or "carbon ashing" facility for further processing, as described in Section 17.1.10.3 and Section 17.1.10.4. Based on carbon loading of 150 oz/ton, the Three Hills Mine is expected to produce approximately 40 tons of loaded carbon per month.

17.1.10.3 Toll-Stripping of Carbon

"Toll Stripping" is a process wherein carbon is sent to an off-site desorption and recovery plant where the gold-loaded carbon is stripped for a fee, a doré is produced and barren carbon is returned for re-use at the mine. It is assumed that returned carbon from the toll stripper can be used three additional times before carbon activity levels will no longer be suitable for carbon adsorption and must be replaced.

17.1.10.4 Three Hills Carbon Ashing

"Carbon ashing" is a process wherein gold-loaded carbon is sent to a refinery and smelted directly to produce doré. The carbon is completely consumed during this process.

17.1.11 Three Hills Process Reagents Delivery, Storage and Consumption Estimates

Process reagents will be stored in a fenced area under a steel roof structure.

Average estimated annual consumption of reagents based on design rates and reagent storage capacities are shown in Table 17.3.

Table 17.3 Three Hills Projected Annual Reagent Consumption and Storage

Reagent	Form	Storage Capacity	Annual Consumption
Pebble Lime	Bulk	150 tons	10,950 tons
Sodium Cyanide (30%)	Liquid Bulk Delivery Truck	12.3 tons	1,232 tons
Activated Carbon	1,100 lb. super sacks	22 tons + Columns	132 tons
Antiscalant	240 gal liquid Tote Bins	8 totes (1,920 gal)	23,400 gal

17.1.11.1 Three Hills Pebble Lime

Pebble lime will be used to treat the ore prior to leaching. Lime maintains an alkaline pH during leaching. Lime will be delivered in tanker trucks which will be off-loaded pneumatically into a silo. A variable speed feeder on the bottom of the silo will dispense pebble lime onto the ore being carried by haul trucks to the heap leach, and is added in proportion to the tonnage of ore in each truck.

17.1.11.2 Three Hills Sodium Cyanide (NaCN)

NaCN will be used in the leaching and, potentially, the adsorption process. Dissolved cyanide forms stable complexes with gold and silver, allowing these metals to remain in solution for eventual recovery.

NaCN will be delivered in tanker trucks as a liquid at 30% concentration for storage in an 8,529 gallon steel tank. Storage capacity will be approximately equal to 3.6 days of NaCN usage.

17.1.11.3 Three Hills Carbon

Activated carbon will be used to adsorb precious metals from the leach solution in the adsorption columns. Make-up carbon is 6 x 12 mesh. Carbon will be delivered in 1,100 lb super sacks. New carbon will be added to the circuit to replace carbon fines and carbon with reduced activity from the stripping process. The new carbon requirement to replace fine carbon losses is projected at 54 lb/ton of carbon stripped plus carbon consumed by the toll stripping and carbon ashing processes (approximately 10 tons per month).

17.1.11.4 Three Hills Antiscalant

Antiscalant agents are used to prevent the build-up of scale in the process solution and heap irrigation lines. Antiscalant agent is normally added to the process pump intakes, or directly into pipelines. Consumption will vary depending on the concentration of scale-forming species in the process stream. Delivery is in liquid form in 240 gallon tote bins.

Antiscalant is added directly from the supplier tote bins into the pregnant and barren pumping systems using variable speed, chemical-metering pumps. Antiscalant consumption is expected to be 64 gallons per day. The recommended minimum inventory is 2 tote bins.

17.2 Hasbrouck Mine Recovery Methods

17.2.1 Summary of Hasbrouck Mine Process Description

The Hasbrouck Mine will include a 17,500 ton per day heap-leach operation. Processing at Hasbrouck will be by conventional heap leaching of crushed ore stacked on a single use pad. Gold and silver will be leached with a dilute cyanide solution and recovered from the solution using a carbon adsorption-desorption-recovery process to produce doré bars.

17.2.2 Hasbrouck Process Design Criteria

The criteria used for the design of the Hasbrouck heap-leach operation are summarized below in Table 17.4.

Table 17.4 Hasbrouck Mine Process Design Criteria Summary

ITEM	DESIGN CRITERIA
Annual Ore Processing Rate	6.3 million tons
Crushing and Stacking Operation	12 hours/shift, 2 shift/day, 7 days/week
Crushing Equipment Availability	75%
Nominal Stacking Rate	17,500 ton/day
Leaching Operation	12 hours/shift, 2 shift/day, 7 days/week
Average Daily Production Rate	17,500 ton/day
Life of Mine	5.53 years
Average Gold grade	0.017 oz Au/ton
Average Silver Grade	0.301 oz Ag/ton
Upper Seibert Gold Recovery	59.0%
Lower Seibert Gold Recovery	75.6%
Average Gold Recovery	73.0%
Silver Recovery	11.0%
Heap-leaching Cycle	115 days

17.2.3 Hasbrouck Mine Ore Stockpiles

The Hasbrouck Mine will include two stockpiles: the ROM stockpile and the crushed ore stockpile. The ROM stockpile is sized to accommodate 70,000 tons of ore. The ROM ore will be re-handled from the ROM stockpile by a front-end loader to supplement the direct dump feed to the ROM feed bin for the primary crushing circuit.

The crushed ore stockpile is planned to have a live capacity of approximately 2,300 tons. The crushed ore will be pulled from the stockpile by 2 belt feeders to the fine ore reclaim conveyor in a tunnel below the stockpile. Each belt feeder will be able to feed crushed ore to the fine ore reclaim conveyor at an average rate of 730 dry tph. The reclaim conveyor will discharge to an overland conveyor system that will transport the crushed ore to the agglomeration area.

17.2.4 Hasbrouck Mine Crushing

ROM ore will be delivered, and direct dumped to the greatest extent possible, by haul trucks from the mine to a primary crusher's dump hopper. Haul trucks will deliver ore to an ROM stockpile either for blending or when the dump hopper is full or inaccessible due to other traffic. A front-end loader will deliver ore from the ROM stockpile to the dump hopper either for blending or to supplement haul truck availability.

A stationary, 20in grizzly will be positioned above the dump hopper to prevent oversized ore from entering or obstructing the feeder. A rock breaker will be installed to break up oversized ore retained on the stationary grizzly. ROM ore will be delivered at an average rate of 730 dry tons per hour to a vibrating grizzly with a spacing of 6in. Oversized ore from the vibrating grizzly will be crushed in a primary jaw crusher.

The primary jaw crusher will crush oversize from the vibrating grizzly to 100% passing 12in. The discharge from the jaw crusher will combine with the vibrating grizzly undersize onto a primary crusher discharge conveyor, which will feed the secondary screen-feed splitter.

The secondary screen-feed splitter will use 2 secondary screen belt feeders to feed jaw crusher product to 2 parallel secondary screens. The secondary screens will scalp ore that is greater than 2in. This +2in, oversized ore will be recombined and sent to a cone crusher feed splitter box where 2 belt feeders will choke feed the secondary cone crushers. Output from the secondary cone crushers and the screen undersize will combine on a conveyor belt feeding the HPGR feed bin.

The HPGR feed bin will have a storage capacity of 950 tons. A belt feeder will meter the cone crusher product onto the HPGR feed conveyor. The HPGR feed conveyor will have a variable frequency drive to ensure the HPGR is choke fed. The HPGR product will discharge onto the HPGR discharge conveyor. An adjustable edge splitter at the transfer point from the HPGR discharge conveyor will cut approximately 7.5% of the HPGR discharge ore from each side of the belt to recycle it back to the HPGR, for a total recycle of 15% of the HPGR product. The center ore from the edge splitter chute will go to the fine ore stacker and onto a fine ore stockpile. Due to the high quantity of fines produced by the HPGR, a foaming dust suppression system and an extendible chute at the discharge of the fine ore stacker will be installed.

17.2.5 Hasbrouck Mine Agglomeration

The crushed ore will be agglomerated with cement prior to cyanide leaching. The crushed ore will be conveyed from the crushed ore stockpile to the agglomeration area by an overland conveyor, which will discharge onto the pug mill feed conveyor. Cement will be added to the pug mill feed conveyor from a 100 ton silo with a screw feeder at a nominal rate of 5 lb per ton of crushed ore. The crushed ore and cement will then be fed to the pug mill for blending. Barren solution will be added in the pug mill to adjust the crushed ore's moisture content to between 7 and 13%. The pug mill will discharge onto the pug mill discharge conveyor, which in turn will discharge onto an overland conveyor, which feeds the stacking system. This overland conveyor will be adjusted as necessary to accommodate stacking.

The pug mill and all downstream conveyors will be located on lined areas for containment purposes. The liner will prevent the release of cyanide solution to the environment.

17.2.6 Hasbrouck Mine Stacking

The heap will be constructed using a conveyor stacking system. The conveyor stacking system will include the following components:

- An overland conveyor which will feed the mobile stacking system.

- Four "ramp" portable transfer conveyors, each 120ft long for conveying crushed ore up the heap for additional lifts.
- Nine "grasshopper" portable transfer conveyors, each 120ft long for conveying crushed ore across relatively flat areas.
- An 80ft long, horizontal, "Index Feed Conveyor" for transferring crushed ore from the grasshopper conveyors to a "Horizontal Feed Conveyor".
- A moveable, 125ft long, "Horizontal Index Conveyor" that will transfer crushed ore to a radial stacker.
- A 136ft long, telescoping, "Radial Stacking Conveyor" which will stack ore on the heap.

The grasshopper and ramp conveyors will transport the crushed ore from the overland conveyor on the heap to the stacking conveyors. The stacking conveyors will allow the radial stacker to place crushed ore in 30ft lifts with minimal downtime. The radial stacker and horizontal feed conveyor together will be capable of moving while slewing and stacking ore in an arc. The radial stacker will be able to retreat approximately the length of a grasshopper conveyor.

The system will be periodically stopped to add or remove grasshopper conveyors. The pad will be stacked from the down-slope toe in an up-slope direction for stability.

17.2.7 Hasbrouck Mine Solution Application and Leaching

The ore will be leached using a dilute solution of sodium cyanide applied by a system of drip emitters, which will reduce evaporation and minimize make-up water requirements. Leach solution will be applied to the crushed ore heap at a nominal application rate of 0.0025 gpm/ft^2.

The dilute sodium cyanide leach solution will percolate through the ore on the heap, dissolving gold and silver, and drain by gravity to a pregnant solution tank, which will store the solution prior to further processing. Submersible pumps in the pregnant tank will pump solution to the head tank of the carbon columns. The solution will flow by gravity through the carbon in columns, and returning to a barren tank.

High-strength cyanide solution and antiscalant will be added to the barren tank by metering pumps. The barren solution will be pumped to the heap-leach pad by a vertical turbine pump. Strainers will be installed on the barren solution header tank to minimize the plugging of sprays by fine particles.

17.2.8 Hasbrouck Mine Leach-Pad Design

17.2.8.1 Hasbrouck Mine Leach-Pad Basic Design

The Hasbrouck Mine HLF will be a multiple-lift, single-use type leach pad designed to accommodate 36 million tons of crushed ore, and will be constructed in two phases. The HLF has been designed with a lining system in accordance with International Cyanide Code requirements and meets or exceeds North American standards and practices for lining systems, piping systems, and process ponds. These standards and practices are intended to lessen the environmental risk of the facilities to impact the local soils, surface water, and ground water in and around the site.

The HLF has been sized using an average stacked ore density of 93.6lb/ft^3 and a maximum heap height of 150ft. Ore will be conveyor-stacked at a nominal rate of 17,500 tons per day. Ore will be stacked in 30ft lifts, and benches will be installed between lifts to create an average slope of 3:1 (horizontal to vertical), which provides operational and post-closure stability of the heap and minimizes grading at the time of reclamation.

The HLF will be continuously lined with a composite lining system consisting of a prepared subgrade, a 12in layer of compacted, low-permeability soil layer or GCL, and an 80mil HDPE geomembrane liner.

The HLF will be constructed in two phases providing a total lined leach-pad surface area of 8.5 million square feet. Phase 1 will consist of the northern portion of the leach-pad, perimeter access road, pad geomembrane lining system, solution collection system, permanent and temporary storm water diversion facilities, and the geomembrane-lined event pond. In Phase 2 the overland conveyor feeding the stacking system will be moved and the southern portion of the leach pad, pad geomembrane liner system, and solution collection system will be constructed.

17.2.9 Hasbrouck Mine Heap Leach Facilities Geotechnical

Geotechnical field investigations at the Hasbrouck HLF have not been performed at this stage of design; these are planned to be completed during the next phase of design activities. Surface and subsurface conditions within the footprint of the Hasbrouck Mine HLF were characterized by surface mapping conducted by Vista Gold Corporation during their ownership of the Hasbrouck property. Site topography includes a north-south trending mountain range on the eastern flank of the Hasbrouck site and a large, relatively flat valley approximately 6 miles wide lies to the west of the Hasbrouck site. Several broad alluvial drainages trend east to west from the north and south flanks of Hasbrouck Peak. Drainages are typically dry and host water only during times of high precipitation.

The proposed location of the HLF is 1 mile south of Hasbrouck Peak. Surficial alluvial deposits were mapped within the HLF footprint, with tuffaceous bedrock similar to the rock encountered at Three Hills mapped on low relief topographical highs in close proximity to the leach pad. Bedrock depth is anticipated to be shallow; however depth will be confirmed during future design activities.

Slope stability analysis for the Hasbrouck HLF was performed for both static and seismic conditions. A representative cross section was analyzed for the slope stability analysis. The section considered an ultimate heap height of 150ft with agglomerated ore placed in 30ft lifts at the angle of repose (approximately 1.4H:1V), and subsequent lifts setback to maintain an overall slope of 3H:1V. Base grades were modeled at a continuous 4.2% and sloped toward the facility toe. This is considered the most critical slope configuration, and is representative of the southwest portion of the HLF. The liner system will consist of a low-permeability under-liner soil placed beneath an HDPE geomembrane.

The analysis for static conditions indicated factors of safety for both circular and block failure modes of 1.9 and 1.6, respectively. The analysis of pseudo-static conditions during operations indicated factors of safety for both circular and block failure modes of 1.5 and 1.3, respectively. The analysis of pseudo-static conditions during closure indicated factors of safety for both circular and block failure modes of 1.2 and 1.1, respectively. The results indicated that slopes will remain stable throughout the lifetime of the facility for the operating basis earthquake (475 year return event), long term basis earthquake (2,475 year return event), and static conditions.

Groundwater is not anticipated to be present and was not considered an influence on the design, construction or operation of the Hasbrouck HLF.

17.2.10 Hasbrouck Mine Solution Storage

17.2.10.1 Hasbrouck Mine Event Pond

The Hasbrouck Mine process system will be a zero-discharge facility. The event pond will have a total storage capacity of 17.7 million gallons. This capacity is based on the runoff from the estimated 100-year, 24-hour storm event and anticipated drain-down resulting from a 12-hour power outage, and 110% of the capacity of the largest tank within the containment area draining into the event pond. Excess solution will consist of a mixture of process solutions and storm water collected by the leach-pad.

The event pond lining system will consist of two layers of HDPE geomembrane liner separated by a geonet layer to provide dual containment with leak detection. This lining system will be installed over a soil bedding layer. The pond bottom will slope towards a sump where solutions collected in the event pond will be pumped back to the process.

17.2.10.2 Hasbrouck Mine Pregnant and Barren Solution Tanks

Leach solution draining from the heap will be monitored during operations, with higher grade solution being routed to the pregnant solution tank and the remaining solution being routed to the barren tank. The pregnant solution tank will be sized with sufficient capacity for 30 minutes operation at the nominal, primary leach rate of 3,800 gpm, which equates to 114,000 gallons.

The barren solution tank will be sized to store 30 minutes of operation at the nominal leach rate of 3,800 gpm. This equates to a tank size of 114,000 gallons. Solution in the barren solution tank will be pumped to the active leach areas of the heap.

In the event of a power outage or equipment malfunction, or if excess flows from the HLF exceed the storage capacity of the solution tanks, solution will flow into the event pond to maintain containment.

17.2.11 Hasbrouck Mine Solution Management

Several methods of solution management will be employed for the HLF to maintain adequate solution storage within the process tanks and event pond to reduce the need for make-up water and water treatment. The following elements have been incorporated into the design:

- Large event pond for solution storage after storm events and upset conditions.
- Drip irrigation emitters on the heap.
- Barren solution tank.
- Pregnant solution tank.

The event pond will remain substantially empty and will not have any seasonal accumulation under normal operating conditions. Solution collected in the event pond during storm events will be returned to the leach system as makeup solution as soon as practical. Solution in the pregnant and barren tanks should be maintained at the middle to lower range of their working capacities. Solution overflowing from either tank will drain by gravity to the event pond.

The Hasbrouck Mine is designed as a zero discharge facility. Based on weather data and the site water balance the project will operate in a water deficit under all weather conditions; cyanide neutralization will not be required.

17.2.12 Hasbrouck Mine Process Water Balance

KCA completed a water balance for the heap-leach facility at the Hasbrouck Mine. The evaluation included development of a water balance that accounts for inflows such as rain and make-up water, outflows such as evaporation, and consumptive loss due to wetting of ore.

To estimate inflow and outflow water requirements, the following criteria were considered:

- Total lined leach-pad area.
- Solution application flow rate and area.
- Heap-leach facility capacity.
- Climactic conditions for an average year, wet year and dry year.
- Make-up water volume: Solution will be applied by drip irrigation emitters.
- Average as-mined moisture content and specific moisture retention of the ore.
- Nominal solution application rate of 0.0025 gpm/ft^2.
- Nominal solution flow rate is 3,800 gpm.

17.2.12.1 Hasbrouck Mine Process Solution and Makeup Water

Process makeup water will be required for all months and for all precipitation conditions analyzed. Makeup water requirements are greatest between the months of May and August and are lowest during December and January. The HLF will require an average of 256 gal/h of makeup water for the process.

17.2.12.2 Hasbrouck Mine Precipitation Data

Estimates of monthly precipitation at the Hasbrouck Mine site were developed based on a review of regional data published by the Western Regional Climate Center.

17.2.12.3 Hasbrouck Mine Water Balances

Based on the rainfall data, active water balances have been calculated for an average year, extreme wet year, and extreme dry year. The calculation tables are shown in Table 17.5, Table 17.6 and Table 17.7.

Based on the water balance there is no seasonal accumulation of solutions in the event pond and the project will always operate in a water deficit condition.

Table 17.5 Average Year Water Balance, Hasbrouck Mine

Active Leach Area	1,520,000
Lined Pad/Ditch Collection Area (sq. ft)	8,100,000
Lined Pond Collection Area (sq. ft)	120,000
Total Leach Flow to Heap (gpm)	3,800
Evaporation System Flow (gpm)	0
Allowable Wet Season Accum. in Process Ponds (ft^3)	2,250,000
Wet Season Ore Absorption (%)	6.7
Dry Season Ore Absorption (%)	6.7
Average Annual Emitter Evap (%)	2.0
Average Annual Sprinkler Evap (%)	0.0
Ore Throughput per Year (ton)	6,387,500

Assumptions

Pond evap. equals 60% of pan evap. over 50% pond area
Idle heap evapotranspiration equals 75% of pan evap.
Maximum evapotranspiration = rainfall over idle area

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	**Annual**
Days in Month	31	31	30	31	30	31	31	28	31	30	31	30	365
Precipitation (in)	0.47	0.50	0.39	0.43	0.37	0.31	0.37	0.44	0.49	0.45	0.47	0.26	4.95
Pan Evaporation (in)	17.71	15.66	11.17	6.79	2.94	0.00	0.00	3.84	7.26	10.09	13.64	16.09	105
Emitter Evap. (%)	4.0	3.6	2.5	1.5	0.7	0.0	0.0	0.9	1.7	2.3	3.1	3.7	2.0
Sprinkler Evap. (%)													
Idle Heap Evapotrans. Area (sq. ft)	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000
Idle Heap Evapotrans. (in)	13.3	11.7	8.4	5.1	2.2	0.0	0.0	2.9	5.4	7.6	10.2	12.1	79
Ore Placed on Pad (tons)	542,500	542,500	525,000	542,500	525,000	542,500	542,500	490,000	542,500	525,000	542,500	525,000	6,387,500
Precip. Collected (cu.ft)	321,950	342,500	267,150	294,550	253,450	212,350	253,450	301,400	335,650	308,250	321,950	178,100	3,390,750
Ore Absorption (cu. ft)	1,164,462	1,164,462	1,126,899	1,164,462	1,126,899	1,164,462	1,164,462	1,051,772	1,164,462	1,126,899	1,164,462	1,126,899	13,710,603
Emitter Evap. (cu. ft)	916,287	810,223	559,275	351,304	147,204	0	0	179,449	375,621	505,200	705,711	805,617	5,355,890
Sprinkler Evap. (cu. ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotrans. (cu. ft)	257,717	274,167	213,850	235,783	202,883	0	0	241,267	268,683	246,750	257,717	142,567	2,341,383
Pond Evaporation (cu. ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Evaporation System (cu. ft)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Net Precip. Gain(+)/Loss(-) (cu. ft)	(2,016,516)	(1,906,352)	(1,632,874)	(1,456,999)	(1,223,536)	(952,112)	(911,012)	(1,171,088)	(1,473,116)	(1,570,599)	(1,805,940)	(1,896,982)	(18,017,127)
Excess Solution Pond													
Allowable Accum. in Excess 0	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	
Accum. into Excess	0	0	0	0	0	0	0	0	0	0	0	0	0
Recycled from Excess	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantity in Excess	0	0	0	0	0	0	0	0	0	0	0	0	
Makeup Solution Required (cu. ft)	2,016,516	1,906,352	1,632,874	1,456,999	1,223,536	952,112	911,012	1,171,088	1,473,116	1,570,599	1,805,940	1,896,982	18,017,127
Solution to Treat/Discharge	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 17.6 Extreme Wet Year Water Balance, Hasbrouck Mine

Active Leach Area	1,520,000
Lined Pad/Ditch Collection Area (sq. ft)	8,100,000
Lined Pond Collection Area (sq. ft)	120,000
Total Leach Flow to Heap (gpm)	3,800
Evaporation System Flow (gpm)	0
Allowable Wet Season Accum. in Process Ponds (ft^3)	2,250,000
Wet Season Ore Absorption (%)	6.7
Dry Season Ore Absorption (%)	6.7
Average Annual Emitter Evap (%)	2.0
Average Annual Sprinkler Evap (%)	0.0
Ore Throughput per Year (ton)	6,387,500

Assumptions

Pond evap. equals 60% of pan evap. over 50% pond area
Idle heap evapotranspiration equals 75% of pan evap.
Maximum evapotranspiration = rainfall over idle area

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	**Annual**
Days in Month	31	31	30	31	30	31	31	28	31	30	31	30	365
Precipitation (in)	0.45	0.43	1.05	0.95	1.70	0.65	0.45	1.00	2.13	1.50	0.26	0.00	10.57
Pan Evaporation (in)	17.71	15.66	11.17	6.79	2.94	0.00	0.00	3.84	7.26	10.09	13.64	16.09	105
Emitter Evap. (%)	4.0	3.6	2.5	1.5	0.7	0.0	0.0	0.9	1.7	2.3	3.1	3.7	2.0
Sprinkler Evap. (%)													
Idle Heap Evapotrans. Area (sq. ft)	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000
Idle Heap Evapotrans. (in)	13.3	11.7	8.4	5.1	2.2	0.0	0.0	2.9	5.4	7.6	10.2	12.1	79
Ore Placed on Pad (tons)	542,500	542,500	525,000	542,500	525,000	542,500	542,500	490,000	542,500	525,000	542,500	525,000	6,387,500
Precip. Collected (cu.ft)	308,250	294,550	719,250	650,750	1,164,500	445,250	308,250	685,000	1,455,625	1,027,500	178,100	0	7,237,025
Ore Absorption (cu. ft)	1,164,462	1,164,462	1,126,899	1,164,462	1,126,899	1,164,462	1,164,462	1,051,772	1,164,462	1,126,899	1,164,462	1,126,899	13,710,603
Emitter Evap. (cu. ft)	916,287	810,223	559,275	351,304	147,204	0	0	179,449	375,621	505,200	705,711	805,617	5,355,890
Sprinkler Evap. (cu. ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotrans. (cu. ft)	246,750	235,783	575,750	520,917	932,167	0	0	548,333	1,165,208	822,500	142,567	0	5,189,975
Pond Evaporation (cu. ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Evaporation System (cu. ft)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Net Precip. Gain(+)/Loss(-)	(2,019,249)	(1,915,919)	(1,542,674)	(1,385,932)	(1,041,770)	(719,212)	(856,212)	(1,094,554)	(1,249,666)	(1,427,099)	(1,834,640)	(1,932,516)	(17,019,443)
Excess Solution Pond													
Allowable Accum. in Excess 0	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	
Accum. into Excess	0	0	0	0	0	0	0	0	0	0	0	0	0
Recycled from Excess	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantity in Excess	0	0	0	0	0	0	0	0	0	0	0	0	
Makeup Solution Required	2,019,249	1,915,919	1,542,674	1,385,932	1,041,770	719,212	856,212	1,094,554	1,249,666	1,427,099	1,834,640	1,932,516	17,019,443
Solution to Treat/Discharge	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 17.7 Extreme Dry Year Water Balance, Hasbrouck Mine

Active Leach Area	1,520,000
Lined Pad/Ditch Collection Area (sq. ft)	8,100,000
Lined Pond Collection Area (sq. ft)	120,000
Total Leach Flow to Heap (gpm)	3,800
Evaporation System Flow (gpm)	0
Allowable Wet Season Accum. in Process Ponds (ft^3)	2,250,000
Wet Season Ore Absorption (%)	6.7
Dry Season Ore Absorption (%)	6.7
Average Annual Emitter Evap (%)	2.0
Average Annual Sprinkler Evap (%)	0.0
Ore Throughput per Year (ton)	6,387,500

Assumptions

Pond evap. equals 60% of pan evap. over 50% pond area
Idle heap evapotranspiration equals 75% of pan evap.
Maximum evapotranspiration = rainfall over idle area

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	**Annual**
Days in Month	31	31	30	31	30	31	31	28	31	30	31	30	365
Precipitation (in)	0.20	0.00	0.10	0.45	0.16	0.10	0.20	0.10	0.22	0.15	0.09	0.05	1.81
Pan Evaporation (in)	17.71	15.66	11.17	6.79	2.94	0.00	0.00	3.84	7.26	10.09	13.64	16.09	105
Emitter Evap. (%)	4.0	3.6	2.5	1.5	0.7	0.0	0.0	0.9	1.7	2.3	3.1	3.7	2.0
Sprinkler Evap. (%)													
Idle Heap Evapotrans. Area (sq. ft)	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000	6,580,000
Idle Heap Evapotrans. (in)	13.3	11.7	8.4	5.1	2.2	0.0	0.0	2.9	5.4	7.6	10.2	12.1	79
Ore Placed on Pad (tons)	542,500	542,500	525,000	542,500	525,000	542,500	542,500	490,000	542,500	525,000	542,500	525,000	6,387,500
Precip. Collected (cu.ft)	137,000	0	68,500	308,250	106,175	68,500	137,000	68,500	150,700	102,750	58,225	34,250	1,239,850
Ore Absorption (cu. ft)	1,164,462	1,164,462	1,126,899	1,164,462	1,126,899	1,164,462	1,164,462	1,051,772	1,164,462	1,126,899	1,164,462	1,126,899	13,710,603
Emitter Evap. (cu. ft)	916,287	810,223	559,275	351,304	147,204	0	0	179,449	375,621	505,200	705,711	805,617	5,355,890
Sprinkler Evap. (cu. ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotrans. (cu. ft)	109,667	0	54,833	246,750	84,992	0	0	54,833	120,633	82,250	46,608	27,417	827,983
Pond Evaporation (cu. ft)	0	0	0	0	0	0	0	0	0	0	0	0	0
Evaporation System (cu. ft)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Net Precip. Gain(+)/Loss(-)	(2,053,416)	(1,974,685)	(1,672,507)	(1,454,266)	(1,252,920)	(1,095,962)	(1,027,462)	(1,217,554)	(1,510,016)	(1,611,599)	(1,858,557)	(1,925,682)	(18,654,627)
Excess Solution Pond													
Allowable Accum. in Excess 0	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	
Accum. into Excess	0	0	0	0	0	0	0	0	0	0	0	0	0
Recycled from Excess	0	0	0	0	0	0	0	0	0	0	0	0	0
Quantity in Excess	0	0	0	0	0	0	0	0	0	0	0	0	
Makeup Solution Required	2,053,416	1,974,685	1,672,507	1,454,266	1,252,920	1,095,962	1,027,462	1,217,554	1,510,016	1,611,599	1,858,557	1,925,682	18,654,627
Solution to Treat/Discharge	0	0	0	0	0	0	0	0	0	0	0	0	0

17.2.13 Hasbrouck Mine Adsorption

The adsorption facility at the Hasbrouck Mine will consist of a single train of 5 up-flow, open-top CICs. The columns will be capable of holding 7 tons of carbon each, providing a CIC process inventory of 35 tons of carbon.

Pregnant solution will be pumped to the carbon adsorption feed tank of the CICs at a nominal flow rate of 3,800 gpm. A magnetic flow meter and a wire sampler will be installed on the feed to the CICs to allow the calculation of total gold ounces fed to the carbon columns.

Pregnant solution will flow by gravity through the set of 5 columns, exiting the last, lowest, adsorption column as barren solution. Barren solution from the last carbon column will be continuously sampled by a wire sampler for metallurgical accounting, and then discharged to the carbon safety screen to recover any floating carbon particles.

Underflow from the safety screen will flow by gravity to the barren solution tank. Carbon recovered on the safety screen will be collected in a carbon super sack for reuse.

The adsorption columns will operate in this fashion until the carbon contained in the first, upper, column achieves the desired precious metal loading, or the barren solution grade increases to an unacceptably high level. Loaded carbon from the first carbon adsorption column will then be pumped to the acid wash circuit. Carbon in each of the lower adsorption columns will be sequentially moved up the adsorption train, counter-current to the solution flow. This will continue from carbon column 5 to carbon column 2. Once carbon has been advanced through the carbon columns, new or regenerated carbon will be pumped into column 5.

17.2.14 Hasbrouck Mine Acid Washing

Loaded carbon from the adsorption circuit will be advanced to an acid wash vessel. In this vessel, hydrochloric acid will be circulated through the carbon to remove calcium carbonate scale before being moved to the desorption cycle. The acid wash vessel is a fiberglass reinforced plastic lined, carbon steel vessel designed to contain 3.0 tons of carbon.

A dilute hydrochloric acid solution will be prepared in the acid mix tank and circulated through the acid wash vessel using a circulation pump. The dilute acid solution overflows the acid wash vessel and returns by gravity to the acid mix tank. Circulation will continue for several hours while process operators monitor and add concentrated acid as needed to maintain the solution’s pH at or near 2. After the carbonate scale is removed, and acid is no longer consumed, the circulating acidic solution will be neutralized with caustic and pumped to the adsorption carbon safety screen for disposal as barren solution make-up water.

17.2.15 Hasbrouck Mine Desorption

The carbon will be advanced to the elution vessel after acid washing. The elution vessel is designed to process up to three tons of carbon in a modified Zadra-type desorption cycle, typically requiring 12 to 16 hours per cycle. During this process, gold will be removed from the carbon with a hot caustic strip solution at a temperature of 275°F and a pressure of 70psig. The solution will be heated indirectly using a diesel-fired boiler and heat exchangers. The strip solution exiting the elution column will be cooled through a heat exchanger and from there flow to the recovery circuit where gold will be recovered from the pregnant eluent by electrowinning. Barren eluent leaving the recovery circuit will return to the barren eluent storage tank to be heated and circulated back through the elution vessel. The elution cycle continues until the gold grade of the pregnant and barren eluents are approximately the same, or the allowed strip time has elapsed.

Carbon will then be discharged from the elution vessel onto a dewatering screen within the carbon handling area. Pressure from the barren solution is used to push the carbon from the elution vessel on to the screen for dewatering and further carbon handling.

17.2.15.1 Hasbrouck Mine Electrowinning

Pregnant eluent will flow to two electrowinning cells that will be operated in parallel. Stripped gold from the desorption cycle will be removed from the pregnant eluent by electro-plating onto stainless steel cathodes. Periodically, the stainless steel cathodes will be removed from the electrowinning cell and washed with a high pressure spray to remove the gold sludge. The resulting sludge will be filtered in a plate and frame type filter press. The filter cake will then be processed in an electric mercury retort to remove mercury from the sludge. The mercury will be recovered in a water trap collector and periodically drained from the trap into air-tight vessels and shipped off-site for disposal.

17.2.15.2 Hasbrouck Mine Carbon Thermal Regeneration

Carbon will be transferred as needed from the carbon storage tank to the kiln feed hopper to maintain constant feed to the carbon regeneration kiln. The kiln will be a diesel-fired device that reactivates carbon by heating it at1,400˚F. Reactivation will remove organic compounds that foul activated carbon and which reduces the carbon’s activity or capacity to adsorb gold. The kiln will be capable or treating 154 lb of carbon per hour.

17.2.15.3 Hasbrouck Mine Refining and Smelting

After removal of the majority of mercury by retorting, the gold sludge will be treated in an electric induction smelting furnace. The gold sludge will be mixed with fluxes, typically a combination of borax, niter, soda ash and silica sand, and smelted. The soda ash and niter oxidize impurities and allow them to collect into the slag phase while the bullion settles to the bottom of the crucible. Fluorspar may also be used to modify the slag viscosity. The slag and impurities will be poured off into a slag mold and the molten bullion will then be poured into a series of cascading molds. Gas emissions from the furnace will be extracted with a blower and filtered in a baghouse (furnace dust collector) to remove particulates prior to discharge to the atmosphere.

The bullion, or doré, will be quenched and cooled in a water bath. Doré bars will be cleaned of slag and loose metal particles, labeled and weighed. Doré will then be shipped to an off-site refiner for further processing and sale as fine gold.

Slag will be crushed and inspected to remove visible beads of bullion that can be immediately re-melted or recycled to the pour. The remaining slag will be re-smelted to settle and recover any unrecovered bullion. The resulting barren slag will be shipped offsite for disposal.

17.2.16 Hasbrouck Mine Process Reagents

The Hasbrouck Mine site will include storage for NaCN, antiscalant, cement, carbon, sodium hydroxide (“NaOH”), hydrochloric acid (“HCl”), diesel fuel and fluxes (silica, borax, niter and soda ash). Estimated annual reagents consumption and storage capacities for Hasbrouck are shown in Table 17.8.

Table 17.8 Hasbrouck Mine Projected Annual Reagent Consumption

Reagent	Form	Storage Capacity	Annual Consumption
Cement	Bulk	100 tons	15,750 tons
Sodium Cyanide (30%)	Liquid Bulk Delivery Truck	12 tons	2,400 tons
Activated Carbon	1,100 lb Super sacks	22 tons	30 tons
Diesel (process only)	Liquid Bulk Delivery Truck	1,791 gal	134,000 gal
Antiscalant	240 gal Liquid Tote Bins	8 totes (1,920 gal)	23,400 gal
Hydrochloric Acid (32%)	240 gal Liquid Tote Bins	6 totes (1,440 gal)	44,000 gal
Sodium Hydroxide (50%)	Liquid Bulk Delivery Truck	4,887 gal	93 tons
Silica	Dry Solid Sacks	1 ton	4.1 tons
Borax	Dry Solid Sacks	2 tons	6.6 tons
Soda Ash	Dry Solid Sacks	1 ton	2.5 tons
Niter	Dry Solid Sacks	1 ton	3.3 tons

17.2.16.1 Hasbrouck Mine Cement

Dry Portland cement will be purchased in bulk truck loads and stored in a silo on site. A variable-speed screw feeder will meter dry cement onto the pug mill feed conveyor in proportion to the tonnage of ore to be agglomerated.

17.2.16.2 Hasbrouck Mine Sodium Cyanide

NaCN will be used in the leaching, elution and potentially in the adsorption processes. NaCN will be delivered in tanker trucks as a liquid at 30% concentration. NaCN will be stored in an

8,339 gallon, steel tank. Storage capacity will be equivalent to approximately 1.8 days of NaCN usage.

17.2.16.3 Hasbrouck Mine Carbon

Activated carbon will be used to adsorb gold and silver from the leach solution in the adsorption columns. Make-up carbon is 6 x 12 mesh. Carbon will be delivered in 1,100lb super sacks. New carbon will be added to the circuit after being attritioned in the carbon attritioning tank. New carbon required to replace fine carbon losses is projected at 54 lb per ton of carbon stripped.

17.2.16.4 Hasbrouck Mine Antiscalant

Antiscalant agents will be used to prevent the accumulation of scale in the process solution and heap irrigation lines. Antiscalant agents are normally added to the process pump intakes, or directly into pipelines, and consumption will vary depending on the concentration of scale-forming species in the process stream. Delivery will be in liquid form in 240 gallon tote bins.

The antiscalant will be fed from the supplier tote bins into the pregnant and barren pumping systems using variable-speed, chemical-metering pumps. On average, antiscalant consumption is expected to be about 65 gallons per day. The recommended minimum inventory is 2 tote bins.

17.2.16.5 Hasbrouck Mine Sodium Hydroxide

Sodium hydroxide (NaOH or caustic solution) from the reagent area caustic mix/storage tank will be used for acid neutralization in the acid wash circuit as well as in the strip solution. Caustic solution will be delivered in tanker trucks as a liquid at 50% concentration. Caustic solution will be stored in a 4,887 gallon, steel tank and will be fed directly from the storage tank using a small metering pump.

17.2.16.6 Hasbrouck Mine Hydrochloric Acid

HCl will be used in the acid wash section of the elution circuit. The acid washing process consists of circulating dilute acid solution through the bed of carbon to dissolve and remove scale from the carbon. Acid washing is performed every elution cycle. Hydrochloric acid (28-32% by weight) will be delivered in totes, each containing 240 gallons.

17.2.16.7 Hasbrouck Mine Processing Fluxes

Various fluxes are used in the smelting process to remove impurities from bullion. The normal flux components are a mix of silica sand, borax, and sodium carbonate (soda ash). The flux mix composition can be variable and will be adjusted to meet the project smelting needs. Fluorspar and/or potassium nitrate (niter) are sometimes added to the mix. These fluxes will be delivered dry, in 50 lb or 100 lb bags. Average consumption of fluxes is estimated to be 1 lb flux per pound of electrowinning precipitate smelted.

18.0 PROJECT INFRASTRUCTURE

Project infrastructure for the proposed Three Hills and Hasbrouck mines is shown conceptually on the general arrangement maps in Figure 18.1, Figure 18.2, and Figure 18.3.

18.1 Site Facilities

18.1.1 Access and Site Roads

The Three Hills Mine will have two access routes: the Knapp Avenue - Paymaster Canyon route and the South Access Route. The Knapp Avenue route runs west from the town of Tonopah, initially on Knapp Avenue (existing blacktop), and then transitions onto Paymaster Canyon Road ("PMC") (existing gravel) at the county line. A site access road will be installed from the PMC road running parallel to the southwest edge of the HLF to the mine parking lot and security gate area. Knapp Avenue is in Nye County and is administered by Nye county. Paymaster Canyon Road is in Esmeralda County and is administered by Esmeralda county.

The second access route to Three Hills Mine, called the South Access Route, uses existing Esmeralda county gravel roads. The route involves turning west off Highway 95, some 3 miles south of Tonopah, onto an un-named county road (existing gravel), and then turning northeast onto the PMC, and then accessing the mine site via the site access road which will be installed parallel to, and south of, the HLF.

The Hasbrouck Mine will be accessed via a proposed access road from U.S. Highway 95. The access road will route traffic to the parking lot and security gate area.

Turnouts from Highway 95 to the South Access Route and the Hasbrouck Mine access will be installed in consultation with and according to the requirements of the Nevada Department of Transportation.

Nye County and Esmeralda County commissions and the Town of Tonopah Board have been briefed on the project's plan for access, and have concurred subject to entering an agreement for reimbursement for costs of maintenance and repair consequent to mine traffic.

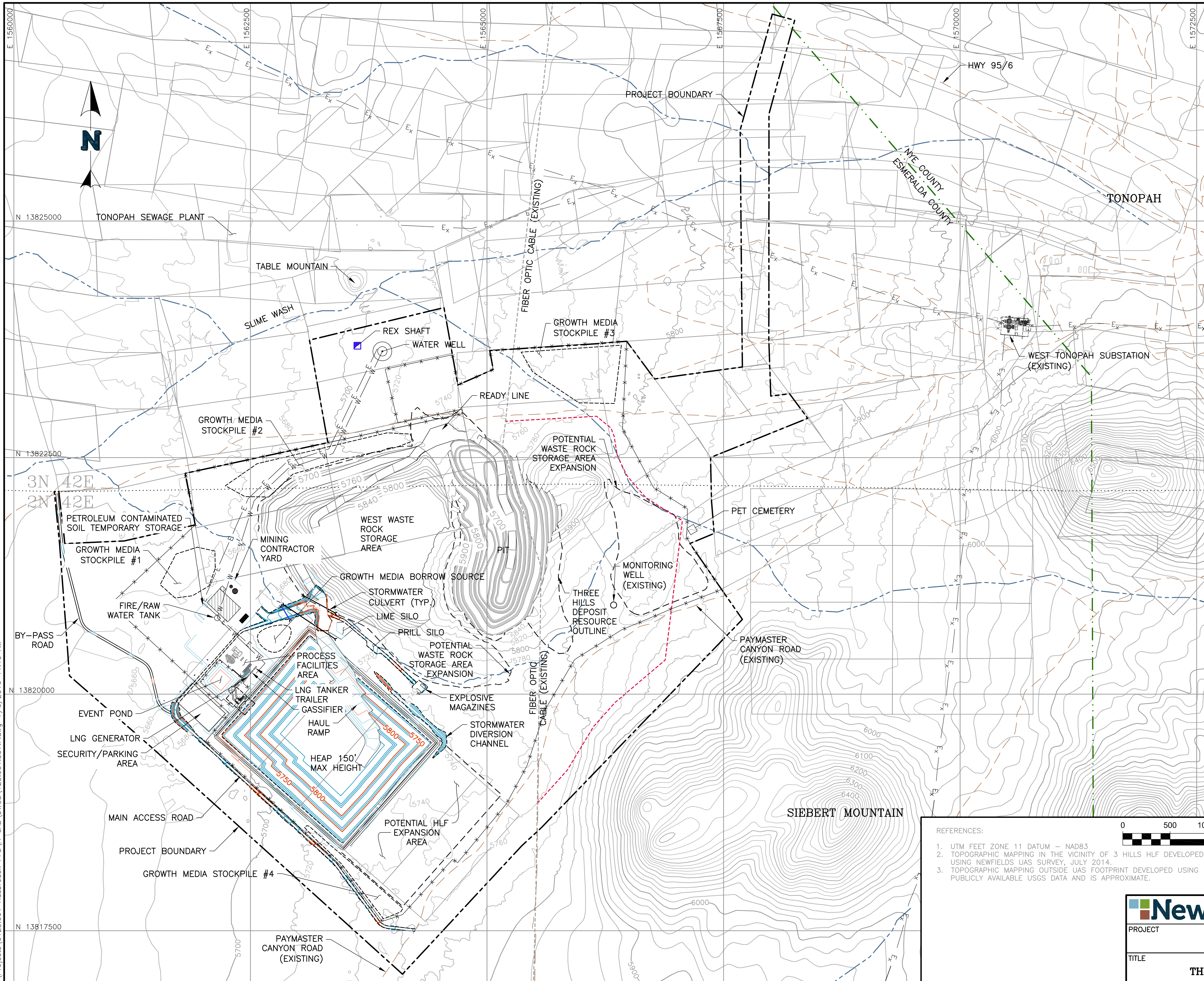
Within each site, light vehicle roads will provide access from the security gate to other areas throughout the site, including the HLF, event pond, processing facilities, administrative areas and mining contractor yard. Material deliveries for lime, prill and explosives will primarily use the light vehicle access road but will cross haul roads at the Three Hills Mine. Haul roads provide travel routes between the mine pit, waste rock storage area, mining contractor yard, and the Three Hills Mine HLF, or the Hasbrouck Mine crushing facility.

18.1.2 Security and Fencing

Both the Three Hills and Hasbrouck mines will have a main security gate allowing controlled entry and exit from each property. These gates will be unmanned, but with call boxes and video surveillance monitored by staff in the warehouse or administration buildings. Visitors' and delivery vehicle entrance will be controlled by the warehouse or administration staff. Card readers will allow company and approved contractor and visitors entrance to the sites.

Fences will be constructed around the perimeter of both sites using 3 to 4 strands of barbed wire. The pits, waste rock storage areas, heap-leach facilities, haul roads, contractor yards and all other ancillary facilities will be secured areas with access controlled at the main security gates.

Internal to the sites, wildlife fencing will be installed around the event pond and pregnant and barren solution tanks. Basic chain link fencing will be used around the warehouse yard and high security fencing will be used to isolate the ADR refinery area.



LEGEND:

- EXISTING GROUND CONTOURS
- PROPOSED GROUND CONTOURS
- EXISTING ROADS/TRAILS
- EXISTING POWER LINE
- EXISTING DRAINAGES
- PROJECT BOUNDARY
- FIBER OPTIC ROW REALIGNMENT
- PROPOSED SECURITY FENCE
- PROPOSED WATER PIPELINE
- MINE HAZARDOUS MATERIAL STORAGE
- FUEL/OIL STORAGE
- TRUCK SHOP/WASH-DOWN AREA WITH DIRT AND OIL TRAPS
- TOWNSHIP/RANGE LINES
- 2N 42E TOWNSHIP NUMBER
- COUNTY LINE

NOTES:

1. CONSTRUCTION MATERIAL PROCESSING TO BE PERFORMED NEAR CONTRACTOR YARD.

REFERENCES:

1. UTM FEET ZONE 11 DATUM – NAD83
2. TOPOGRAPHIC MAPPING IN THE VICINITY OF 3 HILLS HLF DEVELOPED USING NEWFIELDS UAS SURVEY, JULY 2014.
3. TOPOGRAPHIC MAPPING OUTSIDE UAS FOOTPRINT DEVELOPED USING PUBLICLY AVAILABLE USGS DATA AND IS APPROXIMATE.

NewFields	CLIENT: WK MINING (USA) LTD.
PROJECT	HASBROUCK PROJECT
TITLE: THREE HILLS MINE SITE PLAN	FILENAME: 125.001.537.F; FIGURE NO.: 18.1; REVISION: C

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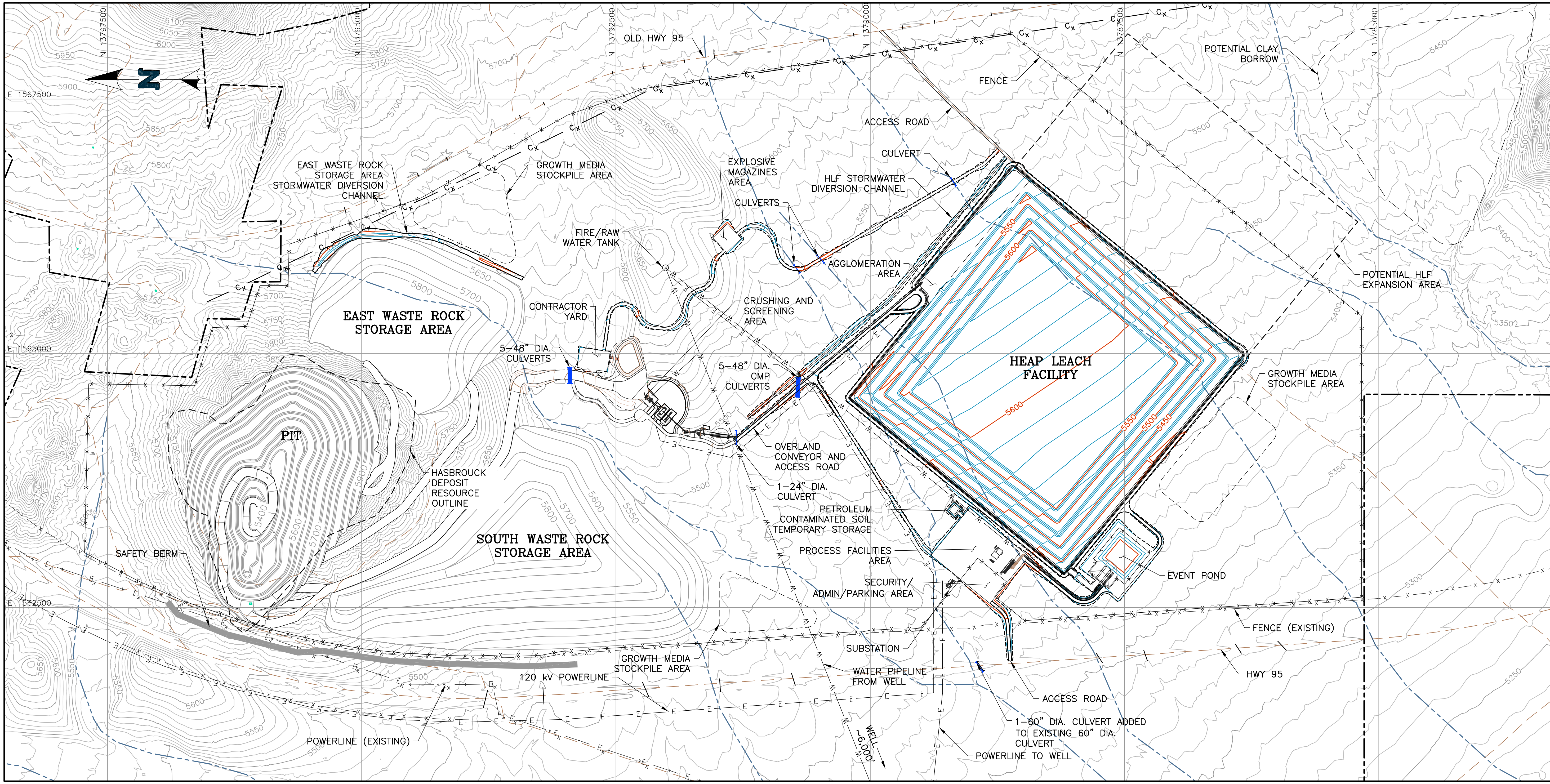

LEGEND:

- EXISTING GROUND CONTOURS
- PROPOSED GROUND CONTOURS
- EXISTING ROADS/TRAILS
- EXISTING DRAINAGES
- PROPERTY BOUNDARY
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING POWER
- PROPOSED POWERLINE
- EXISTING FIBER OPTIC CABLE
- EXISTING CULVERT
- PROPOSED CULVERT
- PROPOSED WATER PIPELINE

NOTES:

1. THE FOLLOWING FEATURES WERE PROVIDED BY MINE DEVELOPMENT ASSOCIATES:
   - –MAIN WASTE ROCK STORAGE AREA
   - –EAST WASTE ROCK STORAGE AREA
   - –PIT
   - –LONG TERM STOCKPILE
   - –CONTRACTOR YARD
2. THE FOLLOWING FEATURES WERE PROVIDED BY KAPPES, CASSIDAY, & ASSOCIATES
   - –CRUSHING AND SCREENING AREA
3. CONSTRUCTION MATERIAL PROCESSING TO BE PERFORMED NEAR CONTRACTOR YARD.

0 500 1000 FEET

REFERENCES:

1. UTM FEET ZONE 11 DATUM – NAD83
2. TOPOGRAPHIC MAPPING IN THE VICINITY OF 3 HILLS HLF DEVELOPED USING NEWFIELDS UAS SURVEY, JULY 2014.
3. TOPOGRAPHIC MAPPING OUTSIDE UAS FOOTPRINT DEVELOPED USING PUBLICLY AVAILABLE USGS DATA AND IS APPROXIMATE.

NewFields	CLIENT: WK MINING (USA) LTD.
PROJECT	HASBROUCK PROJECT
TITLE: HASBROUCK MINE SITE PLAN	FILENAME: 125.001.538.F; FIGURE NO.: 18.2; REVISION: C

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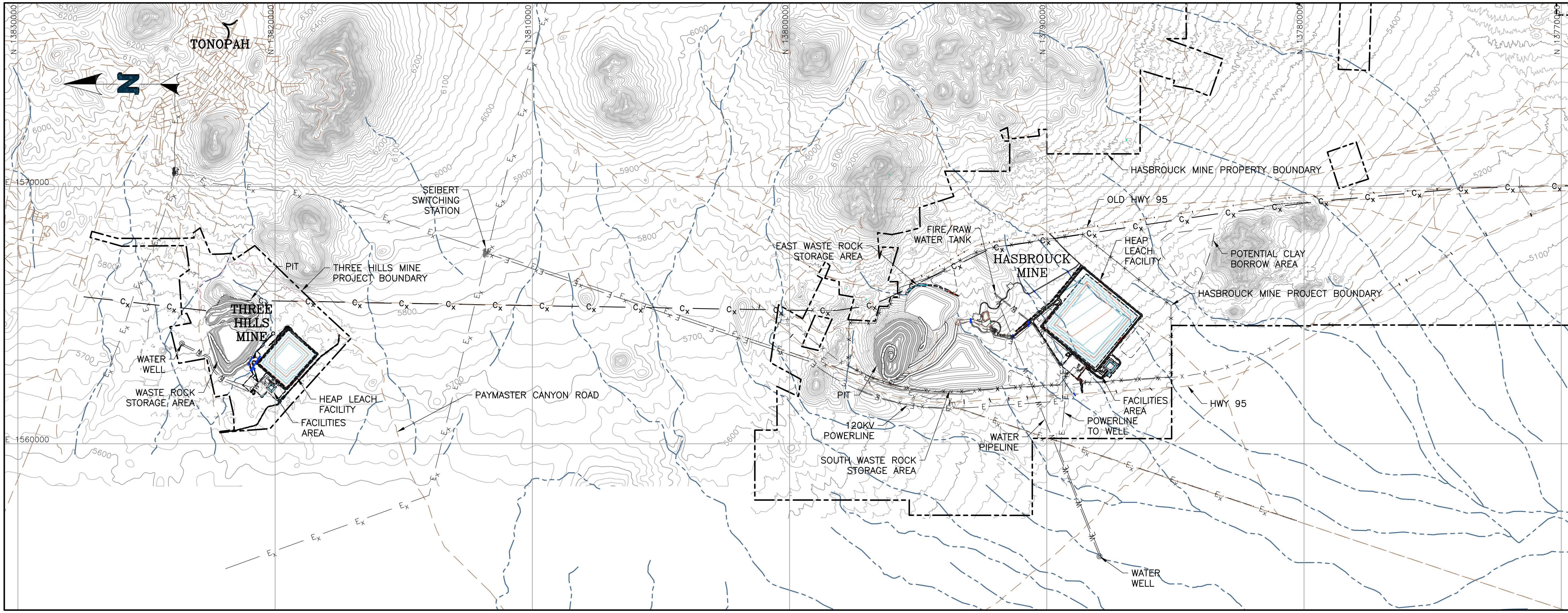

0 2000 4000 FEET

LEGEND:

- EXISTING GROUND CONTOURS
- PROPOSED GROUND CONTOURS
- EXISTING ROADS/TRAILS
- EXISTING DRAINAGES
- PROJECT / PROPERTY BOUNDARIES
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING POWER
- PROPOSED POWERLINE
- EXISTING FIBER OPTIC CABLE
- PROPOSED FIBER OPTIC CABLE RIGHT-OF-WAY
- PROPOSED WATER PIPELINE

REFERENCES:

1. UTM FEET ZONE 11 DATUM – NAD83
2. TOPOGRAPHIC MAPPING IN THE VICINITY OF 3 HILLS HLF DEVELOPED USING NEWFIELDS UAS SURVEY, JULY 2014.
3. TOPOGRAPHIC MAPPING OUTSIDE UAS FOOTPRINT DEVELOPED USING PUBLICLY AVAILABLE USGS DATA AND IS APPROXIMATE.

NewFields	CLIENT: WK MINING (USA) LTD.
PROJECT	HASBROUCK PROJECT
TITLE: WATERLINE ALIGNMENT PLAN	FILENAME: 125.001.539.F; FIGURE NO. 18.3; REVISION D

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18.1.3 Water Supply

No potable water supply will be installed at Three Hills Mine, potable water being obtained from the Tonopah water system. A potable water system will be installed at Hasbrouck Mine. This requires obtaining a water right to appropriate groundwater. Water rights have been applied for in 2014 and are currently under review by the state engineer.

Raw water is defined in this report as all water required by the project. It includes water for construction purposes, make-up water for mineral processing, water for dust control on mine roads and ore processing, and other sundry non-potable uses. Raw water is not required to meet potable water standards. The average rate of raw water that will be required at each mine is 500 gpm.

Water for the project is planned to be obtained from groundwater wells near each mine. For the Three Hills Mine, the water supply well will be located approximately 3,700ft north of the process facilities. For the Hasbrouck Mine, the water supply well will be located approximately 7,500ft west of the process facilities. Submersible pumps will be installed at a depth of 1,000ft in each well. Preliminary analysis of the existing water rights and groundwater conditions indicate that these wells can meet the project's raw water requirements. Water rights for the Three Hills well have been applied for in 2014 and are currently under review by the state engineer.

18.1.4 Water Distribution

At both mines HDPE pipelines will be used to convey the required water from the supply wells to 500,000 gallon water storage tanks. At the Three Hills Mine, the water storage tank will be located adjacent to the process facilities. Due to the limited elevation difference between the tank and the facilities, pumps are required to boost pressure and provide adequate flow. At the Hasbrouck Mine, the water storage tank will be located east of the crusher facility. The location of the Hasbrouck tank will provide adequate pressure for the system and booster pumps will not be required.

The chosen route for the water pipeline from the water supply well to the Three Hills Mine will require the consent of a landowner whose land it will cross. Should the landowner in question decline permission, a slightly longer route exclusively on WKM-owned property will be used.

The water pipeline route between the water supply well and the Hasbrouck Mine will be on public land and approval for the well and pipeline installation will be obtained as part of the approval to construct the Hasbrouck Mine required under the National Environmental Protection Act.

18.1.5 Fire Water

The source of fire-fighting water for both the Three Hills and Hasbrouck mines will be the ground water wells for each site. The water transmission systems supplying both mines will be designed to meet the pressure and volume requirements to meet fire codes based on the equipment and building types constructed at each mine. Based on the current building sizing and construction, the required fire-fighting water requirement is estimated at 1,500 gpm for 2 hours with a minimum pressure of 20 psi. At the Three Hills mine, to ensure the flow, volume, and pressure requirements of the fire-fighting source are met, diesel booster pumps will be installed on the fire water transmission pipeline. No pumps will be required at the Hasbrouck Mine.

A fire suppression water system will be installed at each mine to provide service to the buildings. Fire protection water will feed from the fresh water storage tank. Fire hydrants will be placed at regular intervals around the buildings. An agreement will be entered into with the nearby Town of Tonopah Fire Department for fire- fighting services. Light vehicles will carry a small water supply or a fire extinguisher in order to control fires generated by exhaust or catalytic converters.

A fire alarm system will be installed in the administrative building, laboratory, warehouse, plant maintenance shop, truck shop, and ADR building. This system will be used to initiate evacuations and alert personnel of an emergency situation.

Fire extinguishers will be placed in buildings, in equipment storage yards, in vehicles, and in heavy equipment as required by MSHA. Fire extinguishers will be of the type required to address the reasonably anticipated class of fire at a given location. Fire extinguishers will be serviced regularly to ensure their proper functioning. Employees will be trained in the use of hand-held fire extinguishers and alarm systems. Locations and proper use of fire extinguishers will be reviewed with personnel on an annual basis, at a minimum, and upon assignment for new personnel.

18.1.6 Fuel Handling Facility

A fuel storage depot will be located at the contractor yard. It will include separate diesel aboveground tanks for fueling of light/intermediate and heavy vehicles. Gasoline will be obtained either from filling stations in the Town of Tonopah, or from a tank in the fuel storage depot at the contractor yard. Spill containment will be designed for 110 percent of the largest tank or tanker within the containment. Fuel will be delivered via highway-legal trucks directly to the depot. Drivers off-loading fuel will be certified and trained. Cam-lock fittings or other appropriate fittings will be located within the containment to collect spilled fuels. A sump will be located a one end of the containment so that spilled fuels can be pumped from the containment, using a portable pump, for appropriate disposal.

18.1.7 First Aid and Emergency Preparedness

First aid kits will be maintained in the administration building, truck shop, laboratory, process building, warehouse, and safety/security building, in addition to vehicles and heavy equipment as required by MSHA. Personnel will be trained and certified in CPR and basic first aid on an annual basis.

In the event of an emergency on site, responding mine personnel will first contact external emergency services via two-way radios installed in vehicles and heavy equipment or by cell phone. Once the emergency has been stabilized, the Sheriff's Department and additional regulatory agencies will be contacted as required. Fire and medical emergencies will be responded to by emergency services located in Tonopah.

Fire response is within the jurisdictional boundaries of the BLM, Esmeralda County, and the Town of Tonopah; therefore, these three agencies will likely be the first external responders to an emergency. The closest major medical center to both mines is the Nye Regional Medical Centre in Tonopah, approximately 5 road miles from the Hasbrouck Mine and 2 road miles from the Three Hills Mine. This has an emergency room and emergency medical personnel. lf immediate care is necessary that cannot be provided at the Nye Regional Medical Center, the Med Air Ambulance program out of Las Vegas, Nevada is equipped to provide rapid air transportation of critically injured/ill persons.

Emergency contact information for site personnel, first responders, medical care, and local and federal agencies will be provided at each mine site.

18.1.8 Communications

Both mine sites have good cellular telephone coverage. Voice and data communication at the Three Hills Mine will be either via a cable or satellite, and at the Hasbrouck Mine via satellite.

On-site communications will be by cellular telephone and two-way radio. A separate radio frequency will be established for emergency use, and emergency response and communication protocols will be established.

18.1.9 Transportation

Transportation of materials, equipment, and personnel to and from the mines will be by road-going vehicles. On-site transportation will be trucks of various types.

18.1.10 Buildings

Buildings required for the Hasbrouck project include administration, safety, mine operations, warehouse and laydown area, assay lab, process buildings, and ADR maintenance shop.

The administration building will be a double- or triple-wide office trailer with sufficient room for up to 8 offices and one conference room, as well as a first aid clinic. A second trailer of approximately the same size will be used for mine operations to house the mining supervision, engineering, and geology departments. A third trailer, about half of the size, will be used for safety and training facilities. Each of the buildings will be placed in service with electrical, water, and leach field sewage.

All three of these office trailers will be located at the Three Hills Mine at the beginning of operations. It is envisioned that some or all of these buildings will be relocated to the Hasbrouck Mine once operations have transitioned away from Three Hills.

18.1.10.1 Three Hills Process Area Buildings

The warehouse and laydown area and assay laboratory were evaluated by KCA.

Assay Lab: A full service laboratory facility will be present for use by both the Three Hills and Hasbrouck mines. The laboratory building will be rented in Tonopah and will be fully equipped with all required laboratory and ventilation equipment. The laboratory will be divided into four areas for sample preparation, fire assay, metallurgical testing and a wet laboratory area. The laboratory will also include office space and a restroom. The laboratory is to be sized to process 100 solid samples per day and 150 solution samples per day.

Process warehouse and workshop: The process shop and warehouse at Three Hills will be a 2,900 ft^2, pre-engineered, steel building and located near the CIC circuit. The process shop will have a main work area for repairs and maintenance, and also includes warehouse space for spare parts and necessary equipment. A bridge crane will span half the building to ease maintenance. There will be a fenced laydown area to store larger spare parts.

18.1.10.2 Hasbrouck Process Area Buildings

The warehouse and laydown area and process buildings were evaluated by KCA.

Reagents Storage Building: The reagents storage building (pre-fabricated steel roof with fencing) will be 1500 ft^2. The facility will be divided into three sections with storage for carbon, hydrochloric acid, antiscalant, and other dry reagents such as fluxes.

ADR Plant and Refinery: The ADR plant will be housed in a multi-sectional, pre-engineered, steel building with the main, ADR section approximately 145ft L x 42ft W x 44ft in eave height. An additional pre-engineered section approximately 14ft L x 25ft W x 20ft H for the caustic area will be attached to the ADR section. The refinery will be approximately 79.5ft L x 44.5ft W x 22.75ft H and will share a wall with the ADR building. The refinery will be constructed of concrete masonry unit (“CMU”) walls with a lightweight concrete roof. The main section of the ADR facility will contain the regeneration kiln and carbon handling system, the acid wash and stripping vessel, the strip heating system, and an insulated holding tank. The secure refinery area will contain the electrowinning cells, mercury retort, flux mixing, slag granulation and the fuel-oil fired smelting furnace.

The refinery area will contain a safe which will be secured. The safe will be secured to the concrete structure of the refinery. A concrete slab measuring approximately 29ft L x 15.5ft W with a 10ft cyclone fence and lockable gates will be constructed adjacent to the refinery main door. This area will allow ores to move in and out of the refinery area without compromising security. Security cameras will be installed at strategic locations, connected to remote monitors and recorders.

A dual level office/facilities complex measuring approximately 29ft L x 29ft W x 22.5ft H will be adjacent to the refinery and ADR building. The building will contain a restroom and changing room facilities, a lunch/conference room, offices and a security area.

Process and Maintenance Warehouse: The process shop and warehouse at Hasbrouck will be a 3,430 ft^2, pre-engineered, steel building located near the ADR plant. The Hasbrouck process shop will have a main work area for repairs and maintenance, such as for equipment for the crushing plant and ADR plant, and also includes an office area, tool room and warehouse space for spare parts and necessary equipment. There will be a fenced laydown area to store larger spare parts.

18.1.11 Explosive Storage and Handling

Explosives and blasting agents will be purchased, transported, handled, stored, and used in accordance with the Bureau of Alcohol, Tobacco, Firearms, and Explosives (“BATFE”), Department of Homeland Security (“DHS”) provisions, and MSHA regulations. Blasting will be done using ANFO as the primary blasting agent. Boosters and blasting caps will be used to initiate the ANFO in each hole. Ammonium nitrate prill will be stored in a silo in a secure area and mixed with diesel to produce ANFO in specialized explosive trucks. These trucks will deliver the product to the active mining bench as required for blasting.

Conceptual locations are shown in Figure 18.1 and Figure 18.2.

18.2 Electrical Power Supply and Distribution

Electrical power for Three Hills will be provided by a liquefied natural gas (“LNG”) generator located on site. Electrical power for the Hasbrouck Mine will be grid power supplied by NV Energy, the local electrical distributor, which has provided preliminary designs and costs for offsite electrical distribution infrastructure. KCA has provided preliminary designs and costs for onsite electrical distribution at both mines.

18.2.1 Offsite Electrical Power

Offsite electrical supply is defined as the infrastructure necessary to bring power to the fence of the mine substation at the Hasbrouck Mine.

Electrical power for Three Hills will be provided by a rented, reciprocating piston engine generator powered by Liquefied Natural Gas (“LNG”) as summarized in Section 18.2.2.

A preliminary design and costs for supplying electricity to the Hasbrouck Mine site have been provided by NV Energy and indicate the following:

- A 120 kV switching station (“Siebert switching station”);
- Communications equipment;
- Relaying upgrades and communications additions as required at Millers and Sandia; and
- Metering at the mine site substation.

18.2.2 Three Hills Mine Onsite Electrical Power

A budget quote for renting this equipment from Aggreko, a world-leading generating equipment rental company, has been used in this study, and is based on a unit that Aggreko is currently renting to an analogous operation in Nevada. Aggreko's equipment consists of heavy-duty, spark-arrested, turbo-charged, after-cooled engines which have a purpose-built alternator and are suitable for continuous operation in harsh environments (Figure 18.4). This engine design and the use of LNG result in low emissions and little smoke in exhaust gases. Ancillary equipment consist of a trailer-mounted gasifier and a trailer-mounted LNG tank.

Figure 18.4 Example of LNG Powered Reciprocating Piston Engine Generator

At the Three Hills mine site the estimated attached load for the water supply system, process plant including the reagents area and ancillary equipment will be 0.9MW, with an average draw of 0.6MW (Table 18.1).

Table 18.1 Three Hills Heap Leach and Process Facilities Power

Area	Attached Power kW	Peak Power kW	Average Power kW	kWh/year	kWh/ton Ore
Water Distribution	337	252	161	1,411,729	0.258
Heap-leach & Solution Handling	526	436	428	3,246,107	0.618
Adsorption	5	4	4	3,995	0.001
Reagents	4	3	3	8,069	0.002
Ancillaries	16.0	12	9	40,149	0.001
Total At Three Hills	***888***	***707***	***604***	***4,843,948***	***0.885***
Laboratory (located in Tonopah)	234	175	100	859,385	0.157
Total	**1121**	**882**	**713**	**5,703,333**	**1.042**

18.2.2.1 Three Hills Backup Power

A 750kW, 480V diesel or LNG powered backup generator will be installed in the process area for emergency power for those parts of the processing system that need to run continuously, which include the process solution pumps to maintain solution circulation, certain items of small equipment within the plant, and plant lighting. A diesel or LNG fuel tank will provide a minimum of 24 hours of fuel necessary to fulfill the attached equipment power requirements.

18.2.2.2 Three Hills Onsite Electrical Distribution

Within the site, power will be routed to points of use at 4,160V via overhead power lines or at 480V. Where 4,160V is used, transformers will reduce the voltage to 480V to feed the MCC and distribution panels. The ancillary loads, i.e. lighting, instruments, etc. will be fed through small, dry-type transformers with a step down from 480V to a range of 220-127V.

The detailed engineering phase will finalize the design criteria required to construct the branch feeders onsite with respect to costs, safety, reliability, underground or overhead requirements, etc., in conformance with all applicable codes and standards.

18.2.3 Hasbrouck Mine Onsite Electrical Power

The estimated attached load for the water supply system, crushing system, conveying and stacking system, ADR plant including the reagents area, and ancillary equipment at the Hasbrouck mine site is 6.5 MW, with an average draw of 4.1 MW. The estimated process-area electrical power consumption by project area is depicted in Table 18.2.

Table 18.2 Hasbrouck Power For Heap-Leach and Process Facilities

Area	Attached Power kW	Peak Power kW	Average Power kW	kWh/year	kWh/ton Ore
Water Supply & Distribution	491	369	270	1,742,817	0.322
Primary Crushing	409	284	218	1,623,149	0.301
Secondary & Tertiary Crushing	3,268	2,721	2,041	17,630,667	3.265
Conveying, Agglomeration & Stacking	1,246	1,126	845	7,298,804	1.352
Heap-leach & Solution Handling	533	404	396	1,971,363	0.365
Adsorption	5	4	4	9,390	0.002
Reagents	3	1	1	336	0.000
Ancillaries	30	26	17	71,280	0.013
Acid Wash & Elution	31	25	24	85,354	0.016
Carbon Handling & Regeneration	67	56	53	187,814	0.035
Electrowinning & Refining	215	164	160	690,429	0.128
Reagents	4	3	2	21,481	0.004
Ancillaries	194	145	73	313,470	0.058
Total at Hasbrouck	**6496**	**5,328**	**4,104**	**31,646,353**	**5.860**
Laboratory (Located in Tonopah)	234	175	113	847,612	0.157
Total	**6,729**	**5,503**	**4,217**	**32,493,965**	**6.017**

18.2.3.1 Hasbrouck Electrical Substation

The mine site substation will have a capacity of 8,000kVA and will consist of a single transformer with a step down from 120kV to 4,160V. It will include all protective devices, switching, instrumentation, communications, relaying, and ancillaries according to the requirements of the mine and in conformance with codes, regulations, and NV Energy standards.

18.2.3.2 Hasbrouck Backup Power

A 750kW, 480V diesel-powered backup generator will be installed in the process area for emergency power for those parts of the processing system that need to run continuously, which include the process solution pumps to maintain solution circulation, certain items of small equipment within the plant, and plant lighting. A diesel fuel tank will provide a minimum of 24 hours of fuel necessary to fulfill the attached equipment power requirements.

18.2.3.3 Hasbrouck Onsite Electrical Distribution

On-site electricity will be routed to equipment at 4,160V via overhead power lines. Transformers will reduce the voltage from 4,160V to 480V to feed the MCC(s) and distribution panels. Ancillary loads, i.e. lighting, instruments, etc. will be fed through small, dry type transformers which will step down from 480V to a range of 220-127V.

The detailed engineering phase will finalize the design criteria required to construct the branch feeders onsite with respect to costs, safety, reliability, underground or overhead requirements, etc. and always in conformance with all applicable codes and standards.

19.0 MARKET STUDIES AND CONTRACTS

No market studies have been undertaken for this project. However, the commercial products from the Hasbrouck project will be gold-silver doré. Gold-silver doré is readily sold on the global market to commercial smelters and refineries. It is reasonable to assume that doré from the Hasbrouck project will be salable.

To determine appropriate metal prices to be used for economic analysis and cut-off grades, MDA has considered spot prices at the effective date of this report, and reviewed current metal prices used in recent NI 43-101 Technical Reports. The primary selection for metal prices in this report has been done based on consensus prices as described by CIM guidelines, which are given below:

Consensus Prices
The use of consensus prices obtained by collating the prices used by peers or as provided by industry observers, such as analysts for example, may be used in some cases. This methodology has the advantage of providing prices that are acceptable to a wide body of industry professionals (peers). The disadvantage is that sometimes these predictions can be consistently wrong for reasons beyond the QP's control. These prices are generally acceptable for most common commodities, major industrial minerals, and some minor minerals."

MDA reviewed published Technical Reports with respect to metal prices used. Metal prices in these reports ranged from about $1,150 to $1,300 per ounce Au. MDA chose a $1,275 per ounce gold price to be on the upper end of this range as the current trend for gold prices has been increasing. A silver price of $18.21 per ounce was selected to be consistent with a 70:1 gold to silver ratio, which is consistent with the ratio used in the 2015 PFS and the current upward trend in spot silver prices. Accordingly, metal prices of $1,275 per ounce of gold and $18.21 per ounce of silver have been used in this study. Table 19.1 shows the 12-month gold prices with a 12-month average currently at $1,239 per ounce of gold. The 3-year trailing average for gold at the time of publication of this study is $1,386 per oz of gold.

Table 19.1 Kitco Monthly Gold Prices (USD/oz Au – September 2015 to August 2016)

Month / Yr	Average	High	Low	3-Yr Avg	1-Yr Avg
Sep-15	$ 1,125	$ 1,155	$ 1,100	$ 1,330	$ 1,184
Oct-15	$ 1,159	$ 1,184	$ 1,119	$ 1,314	$ 1,179
Nov-15	$ 1,086	$ 1,134	$ 1,057	$ 1,296	$ 1,171
Dec-15	$ 1,068	$ 1,081	$ 1,049	$ 1,279	$ 1,160
Jan-16	$ 1,097	$ 1,116	$ 1,077	$ 1,263	$ 1,147
Feb-16	$ 1,200	$ 1,251	$ 1,127	$ 1,251	$ 1,145
Mar-16	$ 1,246	$ 1,278	$ 1,218	$ 1,242	$ 1,151
Apr-16	$ 1,242	$ 1,286	$ 1,214	$ 1,235	$ 1,154
May-16	$ 1,259	$ 1,294	$ 1,212	$ 1,231	$ 1,159
Jun-16	$ 1,276	$ 1,325	$ 1,212	$ 1,229	$ 1,167
Jul-16	$ 1,337	$ 1,366	$ 1,313	$ 1,230	$ 1,185
Aug-16	$ 1,341	$ 1,364	$ 1,309	$ 1,230	$ 1,203

Twelve-month silver prices are shown in Table 19.2. The 12-month average silver price is $17.85 per ounce.

Table 19.2 Kitco Monthly Silver Prices (USD/oz Ag – September 2015 to August 2016)

Month / Yr	Average	High	Low	3-Yr Avg	1-Yr Avg
Sep-15	$ 14.72	$ 15.26	$ 14.35	$ 21.03	$ 16.13
Oct-15	$ 15.71	$ 16.18	$ 14.43	$ 20.54	$ 16.00
Nov-15	$ 14.51	$ 15.40	$ 13.98	$ 20.03	$ 15.88
Dec-15	$ 14.05	$ 14.49	$ 13.71	$ 19.54	$ 15.70
Jan-16	$ 14.02	$ 14.38	$ 13.58	$ 19.06	$ 15.44
Feb-16	$ 15.04	$ 15.65	$ 14.26	$ 18.64	$ 15.29
Mar-16	$ 15.46	$ 16.13	$ 14.96	$ 18.27	$ 15.23
Apr-16	$ 16.26	$ 17.85	$ 14.96	$ 18.02	$ 15.22
May-16	$ 16.89	$ 17.51	$ 16.06	$ 17.85	$ 15.23
Jun-16	$ 17.18	$ 18.36	$ 15.95	$ 17.74	$ 15.32
Jul-16	$ 19.93	$ 20.47	$ 19.24	$ 17.74	$ 15.72
Aug-16	$ 19.64	$ 20.71	$ 18.50	$ 17.68	$ 16.12

WKM's land obligations and contracts have been summarized in Section 4. There are no other contractual obligations attributed to the project.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

Enviroscientists Inc., an environmental permitting and government relations consultant, provided the following section on environmental considerations, permitting, and social and community impacts. It has been taken from Tietz et al. (2015) with modifications for progress in permitting since the 2015 PFS.

The Hasbrouck Project comprises the Three Hills Mine and the Hasbrouck Mine. WKM made the strategic decision shortly after acquiring the properties in April 2014 to permit each mine separately in order in order to accelerate permitting the initial mine, at Three Hills, which due to its small area of disturbance and no significant impacts would be under an Environmental Assessment. This also reduced the amount of money spent on permitting to just that necessary for the project to commence.

WKM has undertaken community engagement through multiple meetings with the Tonopah Town Board, officials of Nye and Esmeralda counties, and local residents through open-house meetings at Goldfield and Tonopah. The meetings have been positive. No agreements are currently in place with the counties or the Tonopah Town Board.

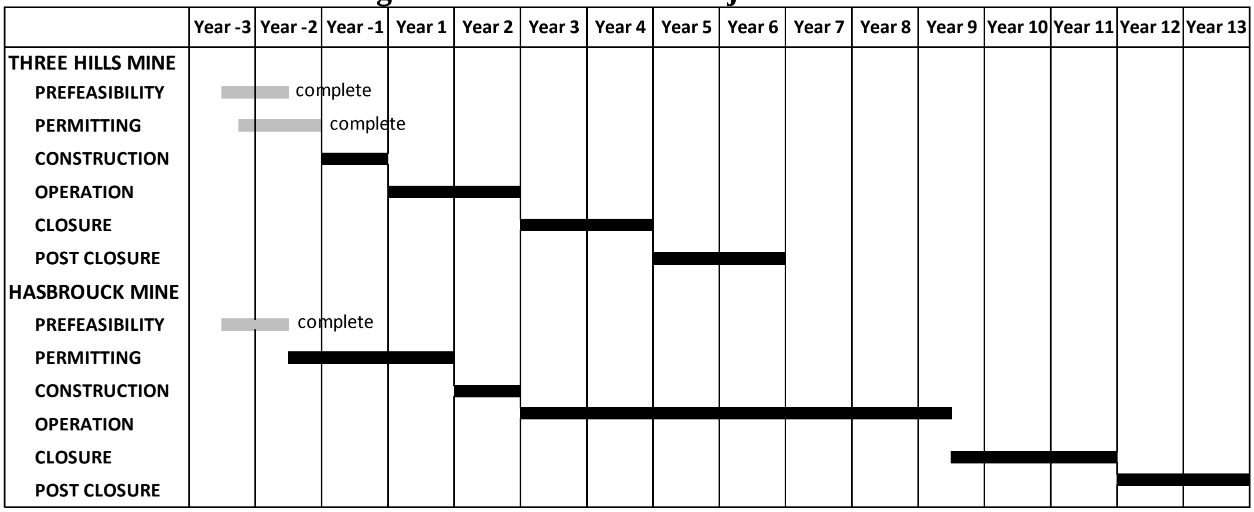
WKM started work on permitting the Three Hills Mine in June, 2014, with the final permit issued in June, 2016, as summarized in

Table 20.1 Three Hills Mine – Key Permit Acquisition Schedule

KEY PERMITS		
PERMIT/APPROVAL	**AGENCY**	**Issued**
Decision Record/Finding of No Significant Impact (DR/FONSI)	US Bureau of Land Management	2015-11-25
New Class I Air Quality Operating Permit to Construct (OPTC)	NV Bureau of Air Pollution Control	2016-06-07
New Class II Air Quality Operating Permit (AQOP)	NV Bureau of Air Pollution Control	2016-06-07
Mercury Operating Permit to Construct (MOPTC)	NV Bureau of Air Pollution Control	2016-06-07
Reclamation Permit (NRP)	NV Bureau of Mining Regulation and Reclamation	2015-12-03
Water Pollution Control Plan (WPCP)	NV Bureau of Mining Regulation and Reclamation	2015-10-31

Permitting the Hasbrouck Mine has commenced and is planned to proceed concurrently with operating Three Hills Mine, allowing permits for the Hasbrouck Mine to be in hand when needed, see Figure 20.1 below. Year -1 represents when a decision is made to commence the project.

Figure 20.1 Hasbrouck Project Schedule



Acquiring key permits for the Hasbrouck Mine is expected to take 33 months and $3 million. The nature of the permitting process does not allow accurate estimates of time and money; the amounts allowed in this study are considered conservative given the straightforward nature of the Hasbrouck Mine and recent experience of permitting similar operations in Nevada. The cost and time might be more than estimated but are more likely to be less.

WKM commenced the process for obtaining permits for the Hasbrouck Mine by commissioning Enviroscientists Inc. to perform base-line botany studies in 2014 and 2015. A class III cultural survey was performed by Western Cultural Resource Management in 2012.

The mine plan for Hasbrouck Mine as presented in this report will require the typical amount of permitting for a mining operation in Nevada, including the completion of an Environmental Impact Statement ("EIS"). There appear to be no biological, cultural, hydrology, or geochemistry issues that would otherwise delay or disrupt the timely process of applications for development. The only exception to this are seasonal restrictions for the completion of biology surveys and cultural surveys (snow).

There are no known environmental issues at either property that would be expected to have a material impact on WKM's ability to extract the estimated mineral resources.

Generally, a number of environmental and other permits are required from the BLM, the Nevada Division of Environmental Protection ("NDEP"), and Esmeralda County. The principal permits are:

- A Mine Plan of Operations ("Plan"), approved by BLM;
- A Nevada Reclamation Permit ("NRP") issued by NDEP's Bureau of Mining Regulation and Reclamation ("BMRR");
- Various Rights-of-Way ("ROW"s) issued by the BLM;

- A Water Pollution Control Permit ("WPCP"), issued by the BMRR;
- A Class I Air Quality Operating Permit to Construct ("AQOPC"), issued by the NDEP's Bureau of Air Pollution Control ("BAPC");
- A Class II Air Quality Operating Permit ("AQOP"), issued by the NDEP's Bureau of Air Pollution Control ("BAPC"); and
- A Mercury Operating Permit to Construct ("MOPC"), issued by the BAPC.

Applications will be submitted to obtain these permits and approvals. In the case of the Plan and the NRP, there is a single application (Plan Application) that will meet the requirements of both the BLM and BMRR.

Make-up water for both mines is planned to be appropriated ground water from a well installed at each mine. A water right will be required for each well, issued by the Nevada Division of Water Resources ("NDWR").

WKM will comply with applicable federal and state environmental statutes, standards, regulations, and guidelines in the permitting of the Hasbrouck project. Environmental baseline studies will be conducted at each of the two properties, and facility and infrastructure locations, to meet federal and state requirements.

The review and approval process for the Plan by the BLM constitutes a federal action under the National Environmental Policy Act ("NEPA") and BLM regulation. BLM is required to comply with NEPA and prepare either an Environmental Assessment ("EA"), or an Environmental Impact Statement ("EIS").

The following sections provide additional detailed information on the principal permits necessary to develop each property and the NEPA process, as well as the status of each permit.

20.1 Mineral Exploration

Mineral exploration at both the Hasbrouck Mine and the Three Hills Mine is and will be authorized by the BLM under multiple Notices. Each Notice authorizes up to five acres of disturbance and is bonded with the BLM. Current disturbances and bond amounts for each existing Notice are shown in Table 20.2.

Table 20.2 WK Mining (USA)'s Notices

Notice #	Disturbance Acreage	Bond Amount
NVN-91216	4.88	$ 65,450.00
NVN-89964	1.84	$ 14,033.00
NVN-89750	4.53	$ 18,758.00

20.2 BLM Plan of Operations / BMRR Nevada Reclamation Permit

Generally, the BLM and the BMRR have implemented a process for Plan Application processing that commences before submitting the Plan Application, and continues through the review and approval process for the Plan Application. WKM submitted a Plan Application for the Three Hills Mine which was approved in November, 2015, and will be submitting a Plan Application for the Hasbrouck Mine when baseline data collection is complete.

20.2.1 BLM Pre-Application Planning

Generally, a pre-application meeting is part of the BLM pre-application planning process. It is scheduled by the proponent and the BLM to discuss the anticipated scope of the mining operation and to review the environmental resource baseline data that will likely be required by the BLM in the Plan Application. Pre-application meetings generally occur one to two years before submitting the Plan, this time varying with the complexity of the mining operations and baseline data needs. A pre-application meeting between WKM and the BLM Tonopah field office took place on October 1, 2014 for the Three Hills Mine. A pre-application meeting has yet to be scheduled for the Hasbrouck Mine permitting process.

The process for collecting baseline data generally includes developing baseline data collection work plans which are submitted to the BLM for review and approval. Once approved, baseline data collection proceeds at the proponent's discretion. Following such approval, field surveys are carried out to collect relevant baseline data. Desktop studies may be utilized in lieu of field surveys for certain baseline studies. Field survey findings are summarized in a report which is submitted to the BLM for review and approval. In some cases, and depending on the resource being assessed, the baseline data collection process also involves the State of Nevada, e.g. geochemical and hydrological surveys.

At the Three Hills Mine, environmental baseline data that was collected in connection with the permitting effort there included:

- Ore and waste rock geochemical characterization;
- Hydrogeological characterization;
- Analysis of utilizing Tonopah Public Utilities water supply;
- Air quality modeling;
- Botanical and wildlife surveys, including noxious weeds;
- Socioeconomic assessment;
- Visual assessment;
- Cultural resources inventory;
- Traffic study, noise study, and
- Blasting vibration impacts analysis.

The specific baseline data needs for the Hasbrouck Mine have yet to be determined, but are likely to be similar.

20.2.2 Plan of Operations Processing

The process of Plan Application involves submitting a Plan to the BLM and BMRR for surface disturbance in excess of five acres. The single application utilizes the format of the Plan document accepted by the BLM and BMRR. The Application describes the operational procedures for the construction, operation, and closure of the Project. BLM and BMRR required that the Plan Application includes:

- A waste rock management plan;
- Quality assurance plan;
- A storm water spill contingency plan;
- A spill prevention plan;
- Reclamation plan;
- A monitoring plan;
- An interim management plan; and
- A Reclamation Cost Estimate ("RCE") for the closure of the Project.

Generally, a Plan is based on the mine plan design and environmental baseline studies. It includes all mine and processing design information and mining methods. The BLM determines the completeness of the Plan Application and, when the completeness letter is submitted to the proponent, the NEPA process begins. The RCE is reviewed by both agencies and the bond amount is determined prior to the BLM issuing a Decision Record on the Plan Application and BMRR issuing an NRP. A Plan Application for the Three Hills Mine was prepared and submitted to the BLM and the BMRR in May 2015, and a Decision Record was issued in November 2015. An NRP was issued in December 2015.

A Plan Application will be submitted for the Hasbrouck Mine when operational and baseline surveys are complete and operations and design for the Project are at a level where a Plan Application can be developed to the necessary level of detail.

20.3 National Environmental Policy Act

The NEPA process is triggered by a federal action and, as was the case at Three Hills Mine, the issuance of a completeness letter for the Plan is the trigger for the federal action. The NEPA review process is completed by either an EA or an EIS.

20.3.1 Environmental Assessment Process

The EA process is conducted in accordance with NEPA regulations (40 CFR 1500 et. seq.), BLM guidelines for implementing the NEPA in BLM Handbook H-1790-1 (updated January 2008), and BLM Washington Office Bulletin 94-310. The intent of the EA is to assess the direct, indirect, residual, and cumulative effects of a project, and to determine the significance of those effects. Scoping is conducted by the BLM and includes a determination of the environmental resources to be analyzed in the EA, as well as the degree of analysis for each environmental resource. The scope of the cumulative analysis is also addressed during the scoping process.

Following scoping and baseline information collection, the EA is either prepared by the BLM, or prepared by a third party contractor for the BLM. When the BLM determines that the EA is complete, a Preliminary EA is made available to the public for review. Comments received from the public will be incorporated into a Final EA, or included in the Decision Record and Finding of No Significant Impacts.

For the Three Hills Mine the BLM held their internal NEPA kick-off meeting on April 30, 2015, at which time it was determined that because the project area was less than one square mile, there were no significant impacts and no negative socio-economic issues, an EA was the appropriate approach to comply with NEPA.

20.3.2 Environmental Impact Statement Process

The EIS process is conducted in accordance with NEPA regulations (40 CFR 1500 et. seq.), BLM guidelines for implementing the NEPA in BLM Handbook H-1790-1 (updated January 2008), and BLM Washington Office Bulletin 94-310. The intent of the EIS is to assess the direct, indirect, residual, and cumulative effects of the project and to determine the significance of those effects. Scoping is conducted by the BLM and includes a determination of the environmental resources to be analyzed in the EIS, as well as the degree of analysis for each environmental resource. The scope of the cumulative analysis is also addressed during the scoping process. Following scoping and baseline information collection, a Draft EIS is prepared for the BLM by a third party contractor. When the BLM determines the Draft EIS is complete, it is submitted to the public for review. Comments received from the public are incorporated into a Final EIS, which is in turn be reviewed by the BLM and the public prior to a record of decision ("ROD"). Under an EIS there can be significant impacts. The preparation of an EIS is a lengthier and more expensive process than an EA. The project proponent pays for the third party contractor to prepare the EIS, and also pays recovery costs to the BLM for any work on the project by BLM specialists.

Because the Hasbrouck Mine disturbance will exceed one square mile, it is expected that the BLM will require the preparation of an EIS to comply with NEPA for this project.

20.3.3 Water Pollution Control Permit

A WPCP was procured from the BMRR to construct, operate, and close a mining facility in the State of Nevada for the Three Hills Mine, and another WPCP will be required for Hasbrouck Mine. The contents of an application are prescribed in the Nevada Administrative Code Section 445A.394 through 445A.399. A WPCP application will be prepared for the Hasbrouck Mine and will be based on the following:

- Open pit mining, with no anticipated pit lake formation;
- Storage of non-acid generating waste rock;
- Heap leaching with associated process water tanks and event ponds;
- Adsorption-Desorption-Recovery processing;
- Refining;

- Exploration;
- A water supply pipeline, associated water delivery pipelines, and power;
- A power substation and distribution system;
- Access and haul roads; and
- Ancillary facilities that include storm water diversions, sediment control basins, reagent and fuel storage, fresh water storage, monitoring wells, meteorological station, and solid and hazardous waste management facilities.

WPCP applications include:

- Engineering designs for waste rock storage areas and heap leach facilities;
- Waste rock characterization reports;
- Hydrogeological summary reports;
- Engineering designs for process components, including methods for the control of storm water runoff;
- Containment reports detailing specifications for containment of process fluids;
- A process fluid management plan;
- A monitoring plan;
- An emergency response plan;
- A temporary closure plan; and
- A tentative plan for permanent closure of the mine.

20.3.4 Air Quality Operating Permit

The Hasbrouck Mine requires a New Class I AQOPC because the mining plan includes components that have the potential to emit mercury and a New Class II AQOP, issued by the Nevada BAPC. Applications will include a description of each facility, a detailed emission inventory, and air quality modeling. Applications will also include locations, plot plans, and process flow diagrams.

Generally, BAPC issues an initial completeness determination within 30 days of receiving the permit application for an OPTC and 10 days for an AQOP, and any deficiencies in the application are addressed at that point. The BAPC then performs a technical review of the application and when complete, issues a draft permit. This permit is reviewed by the operator and, if deemed acceptable for operations, a final permit is issued. The permit issuance process is between six and nine months.

This process was followed for permitting the Three Hills Mine and will be followed for permitting the Hasbrouck Mine.

20.3.5 Mercury Operating Permit to Construct

Generally, application for the MOPC is made to BAPC and includes a description of each facility, a detailed emission inventory, and a Maximum Achievable Control Technology ("MACT") assessment. The application will also include locations, plot plans, and process flow diagrams.

The BAPC issues an initial completeness determination within 30 days of receiving the permit application, and any deficiencies in the application are addressed at that point. The BAPC then performs a technical review of the application and, when complete, issues a draft permit. This permit is reviewed by the operator and, if deemed acceptable for operations, a final permit is issued. The permit issuance process is between six and nine months.

This process was followed when permitting the Three Hills Mine and will be followed when permitting the Hasbrouck Mine.

20.4 Esmeralda County

An agreement with the Esmeralda County Board of County Commissioners for the maintenance of the county roads travelled by traffic accessing the Three Hills Mine will be needed. At the time of writing, negotiations between WKM and Esmeralda County are progressing amicably and no obstacles are anticipated in entering Esmeralda County's standard form of road maintenance agreement.

20.5 Nye County

An agreement with the Nye County Board of County Commissioners for the maintenance of Knapp Avenue will be needed, this being one of two access routes to the Three Hills Mine. At the time of writing, negotiations between WKM and Nye County are progressing amicably and no obstacles are anticipated in entering Nye County's standard form of road maintenance agreement.

20.6 Other Permits

In addition to the principal environmental permits outlined above, Table 20.3 lists other notifications or ministerial permits that will likely be necessary to operate the Three Hills and Hasbrouck mines.

Table 20.3 Ministerial Permits, Plans, and Notifications

Notification/Permit	Agency	Timeframe	Comments
Mine Registry	Nevada Division of Minerals	30 days after mine operations begin	
Mine Opening Notification	State Inspector of Mines	Before mine operations begin	
Solid Waste Landfill	Nevada Bureau of Waste Management	180 days prior to landfill operations	
Hazardous Waste Management Permit	Nevada Bureau of Waste Management	Prior to the management or recycling of hazardous waste	
General Storm Water Permit	Nevada Bureau of Water Pollution Control	Prior to construction activities	
Hazardous Materials Permit	State Fire Marshall	30 days after the start of operations	
Fire and Life Safety	State Fire Marshall	Prior to construction	
Explosives Permit	Bureau of Alcohol, Tobacco, and Firearms	Prior to purchasing explosives	Mining contractor may be responsible for permit
Mine Identification Number	Mine Safety and Health Administration	Prior to start-up	
Notification of Commencement of Operation	Mine Safety and Health Administration	Prior to start-up	
Radio License	Federal Communications Commission	Prior to radio use	

20.7 Environmental Study Results and Known Issues

For the Three Hills Mine, WKM collected baseline data in early 2014 for environmental studies necessary for the Plan Application and permitting process. Results indicated:

- Limited biological and cultural issues;
- Air quality impacts appear to be within State of Nevada standards;
- Traffic and noise issues are present, but at low levels; and
- Socioeconomic impacts are positive.

Allied Nevada, the former owner of the properties initiated baseline data collection for the proposed Hasbrouck Mine in late 2013 and early 2014. WKM collected biology and botany data at the proposed Hasbrouck Mine in May 2015.

20.8 Waste Disposal, Monitoring, Water Management

The following is based on WKM's Plan Application to the BLM for the Three Hills Mine. Similar measures are being developed for the Hasbrouck Mine.

20.8.1 Waste Handling and Disposal

WKM will institute a waste management plan that will identify the wastes generated at the site and their means of disposal. A training program will be implemented to inform employees of their responsibilities in proper waste disposal procedures. A landfill in the Project Area is not planned, and all solid wastes will be disposed off-site. Used lubricants and solvents will be characterized according to the Resource Conservation and Recovery Act (RCRA) and will be stored and disposed of appropriately. WKM will have a trained response team at the site 24 hours per day to manage potential spills of regulated materials at the site. Response for transportation-related releases of regulated materials bound for the site will be the responsibility of the local and regional agencies. However, where appropriate, WKM may assist with response to off-site incidents, including providing resources based on agency requests.

20.8.1.1 Hazardous Wastes

WKM may obtain a Hazardous Waste Identification Number from NDEP. The Three Hills and Hasbrouck mines are expected to be in the "conditionally exempt small quantity generator" category as defined by the U.S. Environmental Protection Agency ("EPA"). Used solvents are the only hazardous wastes identified as potentially existing at the mines at this time.

20.8.1.2 Non-Hazardous Wastes

Used oil and coolant will be stored in secondary containment at the Three Hills and Hasbrouck mines. These will be either recycled or disposed of in accordance with state and federal regulations. Used containers will be disposed of or recycled according to federal, state, and local regulations.

20.8.1.3 Domestic Waste Disposal

Solid wastes generated by the mine and process departments at both Three Hills and Hasbrouck will be collected in dumpsters near the point of generation. Industrial solid waste will be disposed of in an off-site Class III landfill in accordance with NAC 444.731 through 444.737.

20.8.2 Waste Water (Sewage) Disposal

Sewage disposal will be handled at the Hasbrouck Mine in a septic leach field and in portable toilets. No potable water system or septic field will be installed at the Three Hills Mine; these requirements being met by the Town of Tonopah where the administration offices and assay laboratory will be located.

Sewage drain pipes will be routed from the administrative facilities and buildings containing running water at the Hasbrouck Mine to the septic leach fields. Leach fields will be sized and permitted to accommodate the anticipated number of employees and personnel at each site. Near equipment ready-lines or other areas where running water is not available, but where toilets will be required, portable toilets will be provided and serviced by a local contractor. A septic field with the capacity to treat waste for up to 100 persons will be installed to the west of the administration and warehouse buildings at the Hasbrouck Mine.

A centralized oil-water separator will be installed adjacent to the truck shops at the Three Hills and Hasbrouck mines to treat water from drains located at each maintenance bay and from the wash rack. The floor drains in the maintenance area will be designed to collect rainwater and snow melt from vehicles and equipment. Gray water from the oil/water separator will be collected in a tank within containment or a lined impoundment. Gray water will be recycled back to the wash system; excess water will be used for dust control. Separated oil will be stored either in a double-lined tank or a single-wall tank within a concrete containment, and collected and disposed of by a licensed waste collection contractor.

20.8.3 Waste Rock and Tailings Characterization

Waste rock and tailings at Three Hills Mine has been characterized as inert and environmentally benign. Waste rock and tailings characterization at Hasbrouck Mine is ongoing and initial results indicate that ground water, rock in general, and mineralized material planned to be mined are generally non-reacting and are not acid generating. As a result, waste rock management is expected to be by random placement with quarterly sampling of placed materials.

20.9 Social and Community Issues

There are no known social or community issues that would materially impact on WKM's ability to extract mineral resources at the Three Hills and Hasbrouck mines. Identified socioeconomic issues (employment, payroll, services and supply purchases, and tax) are anticipated to be positive.

Some blasting at the Hasbrouck Mine will require brief closures of the adjacent U.S. Highway 95. Preliminary meetings with the Nevada Department of Transportation ("NDOT") indicate that shutting down a highway while blasting is performed for mining and road construction is routinely permitted.

20.10 Mine Reclamation

The following is based on WKM's Reclamation Plan, which is contained within WKM's Plan Application to the BLM for the Three Hills Mine. Similar measures are being developed for the Hasbrouck Mine.

Reclamation of disturbed areas resulting from activities outlined in the Reclamation Plan will be completed in accordance with BLM and NDEP regulations. The areas for disturbance can be divided into the following:

- Open pit;
- Waste rock storage areas;
- Heap leach facility;
- Borrow areas;
- Growth media stockpiles;
- Haul roads;
- Buildings and yard areas;
- Process plant;
- Administration;
- Laboratory; and
- Ancillary facilities.

WKM anticipates that with the exception of the open pit, surface mine components will be reclaimed and revegetated.

It is not economically feasible to reclaim the slopes of the open pit when mining is complete due to a number of factors including pit wall stability and geology, topography of the final pit configuration, potential adverse effects to the environment associated with the activities required for reclamation, and maintaining access to mineral resources. WKM sought and gained exemption from NDEP BMRR under NAC519A.250 for reclamation of the slopes of the open pit at the Three Hills Mine and will do the same for the Hasbrouck Mine.

The final grading plan at each mine will be designed to minimize the visual impacts of disturbance. Slopes will be re-contoured to blend with surrounding topography, interrupt straight-line features and facilitate revegetation where practicable. Where feasible, large constructed topographic features such as waste rock storage areas, may be arranged to have rounded crests and variable slope angles to resemble natural landforms.

Reclaimed surfaces will be re-vegetated to control runoff, minimize erosion, provide forage for wildlife and livestock, and reduce visual impacts. Seedbed preparation and seeding will take place in the fall after grading and top-soiling of reclaimed areas.

20.10.1 Central Operating Area (Administration, HLF, and Process)

During final mine closure, buildings and structures will likely be dismantled and materials will be salvaged or removed to an authorized landfill. Concrete foundations and slabs will be broken using a track-hoe mounted hydraulic hammer or similar methods and buried in place under approximately 3ft of material in such a manner to prevent ponding and to allow vegetation growth. After demolition and salvage operations are complete, the disturbed areas will be covered with approximately 12in of growth media and revegetated. Alternatively, buildings and structures may be left on private land in support of other industrial or commercial, post-mining land uses.

Reagents and explosives will be removed or appropriately disposed of. Surface pipelines will be removed and salvaged or disposed of. Underground pipeline ends will be capped and left in place. Unneeded utility poles will be cut off at ground level and removed.

20.10.2 Heap Leach Facility

The leach pad will be re-contoured to an average final slope configuration not steeper than 3H:1V to provide for long-term mass stability. The toe of the re-contoured slope will be inside the lined facility, and subsequently placed cover material will direct surface runoff away from the lined area of the pad. Re-contoured sides-slopes will include slope breaks horizontally along contour approximately every 100 vertical feet. Slope breaks will be small flat benches up to 20ft wide and blended into the slopes. The toe and crest of the facility will also be rounded to blend into the adjacent slopes. Minimizing the total continuous slope length with benches, and rounding the toe and crests, will help to limit erosion until vegetation is established.

Growth media will be hauled to the heap leach surfaces from growth media stockpiles and to the borrow areas. The cover for the heap leach pad will generally be designed to accomplish the following;

- Limit infiltration of meteoric water;
- Isolate process materials from storm water runoff;
- Limit erosion; and
- Support successful revegetation.

20.10.3 Mine Pits

Operational and post-closure open pit slope configurations will be controlled by several parameters that include the geometry of the ore body, geologic and geotechnical characteristics of the host rock, equipment constraints, and safe operating practices. The open pit walls will be too steep to allow soil replacement and revegetation due to access logistics and safety concerns.

Open pit ramps will be barricaded to prevent entry by the public. The open pit floor and ramps are expected to be competent rock surfaces that will be stable without reclamation. These areas have little or no potential to support vegetation. There are no plans to re-vegetate the open pit.

During final reclamation, a physical barrier (e.g., berms, fencing, or other appropriate barriers) will be installed along the open pit crest areas to control access by people, livestock, and large wildlife. Post-mining modifications of open pit walls to decrease slope angles are not planned.

20.10.4 Waste Rock Storage Areas

Waste rock storage areas will be reclaimed to minimize slope erosion, create mass stability, round edges, revegetate surfaces, and minimize soil loss, consistent with the surrounding topographic features. The final slopes of the reclaimed waste rock storages facilities will have slopes of 3H:1V or shallower, up to 100ft high benches, and 20ft wide intermediate benches to reduce surface water flow velocities and erosion. Reclamation of the waste rock storage areas will be conducted concurrently with regular mine operations to the extent reasonable. It is anticipated that the waste rock storage areas will be constructed in multiple lifts with setbacks between lifts that will facilitate final grading. To the greatest extent practicable, areas of the waste storage facilities that reach their ultimate configurations and become inactive during the active mining phase will be re-contoured and covered with 12in of stockpiled salvaged growth media and seeded.

20.10.5 Roads

Roads without a defined post-mining use will be reclaimed concurrent with mining operations as they become no longer needed. Where the original topography exceeds 3H:1V, road cuts will be filled with road bed material to blend with existing topography and to ensure no steeper than 3H:1V slopes, except where located generally in bedrock. There are no planned asphalt roads or parking areas. Roads and safety berms will be re-contoured or re-graded to approximate original contour. Where the road is located on fill, the side slopes will be rounded and re-graded to 2.5H:1V. Finished slopes will be generally similar in character to the surrounding topography. Compacted road surfaces will be ripped, covered with growth media from the safety berms or road fill, and revegetated.

Certain access roads will be needed after mine closure to access monitoring points. As monitoring is completed and the facility is considered to be finally closed, such access roads will be reclaimed.

As determined by the BLM, roads on public lands suitable for public access, or which continue to provide public access consistent with pre-mining conditions, will not be reclaimed at mine closure. Narrow access roads may remain on large haul roads after they have been re-contoured and seeded.

20.11 Mine Closure

Reclamation and site closure activities shall be performed in accordance with the NRPs and WPCPs for the Three Hills Mine and Hasbrouck Mine, as summarized in the following sections.

20.11.1 Slope Stabilization

Slope stability analyses on the waste rock storage areas were performed using industry practices and experience from similar projects. Where possible, the outside portions of the final waste rock storage areas will be constructed such that variable topography will be achieved during reclamation re-contouring.

The walls of the open pit will generally have an overall slope of 35º to 45º.

20.11.2 Final Engineering and Monitoring Plans

WKM will adhere to BMP and BMRR standards and specific requirements for post reclamation monitoring. Post reclamation monitoring and maintenance will include the following:

- Following mine closure, berm and sign maintenance, site inspections, and any other necessary monitoring for the period of reclamation responsibility will be conducted. Monitoring of re-vegetation success will be conducted annually until the re-vegetation standards have been met and will include noxious weed monitoring and abatement as necessary.
- WKM will monitor heap-leach pad flow and chemistry. Mitigation will be developed if necessary. Post-mining ground water quality will be monitored for 5 years according to the requirements established by the NDEP upon approval of the WPCP with the goal of demonstrating the site poses no potential to degrade waters of the state through the successful implementation of the detailed Final Plan for Permanent Closure.
- Re-vegetation monitoring will be conducted for a minimum of five years following implementation of re-vegetation activities or until re-vegetation success has been achieved. Re-vegetation monitoring will occur based on seasonal growth patterns, precipitation, and weather conditions.
- Noxious weed monitoring and control will be implemented for a five-year period following closure.

20.11.2.1 Heap Drain-Down and Neutralization

Drain-down of water from within the HLFs will continue for several years after closure. Drain-down flow rate at the start of the closure period will be at the operational flow rate and will steadily decline over a number of years until reaching a steady state condition where inflow of meteoric water through the cover will equal the outflow. When the steady state is reached, outflows will be disposed of in a passive evaporation system made by converting the event pond into evapotranspiration cells ("ET cells"). Initially, outflows will exceed what can be handled by the ET cells; excess outflows will be disposed of by an active evaporation system (mechanical misting devices).

Monitoring wells around the heap leach facility will be maintained until WKM is released from this requirement by the NDEP. These wells will then be plugged and abandoned according to the requirements of the State Engineer.

20.11.2.2 Ponds and Pump Stations

When no longer needed for solution management, the event pond will be converted into evapotranspiration ("ET") cells or reclaimed. Assumptions have been made to convert the event pond into an ET cell because the cell is a double-lined facility with leak collection and recovery system ("LCRS"). As part of the design, the converted ET cell will be covered with six inches of growth media and seeded.

Solids are expected to be present in some quantity in the process tanks and event pond at the time of closure. Representative samples will be obtained to determine the chemical characteristics of the pond solids. Depending on the results of the characterization testing, the solids will be left in the pond and buried in place in the event pond, under the ET cell cover, or removed and placed in an approved landfill.

20.11.2.3 Roads, Diversion Works and Erosion Controls

Runoff from waste rock storage areas and other slopes will occur following precipitation events. However, re-graded slope angles, re-vegetation (including growth media placement) and Best Management Practices ("BMPs") will be used to limit erosion and reduce sediment in runoff. Silt fences, sediment traps, and other BMPs will be used to prevent migration of eroded material until reclaimed slopes and exposed surfaces have demonstrated erosional stability.

20.11.2.4 Fencing

A 20,500ft perimeter fence will be constructed around the Three Hills facilities and a 33,000 ft perimeter fence will be constructed at Hasbrouck to prevent access by livestock, wildlife, and the public. In general, three strand barbed wire fences will be used per BLM Handbook 1741-1. The area within the perimeter fence is approximately 476 acres at Three Hills and 1,288 acres at Hasbrouck mine. Chain-link fences will be erected within the perimeter fence in areas where a higher level of security is needed, such as the event pond, in order to protect livestock and other animals from entry. These will be removed at closure after the ponds are reclaimed. The perimeter fence will be monitored on a regular basis and repairs made as needed. Gates or cattle guards will be installed along roadways, as appropriate.

21.0 CAPITAL AND OPERATING COSTS

MDA has authored Section 21, Capital and Operating Costs, with subsections for Process Capital and Process Operating costs provided by KCA. NewFields has provided inputs for leach-pad Capital and also some input to Infrastructure Capital Costs, which are included in the Other Capital Costs (Section 21.9). H.C. Osborne and Associates, and Mr. Paul Sterling, a consultant to WKM, have reviewed Process Operating Costs.

Capital costs at the start of the project are attributed to the startup of Three Hills Mine at $46,742,000, which includes $4,864,000 of working capital. $83,082,000 in capital is required for the startup of Hasbrouck after the return of Three Hills Mine working capital, and there is an additional $13,170,000 in sustaining capital. Total life-of-project capital is $142,993,000. Direct capital costs include sales tax.

Working capital is estimated based on the additional operating capital for Month 1 required prior to development of sufficient revenues to maintain a positive cash balance. This capital is retained in account until the project is sustainable with a positive cumulative cash flow, which occurs in Month 2.

Marsh Canada advise that a surety bond to cover the full bonding amounts for both Three Hills and Hasbrouck mines should be obtainable once WKM has several years of successful operating history, but prior to a demonstrated operating history a surety bond for only half of the bond amount will be possible. Three Hills Mine initial capital includes $2,279,000 in environmental bonding costs, this being two thirds of the predicted bonding amount, the balance being covered by a surety bond. The cost to maintain the surety bonding was included in operating costs. Once WKM switches to the surety bonding for Hasbrouck, it is assumed that the cash provided as the initial Three Hills bond will be released, which occurs in month 25. This has been included as part of growth capital as it is used toward construction of Hasbrouck mine.

No sustaining capital was attributed to the Three Hills mine, other than some sustaining capital for power generation.

Table 21.1 shows the estimated capital costs for both the Three Hills and Hasbrouck mines. This is returned to the cash flow as a credit in Year 1 when the operation is projected to generate a positive cash balance in excess of the initial working capital amount (some equity financed capital may remain in the project). This is shown in the cash-flow portion of the economic analysis presented in Section 22.2, Table 22.4.

Table 21.1 Hasbrouck Project Capital Cost Summary

Direct Costs	**Units**	**Initial**	**Growth**	**Sustaining**	**Total**
Pre-Production	K USD	$ 5,813	$ 190		$ 6,003
Mining	K USD	$ 184	$ 77	$ 127	$ 388
Plant and Recovery	K USD	$ 8,073	$ 38,313	$ -	$ 46,386
Leach Pads	K USD	$ 7,617	$ 10,048	$ 9,348	$ 27,012
Ponds and Site Infrastructure	K USD	$ 1,948	$ 2,910	$ -	$ 4,858
Water Supply	K USD	$ 1,740	$ 3,030	$ -	$ 4,770
Roads	K USD	$ 1,013	$ 1,039	$ -	$ 2,052
Light Vehicles	K USD	$ 490	$ 113	$ 336	$ 938
Site and Administration	K USD	$ 47	$ 77	$ -	$ 124
Safety & Security	K USD	$ 82	$ 15	$ -	$ 97
Owner's Capital	K USD	$ 6,383	$ 8,227	$ 32	$ 14,642
Total Direct Costs	K USD	$ 33,389	$ 64,039	$ 9,843	$ 107,270
Indirect Costs					
Initial Fills	K USD	$ 146	$ 1,764	$ -	$ 1,910
Indirects	K USD	$ 1,229	$ 2,615	$ 421	$ 4,265
EPCM	K USD	$ 1,466	$ 5,465	$ 514	$ 7,445
Newmont Buyout	K USD	$ -	$ 1,000	$ -	$ 1,000
Total Indirects	K USD	$ 2,841	$ 10,844	$ 935	$ 14,620
Contingencies					
Mining (15%)	K USD	$ 550	$ 30	$ -	$ 579
Plant and Recovery (20%)	K USD	$ 1,760	$ 7,560	$ -	$ 9,320
Leach Pads (15% - 25%)	K USD	$ 1,142	$ 2,512	$ 2,337	$ 5,991
Roads, Ponds, Water, and Infrastructure (25%)	K USD	$ 1,145	$ 1,697	$ -	$ 2,842
Other (15%)	K USD	$ 1,050	$ 1,265	$ 55	$ 2,370
Total Contingency	K USD	$ 5,647	$ 13,063	$ 2,392	$ 21,103
Total Capital Cost	K USD	$ 41,878	$ 87,946	$ 13,170	$ 142,993
Working Capital	K USD	$ 4,864	$ (4,864)	$ -	$ -
Total Capital w/ Working Capital	K USD	$ 46,742	$ 83,082	$ 13,170	$ 142,993

Mining and re-handle operating costs were estimated by MDA based on first principle costs plus the addition of the contractor's assumed recovery of mining capital and profit margin of 15%. These costs were compared to the 2015 PFS contractor quotations and are comparable to those quotations assuming commodity pricing from the 2015 PFS. Processing operating costs were estimated by KCA and provided to MDA in the form of fixed and variable costs. These costs were then applied to the process schedule by MDA to generate the life of mine ("LOM") processing costs, which include additional costs during processing at the end of the mine life while pads continue to be leached, but are no longer being loaded with fresh ore. General and administrative costs and Nevada's net proceeds tax were estimated by MDA. Reclamation costs were estimated by Enviroscientists, Inc., using BLM reclamation cost estimate spreadsheets. These costs were reviewed by Mr. Paul Sterling, a consultant to WKM.

Total estimated costs are $8.33 per ton of ore. Table 21.2 shows a summary of the operating cost estimate. Note the economic summary shown in Section 22.0 (Table 22.1) shows cost per ton of ore, and shows an apparent discrepancy with the mining cost in Table 21.2. This is due to the inclusion of re-handle costs into the mining cost per ton of ore in the economic summary. Additionally, the total costs shown in Table 22.1 are based on the definition of the World Gold Council's Adjusted Operating Cost per ton of ore, for a total of $8.43 per ton of ore, which includes a credit for silver production and does not include reclamation (as per the World Gold Council Adjusted Operating Cost definition). The costs in Table 21.2 do not include silver credits and do include reclamation.

Table 21.2 Operating Cost Summary

		K USD	USD per ton Processed
Three Hills	Mining Cost	$ 30,670	$ 3.18
	Process Cost	$ 24,575	$ 2.55
Hasbrouck	Mining Cost	$130,943	$ 3.68
	Process Cost	$139,963	$ 3.93
	Re-handle	$ 2,340	$ 0.07
Total	Mining Cost	$161,613	$ 3.57
	Process Cost	$164,538	$ 3.63
	Re-handle	$ 2,340	$ 0.05
	G&A Cost	$ 20,621	$ 0.46
	Reclamation - Three Hills	$ 3,419	$ 0.35
	Reclamation - Hasbrouck	$ 5,519	$ 0.15
	Nevada Net Proceeds Tax	$ 19,201	$ 0.42
	Net Operating Cost	$377,251	$ 8.33

21.1 Mining Capital

Projected mining capital is minimized by planning to use a contractor for mining operations. Mining capital costs have been split into contract mining capital and owner mining capital, where the contractor mining capital includes mobilization, demobilization, and pre-production capital. Pre-production contract mining capital includes construction of roads and establishing initial benches prior to production mining. All pre-production contractor costs are included in the cash flow as pre-production capital.

Owner mining capital includes mining software, operations offices, office furnishings and computers, and communications equipment. Mining capital is summarized in Table 21.3 Preproduction capital shown in Table 21.3 is for mining of construction material during year -1. In addition, year -1 owner mining pre-production capital of $1,952,000 was included as pre-production capital for normal mining operations starting in year -1. This, along with $380,000 of initial processing costs in year -1, is the difference between the year -1 total in Table 21.3 and preproduction costs shown in Table 21.1.

Estimated mining capital costs were based on vendor or contractor quotations. Note that light vehicle capital for mining is discussed in Section 21.6, Other Capital Costs.

Table 21.3 Summary of Estimated Project Mining Capital

Three Hills - Contract Mining Capital	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
Mobilization	K USD	$ 284	$ -	$ 120	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 404
Road Construction / Pioneering	K USD	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50
Pre-Production - Mining	K USD	$ 3,147	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,147
Three Hills Pre-production Mining Capital	K USD	$ 3,481	$ -	$ 120	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,601
Hasbrouck - Contract Mining Capital												
Demobilization	K USD	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 127	$ -	$ 127
Road Construction / Pioneering	K USD	$ -	$ -	$ 70	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 70
Hasbrouck Pre-production Mining Capital	K USD	$ -	$ -	$ 70	$ -	$ -	$ -	$ -	$ -	$ 127	$ -	$ 197
Owner Mining Capital	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
Software	K USD	$ 155	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 155
Mine Operations Offices	K USD	$ -	$ -	$ 77	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 77
Computers, Printers, and Plotters	K USD	$ 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 26
Communications (phones, internet, etc)	K USD	$ 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3
Owner Mining Capital Total	K USD	$ 184	$ -	$ 77	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 261
Total Mining Capital Costs	K USD	$ 3,665	$ -	$ 267	$ -	$ -	$ -	$ -	$ -	$ 127	$ -	$ 4,059

21.2 Three Hills Process Capital

Process capital costs for the Three Hills Mine have been estimated by KCA and NewFields with input from WKM. Capital cost estimates have been made using budgetary supplier quotes for all major and most minor equipment items. Where supplier quotes were not available for minor equipment items, reasonable cost estimates based on experience from other recent projects were made. All capital cost estimates are based on the purchase of equipment quoted new from the manufacturer, or estimated to be fabricated new. All costs are in fourth quarter 2014 US dollars except for the cost of diesel fuel, which has been updated for the second quarter of 2016. .

Process capital and operating costs are considered to have an accuracy of +/-15% for the laboratory and CIC circuit, and +/-25% for all other areas. Three Hills process plant capital cost is $11.6 million (including indirects, contingencies, initial fills, and EPCM, but excluding working capital).

Each area in the process cost build-up is separated into the following disciplines, as applicable:

- Contractor Mobilization;
- Earthworks;
- Liners and ponds;
- Civils and Foundations;
- Structural steel;
- Platework;
- Mechanical equipment;
- Piping, Electrical and Instrumentation;
- Installation and Commissioning;

- Freight; and
- Sales and Other Taxes.

The Three Hills Mine Process Capital Cost summary is presented by area in Table 21.4. The cost summary by discipline is presented in Table 21.5.

Table 21.4 KCA Three Hills Mine Process Capital Costs by Area

Plant Totals Direct Costs	Total Supply Cost	Install	Grand Total
	US$	US$	US$
Area 0000 - Site & Utilities General	$181,882	$17,440	$199,322
Area 1403 - Laboratory	$642,879	$369,985	$1,012,864
Area 4179 - Electrical	$52,495	$4,240	$56,735
Area 4290 - Mobile Equipment	$1,483,618	$0	$1,483,618
Area 4301 - Water Distribution	$178,610	$14,320	$192,930
Area 5150 - Heap Leach & Solution Handling	$2,311,022	$1,059,982	$3,371,004
Area 5184 - Carbon Handling & Regeneration (Processed Off-Site)	$0	$0	$0
Area 5184 - Adsorption	$529,438	$292,097	$821,536
Area 5184 - Acid Wash & Elution (Processed Off-Site)	$0	$0	$0
Area 5186 - Electrowinning & Refining (Processed Off-Site)	$0	$0	$0
Area 6051 - Reagents	$116,502	$63,701	$180,202
Ancillaries	$312,386	$29,510	$341,896
Plant Total Direct Costs	**$5,808,832**	**$1,851,275**	**$7,660,107**
Sales Tax & Other Taxes	$405,586		$405,586
Spare Parts	$224,719		$224,719
Sub Total with Spare Parts			**$8,290,412**
Contingency	$1,760,000		$1,760,000
Plant Total Direct Costs with Contingency			**$10,050,412**
Indirect Field Costs			**$530,000**
Initial Fills			**$291,896**
Sub Total Plant Cost Before EPCM			**$10,872,308**
EPCM			**$700,000**
TOTAL Pre-Production Capital Cost			**$11,572,308**
Total Attached Power (kW)			**1,121**

Table 21.5 KCA Three Hills Mine Process Capital Costs by Discipline

Discipline	Cost @ Source	Freight	Total Supply Cost	Sales & Other Taxes	Install	Grand Total
	US$	US$	US$	US$	US$	US$
Major Earthworks			$0		$0	$0
Liner, GCL & Miscellaneous	$0		$0		$0	$0
Civils (Supply & Install)	$111,093		$111,093			$111,093
Structural Steelwork (Supply & Install) - Majority included in Mechanical Equipment	$0		$0			$0
Platework (Supply & Install)	$62,500		$62,500	$4,281	$0	$66,781
Mechanical Equipment	$4,398,509	$221,830	$4,620,339	$360,435	$1,641,115	$6,621,889
Piping	$467,603	$14,923	$483,811	$32,031	$168,000	$683,842
Electrical	$396,225	$0	$396,225	$2,455	$17,360	$416,040
Instrumentation	$17,888	$0	$18,943	$1,054	$6,560	$26,557
Infrastructure	$0	$0	$0	$0	$0	$0
Facilities	$115,297	$625	$115,922	$5,329	$18,240	$139,491
Spare Parts			$224,719			$224,719
Contingency			$1,760,000			$1,760,000
Plant Total Direct Costs	**$5,569,116**	**$237,378**	**$7,793,551**	**$405,586**	**$1,851,275**	**$10,050,412**

Capital costs for the heap-leach process facility at Three Hills have been estimated by KCA and NewFields. Newfield's scope of work was the construction of the leach pad and ponds, earthworks, liner, civils, gravity piping, and off-site water supply. KCA's scope of work was the solution application equipment (pumps, tanks, etc.), pressure piping, laboratory and laboratory equipment, reagent mixing and storage, the CIC circuit, on-site power supply and distribution, and certain infrastructure.

Three Hills capital costs estimated by NewFields are shown in Table 21.6. This includes capital costs for access roads to and around the Three Hills Mine site.

Table 21.6 NewFields Estimated Capital for Three Hills Mine (K USD)

Roads	$ 1,013
Heap Leach Facility	$ 7,617
Event Ponds & Site Infrastructure	$ 1,948
Water Supply	$ 1,740
Total	$ 12,317
Indirects	$ 699
EPCM	$ 830
Contingency	$ 2,287
Total Estimated by NewFields	$ 16,135

21.2.1 Three Hills Mine HLF

The HLF includes the earthworks, HDPE geomembrane, gravity drain piping and gravel overliner materials within the leach pad. Quantity take-offs were completed on each component, based upon the design drawings that have been completed. Unit rates for the construction activities were prepared based upon labor rates seen on recent, similar projects, equipment production rates derived from the CAT handbook, and budgetary quotes provided by material vendors.

21.2.2 Three Hills Mine Event Pond

The event pond includes the earthworks, HDPE geomembrane, and miscellaneous piping. Quantity take-offs were completed on each component, based upon the design drawings that have been completed. Unit rates for the construction activities were prepared based upon labor rates seen on recent, similar projects, equipment production rates derived from the CAT handbook, and budgetary quotes provided by material vendors.

21.2.3 Three Hills Mine Civils and Foundations

Civils include detailed earthworks and concrete. Concrete in KCA's scope includes the reagent storage area concrete slab and containment berms, and the process plant workshop foundation; concrete is also included for the substations. Concrete for the carbon absorption circuit and heap-leach handling equipment have been included in KCA's equipment supply quote. Concrete quantities estimated by KCA are based on similar installations, major equipment weights and on slab areas. Concrete costs have been estimated by KCA based on supplier quotes from recent projects completed by KCA in the area. These costs include all form work, footing excavation, concrete supply, rebar, water stops, and curing costs.

21.2.4 Three Hills Mine Structural Steel

Structural steel includes steel grating, handrails and structural steel. Structural steel for all areas within KCA's scope has been included in KCA's equipment supply package quote.

21.2.5 Three Hills Mine Platework

The platework discipline includes costs for the supply and installation of steel tanks, bins, and chutes. Platework costs for items in KCA's scope have been included in KCA's quoted equipment supply package.

21.2.6 Three Hills Mine Mechanical Equipment

Costs for mechanical equipment are based on an equipment list developed of all major equipment for the processing facility. Costs for most major items are for new equipment and based on budgetary quotes from vendors. Costs for minor equipment items are based on supplier quotes or KCA's in-house database, or else reasonable allowances for the equipment were made.

Installation hourly costs for mechanical equipment are factored based on the equipment supply cost and include installation labor and equipment usage.

21.2.7 Three Hills Mine Piping, Electrical and Instrumentation

Major piping in KCA's scope includes the main header to the heap leach, the solution irrigation piping and the fire water distribution piping. Costs for major piping are based on material takeoffs developed by KCA and supplier quotes. Ancillary piping, fittings, and valve costs have been estimated on a percentage basis of the mechanical equipment costs. Varying factors ranging up to 25% of the mechanical equipment supply were used to estimate the ancillary piping purchase costs for each area.

On-site electrical costs for the project are primarily based on supplier quotes based on material takeoffs and information developed by KCA. These include site distribution power lines, transformers, and substations. Off-site electrical infrastructure for delivery of grid power to the Hasbrouck Mine site has been quoted by NV Energy. Miscellaneous electrical costs have been estimated as a percentage of the equipment supply cost. Varying factors ranging up to 15% of the equipment supply package have been used for miscellaneous electrical costs.

Instrumentation costs are based on a percentage of the mechanical equipment and range up to 3% of the mechanical equipment cost. An allowance of $5,000 has been included for a valve and control for the site water supply. An allowance of $50,000 has been included for a security system, which includes a closed circuit television system. Minimal instrumentation is planned for the project.

21.2.8 Three Hills Mine Installation and Commissioning

Installation costs have been included for all items in KCA's equipment supply package. Installation estimates for all other items are based on a sliding scale factored from the supply cost and include all installation labor and equipment usage. The hourly installation labor rates are estimated to be $80.00/hour and include provisions for wages, burdens, overhead and contractor profit. The estimated unit cost is based on information in KCA's database and current proprietary cost guide data.

21.2.9 Three Hills Mine Freight

Freight costs have been included in KCA's equipment supply package. Freight estimates for other equipment, including major piping, are based on loads as bulk freight at an average percentage of equipment cost. The cost for transport of equipment items to the jobsite in Tonopah, Nevada has been estimated at an average of 6% of the equipment cost.

21.2.10 Three Hills Mine Sales Tax and Other Taxes

Nevada sales tax in Esmeralda County has been applied to all material supply costs for the items in this area. Sales tax was applied to 50% of the value of any allowance that did not have a breakdown between supply and installation costs. The effective sales tax in Esmeralda County as of 1 April, 2014 is 6.850%.

21.2.11 Three Hills Mine Site Earthworks Capital Costs

The site earthworks include site access roads, the haul road between the lime storage silo and the HLF, general site grading at the buildings and other facilities around the plant site and the explosives storage magazine road. The earthworks costs include shaping and grading, road wearing coarse, and any drainage components required to control and convey storm water runoff. Quantity take-offs were completed on each component, based upon the design drawings that have been completed. Unit rates for the construction activities were prepared based upon labor rates seen on recent, similar projects, equipment production rates derived from the CAT handbook, and budgetary quotes provided by material vendors.

21.2.12 Three Hills Mine Power Supply & Distribution Capital Costs

Power for the Three Hills Mine will be by a rented on-site LNG-powered generator, and has been quoted by Aggreko.

Power distribution onsite has been quoted by Jensen Engineering and includes the site distribution power lines and transformers. Capital costs for the site power distribution are included in the project direct costs.

A 750kW backup generator is included in the cost estimate to provide power to the critical pumping systems and facilities in the event of a power outage.

21.2.13 Three Hills Mine Water Capital Costs

Raw water for the project, including fire water, will be sourced from a groundwater well located approximately 3,700ft north of the process facilities. NewFields has estimated the costs of the well drilling and development, pump and electrical power installation, and pipeline and delivery system. These costs were derived from quantity take-offs from the design drawings and estimated labor and equipment rates based upon recent, similar, project experience and from vendor quotes. Costs for the raw water system within the buildings and process facilities are included in the mechanical equipment and piping disciplines.

21.2.14 Three Hills Mine Buildings, Lighting, Fire Fighting, Support Equipment

21.2.14.1 Three Hills Mine Buildings

Process buildings in KCA’s scope for Three Hills include the process workshop. Costs for the process workshop are based on steel building quotes and estimates for furnishings based on KCA’s experience with similar installations. Costs for this building have been included in the project direct costs.

21.2.14.2 Three Hills Mine Support Equipment – Mobile Equipment

The mobile equipment capital cost estimate is based primarily on cost guide information. The equipment prices include the cost of purchase, assembly/commissioning and some operator training. Transportation costs are included in the General Services costs.

Process mobile equipment for Three Hills includes the following:

- 1 ea. 40 ton mobile crane;
- ea. ¾ ton pickup trucks;

- 2 ea. 2.5 ton forklifts;
- 1 ea. flatbed maintenance truck;
- 1 ea. 10 ton boom truck;
- 1 ea. backhoe;
- 1 ea. utility trailer; and
- 1 ea. all-terrain forklift (telehandler).

21.2.14.3 Three Hills Mine Support Equipment –Communications

A lump sum allowance for communications in the form of telephones, radios, and cell phones has been made based on recent experience of similar operations.

21.3 Three Hills Mine Indirect Capital Costs

Indirect capital costs include costs for items such as equipment rentals, temporary construction facilities, construction quality assurance/quality control and construction surveying, and consumables such as fuel power, and security. The costs have been estimated based on experience with recent, similar projects. For the facilities included in the NewFields scope of work, these costs are presented as a percentage of the capital costs for each facility/area. These vary between 3.5% and 6.3%.

21.3.1 Three Hills Mine Spare Parts

Spare parts costs for items in KCA's scope were estimated at approximately 5% of the mechanical equipment supply. Spare parts costs provided or recommended by the supplier were used when available. Spare part costs cover all classes of spare parts.

21.3.2 Three Hills Mine Initial Fills Inventory

The initial fills consists of consumable items stored on site at the commencement of operations. This inventory of initial fills is in place to insure that adequate consumables are available for the first stage of operation. Details of the initial fills are presented in Table 21.7. Note that $146,000 of the initial fills occurs in year -1 and is categorized as initial capital. The remaining $146,000 of initial fills occurs in month 1 of production, and is thus categorized as growth capital.

Table 21.7 Initial Fills – Three Hills Mine

Item	Basis	Needed Weight	Truck Loads	Quantity to Order	Unit Price	Tax, Duty	Shipping	Total Cost
		lb or gal		lb or gal	US$			US$ (1,000)
NaCN	Full Tank			8,339	1.31	0.09		$ 12
Pebble Lime	Full Silo	200,000		200,000	0.08	0.01		$ 18
Carbon	Full Circuit + 16 tons	52,000		52,000	1.20	0.08		$ 67
Antiscalant	4 weeks			6,000	20.85	1.43		$ 134
Lab Consumables				1	$ 21,179.38	1,451	1,271	$ 24
Lab Supplies, Process				1	$ 33,602.01	2,302	2,016	$ 38
TOTAL								$ 292

21.3.3 Three Hills Mine Engineering, Procurement and Construction Management

The EPCM cost for the processing facility at Three Hills is factored from the direct costs for the plant. A factor of 3% was used for items that were bid as turnkey and a factor of 10% was used on all other items. NewFields has estimated the engineering, procurement and construction management costs for the HLF, event pond, site infrastructure and roads as a percentage of the capital costs. These percentages are based upon recent, similar, experience and vary by facility/area. The engineering varies between 1.5% and 10% and it largely based upon the level of design that exists at each facility. The construction management/procurement is estimated to be between 3% and 3.5% of the capital costs.

21.3.4 Three Hills Mine Contingency

KCA has estimated the contingency for the processing facility at Three Hills to be $1,760,000. The contingency for the processing facility was estimated as a percentage of the direct and indirect capital costs by discipline, varying between 20% and 25%. Based on the level of detail incorporated into the engineering performed to date on the site infrastructure, NewFields recommends using a 20% contingency on the roads, Event Pond and site facilities and a 25% contingency on the water supply system. The HLF engineering has been advanced farther than the other components designed by NewFields and the contingency for this facility is recommended to be 15%.

21.3.5 Three Hills Mine Sustaining Capital

Due to the short mine life (approximately 2 years) there is no sustaining capital for the Three Hills operation.

21.3.5.1 Three Hills Mine Exclusions

The following capital costs have been excluded from the scope of the process capital estimate for Three Hills:

- Finance charges and interest during construction;
- Escalation costs; and
- Currency exchange fluctuations.

21.4 Hasbrouck Mine Process Capital Costs

Capital expenditures for items in KCA's scope for the Hasbrouck Mine are summarized by area in Table 21.8. Capital costs have been based on the design presented in Section 17.0 and are considered to have an accuracy of +/-15% for the recovery plant and +/-25% for all other areas. Process capital costs for the Hasbrouck Mine (excluding the heap-leach facility) are estimated to be $53.2 million (including indirects, contingencies, initial fills, and EPCM, but excluding working capital).

Capital costs have been estimated by KCA and NewFields. Equipment and material requirements and specifications are described in previous sections of this study. Capital cost estimates have been made primarily using budgetary supplier quotes for all major and most minor equipment items. It is assumed that most crushing and stacking equipment excluding in-plant conveyors and the HPGR can be purchased used and refurbished at 80% of the cost of new equipment. All other equipment is assumed to be purchased new. Where supplier quotes were not available for minor items, a reasonable cost estimate has been made based on supplier quotes in KCA's files. All costs are in fourth quarter 2014 US dollars except for diesel fuel, which has been updated for the second quarter of 2016.

The capital costs are summarized by discipline in Table 21.9.

Each area in the Hasbrouck Mine process cost build-up is separated into the following disciplines, as applicable:

- Earthworks;
- Civils and foundations;
- Structural steel;
- Platework;
- Mechanical equipment;
- Piping, Electrical and Instrumentation;
- Installation and Commissioning;
- Freight; and
- Sales and Other Taxes.

NewField's scope of work included costs for the construction of the leach pad and ponds, liner, and gravity pipe. KCA's scope of work included the recovery plant, all solution application equipment (pumps, tanks, etc.), pressure piping, crushing, screening and agglomeration, reagent storage, power supply and distribution, and water supply and some infrastructure.

Table 21.8 KCA Hasbrouck Mine Process Capital Costs by Area

Plant Totals Direct Costs	Total Supply Cost	Install	Grand Total
	US$	US$	US$
Area 0000 - Site & Utilities General	$50,000	$110,365	$160,365
Area 1403 - Laboratory (Shared w/ Three Hills)	$0	$0	$0
Area 4179 - Electrical	$1,857,944	$2,112	$1,860,056
Area 4290 - Mobile Equipment	$614,493	$0	$614,493
Area 4301 - Water Distribution	$363,205	$91,840	$455,045
Area 5004 - Primary Crushing	$3,081,261	$871,715	$3,952,976
Area 5023 - Secondary & Tertiary Crushing	$10,703,952	$1,578,364	$12,282,316
Area 5041 - Ore Reclaim & Stacking	$5,192,704	$872,480	$6,065,184
Area 5150 - Heap Leach Solution Handling	$2,323,558	$706,076	$3,029,634
Area 5184 - Carbon Handling & Regeneration	$597,424	$296,947	$894,371
Area 5184 - Adsorption (Incl. Area 5150)	$1,046,708	$340,929	$1,387,637
Area 5184 - Acid Wash & Elution	$622,508	$330,733	$953,241
Area 5186 - Electrowinning & Refining	$2,709,644	$728,104	$3,437,747
Area 6051 - Reagents	$261,561	$73,150	$334,711
Ancillaries	$482,799	$83,000	$565,799
Plant Total Direct Costs	**$29,907,761**	**$6,085,814**	**$35,993,575**
Sales Tax & Other Taxes	$1,763,851		$1,763,851
Spare Parts	$338,045		$338,045
Sub Total with Spare Parts			**$38,095,471**
Contingency	$7,560,000		$7,560,000
Plant Total Direct Costs with Contingency			**$45,655,471**
Indirect Field Costs			**$1,790,000**
Initial Fills			**$1,617,819**
Sub Total Plant Cost Before EPCM			**$49,063,290**
EPCM			**$4,109,000**
TOTAL Pre-Production Capital Cost			**$53,172,290**
Total Attached Power (kW)			**6,729**

Table 21.9 KCA Hasbrouck Mine Process Capital Costs by Discipline

Discipline	Cost @ Source	Freight	Total Supply Cost	Sales & Other Taxes	Install	Grand Total
	US$	US$	US$	US$	US$	US$
Major Earthworks			$0		$695,684	$695,684
Civils (Supply & Install)	$1,177,147		$1,177,147	$38,846		$1,215,993
Structural Steelwork (Supply & Install) - Majority included in Mechanical Equipment	$282,238		$282,238	$9,667		$291,904
Platework (Supply & Install)	$787,580		$787,580	$50,896	$146,280	$984,756
Mechanical Equipment	$19,953,650	$1,180,519	$21,172,050	$1,414,514	$4,639,707	$27,226,271
Piping	$1,102,886	$17,215	$1,120,101	$75,548	$322,320	$1,517,969
Electrical	$0	$0	$4,864,988	$158,487	$308,880	$4,081,183
Instrumentation	$212,450	$0	$212,450	$9,244	$70,960	$292,654
Facilities	$0		$1,419,341	$6,650	$25,024	$1,451,014
Spare Parts			$338,045			$338,045
Contingency			$7,560,000			$7,560,000
Plant Total Direct Costs	**$23,515,951**	**$1,197,733**	**$38,933,938**	**$1,763,851**	**$6,208,854**	**$45,655,471**

Earthworks in KCA's scope of work include a portion of the haul road from the mine to the crushing area and earthworks for the crushing area. The earthworks quantities have been based on quantities estimated by KCA for the following tasks:

- Topsoil stripping (12in depth);
- Material cut to fill; and
- Material placement and compaction (including 1-mile haul).

Unit costs for the above activities were provided to KCA by NewFields.

The site earthworks include site access roads, general site grading at the buildings and other facilities around the plant site, and the explosives storage magazine road. The earthworks costs include shaping and grading, road wearing coarse, and any drainage components required to control and convey storm water runoff. Quantity take-offs were completed on each component, based upon the design drawings that have been completed. Unit rates for the construction activities were prepared based upon labor rates seen on recent, similar projects, equipment production rates derived from the CAT handbook, and budgetary quotes provided by material vendors.

Hasbrouck Mine capital costs estimated by NewFields include the heap-leach facility, event ponds and associated infrastructure, water supply, and access roads. These capital costs estimates are shown in Table 21.10.

Table 21.10 NewFields Estimated Capital for Hasbrouck Mine (K USD)

	Phase 1	Phase 2	Total
Roads	$ 1,039		$ 1,039
Heap Leach Facility	$ 10,048	$ 9,348	$ 19,395
Event Ponds & Site Infrastructure	$ 2,910		$ 2,910
Water Supply	$ 3,030		$ 3,030
Total	$ 17,027	$ 9,348	$ 26,375
Indirects	$ 825	$ 421	$ 1,246
EPCM	$ 1,292	$ 514	$ 1,806
Contingency	$ 4,209	$ 2,337	$ 6,546
Total Estimated by NewFields	$ 23,353	$ 12,619	$ 35,972

21.4.1 Hasbrouck Mine HLF and Event Ponds

The HLF includes the earthworks, HDPE geomembrane, gravity drain piping and gravel overliner materials within the leach pad. Quantity take-offs were completed on each component, based upon the design drawings that have been completed. Unit rates for the construction activities were prepared based upon labor rates seen on recent, similar projects, equipment production rates derived from the CAT handbook, and budgetary quotes provided by material vendors.

The event pond includes the earthworks, HDPE geomembrane, and miscellaneous piping. Quantity take-offs were completed on each component, based upon the design drawings that have been completed. Unit rates for the construction activities were prepared based upon labor rates seen on recent, similar projects, equipment production rates derived from the CAT handbook, and budgetary quotes provided by material vendors.

21.4.2 Hasbrouck Mine Civils and Foundations

Civils include detailed earthworks, concrete and the retaining wall for the primary crusher. Civils in KCA's scope include concrete for the crushing area, concrete for the pug mill slab foundation, concrete sleepers for the overland conveyors, the recovery plant foundation, concrete for the site substations, and a concrete slab for the process workshop. Concrete quantities estimated by KCA are based on similar installations, major equipment weights and on slab areas. Concrete costs have been estimated by KCA based on supplier quotes from recent projects completed by KCA in the area. These costs include all form work, footing excavation, concrete supply, rebar, and curing costs. The cost for a Hilfiker-type retaining wall at the primary crusher was based on supplier quotes from recent projects.

21.4.3 Hasbrouck Mine Structural Steel

Structural steel, including steel grating, structural steel, and handrails has been estimated based layout drawings and equipment loads. Table 21.11 shows the unit rates for structural steel. These costs are estimated based on KCA's in-house structural steel costs.

Table 21.11 Structural Steel Unit Rates

Description	Unit	Unit Cost (USD)
Grating	ft^2	$ 21.55
Structural Steel	lb	$ 2.27
Handrails	ft	$17.68

21.4.4 Hasbrouck Mine Platework

The plate-work discipline includes costs for the supply and installation of steel tanks, bins, and chutes. Plate-work costs for the crushing plant have been primarily included in the vendor supply package with some items estimated by KCA based on experience with similar sized projects. Plate-work costs for the HPGR feed bin were based on the weight of steel required by the design. The plate-work costs for the pregnant tank, barren tank and adsorption columns were included in the quote for the adsorption circuit from KCA.

21.4.5 Hasbrouck Mine Mechanical Equipment

Costs for mechanical equipment are based on an equipment list developed of all major equipment for the processing facility. Costs for most major items of new equipment are based on budgetary quotes from vendors. Used equipment costs for crushing and stacking equipment (excluding crushing plant conveyors and the HPGR) are estimated at 80% of the new equipment cost. Costs for minor equipment items are based on supplier quotes or KCA's in-house database, or else reasonable allowances were made for the equipment.

Installation hourly costs for mechanical equipment were factored based on the equipment supply cost and include installation labor and equipment usage.

21.4.6 Hasbrouck Mine Piping, Electrical and Instrumentation

Major piping costs, including process solution piping, fire water piping and heap irrigation, are based on estimated material takeoffs and supplier quotes. Additional ancillary piping, fittings, and valve costs have been estimated on a percentage basis of the mechanical equipment costs. Varying factors ranging up to 25% of the mechanical equipment supply were used to estimate the ancillary piping purchase costs for each area.

Electrical costs for the project are primarily based on supplier quotes based on material takeoffs and information developed by KCA. These include the site distribution power lines and transformers. Delivery of power to the site has been quoted by NV energy. Varying factors ranging up to 15% of the mechanical equipment supply were used to estimate the miscellaneous electrical costs for each process area.

Varying factors ranging up to 3% of the mechanical equipment supply were used to estimate the instrumentation costs. Allowances of $5,000 and $50,000 have been included for the water supply valves and site security system, respectively. Minimal instrumentation is planned for the Hasbrouck Mine.

21.4.7 Hasbrouck Mine Installation

Installation costs have been included for all items in KCA's equipment supply package. Installation estimates for all other items are based on a sliding scale factored from the supply cost and include all installation labor and equipment usage. The hourly installation labor rates are estimated to be $80.00/h and include provisions for wages, burdens, overhead and contractor profit. The estimated unit cost is based on information in KCA's database and recent cost guide data.

21.4.8 Hasbrouck Mine Freight

Estimates for equipment freight costs are based on loads as bulk freight at an average percentage of equipment cost. The cost for transport of equipment items to the jobsite in Tonopah, Nevada is estimated to average 6% of the equipment cost.

Where applicable, supplier quoted freight cost estimates for equipment packages are used in place of the freight estimate. Freight costs have been included in KCA's equipment supply package.

21.4.9 Hasbrouck Sales Mine Tax and Other Taxes

Nevada sales tax in Esmeralda County has been applied to all material supply costs for the Hasbrouck Mine. Sales tax was applied to 50% of the value of any allowance that did not have a breakdown between supply and install costs. The effective sales tax in Esmeralda County as of 1 April, 2014 is 6.850%.

A 24% Contribution in Aid of Construction Tax has been applied to the applicable parts of the quoted supply costs for the delivery of power to the Hasbrouck Mine by NV Energy.

21.4.10 Hasbrouck Mine Power Supply and Distribution Capital Costs

Capital costs for the infrastructure involved in the supply of grid power to the Hasbrouck Mine have been provided by NV Energy. Grid power will be delivered to a mine substation from a 120kV switching station to be constructed 2 miles to the north. NV Energy's cost study includes permitting review, new transmission line to the project site, a new 120kV switching station, and installation of communications at the switching station.

Costs for power distribution onsite have been estimated by Jensen Engineering and include the site distribution power lines, switchgear, and transformers. Costs for the site power distribution are included in the project direct costs.

A 750kW backup generator has been included in the cost estimate to provide power to the critical pumping systems and facilities in the event of a power outage.

21.4.11 Hasbrouck Mine Water Capital Costs

The Hasbrouck Mine raw water will be sourced from a groundwater well located approximately 7,500ft west of the process facilities. The capital costs for the raw water system include the pipeline from the well to the water storage tank and the raw and fire water distribution pipelines at the mine.

Capital costs for the supply of raw water to the Hasbrouck Mine include well drilling and development, pump and electrical power installation, and pipeline and delivery system. Costs for the raw water system within the buildings and process facilities are included in the mechanical equipment and piping disciplines. NewFields has estimated the costs of the well, pump, pipeline, water storage tank and delivery system. These costs were derived from quantity take-offs from the design drawings and estimated labor and equipment rates based upon recent, similar, project experience and vendor quotes.

21.4.12 Hasbrouck Mine Buildings, Lighting, Fire Fighting, Support Equipment Capital Costs

21.4.12.1 Hasbrouck Mine Buildings

KCA's scope included the process warehouse and workshop building, ADR building and reagent storage building for the Hasbrouck Mine. The cost for the building is based on a steel building quote and an estimate for furnishings based on KCA's experience with similar installations. Costs for the workshop building have been included in the project direct costs. Costs for the ADR and refinery buildings were included in the supplier quote package.

21.4.12.2 Hasbrouck Mine Fire Fighting

A raw water tank is included in the design which will have a reserve capacity for use as fire water. Fire water will be delivered by a gravity system.

Costs for the fire water systems within the buildings and facilities are included in the mechanical equipment and plate-work disciplines. Costs for the water delivery pipeline are included with the water supply capital costs.

21.4.12.3 Hasbrouck Mine Mobile Equipment

The majority of mobile equipment for the Hasbrouck Mine will be shared with or transferred from the Three Hills Mine. Mobile equipment includes a 40ton crane, a boom truck, flatbed maintenance truck, light vehicles, two indoor forklifts, a backhoe, and an all-terrain forklift. The additional mobile equipment needed for Hasbrouck includes a Cat D6 Dozer, a 2.5ton forklift and 3 pickups.

21.5 Hasbrouck Mine Indirect Capital Costs

Indirect capital costs include costs for items such as equipment rentals, temporary construction facilities, construction quality assurance/quality control and construction surveying, and consumables such as fuel and power, and security. These costs have been estimated based on experience with recent, similar projects. NewFields has estimated these costs as a percentage of the capital costs for each facility/area. These vary between 3.5% and 6.3%.

21.5.1 Hasbrouck Mine Spare Parts

Spare parts costs for items in KCA's scope were estimated at approximately 5% of the mechanical equipment supply. Where available, costs for spare parts were provided or recommended by the supplier.

21.5.2 Hasbrouck Mine Initial Fills Inventory

Initial fills consist of consumable items to be stored on site at the outset of operations; this includes sodium cyanide, cement for pH control and agglomeration, carbon, antiscalant, and diesel fuel. The Hasbrouck Mine initial fills also include a spare set of rolls for the HPGR. This inventory of initial fills is to insure that adequate consumables are available for the first stage of operation. Details of the initial fills are presented in Table 21.12.

Table 21.12 Hasbrouck Mine Initial Fills

Item	Basis	Needed Weight lb or gal	Truck Loads	Quantity to Order lb or gal	Unit Price US$	Tax, Duty	Shipping	Total Cost US$ (1,000)
NaCN	Full Tank		-	8,339	1.31	0.09		$ 12
Cement	Full Silo	200,000	10.0	200,000	0.08	0.01		$ 16
Carbon	Full Circuit	35	0.0	30,000	1.20	0.08		$ 38
Antiscalant	4 weeks		-	6,000	20.85	1.43		$ 134
Caustic Soda	4 weeks	7,224		7,200	0.47	0.03		$ 3.62
Hydrochloric Acid	2 weeks	1,708		1,680	2.10	0.14		$ 3.77
Diesel (gal)	Total Fill	1,800	0.1	1,800	1.70	0.12		$ 3
Flux	2 weeks							
SiO2				300	0.50	0.03		$ 0.16
Borax				300	0.98	0.07		$ 0.31
Niter				150	1.75	0.12		$ 0.28
Soda Ash				150	1.70	0.12		$ 0.27
Foam	2 weeks							$ 6
HPGR Spare Rolls	1 set				$ 1,400,000			$ 1,400
TOTAL								**$ 1,618**

21.5.3 Hasbrouck Mine Engineering, Procurement and Construction Management

The EPCM cost for the processing facility at Hasbrouck is factored from the direct costs for the plant. A factor of 2% was used for items that were bid as turnkey and a factor of 10% was used on all other items. NewFields has estimated the engineering, procurement and construction management costs for the HLF, event pond, site infrastructure and roads as a percentage of the capital costs. These percentages are based upon recent, similar, experience and vary by facility/area. The engineering varies between 2.5% and 15% and it is largely based upon the level of design that exists at each facility. The construction management/procurement is estimated to be between 3% and 3.5% of the capital costs.

21.5.4 Hasbrouck Mine Contingency

The contingency for the processing facility at Hasbrouck is $7,560,000, or 20% of the direct and indirect capital costs. Based on the level of detail incorporated into the engineering performed to date on the site infrastructure, NewFields recommends using a 25% contingency on the roads, water supply system and the HLF. A 20% contingency is recommended for the event pond and site facilities.

21.5.5 Hasbrouck Mine Sustaining Capital

Sustaining capital in KCA's scope of work includes an additional overland conveyor and barren solution header pipe to the heap. The total estimated cost for these items is $900,000.

Phase 2 of the HLF has been included as sustaining capital. The HLF Phase 2 includes the earthworks, HDPE geomembrane, gravity drain piping and gravel overliner materials within the leach pad expansion area. Quantity take-offs were completed on each component, based upon the design drawings that have been completed. Unit rates for the construction activities were prepared based upon labor rates seen on recent, similar projects, equipment production rates derived from the CAT handbook, and budgetary quotes provided by material vendors.

21.5.5.1 Hasbrouck Mine Exclusions

The following capital costs have been excluded from the scope of supply and estimate:

- Finance charges and interest during construction;
- Escalation costs; and
- Currency exchange fluctuations.

21.6 Other Capital Costs

MDA estimated other capital costs for light vehicles, site and administration, safety and security, and owners capital with input from vendors and WKM.

Administration capital costs are shown in Table 21.13 and in Year -1 assume that the main administration office would be located in the town of Tonopah. During Year 2, the main administration office would be located in a double- to triple- wide office trailer that will be installed at the Hasbrouck Mine and will remain there for the LOM.

Table 21.13 Administration Capital

	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Total
Administration Building	K USD	$ -	$ -	$ 77	$ -	$ -	$ 77
Computers, Printers, and Plotters	K USD	$ 45	$ -	$ -	$ -	$ -	$ 45
Communications (phones, internet, etc)	K USD	$ 2	$ -	$ -	$ -	$ -	$ 2
Site and Administration Total	K USD	$ 47	$ -	$ 77	$ -	$ -	$ 124

Safety and security capital costs are shown in Table 21.14. This includes a used double wide trailer for offices and a training room, as well as furnishings, office network supplies, an allocation for communications, and initial safety supplies. Additional safety supplies and equipment costs are estimated for Year 2 and Year 3 when operations commence at Hasbrouck.

Table 21.14 Safety and Security Capital Costs

	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Total
Safety and Training Building	K USD	$ 40	$ -	$ -	$ -	$ -	$ 40
Computers, Printers, and Plotters	K USD	$ 15	$ -	$ -	$ -	$ -	$ 15
Communications (phones, internet, etc)	K USD	$ 2	$ -	$ -	$ -	$ -	$ 2
Initial Safety Supplies and Equipment	K USD	$ 25	$ -	$ 5	$ 10	$ -	$ 40
Total Safety and Security	K USD	$ 82	$ -	$ 5	$ 10	$ -	$ 97

Site security fencing is included within the event pond and facilities costing prepared by NewFields. Material quantity take-offs were calculated from engineering design drawings with unit rates being derived from recent, similar, projects.

Owner's capital costs were developed using inputs from WKM and are shown in Table 21.15. These include the land acquisition cost to complete the lease-purchase agreement with Eastfield Resources, as described in Section 4.3. Feasibility study costs for the Hasbrouck project are assumed to occur prior to the start of construction and are not included in the construction costs. However, these costs are shown in the Recommendations (Section 26.0). In addition, some permitting costs for base line studies at the Hasbrouck Mine are also expected to occur prior to construction of the Hasbrouck Mine and are also included in the Recommendations (Section 26.0).

Bonding costs are assumed to be covered in part at commencement of construction and fully at Year 2 by the use of surety bonds as discussed at the start of Section 21.0. Prior to demonstrating an operating history, the surety bond will be possible for only half of the bonding required. A bonding cost of $2,279,000 has been included in owner's capital, which is two thirds of the predicted bonding amount. The balance is to be covered by a surety bond. The cost to maintain the surety bonding has been included in general and administrative operating costs. Once WKM switches to a surety bond for all bonding costs at the end of Year 2, it is assumed that the cash provided as the initial Three Hills bond will be released.

Fiber optic lines, power generation at Three Hills, and offsite electrical supply costs for Hasbrouck are based on vendor quotations. Note that onsite electrical distribution has been estimated by KCA and are included in the process capital estimate. Power generation at Three Hills assumes leasing of a LNG fuel station and a generator. Capital costs include a charge every two years to swap out the generator for major overhauls.

Table 21.15 Owner's Capital Costs

	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total
Metallurgy	K USD	$ 325	$ 65	$ -	$ -	$ -	$ -	$ 390
Geotech	K USD	$ -	$ 358	$ 161	$ -	$ -	$ -	$ 519
Permitting - Three Hills	K USD	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Permitting - Hasbrouck	K USD	$ 651	$ 1,490	$ 848	$ -	$ -	$ -	$ 2,989
Land Acquisition (Eastfield, Korn)	K USD	$ 155	$ -	$ -	$ -	$ -	$ -	$ 155
Monitor Wells - Three Hills	K USD	$ 413	$ -	$ -	$ -	$ -	$ -	$ 413
Monitor Wells - Hasbrouck	K USD	$ -	$ 682	$ -	$ -	$ -	$ -	$ 682
Fiber Optic Move	K USD	$ 200	$ -	$ -	$ -	$ -	$ -	$ 200
Onsite Electrical Power Generation	K USD	$ 69	$ -	$ 32	$ -	$ 32	$ -	$ 133
G&A During Pre-Production	K USD	$ 2,292	$ -	$ -	$ -	$ -	$ -	$ 2,292
Bonding Costs - Three Hills	K USD	$ 2,279	$ -	$ -	$ (2,279)	$ -	$ -	$ -
Bonding Costs - Hasbrouck	K USD	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Owners Capital	K USD	$ 6,383	$ 6,041	$ 4,466	$ (2,279)	$ 32	$ -	$ 14,642

Light vehicle costs were estimated by MDA and are shown in Table 21.16. These costs are based on the number of vehicles required for each department and vendor quotations. KCA estimated the number of vehicles required for processing personnel. Taxes and fleet purchase discounts are included.

Table 21.16 Light Vehicles

	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Total
Mining	K USD	$ 143	$ -	$ -	$ -	$ -	$ 107	$ -	$ 251
Processing	K USD	$ 230	$ -	$ 113	$ -	$ -	$ 77	$ -	$ 420
Administration	K USD	$ 116	$ -	$ -	$ -	$ -	$ 152	$ -	$ 268
Total	K USD	$ 490	$ -	$ 113	$ -	$ -	$ 336	$ -	$ 938

21.7 Mine Operating Costs

Mine operating costs in the 2015 PFS were estimated based on quotations from contractors and additional owner's mining costs that will be required for mining operations. Mine operating costs for the 2016 PFS assume contractor mining, but have been estimated using first principle costing. Production parameters and assumptions were discussed in Section 16.7. Costs were estimated for equipment based on vendor quotations, estimation guides, and MDA experience. Personnel costs were based on inputs from estimation guides and input from WKM. In addition, the operating costs include contractor's recovery of capital. This was estimated based on assumed total hours for equipment and applying those toward CAT quotations for the capital cost on equipment.

A contractor profit of 15% was assumed and applied to the contractor-related equipment operating costs, personnel costs, and capital recovery costs. The mining cost is based on a $1.70 per gallon fuel costs. The resulting contractor costs are shown in Table 21.17. The cost at $2.50

per gallon was compared with the costs in the 2015 PFS and are reasonably similar. At $1.70 per gallon for fuel, the resulting total mine operating cost is $1.81/ton.

Table 21.17 Mining Cost Summary

	Units	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Total
Mine General Service	K USD	$ 413	$ 552	$ 552	$ 555	$ 552	$ 552	$ 552	$ 552	$ 323	$ -	$ 4,602
Mine Maintenance	K USD	$ 472	$ 962	$ 941	$ 962	$ 962	$ 962	$ 962	$ 962	$ 540	$ -	$ 7,726
Engineering	K USD	$ 251	$ 335	$ 335	$ 335	$ 335	$ 335	$ 335	$ 335	$ 195	$ -	$ 2,789
Geology	K USD	$ 261	$ 564	$ 564	$ 564	$ 564	$ 564	$ 564	$ 564	$ 329	$ -	$ 4,539
Drilling	K USD	$ 448	$ 2,612	$ 2,402	$ 4,003	$ 2,717	$ 2,691	$ 3,799	$ 4,253	$ 1,472	$ -	$ 24,396
Blasting	K USD	$ 374	$ 1,565	$ 1,576	$ 2,247	$ 1,553	$ 1,566	$ 2,047	$ 2,216	$ 802	$ -	$ 13,946
Loading	K USD	$ 574	$ 3,234	$ 3,043	$ 4,841	$ 3,249	$ 3,273	$ 4,351	$ 4,580	$ 1,629	$ -	$ 28,773
Hauling	K USD	$ 1,179	$ 6,204	$ 6,596	$ 9,785	$ 7,201	$ 7,152	$ 9,581	$ 10,499	$ 3,580	$ -	$ 61,778
Mine Support	K USD	$ 1,127	$ 2,236	$ 2,296	$ 2,239	$ 2,236	$ 2,236	$ 2,236	$ 2,239	$ 1,316	$ -	$ 18,163
Total Mining Cost	K USD	$ 5,100	$ 18,263	$ 18,305	$ 25,530	$ 19,369	$ 19,331	$ 24,427	$ 26,200	$ 10,186	$ -	$ 166,712
Loading Rehandle	K USD	$ -	$ -	$ 26	$ 176	$ 199	$ 199	$ 190	$ 182	$ 98	$ -	$ 1,071
Haulage Rehandle	K USD	$ -	$ -	$ 26	$ 181	$ 257	$ 260	$ 227	$ 217	$ 101	$ -	$ 1,269
Total Rehandle	K USD	$ -	$ -	$ 52	$ 357	$ 457	$ 459	$ 417	$ 398	$ 199	$ -	$ 2,340
Total Mining Cost w/ Rehandle	K USD	$ 5,100	$ 18,263	$ 18,357	$ 25,888	$ 19,826	$ 19,790	$ 24,845	$ 26,599	$ 10,385	$ -	$ 169,052
Cost per Ton Mined												
Mine General Service	$/ton	$ 0.27	$ 0.05	$ 0.06	$ 0.03	$ 0.05	$ 0.05	$ 0.04	$ 0.03	$ 0.06	$ -	$ 0.05
Mine Maintenance	$/ton	$ 0.31	$ 0.09	$ 0.09	$ 0.06	$ 0.10	$ 0.09	$ 0.07	$ 0.06	$ 0.11	$ -	$ 0.08
Engineering	$/ton	$ 0.17	$ 0.03	$ 0.03	$ 0.02	$ 0.03	$ 0.03	$ 0.02	$ 0.02	$ 0.04	$ -	$ 0.03
Geology	$/ton	$ 0.17	$ 0.06	$ 0.06	$ 0.04	$ 0.06	$ 0.06	$ 0.04	$ 0.04	$ 0.07	$ -	$ 0.05
Drilling	$/ton	$ 0.30	$ 0.26	$ 0.24	$ 0.25	$ 0.27	$ 0.26	$ 0.26	$ 0.27	$ 0.29	$ -	$ 0.26
Blasting	$/ton	$ 0.25	$ 0.15	$ 0.16	$ 0.14	$ 0.15	$ 0.15	$ 0.14	$ 0.14	$ 0.16	$ -	$ 0.15
Loading	$/ton	$ 0.38	$ 0.32	$ 0.31	$ 0.30	$ 0.32	$ 0.32	$ 0.30	$ 0.29	$ 0.32	$ -	$ 0.31
Hauling	$/ton	$ 0.78	$ 0.61	$ 0.66	$ 0.61	$ 0.71	$ 0.70	$ 0.67	$ 0.66	$ 0.71	$ -	$ 0.66
Mine Support	$/ton	$ 0.75	$ 0.22	$ 0.23	$ 0.14	$ 0.22	$ 0.22	$ 0.16	$ 0.14	$ 0.26	$ -	$ 0.19
Total Mining Cost	$/ton	$ 3.39	$ 1.79	$ 1.84	$ 1.59	$ 1.92	$ 1.90	$ 1.70	$ 1.66	$ 2.01	$ -	$ 1.79
Loading Rehandle	$/ton	$ -	$ -	$ 0.00	$ 0.01	$ 0.02	$ 0.02	$ 0.01	$ 0.01	$ 0.02	$ -	$ 0.01
Haulage Rehandle	$/ton	$ -	$ -	$ 0.00	$ 0.01	$ 0.03	$ 0.03	$ 0.02	$ 0.01	$ 0.02	$ -	$ 0.01
Total Rehandle	$/ton	$ -	$ -	$ 0.01	$ 0.02	$ 0.05	$ 0.05	$ 0.03	$ 0.03	$ 0.04	$ -	$ 0.03
Total Rehandle / ton Rehandle	$/ton	$ -	$ -	$ 0.58	$ 0.59	$ 0.71	$ 0.72	$ 0.65	$ 0.62	$ 0.64	$ -	$ 0.66
Total Mining Cost w/ Rehandle	$/ton	$ 3.39	$ 1.79	$ 1.85	$ 1.61	$ 1.97	$ 1.94	$ 1.73	$ 1.68	$ 2.05	$ -	$ 1.81

Owner's operating mining costs were estimated by MDA based on the personnel and supplies required to achieve the mine production schedule. These costs include mining supervision, engineering and geology requirements, an allocation for contractor "forced work", light vehicles, and outside services.

21.8 Process Operating Costs

The estimated, annual process operating cost for the Three Hills Mine is $2.20 per ton of ore processed, and after allocation of fixed costs through the rinsing of leach pads the LOM cost is $2.59 per ton of ore. The estimated first year process operating cost for the Hasbrouck Mine is $3.55 per ton of ore processed and the remaining LOM process annual operating cost is $3.79 per ton of ore processed. After allocation of fixed costs through the rinsing of leach pads the Hasbrouck Mine LOM cost is $3.93 per ton of ore. Sales tax has not been included in the operating cost estimate.

21.8.1 Three Hills Mine Process and Support Services Operating Costs

Process operating cost requirements for Three Hills were estimated by KCA based upon unit consumption, and, where possible, have been broken down by area. The annual operating costs for the process, laboratory, and service and support were estimated by KCA to be $2.20 per ton of ore, not including costs for make-up water supply. MDA applied these costs using fixed and variable portions through the LOM, which includes final rinsing of the leach pad at the end of processing. The resulting LOM processing cost for Three Hills is $2.59 per ton of ore.

Process operating costs for the project have been estimated from first principles. Labor costs were estimated using project-specific staffing, salary, wage, and benefit requirements. Unit consumption of materials, supplies, power, water, and delivered supply costs were also estimated.

The process operating costs are based upon ownership of all process production equipment and site facilities (some mobile equipment including a dozer for the heap leach to be supplied by the mining contractor), except for desorption and recovery equipment, which will be the responsibility of a contractor for toll stripping and carbon ashing, if required. The costs are based on the Owner employing and directing all operating, maintenance, and support personnel.

The process operating costs have been estimated without contingency allowances and are considered to have an accuracy range of +/- 15% for the laboratory and recovery plant, and +/- 25% for all other areas.

Operating costs estimates have been based upon information obtained from the following sources:

- Project metallurgical tests and process engineering;
- Budgetary quotations from potential suppliers of project operating and maintenance supplies and materials;
- Recent KCA project file data; and
- Experience of KCA staff with other similar operations.

Where specific data do not exist, cost allowances have been based upon consumption and operating data from other similar properties for which reliable data exists. Freight costs have been estimated where delivered prices were not available.

All operating costs are presented in 4th quarter 2014 US dollars except for diesel fuel which has been updated for the 2nd quarter of 2016. These operating costs do not include Nevada sales tax.

Table 21.18 shows the process and support services operating costs by area.

Table 21.18 Three Hills Mine Process and Support Operating Costs

	Units	Qty	Unit Costs, US$	Annual Costs, US$	US$ per Ton Ore
Labor					
Process	ea	24		**$1,772,179**	**$0.32**
Lab	ea	9		**$553,800**	**$0.10**
SUBTOTAL				**$2,325,979**	**$0.42**
Water Supply & Distribution					
Supply	gal/d	440,000			**$0.00**
Power	kWh/ton	0.26	$0.280	**$395,284**	**$0.07**
Maintenance Supplies	lot			**$50,000**	**$0.01**
SUBTOTAL				**$445,284**	**$0.08**
Heap-leach-pad & Ponds					
Power	kWh/ton	0.62	$0.280	**$947,863**	**$0.17**
Piping	lot			**$219,000**	**$0.04**
Pad Gravel (haul and spread only)	t	-	$2.00		
Maintenance Supplies	lot			**$50,000**	**$0.01**
Dozer (supplied by mining contractor)					
SUBTOTAL				**$1,216,863**	**$0.22**
Adsorption					
Power	kWh/ton	0.001	$0.280	**$1,166**	**$0.00**
Misc. Operating Supplies	lot			**$100,000**	**$0.02**
Maintenance Supplies	lot			**$100,000**	**$0.02**
SUBTOTAL				**$201,166**	**$0.04**
Recovery					
Power	kWh/ton	0.000	$0.280	**$0**	**$0.00**
Carbon Transportation Cost	US$/ton	478	$500.000	**$238,750**	**$0.04**
Toll-Stripping	ton/mo, dry	39.8	$1,500.00	**$716,220**	**$0.13**
Carbon Ashing	ton/mo, wet	0.0	$9,177.25	**$0**	**$0.00**
Safety Supplies	lot			**$25,000**	**$0.005**
SUBTOTAL				**$979,970**	**$0.18**
Reagents					
Power	kWh/ton	0.001	$0.280	**$1,874**	**$0.00**
Cyanide (Ore Consumption)	lb/ton	0.45	$1.31	**$3,228,005**	**$0.59**
Carbon	lb/mo	22031	$1.20	**$317,246**	**$0.058**
Lime	lb/ton	4	$0.08	**$1,850,550**	**$0.34**
Anti-Scalant	gal/day	65.0	$20.85	**$487,890**	**$0.09**
Safety Supplies	lot			**$50,000**	**$0.01**
Misc. Operating Supplies	lot			**$30,000**	**$0.01**
Maintenance Supplies	lot			**$50,000**	**$0.01**
SUBTOTAL				**$6,015,566**	**$1.09**

	Units	Qty	Unit Costs, US$	Annual Costs, US$	US$ per Ton Ore
Laboratory (At Tonopah)					
Power	kWh/ton	0.16	$0.063	**$53,712**	**$0.01**
Assays, Solids	No./day	100	$7.00	**$252,000**	**$0.05**
Assays, Solutions	No./day	100	$1.00	**$36,000**	**$0.01**
Carbon Assay	No./day	5	$7.00	**$12,600**	**$0.00**
Consumables	Per Year			**$50,000**	**$0.01**
SUBTOTAL				**$404,312**	**$0.07**
Mobile Equipment / Support Services					
Power	kWh/ton	0.01	$0.280	**$10,118**	**$0.00**
Maintenance Supplies	lot			**$10,000**	**$0.002**
Fork lift	hr/d	12	$11.43	**$49,378**	**$0.009**
Maintenance Trucks	hr/d	12	$12.19	**$52,661**	**$0.010**
Crane (40-t)	hr/month	4	$29.73	**$1,427**	**$0.000**
Boom Truck 10 ton crane	hr/d	6	$23.20	**$50,112**	**$0.009**
Telehandler	hr/d	4	$20.00	**$28,800**	**$0.005**
Back Hoe	hr/d	4	$20.49	**$29,506**	**$0.005**
Pick Ups	hr/d	40	$18.56	**$267,264**	**$0.049**
SUBTOTAL				**$499,265**	**$0.09**
TOTAL COST (Excluding Sales Tax)				**$12,088,405**	**$2.20**

21.8.1.1 Three Hills Mine Process Personnel and Staffing

Staffing requirements for process and administration have been estimated by KCA with input from WKM and H.C. Osborne and Associates. Wage, salary, and burden information for personnel was provided by WKM and has been included in the wage and salary data. Staffing levels, wages, and wage burdens of several operating mines in the area have been reviewed by management and found to accurately reflect current costs.

The work force will consist of approximately 24 persons in the process areas and 9 persons in the laboratory. Yearly staffing costs are estimated at $1,722,000 for the process area and $554,000 for the laboratory.

21.8.1.2 Three Hills Mine Power

Power usage for the process and process-related infrastructure was derived from estimated connected loads assigned to powered equipment from the mechanical equipment list. Equipment power demands under normal operation were assigned and coupled with estimated on-stream times to determine the average energy usage and cost.

The total attached power for the process and infrastructure is estimated at 0.9 MW, with an average draw of 0.6 MW. Additionally, the laboratory in Tonopah will have an attached power of 0.23 MW with an average power draw of 0.1 MW. The total consumed power for these areas is estimated at approximately1.04 kWh/ton ore. Power generation costs, based on a quote from

Aggreko, are estimated to be $0.28/kWh. Power costs for the laboratory are $0.0625 based on a quote from NV Energy. Emergency power will be provided by an onsite generator.

Power requirements are presented in Table 21.19.

Table 21.19 Three Hills Mine Process Power and Consumption

Area / Description	Attached Power (kW)	Average Demand (kW)
Area 4301 - Water Supply & Distribution	337	161
Area 5150 – Heap Leach & Solution Handling	526	428
Area 5184 - Adsorption	5	4
Area 6051 - Reagents	4	5
Area 1403 - Laboratory	234	108
Ancillaries	16	12
Total	**1121**	**705**

21.8.1.3 Three Hills Mine Consumable Items

Operating supplies costs have been estimated based upon unit costs and consumption rates predicted by metallurgical tests, and have been broken down by area. Freight costs have been included. Reagent consumptions have been derived from test work and from the Design Criteria. Other costs have been estimated from past KCA experience with similar operations. Consumable quantities are summarized in Table 21.20.

Table 21.20 Three Hills Process Consumable Items

Item	Form	Storage Capacity	Annual Consumption
Lime	Bulk	150 tons	10,950 tons
Sodium Cyanide (30%)	30% Liquid, Delivered	12.3 tons	1,232 tons
Activated Carbon	1,100 lb super sack	22 tons + Columns	132 tons
Antiscalant	Liquid Tote, 240 gal bins	8 totes (1,920 gal)	23,400 gal

Operating costs for these items have been distributed based on tonnage and gold production, or smelting batches, as appropriate.

Three Hills Mine Heap-Leach Consumables

Pipes, Fittings and Emitters – The heap pipe costs include expenses for broken pipe, fittings and valves, and abandoned tubing. The heap pipe costs are estimated to be $0.04/ton of ore, and are based on previous detailed studies conducted by KCA on similar projects.

Sodium Cyanide (NaCN) – Delivered sodium cyanide is quoted at $1.31/lb. Cyanide is consumed in the heap leach and ADR. Cyanide consumption for the heap is 0.45 lb/ton of ore.

Lime – Pebble lime is added to the heap at 4lb/ton of ore for pH control based on metallurgical test work evaluations. A delivered price of $0.08/lb has been used based on a budgetary quotation.

Antiscale Agent (Scale Inhibitor) – Antiscalant consumption is based on an average dosage rate of 6 ppm to the suctions of the barren and pregnant pumps. A delivered price of $20.85/gal was has been used based on a supplier quote.

Three Hills Mine Process Consumables

Carbon – Carbon will be used for the adsorption of gold from the pregnant solution and is estimated to be consumed at an average of 132 tons per year. Most of the carbon consumption is due to replacement of spent carbon due to toll stripping. It is assumed that carbon can be reused three times before activity levels are unacceptable. Carbon is quoted at $1.20/lb.

Costs for processing carbon by troll stripping are approximately $1,500 per dry ton, plus transportation costs. Based on recent discussions with a reputable toll stripping company, there is currently capacity at their facility to process 16 tons of carbon per month with 32 tons potentially available within the next few months. It is currently assumed in this cost estimate that all carbon loaded at Three Hills (approximately 40 tons per month) will be able to be processed by toll stripping despite current quoted capacities. It is possible to increase carbon processing by accepting higher tail loadings.

If required, the cost for processing carbon by a carbon ashing refiner is $9,177 per wet ton of carbon, which includes $1,075 per wet tonne of carbon, $8.00 per ounce of gold, and 5% of the metals value not including transportation. Carbon ashing, due to the high processing costs, will be avoided as much as possible.

Transportation of carbon is estimated at $500 per dry ton of carbon.

21.8.1.4 Three Hills Mine Laboratory

Fire assaying and solution assaying of samples will be conducted in a laboratory that will be located in Tonopah. It is estimated that each day approximately 100 solids assays at $7/assay, and 100 solutions assays at $1/assay, will be performed. The cost of an assay only includes supplies; the associated labor cost is included under Labor in the operating costs. Costs for renting the laboratory building in Tonopah are not included.

21.8.1.5 Three Hills Mine Fuel

The primary fuel source for the project will be diesel fuel and LNG. Diesel will be used by mobile equipment and the backup generator. Diesel price has been assumed to be $1.70/gal. LNG will be used in the main generator for power supply to Three Hills.

Fuel costs for mobile equipment have been included in the hourly operating costs for these units.

21.8.1.6 Three Hills Mine Mobile Equipment

Numerous pieces of support equipment are required for the processing areas. The costs to operate and maintain this equipment have been estimated primarily using published information. Otherwise, allowances have been made based upon experience in similar operations.

Support equipment annual operating costs have been estimated to average $479,000 per year, or $0.09/ton of ore. Table 21.21 presents the support equipment operating costs.

Table 21.21 Support Equipment Operating Costs – Three Hills

	Units	Qty	Unit Costs, USD	Costs, USD	USD per Ton Ore
Fork lift	hr/d	12	$11.43	$49,378	$0.009
Maintenance Trucks	hr/d	12	$12.19	$52,661	$0.010
Crane (40ton)	hr/month	4	$29.73	$1,427	$0.000
Boom Truck 10ton crane	hr/d	6	$23.20	$50,112	$0.009
Telehandler	hr/d	4	$20.00	$28,800	$0.005
Back Hoe	hr/d	4	$20.49	$29,506	$0.005
Pick Ups	hr/d	40	$18.56	$267,264	$0.049
TOTAL				**$479,147**	**$0.09**

21.8.1.7 Three Hills Mine Repair Materials

Overhaul and maintenance costs of equipment, along with miscellaneous operating supplies for each area, were based on a unit cost per ton of material processed. The unit cost for each area was developed from data obtained from other similar operations.

Maintenance and repair costs for all areas are estimated to average $0.14 per ton of ore.

21.8.2 Hasbrouck Mine Process and Support Services Operating Costs

Process operating costs for the Hasbrouck Mine were estimated by KCA based upon unit consumption, and, where possible, have been broken down by area. First year operating cost for the process, laboratory, and service and support is $3.55 per ton of ore processed, and the remaining annual operating cost is $3.79 per ton of ore processed. These costs do not include water supply costs for make-up water. MDA applied these costs using fixed and variable portions through the LOM, which includes final rinsing of the leach pad at the end of processing. The resulting LOM processing cost for Hasbrouck is $3.93 per ton of ore. The increase in operating cost per ton is a function of applying the fixed costs through the end of mine rinsing of the leach pad.

Process operating costs for the project have been estimated from first principles. Labor costs are estimated using project specific staffing, salary, wage, and benefit requirements. Unit consumption of materials, supplies, power, water, and delivered supply costs are also estimated.

Operating costs are based upon ownership of all process production equipment and site facilities (some mobile equipment including the crushing area loader and the dozer for the heap leach will be supplied by the mining contractor), as well as the owner employing and paying for all operating, maintenance, and support personnel.

Operating costs have been estimated and are presented without contingency allowances and are considered to have an accuracy range of +/- 15% for the laboratory and recovery plant, and +/- 25% for all other areas.

Operating costs estimates have been based upon information obtained from the following sources:

- Project metallurgical test work and process engineering;
- Budgetary quotations from potential suppliers of project operating and maintenance supplies and materials;
- Recent KCA project file data; and
- Experience of KCA staff with other similar operations.

Where specific data does not exist, cost allowances have been based upon consumption and operating requirements from other similar properties for which reliable data exists. Freight costs have been estimated where delivered prices were not available.

All costs are presented in 4th quarter 2014 US dollars except diesel fuel, which has been updated for the 2nd quarter of 2106. These costs do not include Nevada sales tax.

Table 21.22 Shows the process and support services operating costs by area.

Table 21.22 Hasbrouck Mine Process & Support Operating Cost

		Year 1	Years 2 On		**Year 1**	**Years 2 On**	**Year 1**	**Years 2 On**
	Units	Qty	Qty	Unit Costs, US$	**Annual Costs, US$**	**Annual Costs, US$**	**US$ per Ton Ore**	**US$ per Ton Ore**
Labor								
Process	ea	54	54		**$3,912,952**	**$3,912,952**	**$0.62**	**$0.62**
Lab	ea	9	9		**$553,800**	**$553,800**	**$0.09**	**$0.09**
SUBTOTAL					**$4,466,752**	**$4,466,752**	**$0.71**	**$0.71**
Water Supply & Distribution								
Supply	gal/d	430,000	430,000					**$0.00**
Power	kWh/ton	0.323	0.32	$0.063	**$127,080**	**$127,080**	**$0.02**	**$0.02**
Maintenance Supplies	lot				**$58,590**	**$58,590**	**$0.01**	**$0.01**
SUBTOTAL					**$185,670**	**$185,670**	**$0.03**	**$0.03**
Crushing								
Power	kWh/ton	3.566	3.57	$0.063	**$1,403,924**	**$1,403,924**	**$0.22**	**$0.22**
Wear	$/ton Ore				**$2,444,346**	**$3,958,067**	**$0.39**	**$0.63**
Overhaul & Maintenance	lot				**$819,000**	**$819,000**	**$0.13**	**$0.13**
992 Loader (supplied by mine contractor)	hr/d							
SUBTOTAL					**$4,667,271**	**$6,180,992**	**$0.74**	**$0.98**
Conveying, Agglomeration & Stacking								
Power	kWh/ton	1.35	1.35	$0.063	**$532,204**	**$532,204**	**$0.08**	**$0.08**
Foam Dust Suppression					**$189,000**	**$189,000**	**$0.03**	**$0.03**
Maintenance Supplies	lot				**$415,800**	**$415,800**	**$0.07**	**$0.07**
SUBTOTAL					**$1,137,004**	**$1,137,004**	**$0.18**	**$0.18**
Heap-leach pad & Ponds								
Power	kWh/ton	0.37	0.37	$0.063	**$143,745**	**$143,745**	**$0.02**	**$0.02**
Piping	lot				**$252,000**	**$252,000**	**$0.04**	**$0.04**
Pad Gravel (haul and spread only)	ton	-	-	$2.00				
Maintenance Supplies	lot				**$126,000**	**$126,000**	**$0.02**	**$0.02**
Dozer	hr/d	6	6	$75.29	**$162,626**	**$162,626**	**$0.03**	**$0.03**
SUBTOTAL					**$684,372**	**$684,372**	**$0.11**	**$0.11**
Adsorption								
Power	kWh/ton	0.002	0.00	$0.063	**$685**	**$685**	**$0.00**	**$0.00**
Misc. Operating Supplies	lot				**$50,000**	**$50,000**	**$0.01**	**$0.01**
Maintenance Supplies	lot				**$50,000**	**$50,000**	**$0.01**	**$0.01**
SUBTOTAL					**$100,685**	**$100,685**	**$0.02**	**$0.02**
Desorption & Recovery								

Power	kWh/ton	0.178	0.18	$0.063	**$70,262**	**$70,262**	**$0.01**	**$0.01**
Misc. Operating Supplies	lot				**$200,000**	**$200,000**	**$0.03**	**$0.03**
Maintenance Supplies	lot				**$100,000**	**$100,000**	**$0.02**	**$0.02**
Sodium Hydroxide	lb/day	516.0	516.0	$0.47	**$87,307**	**$87,307**	**$0.01**	**$0.01**
Hydrochloric Acid @ 28-30%	gal/day	122	122	$2.10	**$92,232**	**$92,232**	**$0.01**	**$0.01**
Soda Ash	lb/day	13.7	13.7	$0.24	**$1,186**	**$1,186**	**$0.000**	**$0.000**
Borax	lb/day	36.4	36.4	$0.52	**$6,836**	**$6,836**	**$0.001**	**$0.001**
Silica	lb/day	22.8	22.8	$2.95	**$24,200**	**$24,200**	**$0.004**	**$0.004**
Niter	lb/day	18.2	18.2	$0.91	**$5,944**	**$5,944**	**$0.001**	**$0.001**
Safety Supplies	lot				**$50,000**	**$50,000**	**$0.01**	**$0.01**
Diesel Fuel	gal/day	366.9	366.9	$1.70	**$227,661**	**$227,661**	**$0.04**	**$0.04**
SUBTOTAL					**$865,628**	**$865,628**	**$0.14**	**$0.14**
Reagents								
Power	kWh/ton	0.004	0.00	$0.063	**$1,591**	**$1,591**	**$0.00**	**$0.00**
Cyanide (Ore Consumption)	lb/ton	0.75	0.75	$1.31	**$6,190,695**	**$6,190,695**	**$0.98**	**$0.98**
Carbon	lb/wk	1106	1106	$1.20	**$69,014**	**$69,014**	**$0.01**	**$0.01**
Cement	lb/ton	5	5	$0.08	**$2,362,500**	**$2,362,500**	**$0.38**	**$0.38**
Anti-Scalant	gal/day	65.0	65.0	$20.85	**$487,890**	**$487,890**	**$0.08**	**$0.08**
Safety Supplies	lot				**$50,000**	**$50,000**	**$0.01**	**$0.01**
Misc. Operating Supplies	lot				**$28,980**	**$28,980**	**$0.00**	**$0.00**
Maintenance Supplies	lot				**$31,500**	**$31,500**	**$0.01**	**$0.01**
SUBTOTAL					**$9,222,170**	**$9,222,170**	**$1.46**	**$1.46**
Laboratory (At Tonopah)								
Power	kWh/ton	0.157	0.16	$0.063	**$61,805**	**$61,805**	**$0.01**	**$0.01**
Assays, Solids	No./day	100	100	$7.00	**$252,000**	**$252,000**	**$0.04**	**$0.04**
Assays, Solutions	No./day	100	100	$1.00	**$36,000**	**$36,000**	**$0.01**	**$0.01**
Carbon Assay	No./day	5	5	$7.00	**$12,600**	**$12,600**	**$0.00**	**$0.00**
Consumables	Per Year				**$65,000**	**$65,000**	**$0.01**	**$0.01**
SUBTOTAL					**$427,405**	**$427,405**	**$0.07**	**$0.07**
Mobile Equipment / Support Services								
Power	kWh/ton	0.071	0.07	$0.063	**$28,055**	**$28,055**	**$0.004**	**$0.004**
Maintenance Supplies	lot				**$10,000**	**$10,000**	**$0.002**	**$0.002**
Fork lift	hr/d	12	12	$11.43	**$49,378**	**$49,378**	**$0.008**	**$0.008**
Telehandler	hr/d	4	4	$20.00	**$28,800**	**$28,800**	**$0.005**	**$0.005**
Maintenance Trucks	hr/d	16	16	$12.19	**$70,214**	**$70,214**	**$0.011**	**$0.011**
Crane (40-ton)	hr/month	12	12	$29.73	**$4,281**	**$4,281**	**$0.001**	**$0.001**
Boom Truck 10ton crane	hr/d	6	6	$23.20	**$50,112**	**$50,112**	**$0.008**	**$0.008**
Back Hoe	hr/d	8	8	$20.49	**$59,011**	**$59,011**	**$0.009**	**$0.009**
Pick Ups	hr/d	50	50	$18.56	**$334,080**	**$334,080**	**$0.053**	**$0.053**
SUBTOTAL					**$633,931**	**$633,931**	**$0.10**	**$0.10**
TOTAL COST					**$22,390,888**	**$23,904,609**	**$3.55**	**$3.79**

21.8.2.1 Hasbrouck Mine Process Personnel and Staffing

Staffing requirements for process and administration personnel have been estimated by KCA with input from WKM and review by H.C. Osborne & Associates and Paul Sterling. Wage, salary, and burden information for personnel was provided by WKM, based on input from current data from mines operating in the region. Staffing levels, wages, and wage burdens of several operating mines in the region have been reviewed by management and found to reasonably reflect current costs.

The work force will consist of approximately 54 persons in the plant areas and 9 persons in the laboratory. The staffing costs for the process plant are estimated at $3,913,000 and for the laboratory at $554,000.

21.8.2.2 Hasbrouck Mine Power

Power usage for the process and process-related infrastructure was derived from estimated connected loads assigned to powered equipment from the mechanical equipment list. Equipment power demands under normal operation were assigned and coupled with estimated on-stream times to determine the average energy usage and cost.

The total attached power for the process and infrastructure is estimated at 6.7 MW (including the laboratory at Tonopah), with an average draw of 4.2 MW. The total consumed power for these areas is estimated to be 6.0 kWh/ton of ore. Power costs at the Hasbrouck site are quoted by NV Energy at $0.0625/kWh. Emergency power will be provided by an on-site diesel or LNG generator.

Power requirements are presented in Table 21.23.

Table 21.23 Hasbrouck Mine Process Power and Consumption

Area / Description	Attached Power (kW)	Average Demand (kW)
Area 4301 - Water Distribution	491	270
Area 5004 - Primary Crushing	409	218
Area 5023 - Secondary & Tertiary Crushing	3,268	2,041
Area 5041 - Ore Reclaim & Stacking	1,246	845
Area 5150 - Heap-leach & Solution Handling	533	396
Area 5184 - Adsorption	5	4
Area 5184 - Acid Wash & Elution	31	24
Area 5186 - Electrowinning & Refining	215	160
Area 5184 - Carbon Handling & Regeneration	67	53
Area 6051 - Reagents	7	3
Area 1403 - Laboratory (At Tonopah)	234	113
Ancillaries	224	89
Total	**6,729**	**4,217**

21.8.2.3 Hasbrouck Mine Consumable Items

Operating supplies have been estimated based upon unit costs and consumption, where possible, and have been broken down by area. In the sections below the assumptions and unit costs associated with the development of the operating costs are presented. All freight costs have been included. Reagent consumptions are derived from test work and from the Design Criteria. Other costs were estimated from past KCA experience with similar operations. Table 21.24 shows the consumption of major consumables

Table 21.24 Process Consumable Items – Hasbrouck

Item	Form	Storage Capacity	Annual Consumption
Cement - Portland Type II	Bulk	100 tons	15,750 tons
Sodium Cyanide (30%)	30% Bulk Liquid Delivery	12.0 tons	2,400 tons
Activated Carbon	1,100 lb Super sack	22 tons	30 tons
Diesel	Bulk Delivery Truck	1,791 gal	134,000 gal
Antiscalant	Liquid Tote, 240 gal bins	8 totes (1,920 gal)	23,400 gal
Hydrochloric Acid (32%)	240 gal Liquid Tote bins	6 totes (1,440 gal)	44,000 gal
Sodium Hydroxide	50% Liquid Delivered	15.3 tons	93 tons
Silica	Dry Solid Sacks	1 ton	4.1 tons
Borax	Dry Solid Sacks	2 tons	6.6 tons
Soda Ash	Dry Solid Sacks	1 ton	2.5 tons
Niter	Dry Solid Sacks	1 ton	3.3 tons

Operating costs for these items have been distributed based on tonnage and gold production, or smelting batches, as appropriate.

Hasbrouck Mine Heap-Leach Consumables

Pipes, Fittings and Emitters – The heap pipe costs include expenses for broken pipe, fittings and valves, and abandoned tubing. The heap pipe costs are estimated to be $0.04/ton of ore, and are based on previous detailed studies conducted by KCA on similar projects.

Sodium Cyanide (NaCN) – Delivered sodium cyanide is quoted at $1.31/lb. Cyanide is consumed in the heap leach and ADR. Cyanide consumptions for the heap is 0.75lb/ton of ore.

Cement – Portland Type II cement is added to the heap at 5lb/ton for agglomeration and pH control based on metallurgical test work evaluations. A delivered price of $0.08/lb has been used based on supplier budgetary pricing.

Antiscale Agent (Scale Inhibitor) – Antiscale consumption is based on an average dosage rate of 6 ppm to the suctions of the barren and pregnant pumps. A delivered price of $20.85/gal has been used based on a supplier quote.

Hasbrouck Mine Process Consumables

The Hasbrouck Mine will utilize an ADR plant located at the mine site. All process consumables will be stored and consumed at Hasbrouck.

Carbon – Carbon is used for the adsorption of gold from the pregnant solution in the ADR and is estimated to be consumed at an average of 30 tons per year. Carbon is quoted at $1.20/lb.

Loaded carbon is transported to the Three Hills ADR plant for stripping and refining; stripped carbon is regenerated and transferred back to Hasbrouck. The estimated cost for carbon transport is $10 per haul.

Caustic Soda (NaOH) – Caustic NaOH consumption is estimated to be 93 tons per year and is quoted at $0.47/lb. Caustic consumption is calculated based on the number of strips per year and varies based on metal production.

Hydrochloric Acid - Hydrochloric acid consumption for the ADR circuit is estimated to be 44,000 gal/year. Hydrochloric acid for the carbon acid wash circuit is supplied at a cost of $2.10/gal. Hydrochloric acid consumption is based on 41 gal of acid per ton carbon stripped and varies based on metal production.

Smelting Fluxes - It has been estimated that 1.0 lb of mixed fluxes per lb of precious metal precipitate produced will be required. The estimated delivered cost of these fluxes, which includes borax, silica, niter, and soda ash, is $1.16/lb, which is based on data from similar previous KCA projects.

21.8.2.4 Hasbrouck Mine Laboratory

Fire assaying and solution assaying of samples will be conducted at the laboratory to be located in Tonopah. It is estimated that approximately 100 solids assays at $7/assay, 5 carbon assays at $7.00/assay, and 100 solutions assays at $1/assay, will be performed each day. The cost of an assay only includes supplies; the associated labor is included under Labor in the operating costs. These costs do not include the cost to rent the building.

21.8.2.5 Hasbrouck Mine Fuel

The primary fuel source for the project will be diesel fuel. Diesel will be used by the mobile equipment, as well as by the boiler and kiln at Three Hills, and the backup generator in the process area. Diesel is estimated at $1.70/gal.

Fuel costs for mobile equipment have been included in the hourly operating costs for these units.

21.8.2.6 Hasbrouck Mine Spare HPGR Parts

It is recommended that a spare set of rolls for the HPGR be kept on site. A spare set of rolls has been included in the capital costs.

21.8.2.7 Hasbrouck Mine Mobile Equipment

Numerous pieces of support equipment are required for the processing areas. The majority of the mobile equipment will be transferred to Hasbrouck from the Three Hills Mine and include light vehicles, a maintenance truck, forklifts, one 40-ton crane, a boom truck, a telehandler and a backhoe. The costs to operate and maintain each of these pieces of equipment have been estimated using primarily published information. Otherwise, allowances have been made based upon experience in similar operations.

Support equipment annual operating costs have been estimated to average $596,000 per year, or $0.09/ton of ore. Table 21.25 presents the Hasbrouck support equipment operating costs.

Table 21.25 Hasbrouck Mine Support Equipment Operating Costs

	Units	Qty	Unit Costs, USD	Costs, USD	USD per Tonne Ore
Fork lift	hr/d	12	$11.43	$49,378	$0.008
Telehandler	hr/d	4	$20.00	$28,800	$0.005
Maintenance Trucks	hr/d	16	$12.19	$70,214	$0.011
Crane (40 ton)	hr/month	12	$29.73	$4,281	$0.001
Boom Truck 10 ton crane	hr/d	6	$23.20	$50,112	$0.008
Back Hoe	hr/d	8	$20.49	$59,011	$0.009
Pick Up Trucks	hr/d	50	$18.56	$334,080	$0.053
TOTAL				**$595,876**	**$0.09**

21.8.2.8 Hasbrouck Mine Repair Materials

Overhaul and maintenance of equipment, along with miscellaneous operating supplies for each area, were based on a unit cost per ton of material processed. The unit cost for each area was developed from data obtained from other operations, as applicable.

Maintenance and repair costs are estimated to average $0.92 per ton or ore.

21.9 Other Operating Costs

Other operating costs are included as general and administration costs and presented in Table 21.26. These costs are based on administration personnel required to manage operations as well as supplies, land holding fees, legal and auditing costs, site communication and IT costs, environmental compliance, surety bond, fees, licensing, travel, light vehicle, site maintenance, janitorial services, and office power. Cost bases were provided by WKM and vendor quotations. WKM inputs were primarily for personnel requirements and salaries, legal and auditing charges, and surety bond costs. Environmental and communication costs were provided by potential contractors that would provide these services. Total general and administration costs are estimated to be about $2,265,000 per year (average of Year 1 through Year 7) once Hasbrouck mining has started.

Table 21.26 General and Administration Costs

Personnel Costs	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Total
Admin Salaried Personnel	K USD	$ 386	$ 469	$ 469	$ 469	$ 469	$ 469	$ 469	$ 469	$ 469	$ 251	$ 207	$ 35	$ 4,632
Admin Hourly Personnel	K USD	$ 130	$ 195	$ 195	$ 195	$ 195	$ 195	$ 195	$ 195	$ 168	$ 75	$ 65	$ 11	$ 1,816
Safety & Security Salaried Personnel	K USD	$ 67	$ 90	$ 90	$ 90	$ 90	$ 90	$ 90	$ 90	$ 90	$ 15	$ -	$ -	$ 800
Environmental Salaried Personnel	K USD	$ 83	$ 110	$ 110	$ 110	$ 110	$ 110	$ 110	$ 110	$ 110	$ 110	$ 110	$ 18	$ 1,205
Recruitment Costs	K USD	$ 40	$ 40	$ 20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100
Total Personnel Costs	K USD	$ 706	$ 905	$ 885	$ 865	$ 865	$ 865	$ 865	$ 865	$ 837	$ 451	$ 382	$ 64	$ 8,553
General G&A Costs														
Supplies & General Maintenance	K USD	$ 108	$ 144	$ 144	$ 144	$ 144	$ 144	$ 144	$ 144	$ 114	$ 72	$ 72	$ 12	$ 1,386
Land Holdings	K USD	$ 86	$ 115	$ 115	$ 115	$ 115	$ 115	$ 115	$ 115	$ 91	$ 58	$ 58	$ 10	$ 1,107
Off Site Overhead	K USD	$ 45	$ 60	$ 60	$ 32	$ 18	$ 18	$ 18	$ 18	$ 18	$ 18	$ 18	$ 3	$ 326
Legal, Audits, Consulting	K USD	$ 37	$ 49	$ 49	$ 49	$ 49	$ 49	$ 49	$ 49	$ 49	$ 49	$ 49	$ 8	$ 535
Computers, IT, Internet, Software, Hardware	K USD	$ 50	$ 66	$ 66	$ 66	$ 66	$ 66	$ 66	$ 66	$ 52	$ 33	$ 33	$ 6	$ 635
Environmental, Montoring Wells, Reporting	K USD	$ 150	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 200	$ 117	$ -	$ -	$ -	$ 1,667
Bond Surety Payments	K USD	$ 68	$ 68	$ 68	$ 68	$ 68	$ 68	$ 17	$ -	$ -	$ -	$ -	$ -	$ 427
Donations, Dues, PR	K USD	$ 23	$ 30	$ 30	$ 30	$ 30	$ 30	$ 30	$ 30	$ 18	$ -	$ -	$ -	$ 250
Fees, Licenses, Misc Taxes, Insurance	K USD	$ 180	$ 240	$ 240	$ 240	$ 240	$ 240	$ 240	$ 240	$ 190	$ 120	$ 120	$ 20	$ 2,310
Travel, Lodging, Meals	K USD	$ 41	$ 54	$ 54	$ 54	$ 54	$ 54	$ 54	$ 54	$ 32	$ -	$ -	$ -	$ 450
Telephones, Computers, Cell Phones	K USD	$ 59	$ 78	$ 78	$ 78	$ 78	$ 78	$ 78	$ 78	$ 46	$ -	$ -	$ -	$ 650
Light Vehicle Maintenance, Fuel	K USD	$ 81	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 108	$ 63	$ -	$ -	$ -	$ 900
Small Tools, Janitorial, Safety Supplies	K USD	$ 50	$ 66	$ 66	$ 66	$ 66	$ 66	$ 66	$ 66	$ 39	$ -	$ -	$ -	$ 550
Equipment Rentals	K USD	$ 45	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 35	$ -	$ -	$ -	$ 500
Access Road Maintenance	K USD	$ 36	$ 48	$ 48	$ 48	$ 48	$ 48	$ 48	$ 48	$ 38	$ 24	$ 24	$ 4	$ 462
Office Power	K USD	$ 39	$ 53	$ 53	$ 53	$ 49	$ 49	$ 49	$ 49	$ 39	$ 25	$ 25	$ 4	$ 485
Total General G&A Costs	K USD	$ 1,096	$ 1,439	$ 1,440	$ 1,411	$ 1,393	$ 1,393	$ 1,342	$ 1,325	$ 939	$ 398	$ 398	$ 66	$ 12,641
Total G&A	K USD	$ 1,803	$ 2,344	$ 2,324	$ 2,276	$ 2,258	$ 2,258	$ 2,207	$ 2,190	$ 1,776	$ 849	$ 780	$ 130	$ 21,194

Reclamation costs were estimated based on BLM RCE spreadsheets prepared by Enviroscientists, Inc. These costs were included in the cash-flow spreadsheets as a capital cost. Reclamation costs were estimated to be $3,419,000 and $5,519,000 for Three Hills and Hasbrouck respectively. Three Hills reclamation costs were applied to years 4 through 6 to reclaim waste dumps and leach pads after final leaching of ore. These costs are assumed to pay for the drain down of leach pads and ultimate reclamation. Note that the costs of administration and offices during the drain-down period are included in the G&A costs.

Reclamation costs for Hasbrouck were applied equally over the last 2 years of the mine life.

22.0 ECONOMIC ANALYSIS

MDA completed an economic analysis based on the cash flow developed from the production schedule and the capital and operating costs previously discussed. Table 22.1 summarizes project economics. These values are based on 100% of the project; WKM has a 75% interest in the project and has the right to make an offer on the remaining 25%.

Table 22.1 Hasbrouck Project Economic Summary

	Units	Three Hills Mine	Hasbrouck Mine	Total Hasbrouck Project
PROJECT STATISTICS				
HEADGRADE	oz Au/ton - g Au/t	0.018 - 0.62	0.017 - 0.57	0.017 - 0.58
Ore	million tons	10	36	45
Annual Ore	million tons	5	6	6
Processing Rate	tons per day	15,000	17,500	15,986
Stripping Ratio	waste:ore	0.9	1.1	1.1
Contained Metal				
Gold Grade	oz Au/ton - g Au/t	0.018 - 0.62	0.017 - 0.57	0.017 - 0.58
Silver Grade	oz Ag/ton - g Ag/t	NA	0.297 - 10.17	0.233 - 8.00
Gold Equivalent Grade (1)	oz AuEq/ton - g AuEq/t	0.018 - 0.62	0.017 - 0.59	0.017 - 0.59
Gold	kOz	175	588	762
Silver	kOz	NA	10,569	10,569
Gold Equivalent (1)	kOz	175	610	784
Recoverable Metal				
Gold Recovery	%	81.5%	74.0%	75.7%
Silver Recovery	%		11.0%	11.0%
Gold	kOz	142	435	577
Silver	kOz	NA	1,163	1,163
Gold Equivalent ($1,275/$18.21)	kOz	142	452	594
Average Annual Gold Production	kOz	69	71	71
Averge Annual Silver Production (2)	kOz	NA	194	194
Average Annual AuEq Production	kOz	69	74	74
Gold Price	US$/oz	$ 1,275	$ 1,275	$ 1,275
Silver Price	US$/oz	NA	$ 18.21	$ 18.21
CAPITAL				
Initial Capex	US$ million	$ 47		
Growth Capex	US$ million		$ 83	
Sustaining Capex	US$ million		$ 13	
LOM Capex	US$ million			$ 143
Contingency (included)	US$ million	$ 6	$ 15	$ 21
Contingency (included)	%	14%	19%	17%
OPERATING COST				
Adjusted Operating Cost per Ton of Ore (3)	US$/ton ore	$ 7.40	$ 8.71	$ 8.43
Mining	US$/ton ore	$ 3.18	$ 3.74	$ 3.62
Processing	US$/ton ore	$ 2.55	$ 3.93	$ 3.63
G&A	US$/ton ore	$ 0.44	$ 0.46	$ 0.46
Other (4)	US$/ton ore	$ 1.23	$ 0.58	$ 0.72
Adjusted Operating Cost (3)	US$/oz Au net of by-products	$ 502	$ 714	$ 661
All-in Sustaining Cost (5)	US$/oz Au net of by-products	$ 544	$ 774	$ 717
Mine Life	year	1.7	7.1	8.8
PROJECT ECONOMICS				
NPV (5%) - after tax	US$ million			$ 120.4
IRR - after tax	%			43%
Payback Period	year			3.1

Notes:
(1) Gold equivalent calculations are made using the ratio of recovered silver / gold and metal prices.
(2) Silver production is averaged over the Hasbrouck mine life only

(3) World Gold Council - Adjusted Operating Costs include:
On-site mining and G&A, royalties and production taxes, permitting and community cost related to current operations, 3rd party smelting, refining and transport costs, stock-piles and inventory write-downs, site-based non-cash remuneration, operational stripping costs and by-product credits.
(4) Other category includes royalties, production taxes, permitting, refining, and by-product credit
(5) World Gold Council All-in Sustaining Costs includes:
Adjusted Operating Costs (above) plus corporate G&A, reclamation & remediation—accretion & amortization, expenditures sustaining exploration and study costs, capital exploration, capitalized stripping and sustaining capital.
(6) Project economics are presented for 100% of the project which is jointly owned by WKM (75%) and Waterton Precious Metals Fund(25%).
(7) Some totals may not sum properly due to rounding.

22.1 Economic Parameters and Assumptions

The economic analysis has been based on economic parameters including metal prices, capital and operating costs, royalties, and application of depreciation, depletion and tax rates. The remaining assumptions come from the mining and processing production schedules. Capital and operating costs have been discussed previously in Section 21.0.

The economic analysis was based on a gold price of $1,275 per ounce and a silver price of $18.21 per ounce. These prices were selected according to the criteria described in Section 19.0.

22.1.1 Royalties

Royalties were based on a 4% net smelter return royalty as discussed in Section 4.3. The royalty has been applied by calculating the total recovered ounces of gold and silver, multiplied by the metal prices and payable percentage, and then subtracting transportation and refining costs.

22.1.2 Taxes

Taxes include both Nevada net proceeds tax and federal corporate taxes. Nevada requires payment of a tax on proceeds from minerals. This is typically referred to as the Nevada net proceeds tax or "NPT". This tax was established in 1989 in lieu of property taxes on mineral land. The Nevada constitution was amended to establish the tax on proceeds of all minerals, including oil and gas, at a rate not to exceed 5%.

For operations with annual gross proceeds over $4,000,000, the NPT tax rate is 5%. For operations with gross proceeds less than $4,000,000 annually, the NPT tax rate is dependent on the ratio of net proceeds to gross proceeds. The net proceeds were calculated by taking the total net revenue (after refining costs and royalties) and subtracting the operating costs. The gross proceeds were calculated by taking the gross revenues less the royalties paid (net revenue does not include cost of production).

The NPT tax applied to the net proceeds less than $4,000,000 is applied with an adjustable rate shown in Table 22.2. As per Nevada tax laws, the minimum NPT is based on the property tax rate for the county, which is 3.0195% for Esmerelda County.

Table 22.2 NPT Tax Rate Base on Net Proceeds to Gross Proceeds Ratio

Ratio of Net Proceeds to Gross Proceeds	Tax rate
Minimum *	3.0195%
Greater or equal to 26, less than 34	3.50%
Greater or equal to 34, less than 42	4.00%
Greater or equal to 42, less than 50	4.50%
50 or more	5.00%

For the Hasbrouck project, positive cash-flow years are projected to have net proceeds greater than $4,000,000, and even though equations in the cash-flow model are designed to capture lower tax rates, the net effect is that a 5% net proceeds tax has been applied throughout.

Federal income taxes were based on either a straight tax rate of 35% or an alternate minimum tax of 20%. The straight federal tax rate of 35% has been applied to a taxable income after adjustments for depreciation and depletion. Depreciation has been applied to the initial capital for both Three Hills and Hasbrouck mines over the life of both mines. Depreciation has been based on the ratio of ounces produced in each year to the total LOM recoverable ounces.

Depletion has been based on the larger amount of either: percent reserve depletion, or cost depletion. The percent reserve depletion has been assumed to be the minimum of 50% of the yearly depreciation (depletion limit) or 15% of the yearly gross revenue. Cost depletion has been based on the Hasbrouck project purchase price of $20 million, which has been depleted through the life of the mine based on the yearly depletion of recoverable equivalent ounces of gold.

The alternative minimum tax has been based on an alternate depreciation method: depreciating the initial capital for each mine over a straight 10 year period. This depreciation is used to calculate the taxable income for the alternate minimum income, with tax calculated at 20%. The final federal corporate tax has been assumed to be the greater amount of the "normal" federal corporate tax at 35% or the alternate minimum tax.

WKM has determined it is possible to make use of a tax credit of $4,741,000 based on previous year's losses. This credit is based on 35% of the past 5 years of losses totaling $13.5 million. The credit is applied to the first 3 years of production.

22.1.3 Project Physical Values

The pre-feasibility physical values included quantities of mined and processed material, along with produced metals that provide the basis for the cash-flow analysis. These values were derived from the mining and processing schedules previously discussed in the Mining Methods section. They were reformatted into the cash-flow sheet as shown in Table 22.3.

Table 22.3 Project Physicals

Material Mined		Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Total
Three Hills	Ore Mined	K Tons	540	5,450	3,664	-	-	-	-	-	-	-	-	-	9,653
		oz Au/ton	0.014	0.015	0.023	-	-	-	-	-	-	-	-	-	0.018
		K Ozs Au	8	84	83	-	-	-	-	-	-	-	-	-	175
	Waste	K Tons	966	4,735	2,630	-	-	-	-	-	-	-	-	-	8,331
	Total	K Tons	1,506	10,185	6,293	-	-	-	-	-	-	-	-	-	17,984
	Strip Ratio	W:O	1.79	0.87	0.72										0.86
Hasbrouck	Ore Mined	K Tons	-	-	905	6,045	6,388	6,388	6,388	6,405	3,099	-	-	-	35,617
		oz Au/ton	-	-	0.011	0.016	0.019	0.020	0.015	0.014	0.016	-	-	-	0.017
		K Ozs Au	-	-	10	98	120	126	98	87	49	-	-	-	588
		oz Ag/ton	-	-	0.099	0.293	0.304	0.338	0.324	0.252	0.299	-	-	-	0.297
		K Ozs Ag	-	-	89	1,770	1,944	2,156	2,071	1,611	927	-	-	-	10,569
	Waste	K Tons	-	-	2,740	10,053	3,687	3,798	7,959	9,403	1,962	-	-	-	39,602
	Total	K Tons	-	-	3,645	16,099	10,075	10,185	14,347	15,808	5,061	-	-	-	75,219
	Strip Ratio	W:O			3.03	1.66	0.58	0.59	1.25	1.47	0.63				1.11
Total Mining	Ore Mined	K Tons	540	5,450	4,568	6,045	6,388	6,388	6,388	6,405	3,099	-	-	-	45,270
		oz Au/ton	0.014	0.015	0.020	0.016	0.019	0.020	0.015	0.014	0.016	-	-	-	0.017
		K Ozs Au	8	84	93	98	120	126	98	87	49	-	-	-	762
		oz Ag/ton	-	-	0.020	0.293	0.304	0.338	0.324	0.252	0.299	-	-	-	0.233
		K Ozs Ag	-	-	89	1,770	1,944	2,156	2,071	1,611	927	-	-	-	10,569
	Waste	K Tons	966	4,735	5,370	10,053	3,687	3,798	7,959	9,403	1,962	-	-	-	47,933
	Total	K Tons	1,506	10,185	9,938	16,099	10,075	10,185	14,347	15,808	5,061	-	-	-	93,203
	Strip Ratio	W:O	1.79	0.87	1.18	1.66	0.58	0.59	1.25	1.47	0.63				1.06
Material Processed															
	Three Hills Leach														
	Material	K Tons	540	5,450	3,664	-	-	-	-	-	-	-	-	-	9,653
	Placed on	oz Au/ton	0.014	0.015	0.023	-	-	-	-	-	-	-	-	-	0.018
	Pad	K Ozs Au	8	84	83	-	-	-	-	-	-	-	-	-	175
	Recoverable	K Ozs Au	6	67	65	-	-	-	-	-	-	-	-	-	138
	Recovered	K Ozs Au	-	54	83	5	-	-	-	-	-	-	-	-	142
	Cumulative Recovery	%	0.0%	59.0%	78.6%	81.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Hasbrouck Leach														
	Material	K Tons	-	-	905	6,045	6,388	6,388	6,388	6,405	3,099	-	-	-	35,617
	Placed on	oz Au/ton	-	-	0.011	0.016	0.019	0.020	0.015	0.014	0.016	-	-	-	0.017
	Pad	K Ozs Au	-	-	10	98	120	126	98	87	49	-	-	-	588
		oz Ag/ton	-	-	0.099	0.293	0.304	0.338	0.324	0.252	0.299	-	-	-	0.297
		K Ozs Ag	-	-	89	1,770	1,944	2,156	2,071	1,611	927	-	-	-	10,569
	Recoverable Au	K Ozs Au	-	-	5	61	85	96	75	66	38	-	-	-	426
	Recovered Au	K Ozs Au	-	-	0	50	81	98	81	65	51	4	5	0	435
	Cumulative Au Recovery	%	0.0%	0.0%	3.0%	46.8%	57.7%	64.9%	68.6%	69.6%	72.5%	73.1%	74.0%	74.0%	
	Recoverable Ag	K Ozs Ag	-	-	10	195	214	237	228	177	102	-	-	-	1,163
	Recovered Ag	K Ozs Ag	-	-	0	155	215	234	243	191	125	-	-	-	1,163
	Cumulative Ag Recovery	%	0.0%	0.0%	0.1%	8.3%	9.7%	10.1%	10.5%	10.8%	11.0%	0.0%	0.0%	0.0%	
	Total Au Production	K Ozs Au	-	54	83	55	81	98	81	65	51	4	5	0	577
	Total Ag Production	K Ozs Ag	-	-	0	155	215	234	243	191	125	-	-	-	1,163
	Total AuEq Production	K Ozs AuEq	-	54	83	57	84	102	84	68	53	4	5	0	594

22.1.4 Other Economic Assumptions

MDA used multiple discount rates for calculating Net Present Value ("NPV"), including 5%, 8%, and 10%. The economic model was completed in Excel (version 14.0.7145.5000) using basic Excel functions and formulas to calculate the NPV and Internal Rate of Return ("IRR"). Sensitivity tables were developed using Excel data table analysis.

22.2 Preliminary Feasibility Cash Flow

The PFS cash flow is presented in Table 22.4 and is based on the economic parameters and assumptions previously discussed. The after-tax NPV at 5% discount rate is $120,384,000, with an after-tax IRR of 43%.

Table 22.4 Hasbrouck Project Cash Flow

Revenues	Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Total
Payable Metal - Au	K Ozs Au	-	54	83	55	81	98	81	65	51	4	5	0	577
Payable Metal - Ag	K Ozs Ag	-	-	0	154	214	233	242	190	124	-	-	-	1,157
Gold Revenue	K USD	$ -	$ 69,068	$106,230	$ 70,171	$102,966	$125,055	$102,925	$ 82,653	$ 65,022	$ 4,551	$ 6,400	$ 337	$735,377
Silver Revenue	K USD	$ -	$ -	$ 2	$ 2,808	$ 3,900	$ 4,237	$ 4,405	$ 3,460	$ 2,258	$ -	$ -	$ -	$ 21,070
Gross Revenue	K USD	$ -	$ 69,068	$106,232	$ 72,979	$106,866	$129,292	$107,329	$ 86,113	$ 67,280	$ 4,551	$ 6,400	$ 337	$756,447
Off-Site Costs														
Transp. & Refining - Au	K USD	$ -	$ 60	$ 92	$ 61	$ 89	$ 108	$ 89	$ 71	$ 56	$ 4	$ 6	$ 0	$ 635
Transp. & Refining - Ag	K USD	$ -	$ -	$ 0	$ 93	$ 129	$ 140	$ 146	$ 115	$ 75	$ -	$ -	$ -	$ 698
Total Off-Site Costs	K USD	$ -	$ 60	$ 92	$ 154	$ 218	$ 248	$ 235	$ 186	$ 131	$ 4	$ 6	$ 0	$ 1,333
Royalties	K USD	$ -	$ 2,760	$ 4,246	$ 2,913	$ 4,266	$ 5,162	$ 4,284	$ 3,437	$ 2,686	$ 182	$ 256	$ 13	$ 30,205
Net Revenue														
Net Revenue	K USD	$ -	$ 66,248	$101,894	$ 69,913	$102,382	$123,882	$102,811	$ 82,490	$ 64,463	$ 4,365	$ 6,139	$ 323	$724,910
Operating Costs														
Three Hills Mining Cost	K USD	$ -	$ 18,263	$ 12,407	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,670
Process Cost	K USD	$ -	$ 12,470	$ 10,059	$ 2,045	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,575
Hasbrouck Mining Cost	K USD	$ -	$ -	$ 5,898	$ 25,530	$ 19,369	$ 19,331	$ 24,427	$ 26,200	$ 10,186	$ -	$ -	$ -	$130,943
Process Cost	K USD	$ -	$ -	$ -	$ 5,313	$ 22,132	$ 24,111	$ 24,111	$ 24,111	$ 24,177	$ 15,021	$ 986	$ -	$139,963
Re-handle	K USD	$ -	$ -	$ 52	$ 357	$ 457	$ 459	$ 417	$ 398	$ 199	$ -	$ -	$ -	$ 2,340
Total Mining Cost	K USD	$ -	$ 18,263	$ 18,305	$ 25,530	$ 19,369	$ 19,331	$ 24,427	$ 26,200	$ 10,186	$ -	$ -	$ -	$161,613
Process Cost	K USD	$ -	$ 12,470	$ 10,059	$ 7,359	$ 22,132	$ 24,111	$ 24,111	$ 24,111	$ 24,177	$ 15,021	$ 986	$ -	$164,538
Re-handle	K USD	$ -	$ -	$ 52	$ 357	$ 457	$ 459	$ 417	$ 398	$ 199	$ -	$ -	$ -	$ 2,340
G&A Cost	K USD	$ -	$ 2,344	$ 2,395	$ 2,418	$ 2,400	$ 2,400	$ 2,349	$ 2,331	$ 1,918	$ 991	$ 922	$ 154	$ 20,621
Reclamation - Three Hills	K USD	$ -	$ -	$ -	$ -	$ 1,282	$ 1,709	$ 427	$ -	$ -	$ -	$ -	$ -	$ 3,419
Reclamation - Hasbrouck	K USD	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,337	$ 1,183	$ 5,519
Net / Gross Proceeds	%	0%	50%	70%	49%	55%	61%	50%	36%	43%	0%	69%	52%	51%
Nevada Net Proceeds Tax	K USD	$ -	$ 1,659	$ 3,554	$ 1,712	$ 2,837	$ 3,794	$ 2,554	$ 1,472	$ 1,399	$ -	$ 212	$ 8	$ 19,201
Net Operating Cost	K USD	$ -	$ 34,736	$ 34,365	$ 37,377	$ 48,477	$ 51,804	$ 54,286	$ 54,514	$ 37,879	$ 16,012	$ 6,456	$ 1,345	$377,251
Net Operating Cash Flow	K USD	$ -	$ 31,513	$ 67,529	$ 32,536	$ 53,905	$ 72,078	$ 48,525	$ 27,976	$ 26,584	$ (11,647)	$ (317)	$ (1,022)	$347,659
Capital Costs														
Mine Pre-Stripping	K USD	$ 5,813	$ -	$ 190	$ -	$ -	$ -	$ -	$ -	$ 127	$ -	$ -	$ -	$ 6,130
Mining Capital	K USD	$ 184	$ -	$ 77	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 261
Three Hills Process Capital	K USD	$ 15,690	$ 217	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,907
Hasbrouck Process Capital	K USD	$ -	$ 3,091	$ 45,052	$ -	$ 9,348	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 57,491
Other Capital	K USD	$ 14,544	$ 9,852	$ 18,673	$ (2,269)	$ 967	$ 336	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,102
Sub-Total	K USD	$ 36,230	$ 13,161	$ 63,991	$ (2,269)	$ 10,314	$ 336	$ -	$ -	$ 127	$ -	$ -	$ -	$121,891
Working Capital	K USD	$ 4,864	$ (4,864)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0
Contingency	K USD	$ 5,647	$ 906	$ 12,497	$ (340)	$ 2,342	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,103
Salvage	K USD	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital	K USD	$ 46,742	$ 9,203	$ 76,489	$ (2,610)	$ 12,656	$ 386	$ -	$ -	$ 127	$ -	$ -	$ -	$142,993
Pre-Tax Cash Flow	K USD	$(46,742)	$ 22,309	$ (8,960)	$ 35,145	$ 41,249	$ 71,692	$ 48,525	$ 27,976	$ 26,457	$ (11,647)	$ (317)	$ (1,022)	$204,666
Cumulative Pre-Tax Cash Flow	K USD	$(46,742)	$(24,432)	$(33,392)	$ 1,754	$ 43,002	$114,694	$163,219	$191,195	$217,652	$206,005	$205,688	$204,666	
Payback	Years	1.0	1.0	1.0	1.0	-	-	-	-	-	-	-	-	
Depreciation and Depletion (D&D)														
Recoverable Equiv. Au (Start of Yr)	Ozs AuEq	594	594	540	456	399	315	214	129	62	9	5	0	
Produced Equivalent Au Ozs	Ozs AuEq	-	54	83	57	84	102	84	68	53	4	5	0	
Depreciation Factor (LOM)	%	0.0%	9.1%	14.0%	9.6%	14.1%	17.1%	14.2%	11.4%	8.9%	0.6%	0.8%	0.0%	
Depreciation Factor (Yr 2 Capex)	%			15.5%	10.6%	15.5%	18.8%	15.6%	12.5%	9.8%	0.7%	0.9%	0.0%	
Global Depreciation Factor	%	0.0%	4.6%	14.7%	10.1%	14.8%	18.0%	14.9%	12.0%	9.3%	0.6%	0.9%	0.0%	
Depreciation of Original Capex	K USD	$ -	$ 5,108	$ 7,856	$ 5,398	$ 7,904	$ 9,562	$ 7,938	$ 6,369	$ 4,976	$ 337	$ 473	$ 25	$ 55,945
Depreciation of Capex (Hasbrouck)	K USD		$ -	$ 13,451	$ 9,242	$ 13,534	$ 16,374	$ 13,593	$ 10,906	$ 8,520	$ 576	$ 810	$ 43	$ 87,049
Total Depreciation	K USD	$ -	$ 5,108	$ 21,307	$ 14,640	$ 21,437	$ 25,936	$ 21,531	$ 17,275	$ 13,496	$ 913	$ 1,284	$ 68	$142,993
Taxable Income after Depreciation	K USD	$ -	$ 17,202	$ -	$ 20,506	$ 19,811	$ 45,756	$ 26,994	$ 10,701	$ 12,961	$ -	$ -	$ -	$153,932
Depletion Limit	K USD	$ -	$ 8,601	$ -	$ 10,253	$ 9,906	$ 22,878	$ 13,497	$ 5,351	$ 6,480	$ -	$ -	$ -	$ 76,966
% Reserve Depletion	K USD	$ -	$ 10,360	$ 15,935	$ 10,947	$ 16,030	$ 19,394	$ 16,099	$ 12,917	$ 10,092	$ 683	$ 960	$ 51	$113,467
Cost Depletion	K USD	$ -	$ 924	$ 2,986	$ 2,052	$ 3,005	$ 3,635	$ 3,018	$ 2,421	$ 1,892	$ 128	$ 180	$ 9	$ 20,251
Smaller of Limit vs % Depletion	K USD	$ -	$ 8,601	$ -	$ 10,253	$ 9,906	$ 19,394	$ 13,497	$ 5,351	$ 6,480	$ -	$ -	$ -	$ 73,482
Net Reserve Depletion	K USD	$ -	$ 8,601	$ 2,986	$ 10,253	$ 9,906	$ 19,394	$ 13,497	$ 5,351	$ 6,480	$ 128	$ 180	$ 9	$ 76,785
Taxable Income after D&D	K USD	$ -	$ 8,601	$ -	$ 10,253	$ 9,906	$ 26,362	$ 13,497	$ 5,351	$ 6,480	$ -	$ -	$ -	$ 80,450
Taxes														
'Normal' Federal Corporate Tax	K USD	$ -	$ 3,010	$ -	$ 3,588	$ 3,467	$ 9,227	$ 4,724	$ 1,873	$ 2,268	$ -	$ -	$ -	$ 28,157
AMT Depreciation (10-year)	K USD	$ -	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 4,674	$ 51,416
AMT Taxable Income	K USD	$ -	$ 9,034	$ 16,633	$ 20,219	$ 26,669	$ 47,624	$ 30,354	$ 17,951	$ 15,303	$ -	$ -	$ -	$183,786
Alternate Minimum Tax (AMT)	K USD	$ -	$ 1,807	$ 3,327	$ 4,044	$ 5,334	$ 9,525	$ 6,071	$ 3,590	$ 3,061	$ -	$ -	$ -	$ 36,757
US Federal Corporate Tax	K USD	$ -	$ 3,010	$ 3,327	$ 4,044	$ 5,334	$ 9,525	$ 6,071	$ 3,590	$ 3,061	$ -	$ -	$ -	$ 37,961
Capital Pool as a Tax Credit	K USD		$ 0	$ 3,327	$ 1,414	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,741
Net Taxes Paid	K USD	$ -	$ 3,010	$ -	$ 2,630	$ 5,334	$ 9,525	$ 6,071	$ 3,590	$ 3,061	$ -	$ -	$ -	$ 33,220
After-Tax Cash Flow	K USD	$(46,742)	$ 19,299	$ (8,960)	$ 32,516	$ 35,915	$ 62,167	$ 42,454	$ 24,386	$ 23,397	$ (11,647)	$ (317)	$ (1,022)	$171,446
Cumulative After-Tax Cash Flow	K USD	$(46,742)	$(27,442)	$(36,402)	$ (3,886)	$ 32,029	$ 94,196	$136,650	$161,036	$184,433	$172,785	$172,468	$171,446	
Payback	Years	1.0	1.0	1.0	1.0	0.1	-	-	-	-	-	-	-	
Pre-Tax Payback Period	Years	2.95	***(From start of production)***											
After-Tax Payback Period	Years	3.11	***(From start of production)***											
Pre-Tax Net Present Value	5%	$145,282												
	8%	$118,546												
	10%	$103,544												
Pre-Tax Internal Rate of Return	IRR	49%												
After-Tax Net Present Value	5%	$120,384												
	8%	$ 97,387												
	10%	$ 84,484												
After-Tax Internal Rate of Return	IRR	43.2%												

22.3 Comparison of 2016 PFS to 2015 PFS

Table 22.5 shows a comparison between the 2015 PFS and the current, 2016 PFS, and the factors that impacted the NPV (5%), IRR, initial capital, and LOM cash flows. The NPV in this study has increased by $45 million, primarily due to higher metal prices used in the study and assumptions for drain-down recovery of gold. The next largest differences are the reduction of mining costs due to lower fuel prices and savings on water costs due to sourcing water from water wells instead of from the town of Tonopah.

Table 22.5 Economic Comparisons – 2015 PFS vs 2016 PFS

Item	NPV (5%) (US $M)	IRR (%)	Initial Capital (US $M)	LOM Cash Flow (US $M)	Payback (years)
2015 Prefeasibility Study	**$75**	**25.6%**	**$54**	**$117**	**3.7**
Impact on After Tax					
Changes Made in 2016 PFS					
Diesel Cost Reduced	$7	2.3%	$0	$10	
Pre-Production Mining Cost Increased	$1	-0.6%	$5	$1	
Gold Plant Deferred (2 Years)	$1	2.3%	-$6	$0	
Refurbished Crushing & Conveying Plant	$3	1.6%	$0	$4	
Water Sourced from Wells	$7	7.1%	-$1	$3	
Gold Recovered During Drain Down Recognized	$10	1.7%	$0	$15	
Reclamation Bond Amounts Recalculated	$0	0.3%	-$2	$0	
Metal Price Increased ($1,275/$18.21 vs $1,225/$17.50)	$19	5.2%	$0	$24	
Other *	-$3	-2.4%	-$4	-$2	
Summed Changes Made in 2016 PFS	**$45**	**17.6%**	**-$8**	**$55**	
2016 Prefeasibility Study	**$120**	**43.2%**	**$47**	**$171**	**3.1**

** Other is due to consequential impacts on working capital, contingencies, and indirects due to changes above.*

22.4 Cash-Flow Sensitivity

Pre-tax and after-tax cash-flow ("CF") sensitivities to revenue were evaluated by varying the gold price from $1,000 to $1,500 per ounce in $50.00 increments, with one additional price of $1,275 per ounce (used as the final gold price in this study). The silver price was also modified in these sensitivities based on a constant gold to silver price ratio of $1,275:$18.21 (70:1 gold to silver price ratio). After-tax metal price sensitivities are shown in Table 22.6.

Operating and capital cost sensitivities were evaluated from +/- 30% of the values in 10% increments. Results from changes to operating costs are shown in Table 22.7 and results from changes to capital costs are shown in Table 22.8.

Sensitivities to changes in revenues, operating costs, and capital costs are shown as both pre-tax and after-tax in Figure 22.1and Figure 22.2, respectively.

Table 22.6 Metal Price Sensitivity

	After Tax Sensitivity - Metal Price (K USD)					
Au Price	**Undisc. CF**	**NPV 5%**	**NPV 8%**	**NPV 10%**	**IRR**	**Ag Price**
$ 1,000	$ 36,130	$ 16,779	$ 8,124	$ 3,313	12%	$ 14.29
$ 1,050	$ 61,589	$ 36,237	$ 24,870	$ 18,530	18%	$ 15.00
$ 1,100	$ 86,063	$ 54,971	$ 41,009	$ 33,204	24%	$ 15.71
$ 1,150	$ 110,847	$ 73,937	$ 57,345	$ 48,057	30%	$ 16.43
$ 1,200	$ 135,024	$ 92,477	$ 73,332	$ 62,603	35%	$ 17.14
$ 1,225	$ 147,164	$ 101,779	$ 81,350	$ 69,896	38%	$ 17.50
$ 1,250	$ 159,305	$ 111,082	$ 89,369	$ 77,190	41%	$ 17.86
$ 1,275	**$ 171,446**	**$ 120,384**	**$ 97,387**	**$ 84,484**	**43%**	**$ 18.21**
$ 1,300	$ 183,587	$ 129,687	$ 105,406	$ 91,778	46%	$ 18.57
$ 1,350	$ 207,174	$ 147,764	$ 120,992	$ 105,958	51%	$ 19.29
$ 1,400	$ 230,210	$ 165,393	$ 136,179	$ 119,768	56%	$ 20.00
$ 1,500	$ 275,060	$ 199,698	$ 165,723	$ 146,628	65%	$ 21.43

Table 22.7 Operating Cost Sensitivities

	After Tax Sensitivity - Operating Cost (K USD)				
% of Base	**Undisc. CF**	**NPV 5%**	**NPV 8%**	**NPV 10%**	**IRR**
70%	$ 264,363	$ 189,767	$ 156,379	$ 137,691	60%
80%	$ 235,331	$ 168,060	$ 137,908	$ 121,023	55%
90%	$ 204,464	$ 145,089	$ 118,416	$ 103,465	49%
100%	**$ 171,446**	**$ 120,384**	**$ 97,387**	**$ 84,484**	**43%**
110%	$ 137,691	$ 95,112	$ 75,870	$ 65,059	37%
120%	$ 103,575	$ 69,573	$ 54,128	$ 45,434	30%
130%	$ 68,990	$ 43,706	$ 32,120	$ 25,577	22%

Table 22.8 Capital Cost Sensitivities

	After Tax Sensitivity - Capital Cost (K USD)				
% of Base	**Undisc. CF**	**NPV 5%**	**NPV 8%**	**NPV 10%**	**IRR**
70%	211,719	156,414	131,212	116,960	75%
80%	198,992	144,945	120,406	106,563	62%
90%	185,519	132,900	109,102	95,711	52%
100%	**171,446**	**120,384**	**97,387**	**84,484**	**43%**
110%	156,851	107,479	85,344	72,962	36%
120%	142,256	94,574	73,301	61,441	30%
130%	127,569	81,599	61,199	49,867	25%

Figure 22.1 Pre-Tax Project Sensitivities

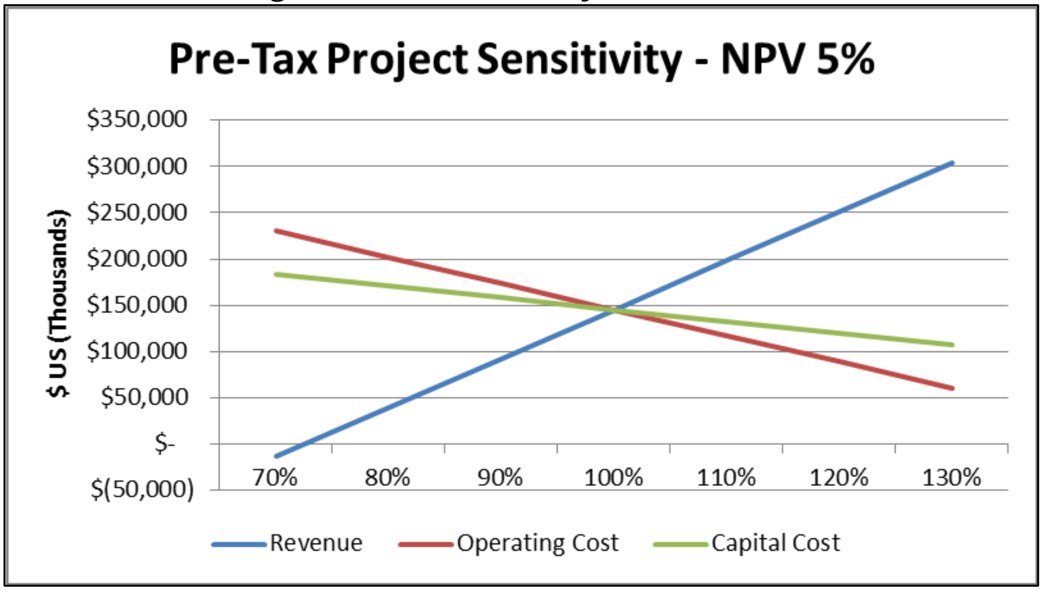
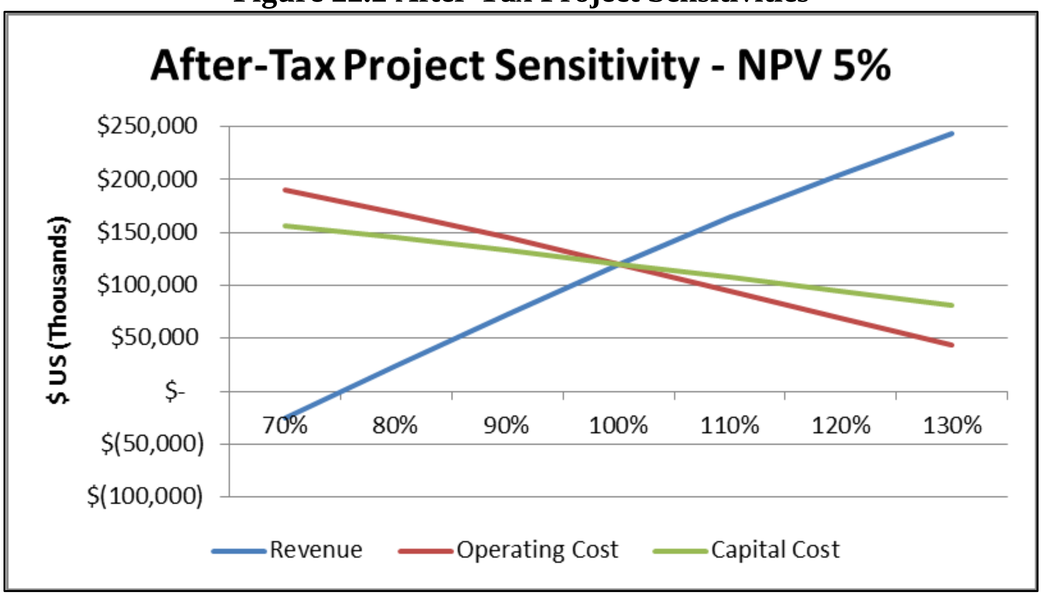


Figure 22.2 After-Tax Project Sensitivities



23.0 ADJACENT PROPERTIES

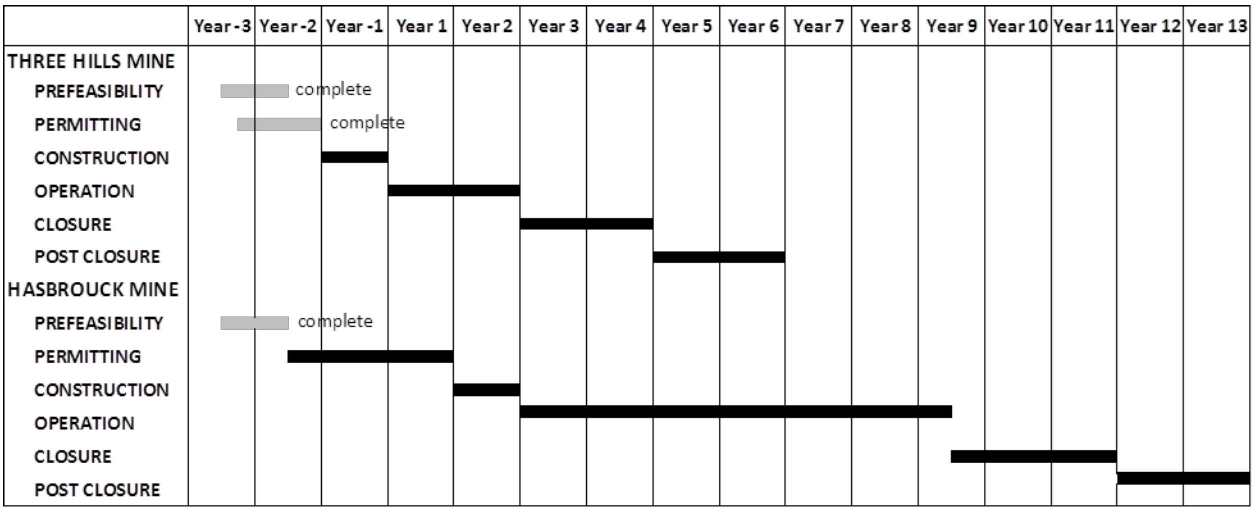
WKM's Hasbrouck Mine property is adjacent to third-party patented and unpatented mining claims in the Divide Mining District owned by the Tonopah Divide Mining Company. The most recent mining in the district took place in the early 1980's from the Falcon pit, on the northeast slope of Gold Mountain, approximately 1.3mi east of Hasbrouck Mountain. The pit was developed by Falcon Exploration on the northwest trending Tonopah Divide lode, from which underground mining prior to the 1940's produced mainly silver. In 1982 and 1983 material from the Falcon pit was trucked by Falcon Exploration to a cyanide heap-leach and recovery site in the valley 5mi southwest of Hasbrouck Peak. Falcon Exploration produced an estimated total of 400,000 oz of silver and 3,000 oz of gold (Bonham et al., 1987). No information is available to MDA on the gold and silver grades, or the quantities of metals recovered from the Falcon operation.

24.0 OTHER RELEVANT DATA AND INFORMATION

24.1 Project Execution

A project execution plan has been developed for the Hasbrouck project. This includes tasks for completing this pre-feasibility study, permitting, and a feasibility study prior to construction. The project execution plan is shown in Table 24.1.

Table 24.1 Pre-Feasibility Schedule for the Three Hills and Hasbrouck Mines



24.2 Three Hills Construction Schedule

NewFields and MDA produced a detailed construction schedule for the Three Hills Mine using inputs from WKM and other consultants. WKM requested this schedule to ensure that the various construction tasks and their interactions were understood, and the timing of the startup of operations was achievable.

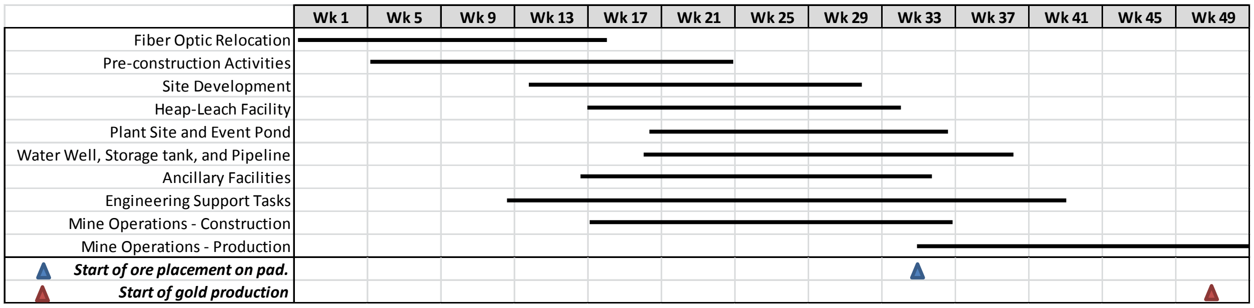
NewFields provided the main schedule of activities, which defined when certain material would be required for use as overliner, road wearing coarse and general fill materials. MDA used this information to adjust the mine designs and production schedule to ensure that the material was available for construction.

Figure 24.1 shows an approximation of the schedule graphically. Key scheduled tasks are:

- Fiber optic relocation;
- Pre-construction activities;
- Site development;
- Heap-leach facility construction;
- Plant site and event pond construction;
- Water well, storage tank, and pipeline installation;

- Ancillary facilities construction;
- Engineering support tasks; and
- Mine operations.

Figure 24.1 Three Hills Production Schedule



Realignment of the fiber optic cable is a critical-path item for the project; the work involved moving it will be done by AT&T. As such, this item has been given a heading of its own. The task has been assigned an 88-day duration. Realignment is to be completed before mining encroaches too closely to the existing fiber optic cable, which runs through the Three Hills project area (see Figure 18.1). For mining purposes, the initial pit used to obtain construction material has been designed so that the crest is offset by a minimum of 300ft from the existing fiber optic cable. This initial crest is approximately 100ft higher than the fiber optic cable, and the lowest bench is about 30ft above the cable providing a buffer against direct shock waves to the cable from blasting operations.

Pre-construction activities will commence upon WKM Board of Directors approval. These activities will include tasks such as establishing an office, generating contract documents, receiving bids for various activities, contract negotiations, and the mobilization of contractors.

Site development requires removal of vegetation and stockpiling of top soil removed from within the footprints of the various facilities. Mobilization and setup of a portable crushing and screening plant for the manufacturing of overliner and road wearing coarse materials will also occur under this task.

Heap-leach facility construction will involve regrading and fill placement, construction of a diversion channel, and installation of geomembrane, pipework, and overliner materials. Near completion of the leach pad, a request will be made to allow placement of ore onto the facility to enable quicker production of gold once the plant area is complete.

Plant site construction will include site grading and civil/concrete construction along with construction of carbon columns and associated utilities. This task includes procurement and setup of the LNG generator and installation of the barren and pregnant solution tanks within the event pond.

A well will be drilled and developed for the Three Hills Mine water supply and a pipeline installed to convey the water to a storage tank that will be erected on site concurrent with drilling the well.

Ancillary facilities include the construction and installation of the security office and associated infrastructure, project fencing, power to the well, lime silo, and the petroleum-contaminated soil containment area.

Engineering tasks will occur during construction to support the construction management and project execution. These tasks will include quality control testing and inspections, survey and preparation of the as-built documentation for the facilities.

Mine operations will start with mining waste rock required for construction of facilities. NewFields provided waste rock requirements, and MDA created a monthly schedule to meet the construction needs. The resulting monthly mining schedule is shown in Table 24.2.

Table 24.2 Monthly Three Hills Construction Mining Schedule

Construction Mining	Units	Total	Mth_-10	Mth_-9	Mth_-8	Mth_-7	Mth_-6	Mth_-5	Mth_-4	Mth_-3	Mth_-2	Mth_-1
Overliner - Brougher Rhyolite	K Tons	334	-	113	109	113						
Road Coarse - Brougher Rhyolite	K Tons	34		11	11	11						
Fill - Pond/Plant	K Tons	185					65	120				
Fill - HLF	K Tons	59					59					
Fill - Roads	K Tons	90							90			
Total	K Tons	702	-	124	120	124	124	120	90	-	-	-
Overliner - Brougher Rhyolite	K Cu Yrds (Placed)*	235		79	77	79						
Road Coarse - Brougher Rhyolite	K Cu Yrds (Placed)*	24		8	8	8						
Fill - Pond/Plant	K Cu Yrds (Placed)*	134					46	88				
Fill - HLF	K Cu Yrds (Placed)*	42					42					
Fill - Roads	K Cu Yrds (Placed)*	69							69			
Total	K Cu Yrds (Placed)*	504	-	87	84	87	88	88	69	-	-	-
Remaining to Dump	K Tons	47,231	-	-	-	-	-	-	-	-	220	44
Remaining to Dump	K Cu Yrds (Placed)**	35,280	-	-	-	-	-	-	-	-	168	34

**** Construction material placed assumed a 1.3 swell to represent placement and compaction***
***** Tonnage to dumps use a 1.4 swell reflecting loose material placed at the dump compcated by haul trucks***

24.3 Other Relevant Information

There is no other relevant information known to the authors that is not included in this report.

25.0 INTERPRETATION AND CONCLUSIONS

MDA considers the Hasbrouck project to be a project of merit and economically viable. The Three Hills and Hasbrouck gold-silver deposits consist of near-surface, epithermal mineralization of the low-sulfidation type hosted within Miocene-age volcaniclastic and tuffaceous rocks of the Siebert Formation, and the underlying, uppermost part of the Fraction Tuff. At the Three Hills deposit, the higher gold grades are associated with discontinuous, irregular veinlets, vein stockworks, and erratic breccia veins of chalcedony and quartz within a broad zone of pervasive silicification. At the Hasbrouck deposit, the highest gold grades are associated with narrow, generally near-vertical, discontinuous silica-pyrite veinlets, sheeted veinlets and stockworks, all closely associated with multiple, larger and coalesced, but erratic bodies of hydrothermal breccias. Stratigraphic control, whereby the porous volcaniclastic units are preferentially mineralized, is prevalent, but is especially evident in many of the moderate-grade zones along the peripheries of the deposit. The mineralization at the Hasbrouck deposit is accompanied by strong pervasive silicification, with associated adularia and pyrite. Subsequent to mineralization, oxidation has largely to completely destroyed the pyrite and other sulfide minerals at Hasbrouck and Three Hills, respectively.

The core of the Three Hills and Hasbrouck deposits are relatively well-defined and infill drilling is not expected to materially change the current resource model and estimate other than to increase the confidence level of the resource.

25.1 Data and Mineral Resources

The current mineral resources for the Three Hills deposit are based on a database consisting of 291 drill holes totaling 88,199ft of drilling. Some form of rotary percussion drilling was used for 273 of the drill holes, accounting for a large majority (82,787ft) of the drilling. Eighteen diamond core holes for 5,412ft are included in the Three Hills drilling database.

For the Hasbrouck deposit, the current mineral resources are estimated from a drilling database containing 317 drill holes, totaling 216,761ft. The large majority of the drilling has been by reverse circulation (252 holes for 179,174ft), along with 43 diamond core holes for 26,807ft and 22 air-track holes for 8,980ft.

MDA has evaluated and performed verification of the Three Hills and Hasbrouck databases, and considers the assay data to be adequate for the estimation of the current mineral resources.

25.2 Hasbrouck Mine Estimated Mineral Resources

The current Hasbrouck Mine block model estimate, fully diluted to 20ft by 20ft by 20ft blocks, is inclusive of reserves and includes the following Measured, Indicated, and Inferred Resources, at a cutoff grade of 0.006 gold equivalent ounces per ton, as shown in Table 25.1.

Table 25.1 Hasbrouck Mine Reported Mineral Resources (0.006oz AuEq/ton cutoff grade)

Class	Tons	oz Au/ton	oz Au	oz Ag/ton	oz Ag
Measured	8,261,000	0.017	143,000	0.357	2,949,000
Indicated	45,924,000	0.013	595,000	0.243	11,147,000
M+I	54,185,000	0.014	738,000	0.260	14,096,000
Inferred	11,772,000	0.009	104,000	0.191	2,249,000

Note: rounding may cause apparent inconsistencies

The AuEq cutoff grade was calculated using the individual gold and silver grades of each block, along with a gold price of $1,300.00 per ounce gold and a silver price of $22 per ounce silver.

The Hasbrouck Mine resource consists of a single, irregularly shaped deposit that extends for more than 2,800ft in an east-west direction and about 2,400ft north-south. The core of the deposit is relatively well-defined and infill drilling is not expected to materially change the current resource model and estimate. However, additional drilling along the periphery of the deposit has the potential to extend the resource to the east and west.

25.3 Three Hills Mine Estimated Mineral Resources

The current Three Hills Mine block model estimate, fully diluted to 20ft by 20ft by 20ft blocks, is inclusive of reserves and includes the following Indicated and Inferred Resources, at a cutoff grade of 0.005 gold equivalent ounces per ton, as shown in Table 25.2:

Table 25.2 Three Hills Mine Reported Mineral Resources (0.005oz Au/ton Cutoff)

Class	Tons	oz Au/ton	oz Au
Indicated	10,897,000	0.017	189,000
Inferred	2,568,000	0.013	32,000

Note: rounding may cause apparent inconsistencies

The cutoff grade of 0.005 oz Au/ton was chosen to capture mineralization potentially available to open-pit extraction and heap-leach processing. There are no resources classified as Measured due to the general lack of QA/QC data that could be used for verification purposes and to some uncertainties related to historical drill hole locations. Indicated Resources are limited to the north-south core of the deposit; Inferred Resources comprise the mineralization at depth along the east side of the deposit and the scattered mineralization to the northwest. There are no silver resources estimated at Three Hills.

At a cutoff grade of 0.005 oz Au/ton, Three Hills mineralization consists of a single, irregularly shaped deposit that extends for more than 2,700ft north-south and 1,000ft east-west. The deposit remains open at depth to the east and southeast, along the Siebert-Fraction contact.

25.4 Mineral Reserves

Metallurgical testing demonstrates that mineralized material at Three Hills is amenable to cyanidation for gold extraction. An average operational gold recovery of 79.0% is expected. Silver contents are low and have not been modelled; silver recovery for Three Hills has not been estimated.

Gold recovery at the Hasbrouck deposit varies with the stratigraphic position of the host rock. The average operational gold recovery from mineralization within the upper Siebert is expected to be 55.6%. A higher average gold recovery of 76.6% is expected for mineralization hosted by the lower Siebert. Silver recoveries from the upper and lower Siebert are expected to be the same, with an average of 11% recovery expected from both stratigraphic units.

Table 25.3 Three Hills and Hasbrouck Combined Proven and Probable Reserves

	K Tons	oz Au/ton	K Ozs Au	oz Ag/ton	K Ozs Ag
Proven	6,242	0.020	127	0.410	2,562
Probable	39,028	0.016	635	0.205	8,007
Proven & Probable	45,270	0.017	762	0.233	10,569

Three Hills cutoff used: 0.005 oz Au/ton
Three Hills cutoff used: Upper Seibert 0.008 oz Au/ton; Lower Seibert 0.007 oz Au/ton

MDA concludes that mineralization in the Three Hills and Hasbrouck deposits is amenable to extraction by open-pit mining. MDA has used Measured and Indicated resources to define mineral reserves for both the Three Hills and Hasbrouck mines, which together compose the Hasbrouck project (Table 25.3). Reserve definition was done by first identifying ultimate pit limits using economic parameters and pit optimization techniques. Pit designs were then created based on the pit optimizations, from which production schedules and cash-flow analysis were produced. These form the basis of the reserves statement and details of the calculation methods are presented in Section 15.2.

Because Three Hills ore will be processed using ROM leaching, there will be no crushing and stacking costs at Three Hills. Gold and silver recoveries were applied based on estimates provided by Herbert Osborne of H.C. Osborne and Associates, the Qualified Person responsible for Section 13.0. Table 15.2 shows the recoveries used for each deposit.

There are no stated silver resources for the Three Hills Mine; therefore silver was not used to generate value in Three Hills. However, for Hasbrouck the value from silver was calculated with constant silver to gold ratio based on $1,275/oz Au to $18.21/oz Ag prices.

Based on optimized pits, MDA developed phased pit designs to define the production schedules for both Three Hills and Hasbrouck, which were then used for cash-flow analysis for the pre-feasibility study. All Inferred material was considered to be waste. The final metal prices used for the Hasbrouck project cash flow was $1,275 per ounce Au and $18.21 per ounce Ag. MDA believes the final cash-flow model demonstrates that the deposits will have a positive cash flow and are reasonable with respect to statement of reserves for the Hasbrouck project.

25.5 Processing and Recovery Methods

The Hasbrouck project includes two separate facilities to be located 5 miles apart. The Three Hills Mine will be constructed and operated first, and will be a 15,000 ton per day, ROM operation, utilizing conventional, cyanide heap-leaching of ore stacked on a single-use pad. Gold will be leached with dilute cyanide solution and recovered from the solution using a carbon adsorption circuit. Loaded carbon will be processed by toll stripping or carbon ashing, if required, to produce doré bars.

The Hasbrouck Mine will be constructed after production commences at the Three Hills Mine and will be a 17,500 ton per day heap-leach operation utilizing conventional heap leaching of crushed ore stacked on a single use pad. Crushing will be performed in three stages: mined material will pass first through a primary jaw crusher, then two secondary cone crushers, and then through a HPGR unit. Agglomeration with cement will be required prior to stacking of ore on the heap. Gold and silver will be leached with a dilute cyanide solution and recovered using a carbon adsorption-desorption-recovery process to produce doré bars.

25.6 Capital and Operating Costs

Detailed capital and operating costs have been estimated based on vendor and contractor quotations for all significant cost items and MDA consider them appropriate for a pre-feasibility study. Total estimated capital costs are $143 million. Adjusted operating costs are estimated to be $8.43 per ton of ore or $661 per recovered ounce of gold (based on World Gold Council Non-GAPP Metrics). All-in sustaining cost is estimated to be $709 and all-in cost is $925 per recovered ounce of gold (based on World Gold Council Non-GAPP Metrics).

25.7 Economic Analysis and Sensitivity

The economic analysis is based on 100% of the project. WKM has a 75% interest in the project and has the right to make an offer on the remaining 25%. The economic analysis shows that the Hasbrouck project provides a 43% internal rate of return with a $120 million dollar net present value (5% discount rate). After completion of construction, the mine life is estimated to be 1.9 years for Three Hills and 6.1 years for Hasbrouck, for a total project mine life of 8.0 years, not including for construction or closure. The payback period is 3.1 years (not including the construction period).

25.8 Risks and Opportunities

MDA has identified a number of risks and opportunities that may affect the economics of the Hasbrouck project.

25.8.1 External Risks

- The project's economic viability is generally at risk from changes in external factors which would lead to increases in input costs (construction costs, operating costs), or a fall in the price of gold or silver which would reduce revenue.
- A decrease in gold or silver price would not only reduce revenue, but would also reduce the amount of economically minable ore as a decrease in metal prices would result in a higher cut-off grade Under the current gold price environment, the reserves are considered robust. Sensitivity to gold prices is given in Table 22.6.
- While no environmental and permitting risks are currently identified, and permits are in-hand for the Three Hills Mine, this is an area where risk to cost and schedule generally exist. Typical environmental and permitting risks include items being discovered on the project site such as sensitive or endangered botany, or cultural artifacts, which would have the effect of extending schedules, increasing permitting costs, and potentially making permitting impossible at the Hasbrouck Mine.

25.8.2 Internal, Project-Specific Risks

Internal risks specific to this project are identified here:

Decrease in Resources:

- Current drill spacing is adequate and there is a low risk of a decrease in resources due to additional drilling and subsequent re-modeling and re-estimations.

Construction Execution and Operational Risk

- The project economics may be at risk from internal factors such as poor construction or operational execution, with resultant cost and schedule over-runs, scope creep, and increased operating costs. This is mitigated by supplying management to oversee construction.

Metallurgical and Processing Efficiency Risks:

- Should the metallurgical efficiencies and reagent consumption rates assumed in this study not be generally achieved, the project would not achieve the economic performance predicted in this study.
- There is a risk that permeability in a full-scale heap leach at Three Hills Mine will be inadequate, based on testing done on a bulk sample by KCA in 2014. The particle size distribution of ROM ore will be coarser than that tested, and the risk of poor permeability at full-scale is deemed to be low. It is not possible to be certain about percolation through ROM ore as no compacted permeability test equipment exists capable of handling material of this particle size. The risk of low percolation rates can be mitigated by performing field permeability tests on ROM ore during the early phase of mining and making appropriate adjustments to methods of stacking and leaching. Thus, during initial leaching operations at Three Hills, percolation will be closely monitored to observe the

percolation rate, allowing early adjustments to be made as necessary. Early adjustments include installing intermediate drains in the heap at various elevations as the heap grows in height. While this would increase costs somewhat, it is a viable and proven technique which can be implemented simply and quickly should percolation decrease to unacceptable rates as stacking height increases.

- Predicted gold recovery from Three Hills ore is based on the results of a column-leach test on material that was somewhat finer than ROM ore is expected to be. The expected gold recovery predicted by the test could therefore be biased high. This risk is deemed to be low, given the flat Three Hills particle size/gold recovery curve.
- This study contemplates using certain pieces of mobile crushing and screening equipment at the Hasbrouck Mine that will tend to have a fall-off in availability and higher maintenance costs over time when compared to non-mobile equipment. Thus the availability factor in this study may have been overstated. This risk can be mitigated by increasing the robustness of foundations that mobile equipment will be mounted on to approximate those of non-mobile equipment.
- Increased gold recovery of 2.5% and 1.5% from drain down of heap-leach pads at the Three Hills and Hasbrouck mines, respectively, was included in this PFS. These values were derived from the gold recovery-time curves at each mine. Drain-down recovery is generally not included in economic studies, but additional recovery is realized in most leaching operations. There is a risk that the full drain-down recovery will not be realized in actual production.

Risk of Increased Operating Costs

- If the current off-site toll carbon processor cannot handle all the loaded carbon, then the operating costs will increase due to the higher cost of selling the loaded carbon to an ashing refiner.
- Fuel price used in this study for contract mining is $1.70 per gallon (note that fuel taxes are not applicable and have not been included) based on markets and quotations at the time of publication. If the cost of fuel rises, mining costs will be adversely affected.
- Geotechnical studies are preliminary at Hasbrouck Mine and additional drilling is recommended to raise the level of certainty for final pit slope angles. There is a risk that additional geotechnical studies might result in flatter pit slopes than used in this study, which would have an adverse impact on costs and reserves. This risk is considered minimal because a large portion of the mining is above the crest of the ultimate pit.
- Contract mining costs are based on first principle costs estimated by MDA and adjusted to include a contractor return on capital and profit. These costs have not been vetted by contractors. This risk needs to be mitigated by obtaining contractual costs through competitive bidding by qualified mining contractors.
- Finding and keeping the skilled employees required to operate the Hasbrouck project might prove challenging, given its rural location. Inadequate staffing would tend to increase operating costs by reducing operating efficiencies and increasing repair and maintenance costs. Recruiting costs might be higher than predicted.

25.8.3 Opportunities

The following opportunities have been identified.

Potential for Resource Expansion and Upgrade:

- Additional drilling along the periphery of the Hasbrouck and Three Hills deposits has the potential to extend the resources to the east and west at the Hasbrouck Mine, and to the east and southeast at the Three Hills Mine. Such expansion could improve the project economics by reducing waste, extending the LOM and increasing overall revenues.
- Additional drilling could also result in reclassification of resources from Inferred to Indicated, and from Indicated to Measured. Within the 2 pits there are 3.3 million tons of Inferred resources that are currently treated as waste. Any upgrade of Inferred material to Indicated or higher classification, could improve the project economics by increasing ore tonnage and reducing waste tonnage, extending the LOM and increasing overall revenues.

Potential Decrease in Mining Costs

- Engaging contractors more closely in the mine planning and design might result in identifying cost-reductions.
- Mining costs may be reduced by WKM deciding to operate the mine using their own equipment and employees, thus avoiding paying the contractor's profit. The increase in initial and sustaining capital for mining equipment might be mitigated by leasing equipment.
- Additional geotechnical studies might result in pit slopes being steepened, leading to a smaller amount of waste rock to be mined per ton of ore. Geotechnical information gained from mining operations at Three Hills may help geotechnical understanding of the Hasbrouck mine in common geotechnical domains, which may allow for further steepening of the Hasbrouck Mine pit slopes.

Potential to Increase Metallurgical Efficiency

- HPGR crushing and micro-fracturing performance might be understated in the laboratory due to the very short time that samples take to be crushed by the laboratory-scale HPGR, typically measured in seconds or, for larger samples, several minutes. Such short runs do not allow time to optimize HPGR settings. It is expected that under steady-state running at full-scale, fine tuning of crushing parameters, such as the amount of choke feeding, recirculation, roll rotation speed, and roll closing force, will result in greater efficiency in crushing and micro-fracturing which in turn will result in higher gold and silver recovery than indicated by laboratory scale tests.
- The HPGR model selected for this study was a first-pass choice. A larger machine would allow a greater amount of recirculation which would result in a finer product size and consequently a greater recovery of gold and silver.

- Bottle roll tests on HPGR crushed lower Siebert material may have understated gold recovery relative to gold recovery that could be expected from column leach tests, perhaps by an amount similar to the 6% increase demonstrated with upper Siebert ore. The 2% allowance made for this effect in this study might therefore be too low.
- Faster gold recovery from solution, and hence more efficient operation, might be achieved at the Hasbrouck Mine by increasing the number of carbon columns in the adsorption plant from 5 to 6.
- Additional metal recovery from both the Three Hills and Hasbrouck mines might occur beyond the leach cycle time assumed in this study.

Potential to Decrease Processing Construction Costs

- The overall design of the crushing and screening plant presented in this study is a first-pass design and was not reviewed by other equipment suppliers. The opportunity exists to optimize the crushing and screening plant general arrangement and individual components, with the help of other equipment suppliers' input. Areas that are especially targeted for review include the configuration of grizzlies at the primary crusher (both static and vibrating), and conveyor layouts to and from the secondary crushers.
- A pug mill was included in the Hasbrouck Mine process plant to address the concern that the HPGR might produce "cake" rather than granular particles, which might occur when there is sufficient clay-sized material and moisture in the HPGR feed. Caked material would tend to reduce agglomeration and access of solutions to the ore once place in the heap. Planning to pass all crushed ore through the pug mill, as has been assumed in this study, is conservative as in reality the pug mill will only be required under moist conditions when clay is present in the ore, which is a small percentage of the time; for the majority of the time ore can by-pass the pug mill, with mixing of cement and ore being achieved at the various conveyor transfer points. Reducing the operating time of the pug mill would reduce operating costs.
- The various construction and capital equipment costs used in this study are based on budget costs obtained from one source in each case. It is possible that lower costs might be achieved by competitive bidding.
- The earthworks component of civil construction might be performed in part, or all, by mining equipment. This could reduce construction costs as mining equipment tends to operate at lower unit costs than civil equipment. Additionally, using mining equipment might eliminate the need for mobilization and de-mobilization of construction equipment, which would offer further cost savings.

Potential to Decrease Processing Operating Costs

- Predicted consumption of cyanide at the Three Hills and Hasbrouck mines was based on data from column leach tests using 500 ppm NaCN concentrations. It is common in many heap leach operations to utilize a lower cyanide concentration than predicted by laboratory-scale testing. Typical field concentrations can be in the range of 125-250 ppm where the ore is relatively free of significant cyanide-consuming constituents. Actual consumption may be lower than has been assumed in this study; a lower cyanide concentration would lead to lower operating costs.

- It may be possible to reduce operating costs by optimizing crew rotations and hours.
- Mobile equipment has been included in the Hasbrouck crushing circuit design. A thorough review of the crushing system using stationary equipment could identify possible design changes that could result in lower operating costs.

26.0 RECOMMENDATIONS

MDA does not recommend any specific work or studies that would be required prior to construction of the Three Hills Mine. However, some additional studies may improve value, which include: additional drilling to convert Inferred material to a higher classification; detailed bids from mining contractors may reduce mining costs; additional geotechnical studies to steepen pit slopes; and compacted permeability tests during operations.

MDA makes the following recommendations for studies in advance of commencing construction and operation at the Hasbrouck Mine as shown in Table 26.1. The estimated costs of the recommendations total $750,000.

Table 26.1 Cost Estimate for Recommendations

Hasbrouck Mine Metallurgy Test Work	$ 390,000
Hasbrouck Mine Geotechnical Work	$ 360,000
Total Recommended Budget	**$ 750,000**

26.1 Resource Upgrade

Additional exploration drilling is not included in the immediate production recommendations. However, Three Hills will benefit from additional drilling to the east and northeast of the main deposit in the future, and there is potential for resource expansion along trend to the west and east at Hasbrouck.

Resources should be updated during operations if additional exploration drilling is completed. The cost of this type of work has not been included in the recommendations or cash-flow model.

26.2 Mining

Mining contractors should provide full proposals for costs based on a fuller understanding of the project in order that efficiencies may be identified. A study of a leased, owner-operated fleet should be completed to compare with contract mining costs to select the option that provides the maximum return on investment.

26.3 Pit Slope Confirmation and Steepening

Golder Associates recommended that further geotechnical studies be performed at the Hasbrouck Mine to raise confidence in predicted pit slopes to feasibility level for the deposit, and to potentially steepen currently assumed pit slopes. Three Hills Mine pit slopes were intentionally designed using flatter slopes than the Golder Associates recommendations. Golder Associates' recommended work does not include further drilling at the Three Hills Mine, but involves certain field work and a review of existing core, which could result in steeper slopes, should WKM decide to carry out the studies. At the Hasbrouck Mine, recommended work includes drilling four diamond drill holes and associated field work and engineering studies. The slope parameters used in this study are conservatively chosen due to the amount of available information.

26.4 Metallurgical Testing

Once mining has commenced at Three Hills Mine, to confirm the test performed by KCA (2015) on ROM ore, WKM will collect and send a blasted bulk sample to KCA for testing work using a 48 inch diameter column.

To determine the optimum settings of the HPGR, such as the amount of choke feeding, recirculation, roll rotation speed, and roll closing force, tests are recommended to be performed in which the effects of varying settings are measured. These tests will entail larger samples than have been used to date.

Bottle roll tests on HPGR crushed lower Siebert material may have understated gold recovery compared to gold recovery that could be expected from column leach tests, perhaps by an amount similar to the 6% increase demonstrated with upper Siebert ore. To evaluate this effect, column leach tests are recommended on the Lower Siebert ore that was used in in bottle roll tests.

Compacted permeability and column leach tests should be conducted on screened, 3-inch ROM ore during operations to confirm that adequate percolation will occur in a heap leach of the designed height. Close monitoring of the ROM heap is recommended if these permeability tests indicate inadequate percolation is likely.

26.5 Processing

The crushing circuit design should be reviewed. Using permanently installed equipment versus mobile equipment should be examined to maximize circuit availability.

26.6 Crushing and Screening Plant Optimization

The overall design of the crushing and screening plant presented in this study is a first-pass design and was not reviewed by equipment suppliers. The opportunity exists to optimize the crushing and screening plant general arrangement with the help of equipment suppliers' input, which may lead to lower capital and operating costs. Areas that are targeted for this analysis include the configuration of grizzlies at the primary crusher (both static and vibrating), and conveyor layouts to and from the secondary crushers.

26.7 HPGR Size

The HPGR model selected for this study was a first-pass choice. It is possible that a larger machine would allow greater recirculation, which would result in finer product size and hence greater gold and silver recovery. Further test work is recommended to select the optimum size HPGR.

HPGR machine specifications and operating costs should be confirmed by further testing, including abrasion and power-consumption studies.

26.8 Hasbrouck Pug Mill

Tests are recommended to determine the probability of "cake" being produced by the HPGR under various conditions of clay content and moisture, and hence confirm or otherwise eliminate the need for a pug mill.

26.9 Hasbrouck Mine Adsorption Plant

Analysis is recommended to select the optimum numbers, size, and configuration of carbon columns in the Hasbrouck Mine adsorption plant.

26.10 Used Equipment

The purchase or securing in similar manner of used equipment is recommended, allowing the cost of such equipment to be used in future studies of the project.

26.11 Civil Construction Using Mining Equipment

Mining contractors should be approached for budget prices for the earthworks component of civil construction to establish if cost savings might be made in this way.

26.12 Water Supply

Securing the necessary water rights for the project will be required. This may involve purchasing or leasing from the owner of an existing water right if the Nevada state engineer does not authorize an allocation. This can be done upon completion or concurrent with drilling of the raw water wells.

26.13 Environmental

Permitting should continue for the Hasbrouck Mines, with the target of obtaining key construction and operating permits as needed to maintain the project schedule.

26.14 Land Ownership

Land ownership and/or the rights to install infrastructure on non-owned land are recommended to be secured where these are necessary for the project.

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28.0 DATE AND SIGNATURE PAGE

Effective Date of report: September 1, 2016

Completion Date of report: September 14, 2016

"***Paul Tietz***" Date Signed: September 14, 2016
Paul Tietz, C.P.G.

"***Thomas L. Dyer***" Date Signed: September 14, 2016
Thomas L. Dyer, P.E.

"***Herbert C. Osborne***" Date Signed: September 14, 2016
Herbert C. Osborne

"***Ryan T. Baker***" Date Signed: September 14, 2016
Ryan T. Baker

"***Carl E. Defilippi***" Date Signed: September 14, 2016
Carl E. Defilippi

Table 28.1 List of Responsibilities of Qualified Persons

Technical Report Section	Company	Responsible Qualified Persons
1 Executive Summary	MDA, KCA, NewFields, HCOA	Sign-off by Section
2 Introduction	MDA	Paul Tietz
3 Reliance on Other Experts	MDA	Paul Tietz
4 Property Description and Location	MDA	Paul Tietz
5 Accessibility, Physiography, Climate Local Resources and Infrastructure	MDA	Paul Tietz
6 History	MDA	Paul Tietz
7 Geologic Setting and Mineralization	MDA	Paul Tietz
8 Deposit Types	MDA	Paul Tietz
9 Exploration	MDA	Paul Tietz
10 Drilling	MDA	Paul Tietz
11 Sample Preparation, Analyses, and Security	MDA	Paul Tietz
12 Data Verification	MDA	Paul Tietz
13 Metallurgical Testing and Mineral Processing	HCOA	Herbert Osborne
14 Mineral Resources	MDA	Paul Tietz
15 Mineral Reserve Estimates	MDA	Thomas Dyer
16 Mining Methods	MDA	Thomas Dyer
17 Recovery Methods	KCA, NewFields	Carl Defilippi, Ryan Baker
18 Project Infrastructure	NewFields, MDA, KCA	Ryan Baker, Carl Defilippi, Thomas Dyer
19 Market Studies and Contracts	MDA	Thomas Dyer
20 Environmental Studies, Permitting, and Social or Community Impact	MDA	Paul Tietz, Thomas Dyer
21 Capital and Operating Costs	MDA	Thomas Dyer, Carl Defilippi, Ryan Baker
22 Economic Analysis	MDA	Thomas Dyer
23 Adjacent Properties	MDA	Paul Tietz
24 Other Relevant Data and Information	MDA	Thomas Dyer
25 Interpretations and Conclusions	MDA, KCA, NewFields, HCOA	Sign-off by Section
26 Recommendations	MDA, KCA, NewFields, HCOA	Sign-off by Section
27 References	MDA	Paul Tietz

Note: HCOA = Herb Osborne and Associates

29.0 CERTIFICATE OF QUALIFIED PERSON

PAUL TIETZ, C.P.G.

I, Paul Tietz, C.P.G., do hereby certify that:

1. I am currently employed as Senior Geologist for Mine Development Associates, Inc. located at 210 South Rock Blvd., Reno, Nevada 89502 and

2. I graduated with a Bachelor of Science degree in Biology/Geology from the University of Rochester in 1977, a Master of Science degree in Geology from the University of North Carolina, Chapel Hill in 1981, and a Master of Science degree in Geological Engineering from the University of Nevada, Reno in 2004.

3. I am a Certified Professional Geologist (#11004) with the American Institute of Professional Geologists and have worked as a geologist in the mining industry for more than 30 years.

4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101"). I have previously explored, drilled, evaluated and modelled similar gold deposits in volcanic rocks in Nevada and elsewhere. I certify that by reason of my education, affiliation with certified professional associations, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I am one of the authors of the technical report titled *"Technical Report and Updated Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* prepared for West Kirkland Mining Inc., dated effective September 1, 2016. Subject to those issues discussed in Section 3.0, I am responsible for Sections 2 through 12, 14, 23, and 27, and take co-responsibility for Sections 1, 20, 25, and 26 of the Technical Report. I visited the Hasbrouck project site on July 25, 2014, after inspections in June, 2014 of project drill core stored at Allied's Hycroft Mine near Gerlach, Nevada, and at Kappes Cassiday and Associates in Reno, Nevada.

6. I have had prior involvement with the Hasbrouck project that is subject to this Report. I was one of the authors of the technical report titled *"Technical Report and Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective June 19, 2015.

7. To the best of my knowledge, information and belief, the technical report contains the necessary scientific and technical information to make the technical report not misleading.

8. I am independent of West Kirkland Mining Inc. and related companies applying all of the tests in Section 1.5 of National Instrument 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.

9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with the requirements of that instrument and

form. Dated this September 14, 2016.

"Paul Tietz"
Signature of Qualified Person

Paul Tietz
Print Name of Qualified Person

CERTIFICATE OF QUALIFIED PERSON

THOMAS L. DYER, P.E.

I, Thomas Dyer, P. E., do hereby certify that I am currently employed as Senior Engineer by Mine Development Associates, Inc., 210 South Rock Blvd., Reno, Nevada 89502 and:

1. I graduated with a Bachelors of Science degree in Mine Engineering from South Dakota School of Mines & Technology in 1996. I have worked as a Mining Engineer for 19 years since graduation. During my Engineering career I have held various positions of increasing responsibility at operating mines performing life of mine planning and cost estimates. During the last 8 years I have been engaged in consulting on various lead, zinc, gold, silver, copper, and limestone deposits both for underground and open pit operations. This consulting work has primarily consisted of providing production schedules, mine cost estimates, and cash-flow analysis.

2. I am registered as a Professional Engineer – Mining in the State of Nevada (# 15729). I am also a Registered Member of SME (# 4029995RM) in good standing.

3. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

4. I am one of the authors of the Technical Report titled *"Technical Report and Updated Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective September 1, 2016 (the "Technical Report"). I am responsible for the preparation of the sections 15, 16, 19, 22, and 24, and portions of sections 1, 18, 20, 21, 25, and 26, subject to those issues discussed in Section 3.0. I have visited the property on May 1, 2014 to review current infrastructure and scope out future infrastructure and road requirements.

5. I have had prior involvement with the Hasbrouck project that is subject to this Report. I was one of the authors of the technical report titled *"Technical Report and Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective June 19, 2015.

6. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

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

Dated this September 14, 2016

"Thomas L. Dyer"
Signature of Qualified Person

Thomas L. Dyer
Print Name of Qualified Person

CERTIFICATE OF QUALIFIED PERSON

HERBERT C. OSBORNE

I, Herbert C. Osborne, do hereby certify that I am currently employed as a Metallurgical Engineer by H.C. Osborne and Associates, with a business address of 12885 Lanewood Street, Commerce City, Colorado 80022 and:

1. I am a graduate of Colorado School of Mines with a degree in Metallurgical Engineering (1961). I am a Registered Member of the Society for Mining, Metallurgy, and Exploration (SME, 2430050RM). My relevant experience includes more than 20 heap leach designs and operations since 1978.
2. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
3. I am responsible for preparing Section 13, and I am co-responsible for portions of Section 1, 25 and 26 of the report titled *"Technical Report and Updated Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective September 1, 2016. I have not visited the site for this report, but I am familiar with the district from previous projects.
4. I have had prior involvement with the Hasbrouck project that is subject to this Report. I was one of the authors of the technical report titled *"Technical Report and Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective June 19, 2015.
5. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
6. I am independent of West Kirkland Mining Inc. and related companies applying all of the tests in Section 1.5 of National Instrument 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.
7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with the requirements of that instrument and form.

Dated this September 14, 2016.

"Herbert C. Osborne"
Signature of Qualified Person

Herbert C. Osborne
Print Name of Qualified Person

CERTIFICATE OF QUALIFIED PERSON

RYAN T. BAKER

I, Ryan T. Baker, do hereby certify that I am currently employed as Principal Engineer by NewFields Mining Design & Technical Services, LLC, with a business address of 9400 Station Street, Suite 300, Lone Tree, CO 80124 and:

1. I am a graduate of Colorado State University with a Bachelor of Science degree in Civil Engineering (1993). I am a registered Professional Engineer in Nevada (#13947), Alaska (#11172), Idaho (#10226), Colorado (#36988), Missouri (PE2008000049), and New Mexico (#22110). I am a Registered Member of the Society for Mining, Metallurgy, and Exploration (SME, #4204584) and the American Society of Civil Engineers (ASCE, #307827). My relevant experience includes heap leach and tailings storage facility and mine surface infrastructure design and inspection since 1994.
2. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
3. I am responsible for preparing portions of portions of Sections 17, 18, and 21 of the report titled *"Technical Report and Updated Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective September 1, 2016 and I am co-responsible for portions of Section 1. I visited the Hasbrouck Mine and Three Hills Mine sites on May 1, 2014.
4. I have had prior involvement with the Hasbrouck project that is subject to this Report. I was one of the authors of the technical report titled *"Technical Report and Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective June 19, 2015.
5. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
6. I am independent of West Kirkland Mining Inc. and related companies applying all of the tests in Section 1.5 of National Instrument 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.
7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with the requirements of that instrument and form.

Dated this September 14, 2016.

"Ryan T, Baker"
Signature of Qualified Person

Ryan T, Baker
Print Name of Qualified Person

CERTIFICATE OF QUALIFIED PERSON

CARL E. DEFILIPPI

I, Carl E. Defilippi, M.Sc., C.E.M., do hereby certify that I am currently employed as Senior Engineer for Kappes, Cassiday & Associates located at 7950 Security Circle, Reno, Nevada 89506 and:

1. I graduated with a Bachelor of Science degree in Chemical Engineering from the University of Nevada in 1978 and a Master of Science degree in Metallurgical Engineering from the University of Nevada in 1981;

2. I am a Registered Member of the Society for Mining, Metallurgy and Exploration (775870 RM) and I have worked as a Metallurgical Engineer for 36 years;

3. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4. I am independent of West Kirkland Mining Ltd. and related companies applying all of the tests in section 1.5 of National Instrument 43-101. I participated in a scoping study on Hasbrouck for Allied Nevada in 2011.

5. I am one of the authors of the Technical Report entitled *"Technical Report and Updated Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"*, prepared for West Kirkland Mining Inc., dated effective September 1, 2016. I am responsible for Section 17 (except 17.1.6.2 and 17.2.9), Sections 18.1.10.1, 18.1.10.2, 18.2.2, 18.2.3, and applicable sections of 1, 21, 25, 26 and 27 of the Technical Report. I visited the Three Hills and Hasbrouck Project sites on May 1, 2014;

6. I have had prior involvement with the Hasbrouck project that is subject to this Report. I was one of the authors of the technical report titled *"Technical Report and Preliminary Feasibility Study: Hasbrouck and Three Hills Gold-Silver Project, Esmeralda County, Nevada"* dated effective June 19, 2015.

7. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the part of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading;

8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with the requirements that Instrument and Form.

Dated this September 14, 2016.

"Carl Defillipi"
Signature of Qualified Person

Carl Defillipi
Print Name of Qualified Person

APPENDIX A
List of Claims for the Hasbrouck Project

Location: All claims are located in Esmeralda County and Nye County, Nevada

Hasbrouck Unpatented Claims

AREA	Claim Name	Claim Owner	Location Date	BLM Serial No.	Filing County
Hasbrouck	HSB 1	WK Mining (USA)	3/14/2011	NMC1043485	Esmeralda
Hasbrouck	HSB 2	WK Mining (USA)	3/14/2011	NMC1043486	Esmeralda
Hasbrouck	HSB 3	WK Mining (USA)	3/14/2011	NMC1043487	Esmeralda
Hasbrouck	HSB 4	WK Mining (USA)	3/14/2011	NMC1043488	Esmeralda
Hasbrouck	HSB 5	WK Mining (USA)	3/14/2011	NMC1043489	Esmeralda
Hasbrouck	HSB 6	WK Mining (USA)	3/14/2011	NMC1043490	Esmeralda
Hasbrouck	HSB 7	WK Mining (USA)	3/14/2011	NMC1043491	Esmeralda
Hasbrouck	HSB 8	WK Mining (USA)	3/14/2011	NMC1043492	Esmeralda
Hasbrouck	HSB 9	WK Mining (USA)	3/14/2011	NMC1043493	Esmeralda
Hasbrouck	HSB 10	WK Mining (USA)	3/14/2011	NMC1043494	Esmeralda
Hasbrouck	HSB 11	WK Mining (USA)	3/14/2011	NMC1043495	Esmeralda
Hasbrouck	HSB 12	WK Mining (USA)	3/14/2011	NMC1043496	Esmeralda
Hasbrouck	HSB 13	WK Mining (USA)	3/14/2011	NMC1043497	Esmeralda
Hasbrouck	HSB 14	WK Mining (USA)	3/14/2011	NMC1043498	Esmeralda
Hasbrouck	HSB 15	WK Mining (USA)	3/14/2011	NMC1043499	Esmeralda
Hasbrouck	HSB 16	WK Mining (USA)	3/13/2011	NMC1043500	Esmeralda
Hasbrouck	HSB 17	WK Mining (USA)	3/13/2011	NMC1043501	Esmeralda
Hasbrouck	HSB 18	WK Mining (USA)	3/13/2011	NMC1043502	Esmeralda
Hasbrouck	HSB 19	WK Mining (USA)	3/13/2011	NMC1043503	Esmeralda
Hasbrouck	HSB 20	WK Mining (USA)	3/13/2011	NMC1043504	Esmeralda
Hasbrouck	HSB 21	WK Mining (USA)	3/13/2011	NMC1043505	Esmeralda
Hasbrouck	HSB 22	WK Mining (USA)	3/13/2011	NMC1043506	Esmeralda
Hasbrouck	HSB 23	WK Mining (USA)	3/13/2011	NMC1043507	Esmeralda
Hasbrouck	HSB 24	WK Mining (USA)	3/13/2011	NMC1043508	Esmeralda
Hasbrouck	HSB 25	WK Mining (USA)	3/13/2011	NMC1043509	Esmeralda
Hasbrouck	HSB 26	WK Mining (USA)	3/13/2011	NMC1043510	Esmeralda
Hasbrouck	HSB 27	WK Mining (USA)	3/13/2011	NMC1043511	Esmeralda
Hasbrouck	HSB 28	WK Mining (USA)	3/13/2011	NMC1043512	Esmeralda
Hasbrouck	HSB 29	WK Mining (USA)	3/13/2011	NMC1043513	Esmeralda
Hasbrouck	HSB 30	WK Mining (USA)	3/13/2011	NMC1043514	Esmeralda
Hasbrouck	HSB 31	WK Mining (USA)	3/13/2011	NMC1043515	Esmeralda
Hasbrouck	HSB 32	WK Mining (USA)	3/13/2011	NMC1043516	Esmeralda
Hasbrouck	HSB 33	WK Mining (USA)	3/13/2011	NMC1043517	Esmeralda
Hasbrouck	HSB 34	WK Mining (USA)	3/13/2011	NMC1043518	Esmeralda
Hasbrouck	HSB 35	WK Mining (USA)	3/13/2011	NMC1043519	Esmeralda
Hasbrouck	HSB 36	WK Mining (USA)	3/13/2011	NMC1043520	Esmeralda
Hasbrouck	HSB 37	WK Mining (USA)	3/13/2011	NMC1043521	Esmeralda
Hasbrouck	HSB 38	WK Mining (USA)	3/13/2011	NMC1043522	Esmeralda
Hasbrouck	HSB 39	WK Mining (USA)	3/13/2011	NMC1043523	Esmeralda
Hasbrouck	HSB 40	WK Mining (USA)	3/13/2011	NMC1043524	Esmeralda
Hasbrouck	HSB 41	WK Mining (USA)	3/13/2011	NMC1043525	Esmeralda
Hasbrouck	HSB 42	WK Mining (USA)	3/13/2011	NMC1043526	Esmeralda

AREA	Claim Name	Claim Owner	Location Date	BLM Serial No.	Filing County
Hasbrouck	HSB 43	WK Mining (USA)	3/13/2011	NMC1043527	Esmeralda
Hasbrouck	HSB 44	WK Mining (USA)	3/13/2011	NMC1043528	Esmeralda
Hasbrouck	HSB 45	WK Mining (USA)	3/13/2011	NMC1043529	Esmeralda
Hasbrouck	HSB 46	WK Mining (USA)	3/13/2011	NMC1043530	Esmeralda
Hasbrouck	HSB 47	WK Mining (USA)	3/13/2011	NMC1043531	Esmeralda
Hasbrouck	HSB 48	WK Mining (USA)	3/13/2011	NMC1043532	Esmeralda
Hasbrouck	HSB 49	WK Mining (USA)	3/13/2011	NMC1043533	Esmeralda
Hasbrouck	HSB 50	WK Mining (USA)	3/13/2011	NMC1043534	Esmeralda
Hasbrouck	HSB 51	WK Mining (USA)	3/13/2011	NMC1043535	Esmeralda
Hasbrouck	HSB 52	WK Mining (USA)	3/13/2011	NMC1043536	Esmeralda
Hasbrouck	HSB 53	WK Mining (USA)	3/13/2011	NMC1043537	Esmeralda
Hasbrouck	HSB 54	WK Mining (USA)	3/13/2011	NMC1043538	Esmeralda
Hasbrouck	HSB 55	WK Mining (USA)	3/13/2011	NMC1043539	Esmeralda
Hasbrouck	HSB 56	WK Mining (USA)	3/13/2011	NMC1043540	Esmeralda
Hasbrouck	HSB 57	WK Mining (USA)	3/13/2011	NMC1043541	Esmeralda
Hasbrouck	HSB 58	WK Mining (USA)	3/13/2011	NMC1043542	Esmeralda
Hasbrouck	HSB 59	WK Mining (USA)	3/13/2011	NMC1043543	Esmeralda
Hasbrouck	HSB 60	WK Mining (USA)	3/13/2011	NMC1043544	Esmeralda
Hasbrouck	HSB 61	WK Mining (USA)	3/13/2011	NMC1043545	Esmeralda
Hasbrouck	HSB 62	WK Mining (USA)	3/13/2011	NMC1043546	Esmeralda
Hasbrouck	HSB 63	WK Mining (USA)	3/13/2011	NMC1043547	Esmeralda
Hasbrouck	HSB 64	WK Mining (USA)	3/13/2011	NMC1043548	Esmeralda
Hasbrouck	HSB 65	WK Mining (USA)	3/13/2011	NMC1043549	Esmeralda
Hasbrouck	HSB 66	WK Mining (USA)	3/13/2011	NMC1043550	Esmeralda
Hasbrouck	HSB 67	WK Mining (USA)	3/13/2011	NMC1043551	Esmeralda
Hasbrouck	HSB 68	WK Mining (USA)	3/13/2011	NMC1043552	Esmeralda
Hasbrouck	HSB 69	WK Mining (USA)	3/13/2011	NMC1043553	Esmeralda
Hasbrouck	HSB 70	WK Mining (USA)	3/13/2011	NMC1043554	Esmeralda
Hasbrouck	HSB 71	WK Mining (USA)	3/13/2011	NMC1043555	Esmeralda
Hasbrouck	HSB 72	WK Mining (USA)	3/13/2011	NMC1043556	Esmeralda
Hasbrouck	HSB 73	WK Mining (USA)	3/13/2011	NMC1043557	Esmeralda
Hasbrouck	HSB 74	WK Mining (USA)	3/13/2011	NMC1043558	Esmeralda
Hasbrouck	HSB 75	WK Mining (USA)	3/13/2011	NMC1043559	Esmeralda
Hasbrouck	HSB 76	WK Mining (USA)	3/13/2011	NMC1043560	Esmeralda
Hasbrouck	HSB 77	WK Mining (USA)	3/13/2011	NMC1043561	Esmeralda
Hasbrouck	HSB 78	WK Mining (USA)	3/13/2011	NMC1043562	Esmeralda
Hasbrouck	HSB 79	WK Mining (USA)	3/13/2011	NMC1043563	Esmeralda
Hasbrouck	HSB 80	WK Mining (USA)	3/13/2011	NMC1043564	Esmeralda
Hasbrouck	HSB 81	WK Mining (USA)	3/13/2011	NMC1043565	Esmeralda
Hasbrouck	HSB 82	WK Mining (USA)	3/13/2011	NMC1043566	Esmeralda
Hasbrouck	HSB 83	WK Mining (USA)	3/13/2011	NMC1043567	Esmeralda
Hasbrouck	HSB 84	WK Mining (USA)	3/13/2011	NMC1043568	Esmeralda
Hasbrouck	HSB 85	WK Mining (USA)	3/13/2011	NMC1043569	Esmeralda
Hasbrouck	HSB 86	WK Mining (USA)	3/13/2011	NMC1043570	Esmeralda
Hasbrouck	HSB 87	WK Mining (USA)	3/13/2011	NMC1043571	Esmeralda
Hasbrouck	HSB 88	WK Mining (USA)	3/13/2011	NMC1043572	Esmeralda

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Hasbrouck	HSB 89	WK Mining (USA)	3/13/2011	NMC1043573	Esmeralda
Hasbrouck	HSB 90	WK Mining (USA)	3/13/2011	NMC1043574	Esmeralda
Hasbrouck	HSB 91	WK Mining (USA)	3/13/2011	NMC1043575	Esmeralda
Hasbrouck	HSB 92	WK Mining (USA)	3/13/2011	NMC1043576	Esmeralda
Hasbrouck	HSB 93	WK Mining (USA)	3/13/2011	NMC1043577	Esmeralda
Hasbrouck	HSB 94	WK Mining (USA)	3/13/2011	NMC1043578	Esmeralda
Hasbrouck	HSB 95	WK Mining (USA)	3/13/2011	NMC1043579	Esmeralda
Hasbrouck	HSB 96	WK Mining (USA)	3/13/2011	NMC1043580	Esmeralda
Hasbrouck	HSB 97	WK Mining (USA)	3/13/2011	NMC1043581	Esmeralda
Hasbrouck	HSB 98	WK Mining (USA)	3/13/2011	NMC1043582	Esmeralda
Hasbrouck	HSB 99	WK Mining (USA)	3/13/2011	NMC1043583	Esmeralda
Hasbrouck	HSB 100	WK Mining (USA)	3/13/2011	NMC1043584	Esmeralda
Hasbrouck	HSB 101	WK Mining (USA)	3/13/2011	NMC1043585	Esmeralda
Hasbrouck	HSB 102	WK Mining (USA)	3/13/2011	NMC1043586	Esmeralda
Hasbrouck	HSB 103	WK Mining (USA)	3/13/2011	NMC1043587	Esmeralda
Hasbrouck	HSB 104	WK Mining (USA)	3/13/2011	NMC1043588	Esmeralda
Hasbrouck	HSB 105	WK Mining (USA)	3/13/2011	NMC1043589	Esmeralda
Hasbrouck	HSB 106	WK Mining (USA)	3/13/2011	NMC1043590	Esmeralda
Hasbrouck	HSB 107	WK Mining (USA)	3/13/2011	NMC1043591	Esmeralda
Hasbrouck	HSB 108	WK Mining (USA)	3/13/2011	NMC1043592	Esmeralda
Hasbrouck	HSB 109	WK Mining (USA)	3/13/2011	NMC1043593	Esmeralda
Hasbrouck	HSB 110	WK Mining (USA)	3/13/2011	NMC1043594	Esmeralda
Hasbrouck	HSB 111	WK Mining (USA)	3/13/2011	NMC1043595	Esmeralda
Hasbrouck	HSB 112	WK Mining (USA)	3/13/2011	NMC1043596	Esmeralda
Hasbrouck	HSB 113	WK Mining (USA)	3/13/2011	NMC1043597	Esmeralda
Hasbrouck	HSB 114	WK Mining (USA)	3/13/2011	NMC1043598	Esmeralda
Hasbrouck	HSB 115	WK Mining (USA)	3/13/2011	NMC1043599	Esmeralda
Hasbrouck	HSB 116	WK Mining (USA)	3/13/2011	NMC1043600	Esmeralda
Hasbrouck	HSB 117	WK Mining (USA)	3/13/2011	NMC1043601	Esmeralda
Hasbrouck	HSB 118	WK Mining (USA)	3/13/2011	NMC1043602	Esmeralda
Hasbrouck	HSB 119	WK Mining (USA)	3/13/2011	NMC1043603	Esmeralda
Hasbrouck	HSB 120	WK Mining (USA)	3/13/2011	NMC1043604	Esmeralda
Hasbrouck	HSB 121	WK Mining (USA)	3/13/2011	NMC1043605	Esmeralda
Hasbrouck	HSB 122	WK Mining (USA)	3/13/2011	NMC1043606	Esmeralda
Hasbrouck	HSB 123	WK Mining (USA)	3/13/2011	NMC1043607	Esmeralda
Hasbrouck	HSB 124	WK Mining (USA)	3/13/2011	NMC1043608	Esmeralda
Hasbrouck	HSB 125	WK Mining (USA)	3/13/2011	NMC1043609	Esmeralda
Hasbrouck	HSB 126	WK Mining (USA)	3/13/2011	NMC1043610	Esmeralda
Hasbrouck	HSB 127	WK Mining (USA)	3/13/2011	NMC1043611	Esmeralda
Hasbrouck	HSB 128	WK Mining (USA)	3/13/2011	NMC1043612	Esmeralda
Hasbrouck	HSB 129	WK Mining (USA)	3/13/2011	NMC1043613	Esmeralda
Hasbrouck	HSB 130	WK Mining (USA)	3/13/2011	NMC1043614	Esmeralda
Hasbrouck	HSB 131	WK Mining (USA)	3/13/2011	NMC1043615	Esmeralda
Hasbrouck	HSB 132	WK Mining (USA)	3/13/2011	NMC1043616	Esmeralda
Hasbrouck	HSB 133	WK Mining (USA)	3/13/2011	NMC1043617	Esmeralda
Hasbrouck	HSB 134	WK Mining (USA)	3/13/2011	NMC1043618	Esmeralda

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Hasbrouck	HSB 135	WK Mining (USA)	3/13/2011	NMC1043619	Esmeralda
Hasbrouck	HSB 136	WK Mining (USA)	3/13/2011	NMC1043620	Esmeralda
Hasbrouck	HSB 137	WK Mining (USA)	3/13/2011	NMC1043621	Esmeralda
Hasbrouck	HSB 138	WK Mining (USA)	3/13/2011	NMC1043622	Esmeralda
Hasbrouck	HSB 139	WK Mining (USA)	3/13/2011	NMC1043623	Esmeralda
Hasbrouck	HSB 140	WK Mining (USA)	3/13/2011	NMC1043624	Esmeralda
Hasbrouck	HSB 141	WK Mining (USA)	3/13/2011	NMC1043625	Esmeralda
Hasbrouck	HSB 142	WK Mining (USA)	3/13/2011	NMC1043626	Esmeralda
Hasbrouck	HSB 143	WK Mining (USA)	3/13/2011	NMC1043627	Esmeralda
Hasbrouck	HSB 144	WK Mining (USA)	3/13/2011	NMC1043628	Esmeralda
Hasbrouck	HSB 145	WK Mining (USA)	3/13/2011	NMC1043629	Esmeralda
Hasbrouck	HSB 146	WK Mining (USA)	3/13/2011	NMC1043630	Esmeralda
Hasbrouck	HSB 147	WK Mining (USA)	3/13/2011	NMC1043631	Esmeralda
Hasbrouck	HSB 148	WK Mining (USA)	3/13/2011	NMC1043632	Esmeralda
Hasbrouck	HSB 149	WK Mining (USA)	3/13/2011	NMC1043633	Esmeralda
Hasbrouck	HSB 150	WK Mining (USA)	3/13/2011	NMC1043634	Esmeralda
Hasbrouck	HSB 151	WK Mining (USA)	3/13/2011	NMC1043635	Esmeralda
Hasbrouck	HSB 152	WK Mining (USA)	3/13/2011	NMC1043636	Esmeralda
Hasbrouck	HSB 153	WK Mining (USA)	3/13/2011	NMC1043637	Esmeralda
Hasbrouck	HSB 154	WK Mining (USA)	3/13/2011	NMC1043638	Esmeralda
Hasbrouck	HSB 155	WK Mining (USA)	3/13/2011	NMC1043639	Esmeralda
Hasbrouck	HSB 156	WK Mining (USA)	3/13/2011	NMC1043640	Esmeralda
Hasbrouck	HSB 157	WK Mining (USA)	3/13/2011	NMC1043641	Esmeralda
Hasbrouck	HSB 158	WK Mining (USA)	3/13/2011	NMC1043642	Esmeralda
Hasbrouck	HSB 159	WK Mining (USA)	3/13/2011	NMC1043643	Esmeralda
Hasbrouck	HSB 160	WK Mining (USA)	3/13/2011	NMC1043644	Esmeralda
Hasbrouck	HSB 161	WK Mining (USA)	3/13/2011	NMC1043645	Esmeralda
Hasbrouck	HSB 162	WK Mining (USA)	3/13/2011	NMC1043646	Esmeralda
Hasbrouck	HSB 163	WK Mining (USA)	3/13/2011	NMC1043647	Esmeralda
Hasbrouck	HSB 164	WK Mining (USA)	3/13/2011	NMC1043648	Esmeralda
Hasbrouck	HSB 165	WK Mining (USA)	3/13/2011	NMC1043649	Esmeralda
Hasbrouck	HSB 166	WK Mining (USA)	3/13/2011	NMC1043650	Esmeralda
Hasbrouck	HSB 167	WK Mining (USA)	3/13/2011	NMC1043651	Esmeralda
Hasbrouck	HSB 168	WK Mining (USA)	3/13/2011	NMC1043652	Esmeralda
Hasbrouck	HSB 169	WK Mining (USA)	3/13/2011	NMC1043653	Esmeralda
Hasbrouck	HSB 170	WK Mining (USA)	3/13/2011	NMC1043654	Esmeralda
Hasbrouck	HSB 171	WK Mining (USA)	3/13/2011	NMC1043655	Esmeralda
Hasbrouck	HSB 172	WK Mining (USA)	3/13/2011	NMC1043656	Esmeralda
Hasbrouck	HSB 173	WK Mining (USA)	3/13/2011	NMC1043657	Esmeralda
Hasbrouck	HSB 174	WK Mining (USA)	3/13/2011	NMC1043658	Esmeralda
Hasbrouck	HSB 175	WK Mining (USA)	3/13/2011	NMC1043659	Esmeralda
Hasbrouck	HSB 176	WK Mining (USA)	3/13/2011	NMC1043660	Esmeralda
Hasbrouck	HSB 177	WK Mining (USA)	3/13/2011	NMC1043661	Esmeralda
Hasbrouck	HSB 178	WK Mining (USA)	3/13/2011	NMC1043662	Esmeralda
Hasbrouck	HSB 179	WK Mining (USA)	3/13/2011	NMC1043663	Esmeralda
Hasbrouck	HSB 180	WK Mining (USA)	3/13/2011	NMC1043664	Esmeralda

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Hasbrouck	HSB 181	WK Mining (USA)	3/14/2011	NMC1043665	Esmeralda
Hasbrouck	HSB 182	WK Mining (USA)	3/14/2011	NMC1043666	Esmeralda
Hasbrouck	HSB 183	WK Mining (USA)	3/14/2011	NMC1043667	Esmeralda
Hasbrouck	HSB 184	WK Mining (USA)	3/14/2011	NMC1043668	Esmeralda
Hasbrouck	HSB 185	WK Mining (USA)	3/14/2011	NMC1043669	Esmeralda
Hasbrouck	HSB 186	WK Mining (USA)	3/14/2011	NMC1043670	Esmeralda
Hasbrouck	HSB 187	WK Mining (USA)	3/14/2011	NMC1043671	Esmeralda
Hasbrouck	HSB 188	WK Mining (USA)	3/14/2011	NMC1043672	Esmeralda
Hasbrouck	HSB 189	WK Mining (USA)	3/14/2011	NMC1043673	Esmeralda
Hasbrouck	HSB 190	WK Mining (USA)	3/14/2011	NMC1043674	Esmeralda
Hasbrouck	HSB 191	WK Mining (USA)	3/14/2011	NMC1043675	Esmeralda
Hasbrouck	HSB 192	WK Mining (USA)	3/14/2011	NMC1043676	Esmeralda
Hasbrouck	HSB 193	WK Mining (USA)	3/14/2011	NMC1043677	Esmeralda
Hasbrouck	HSB 194	WK Mining (USA)	3/14/2011	NMC1043678	Esmeralda
Hasbrouck	HSB 195	WK Mining (USA)	3/14/2011	NMC1043679	Esmeralda
Hasbrouck	HSB 196	WK Mining (USA)	3/14/2011	NMC1043680	Esmeralda
Hasbrouck	HSB 197	WK Mining (USA)	3/14/2011	NMC1043681	Esmeralda
Hasbrouck	HSB 198	WK Mining (USA)	3/14/2011	NMC1043682	Esmeralda
Hasbrouck	HSB 199	WK Mining (USA)	3/14/2011	NMC1043683	Esmeralda
Hasbrouck	HSB 200	WK Mining (USA)	3/14/2011	NMC1043684	Esmeralda
Hasbrouck	HSB 201	WK Mining (USA)	3/14/2011	NMC1043685	Esmeralda
Hasbrouck	HSB 202	WK Mining (USA)	4/9/2011	NMC1043686	Esmeralda
Hasbrouck	HSB 203	WK Mining (USA)	4/9/2011	NMC1043687	Esmeralda
Hasbrouck	HSB 204	WK Mining (USA)	4/9/2011	NMC1043688	Esmeralda
Hasbrouck	HSB 205	WK Mining (USA)	4/9/2011	NMC1043689	Esmeralda
Hasbrouck	HSB 206	WK Mining (USA)	4/9/2011	NMC1043690	Esmeralda
Hasbrouck	HSB 207	WK Mining (USA)	4/9/2011	NMC1043691	Esmeralda
Hasbrouck	HSB 208	WK Mining (USA)	4/9/2011	NMC1043692	Esmeralda
Hasbrouck	HSB 209	WK Mining (USA)	4/9/2011	NMC1043693	Esmeralda
Hasbrouck	HSB 210	WK Mining (USA)	4/9/2011	NMC1043694	Esmeralda
Hasbrouck	HSB 211	WK Mining (USA)	4/9/2011	NMC1043695	Esmeralda
Hasbrouck	HSB 212	WK Mining (USA)	4/9/2011	NMC1043696	Esmeralda
Hasbrouck	HSB 213	WK Mining (USA)	4/9/2011	NMC1043697	Esmeralda
Hasbrouck	HSB 214	WK Mining (USA)	4/9/2011	NMC1043698	Esmeralda
Hasbrouck	HSB 215	WK Mining (USA)	4/9/2011	NMC1043699	Esmeralda
Hasbrouck	HSB 216	WK Mining (USA)	4/9/2011	NMC1043700	Esmeralda
Hasbrouck	HSB 217	WK Mining (USA)	4/9/2011	NMC1043701	Esmeralda
Hasbrouck	HSB 218	WK Mining (USA)	4/9/2011	NMC1043702	Esmeralda
Hasbrouck	HSB 219	WK Mining (USA)	4/9/2011	NMC1043703	Esmeralda
Hasbrouck	HSB 220	WK Mining (USA)	4/9/2011	NMC1043704	Esmeralda
Hasbrouck	HSB 221	WK Mining (USA)	4/9/2011	NMC1043705	Esmeralda
Hasbrouck	HSB 222	WK Mining (USA)	4/9/2011	NMC1043706	Esmeralda
Hasbrouck	HSB 223	WK Mining (USA)	4/9/2011	NMC1043707	Esmeralda
Hasbrouck	HSB 224	WK Mining (USA)	4/9/2011	NMC1043708	Esmeralda
Hasbrouck	HSB 225	WK Mining (USA)	4/9/2011	NMC1043709	Esmeralda
Hasbrouck	HSB 226	WK Mining (USA)	4/9/2011	NMC1043710	Esmeralda

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Hasbrouck	HSB 227	WK Mining (USA)	4/9/2011	NMC1043711	Esmeralda
Hasbrouck	HSB 228	WK Mining (USA)	4/9/2011	NMC1043712	Esmeralda
Hasbrouck	HSB 229	WK Mining (USA)	4/9/2011	NMC1043713	Esmeralda
Hasbrouck	HSB 230	WK Mining (USA)	4/9/2011	NMC1043714	Esmeralda
Hasbrouck	HSB 231	WK Mining (USA)	4/9/2011	NMC1043715	Esmeralda
Hasbrouck	HSB 232	WK Mining (USA)	4/9/2011	NMC1043716	Esmeralda
Hasbrouck	HSB 233	WK Mining (USA)	4/9/2011	NMC1043717	Esmeralda
Hasbrouck	HSB 234	WK Mining (USA)	4/9/2011	NMC1043718	Esmeralda
Hasbrouck	HSB 235	WK Mining (USA)	4/9/2011	NMC1043719	Esmeralda
Hasbrouck	HSB 236	WK Mining (USA)	4/9/2011	NMC1043720	Esmeralda
Hasbrouck	HSB 237	WK Mining (USA)	4/8/2011	NMC1043721	Esmeralda
Hasbrouck	HSB 238	WK Mining (USA)	4/8/2011	NMC1043722	Esmeralda
Hasbrouck	HSB 239	WK Mining (USA)	4/8/2011	NMC1043723	Esmeralda
Hasbrouck	HSB 240	WK Mining (USA)	4/8/2011	NMC1043724	Esmeralda
Hasbrouck	HSB 241	WK Mining (USA)	4/8/2011	NMC1043725	Esmeralda
Hasbrouck	HSB 242	WK Mining (USA)	4/8/2011	NMC1043726	Esmeralda
Hasbrouck	HSB 243	WK Mining (USA)	4/8/2011	NMC1043727	Esmeralda
Hasbrouck	HSB 244	WK Mining (USA)	4/8/2011	NMC1043728	Esmeralda
Hasbrouck	HSB 245	WK Mining (USA)	4/8/2011	NMC1043729	Esmeralda
Hasbrouck	HSB 246	WK Mining (USA)	4/8/2011	NMC1043730	Esmeralda
Hasbrouck	HSB 247	WK Mining (USA)	4/8/2011	NMC1043731	Esmeralda
Hasbrouck	HSB 248	WK Mining (USA)	4/8/2011	NMC1043732	Esmeralda
Hasbrouck	HSB 249	WK Mining (USA)	4/8/2011	NMC1043733	Esmeralda
Hasbrouck	HSB 250	WK Mining (USA)	4/8/2011	NMC1043734	Esmeralda
Hasbrouck	HSB 251	WK Mining (USA)	4/8/2011	NMC1043735	Esmeralda
Hasbrouck	HSB 252	WK Mining (USA)	4/8/2011	NMC1043736	Esmeralda
Hasbrouck	HSB 253	WK Mining (USA)	4/8/2011	NMC1043737	Esmeralda
Hasbrouck	HSB 254	WK Mining (USA)	4/8/2011	NMC1043738	Esmeralda
Hasbrouck	HSB 255	WK Mining (USA)	4/8/2011	NMC1043739	Esmeralda
Hasbrouck	HSB 256	WK Mining (USA)	4/8/2011	NMC1043740	Esmeralda
Hasbrouck	HSB 257	WK Mining (USA)	4/8/2011	NMC1043741	Esmeralda
Hasbrouck	HSB 258	WK Mining (USA)	4/8/2011	NMC1043742	Esmeralda
Hasbrouck	HSB 259	WK Mining (USA)	4/8/2011	NMC1043743	Esmeralda
Hasbrouck	HSB 260	WK Mining (USA)	4/8/2011	NMC1043744	Esmeralda
Hasbrouck	HSB 261	WK Mining (USA)	4/8/2011	NMC1043745	Esmeralda
Hasbrouck	HSB 262	WK Mining (USA)	4/8/2011	NMC1043746	Esmeralda
Hasbrouck	HSB 263	WK Mining (USA)	4/8/2011	NMC1043747	Esmeralda
Hasbrouck	HSB 264	WK Mining (USA)	4/8/2011	NMC1043748	Esmeralda
Hasbrouck	HSB 265	WK Mining (USA)	4/8/2011	NMC1043749	Esmeralda
Hasbrouck	HSB 266	WK Mining (USA)	4/8/2011	NMC1043750	Esmeralda
Hasbrouck	HSB 267	WK Mining (USA)	4/8/2011	NMC1043751	Esmeralda
Hasbrouck	HSB 268	WK Mining (USA)	4/8/2011	NMC1043752	Esmeralda
Hasbrouck	HSB 269	WK Mining (USA)	4/8/2011	NMC1043753	Esmeralda
Hasbrouck	HSB 270	WK Mining (USA)	4/8/2011	NMC1043754	Esmeralda
Hasbrouck	HSB 271	WK Mining (USA)	4/8/2011	NMC1043755	Esmeralda
Hasbrouck	HSB 272	WK Mining (USA)	4/8/2011	NMC1043756	Esmeralda

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Hasbrouck	HSB 273	WK Mining (USA)	4/8/2011	NMC1043757	Esmeralda
Hasbrouck	HSB 274	WK Mining (USA)	4/8/2011	NMC1043758	Esmeralda
Hasbrouck	HSB 275	WK Mining (USA)	4/8/2011	NMC1043759	Esmeralda
Hasbrouck	HSB 276	WK Mining (USA)	4/8/2011	NMC1043760	Esmeralda
Hasbrouck	HSB 277	WK Mining (USA)	4/8/2011	NMC1043761	Esmeralda
Hasbrouck	HSB 278	WK Mining (USA)	4/8/2011	NMC1043762	Esmeralda
Hasbrouck	HSB 279	WK Mining (USA)	4/8/2011	NMC1043763	Esmeralda
Hasbrouck	HSB 280	WK Mining (USA)	4/8/2011	NMC1043764	Esmeralda
Hasbrouck	HSB 281	WK Mining (USA)	4/8/2011	NMC1043765	Esmeralda
Hasbrouck	HSB 282	WK Mining (USA)	4/8/2011	NMC1043766	Esmeralda
Hasbrouck	HSB 283	WK Mining (USA)	4/8/2011	NMC1043767	Esmeralda
Hasbrouck	HSB 284	WK Mining (USA)	4/8/2011	NMC1043768	Esmeralda
Hasbrouck	HSB 285	WK Mining (USA)	4/8/2011	NMC1043769	Esmeralda
Hasbrouck	HSB 286	WK Mining (USA)	4/8/2011	NMC1043770	Esmeralda
Hasbrouck	HSB 287	WK Mining (USA)	4/8/2011	NMC1043771	Esmeralda
Hasbrouck	HSB 288	WK Mining (USA)	4/8/2011	NMC1043772	Esmeralda
Hasbrouck	HSB 289	WK Mining (USA)	4/8/2011	NMC1043773	Esmeralda
Hasbrouck	HSB 290	WK Mining (USA)	4/8/2011	NMC1043774	Esmeralda
Hasbrouck	HSB 291	WK Mining (USA)	4/8/2011	NMC1043775	Esmeralda
Hasbrouck	HSB 292	WK Mining (USA)	4/8/2011	NMC1043776	Esmeralda
Hasbrouck	HSB 293	WK Mining (USA)	4/8/2011	NMC1043777	Esmeralda
Hasbrouck	HSB 294	WK Mining (USA)	4/8/2011	NMC1043778	Esmeralda
Hasbrouck	HSB 295	WK Mining (USA)	4/8/2011	NMC1043779	Esmeralda
Hasbrouck	HSB 296	WK Mining (USA)	4/8/2011	NMC1043780	Esmeralda
Hasbrouck	HSB 297	WK Mining (USA)	4/8/2011	NMC1043781	Esmeralda
Hasbrouck	HSB 298	WK Mining (USA)	4/8/2011	NMC1043782	Esmeralda
Hasbrouck	HSB 299	WK Mining (USA)	4/8/2011	NMC1043783	Esmeralda
Hasbrouck	HSB 300	WK Mining (USA)	4/8/2011	NMC1043784	Esmeralda
Hasbrouck	HSB 301	WK Mining (USA)	4/8/2011	NMC1043785	Esmeralda
Hasbrouck	HSB 302	WK Mining (USA)	4/8/2011	NMC1043786	Esmeralda
Hasbrouck	HSB 303	WK Mining (USA)	4/8/2011	NMC1043787	Esmeralda
Hasbrouck	HSB 304	WK Mining (USA)	4/8/2011	NMC1043788	Esmeralda
Hasbrouck	HSB 305	WK Mining (USA)	4/8/2011	NMC1043789	Esmeralda
Hasbrouck	HSB 306	WK Mining (USA)	4/8/2011	NMC1043790	Esmeralda
Hasbrouck	HSB 307	WK Mining (USA)	4/8/2011	NMC1043791	Esmeralda
Hasbrouck	HSB 308	WK Mining (USA)	4/8/2011	NMC1043792	Esmeralda
Hasbrouck	HSB 309	WK Mining (USA)	4/8/2011	NMC1043793	Esmeralda
Hasbrouck	HSB 310	WK Mining (USA)	4/8/2011	NMC1043794	Esmeralda
Hasbrouck	HSB 311	WK Mining (USA)	4/8/2011	NMC1043795	Esmeralda
Hasbrouck	HSB 312	WK Mining (USA)	4/8/2011	NMC1043796	Esmeralda
Hasbrouck	HSB 313	WK Mining (USA)	4/8/2011	NMC1043797	Esmeralda
Hasbrouck	HSB 314	WK Mining (USA)	4/8/2011	NMC1043798	Esmeralda
Hasbrouck	HSB 315	WK Mining (USA)	4/8/2011	NMC1043799	Esmeralda
Hasbrouck	HSB 316	WK Mining (USA)	4/8/2011	NMC1043800	Esmeralda
Hasbrouck	HSB 317	WK Mining (USA)	4/8/2011	NMC1043801	Esmeralda
Hasbrouck	HSB 318	WK Mining (USA)	4/8/2011	NMC1043802	Esmeralda

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Hasbrouck	HSB 319	WK Mining (USA)	4/8/2011	NMC1043803	Esmeralda
Hasbrouck	HSB 320	WK Mining (USA)	4/8/2011	NMC1043804	Esmeralda
Hasbrouck	HSB 321	WK Mining (USA)	4/8/2011	NMC1043805	Esmeralda
Hasbrouck	HSB 322	WK Mining (USA)	4/8/2011	NMC1043806	Esmeralda
Hasbrouck	HSB 323	WK Mining (USA)	4/8/2011	NMC1043807	Esmeralda
Hasbrouck	HSB 324	WK Mining (USA)	4/8/2011	NMC1043808	Esmeralda
Hasbrouck	HSB 325	WK Mining (USA)	4/8/2011	NMC1043809	Esmeralda
Hasbrouck	HSB 326	WK Mining (USA)	4/8/2011	NMC1043810	Esmeralda
Hasbrouck	HSB 327	WK Mining (USA)	4/8/2011	NMC1043811	Esmeralda
Hasbrouck	HSB 328	WK Mining (USA)	4/8/2011	NMC1043812	Esmeralda
Hasbrouck	HSB 329	WK Mining (USA)	4/8/2011	NMC1043813	Esmeralda
Hasbrouck	HSB 330	WK Mining (USA)	4/8/2011	NMC1043814	Esmeralda
Hasbrouck	HSB 331	WK Mining (USA)	4/8/2011	NMC1043815	Esmeralda
Hasbrouck	HSB 332	WK Mining (USA)	4/8/2011	NMC1043816	Esmeralda
Hasbrouck	HSB 333	WK Mining (USA)	4/8/2011	NMC1043817	Esmeralda
Hasbrouck	HSB 334	WK Mining (USA)	4/8/2011	NMC1043818	Esmeralda
Hasbrouck	HSB 335	WK Mining (USA)	4/8/2011	NMC1043819	Esmeralda
Hasbrouck	HSB 336	WK Mining (USA)	4/8/2011	NMC1043820	Esmeralda
Hasbrouck	HSB 337	WK Mining (USA)	4/8/2011	NMC1043821	Esmeralda
Hasbrouck	HSB 338	WK Mining (USA)	4/8/2011	NMC1043822	Esmeralda
Hasbrouck	HSB 339	WK Mining (USA)	4/8/2011	NMC1043823	Esmeralda
Hasbrouck	HSB 340	WK Mining (USA)	4/8/2011	NMC1043824	Esmeralda
Hasbrouck	HSB 341	WK Mining (USA)	4/8/2011	NMC1043825	Esmeralda
Hasbrouck	HSB 342	WK Mining (USA)	4/8/2011	NMC1043826	Esmeralda
Hasbrouck	HSB 343	WK Mining (USA)	4/8/2011	NMC1043827	Esmeralda
Hasbrouck	HSB 344	WK Mining (USA)	4/8/2011	NMC1043828	Esmeralda
Hasbrouck	HSB 345	WK Mining (USA)	4/8/2011	NMC1043829	Esmeralda
Hasbrouck	HSB 346	WK Mining (USA)	4/8/2011	NMC1043830	Esmeralda
Hasbrouck	HSB 347	WK Mining (USA)	4/8/2011	NMC1043831	Esmeralda
Hasbrouck	HSB 348	WK Mining (USA)	4/8/2011	NMC1043832	Esmeralda
Hasbrouck	HSB 349	WK Mining (USA)	4/8/2011	NMC1043833	Esmeralda
Hasbrouck	HSB 350	WK Mining (USA)	4/8/2011	NMC1043834	Esmeralda
Hasbrouck	HSB 351	WK Mining (USA)	4/8/2011	NMC1043835	Esmeralda
Hasbrouck	HSB 352	WK Mining (USA)	4/8/2011	NMC1043836	Esmeralda
Hasbrouck	HSB 353	WK Mining (USA)	4/8/2011	NMC1043837	Esmeralda
Hasbrouck	HSB 354	WK Mining (USA)	4/8/2011	NMC1043838	Esmeralda
Hasbrouck	HSB 355	WK Mining (USA)	4/8/2011	NMC1043839	Esmeralda
Hasbrouck	HSB 356	WK Mining (USA)	4/8/2011	NMC1043840	Esmeralda
Hasbrouck	HSB 357	WK Mining (USA)	4/8/2011	NMC1043841	Esmeralda
Hasbrouck	HSB 358	WK Mining (USA)	4/8/2011	NMC1043842	Esmeralda
Hasbrouck	HSB 359	WK Mining (USA)	4/8/2011	NMC1043843	Esmeralda
Hasbrouck	HSB 360	WK Mining (USA)	4/8/2011	NMC1043844	Esmeralda
Hasbrouck	HSB 361	WK Mining (USA)	4/8/2011	NMC1043845	Esmeralda
Hasbrouck	HSB 362	WK Mining (USA)	4/8/2011	NMC1043846	Esmeralda
Hasbrouck	HSB 363	WK Mining (USA)	4/8/2011	NMC1043847	Esmeralda
Hasbrouck	HSB 364	WK Mining (USA)	4/8/2011	NMC1043848	Esmeralda

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Hasbrouck	HSB 365	WK Mining (USA)	4/8/2011	NMC1043849	Esmeralda
Hasbrouck	HSB 366	WK Mining (USA)	4/7/2011	NMC1043850	Esmeralda
Hasbrouck	HSB 367	WK Mining (USA)	4/7/2011	NMC1043851	Esmeralda
Hasbrouck	HSB 368	WK Mining (USA)	4/7/2011	NMC1043852	Esmeralda
Hasbrouck	HSB 369	WK Mining (USA)	4/7/2011	NMC1043853	Esmeralda
Hasbrouck	HSB 370	WK Mining (USA)	4/7/2011	NMC1043854	Esmeralda
Hasbrouck	HSB 371	WK Mining (USA)	4/7/2011	NMC1043855	Esmeralda
Hasbrouck	HSB 372	WK Mining (USA)	4/7/2011	NMC1043856	Esmeralda
Hasbrouck	HSB 373	WK Mining (USA)	4/7/2011	NMC1043857	Esmeralda
Hasbrouck	HSB 374	WK Mining (USA)	4/7/2011	NMC1043858	Esmeralda
Hasbrouck	HSB 375	WK Mining (USA)	4/7/2011	NMC1043859	Esmeralda
Hasbrouck	HSB 376	WK Mining (USA)	4/7/2011	NMC1043860	Esmeralda
Hasbrouck	HSB 377	WK Mining (USA)	4/7/2011	NMC1043861	Esmeralda
Hasbrouck	HSB 378	WK Mining (USA)	4/7/2011	NMC1043862	Esmeralda
Hasbrouck	HSB 379	WK Mining (USA)	4/7/2011	NMC1043863	Esmeralda
Hasbrouck	HSB 380	WK Mining (USA)	4/8/2011	NMC1043864	Esmeralda
Hasbrouck	HSB 381	WK Mining (USA)	4/8/2011	NMC1043865	Esmeralda
Hasbrouck	HSB 382	WK Mining (USA)	4/8/2011	NMC1043866	Esmeralda
Hasbrouck	HSB 383	WK Mining (USA)	4/8/2011	NMC1043867	Esmeralda
Hasbrouck	HSB 384	WK Mining (USA)	4/8/2011	NMC1043868	Esmeralda
Hasbrouck	HSB 385	WK Mining (USA)	4/7/2011	NMC1043869	Esmeralda
Hasbrouck	HSB 386	WK Mining (USA)	4/7/2011	NMC1043870	Esmeralda
Hasbrouck	HSB 387	WK Mining (USA)	4/7/2011	NMC1043871	Esmeralda
Hasbrouck	HSB 388	WK Mining (USA)	4/7/2011	NMC1043872	Esmeralda
Hasbrouck	HSB 389	WK Mining (USA)	4/7/2011	NMC1043873	Esmeralda
Hasbrouck	HSB 390	WK Mining (USA)	4/7/2011	NMC1043874	Esmeralda
Hasbrouck	HSB 391	WK Mining (USA)	4/7/2011	NMC1043875	Esmeralda
Hasbrouck	HSB 392	WK Mining (USA)	4/7/2011	NMC1043876	Esmeralda
Hasbrouck	HSB 393	WK Mining (USA)	4/7/2011	NMC1043877	Esmeralda
Hasbrouck	HSB 394	WK Mining (USA)	4/7/2011	NMC1043878	Esmeralda
Hasbrouck	HSB 395	WK Mining (USA)	4/7/2011	NMC1043879	Esmeralda
Hasbrouck	HSB 396	WK Mining (USA)	4/7/2011	NMC1043880	Esmeralda
Hasbrouck	HSB 397	WK Mining (USA)	4/7/2011	NMC1043881	Esmeralda
Hasbrouck	HSB 398	WK Mining (USA)	4/7/2011	NMC1043882	Esmeralda
Hasbrouck	HSB 399	WK Mining (USA)	4/7/2011	NMC1043883	Esmeralda
Hasbrouck	HSB 400	WK Mining (USA)	4/7/2011	NMC1043884	Esmeralda
Hasbrouck	HSB 401	WK Mining (USA)	4/7/2011	NMC1043885	Esmeralda
Hasbrouck	HSB 402	WK Mining (USA)	4/7/2011	NMC1043886	Esmeralda
Hasbrouck	HSB 403	WK Mining (USA)	4/7/2011	NMC1043887	Esmeralda
Hasbrouck	HSB 404	WK Mining (USA)	4/7/2011	NMC1043888	Esmeralda
Hasbrouck	HSB 405	WK Mining (USA)	4/7/2011	NMC1043889	Esmeralda
Hasbrouck	HSB 406	WK Mining (USA)	4/7/2011	NMC1043890	Esmeralda
Hasbrouck	HSB 407	WK Mining (USA)	4/7/2011	NMC1043891	Esmeralda
Hasbrouck	HSB 408	WK Mining (USA)	4/7/2011	NMC1043892	Esmeralda
Hasbrouck	HSB 409	WK Mining (USA)	4/7/2011	NMC1043893	Esmeralda
Hasbrouck	HSB 410	WK Mining (USA)	4/7/2011	NMC1043894	Esmeralda

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Hasbrouck	HSB 411	WK Mining (USA)	4/7/2011	NMC1043895	Esmeralda
Hasbrouck	HSB 412	WK Mining (USA)	4/7/2011	NMC1043896	Esmeralda
Hasbrouck	HSB 413	WK Mining (USA)	4/7/2011	NMC1043897	Esmeralda
Hasbrouck	HSB 414	WK Mining (USA)	4/7/2011	NMC1043898	Esmeralda
Hasbrouck	HSB 415	WK Mining (USA)	4/7/2011	NMC1043899	Esmeralda
Hasbrouck	HSB 416	WK Mining (USA)	4/7/2011	NMC1043900	Esmeralda
Hasbrouck	HSB 417	WK Mining (USA)	4/7/2011	NMC1043901	Esmeralda
Hasbrouck	HSB 418	WK Mining (USA)	4/7/2011	NMC1043902	Esmeralda
Hasbrouck	HSB 419	WK Mining (USA)	4/7/2011	NMC1043903	Esmeralda
Hasbrouck	HSB 420	WK Mining (USA)	4/7/2011	NMC1043904	Esmeralda
Hasbrouck	HSB 421	WK Mining (USA)	4/7/2011	NMC1043905	Esmeralda
Hasbrouck	HSB 422	WK Mining (USA)	4/7/2011	NMC1043906	Esmeralda
Hasbrouck	HSB 423	WK Mining (USA)	4/7/2011	NMC1043907	Esmeralda
Hasbrouck	HSB 424	WK Mining (USA)	4/7/2011	NMC1043908	Esmeralda
Hasbrouck	HSB 427	WK Mining (USA)	4/7/2011	NMC1043911	Esmeralda
Hasbrouck	HSB 428	WK Mining (USA)	4/7/2011	NMC1043912	Esmeralda
Hasbrouck	MLTDR	WK Mining (USA)	08/27/13	NMC 1094006	Esmeralda
Hasbrouck	MLTD1R	WK Mining (USA)	08/27/13	NMC 1094005	Esmeralda
Hasbrouck	NHD #1	WK Mining (USA)	08/13/87	NMC 429920	Esmeralda
Hasbrouck	NHD #3	WK Mining (USA)	08/14/87	NMC 429922	Esmeralda
Hasbrouck	NHD #5	WK Mining (USA)	08/14/87	NMC 429924	Esmeralda
Hasbrouck	NHD #6	WK Mining (USA)	08/14/87	NMC 429925	Esmeralda
Hasbrouck	NHD #10	WK Mining (USA)	08/14/87	NMC 429927	Esmeralda
Hasbrouck	NHD #18	WK Mining (USA)	08/14/87	NMC 429930	Esmeralda
Hasbrouck	NHD #28	WK Mining (USA)	08/14/87	NMC 429931	Esmeralda
Hasbrouck	NHD-7	WK Mining (USA)	01/05/88	NMC 461706	Esmeralda
Hasbrouck	NHD #8	WK Mining (USA)	01/05/88	NMC 461707	Esmeralda
Hasbrouck	NHD #12	WK Mining (USA)	01/05/88	NMC 461708	Esmeralda
Hasbrouck	NHD #132	WK Mining (USA)	11/12/87	NMC 461745	Esmeralda
Hasbrouck	NHD #173	WK Mining (USA)	11/14/87	NMC 461786	Esmeralda
Hasbrouck	NHD #174	WK Mining (USA)	11/14/87	NMC 461787	Esmeralda
Hasbrouck	NHD #175	WK Mining (USA)	11/14/87	NMC 461788	Esmeralda
Hasbrouck	NHD #176	WK Mining (USA)	11/17/87	NMC 461789	Esmeralda
Hasbrouck	NHD #178	WK Mining (USA)	11/15/87	NMC 461790	Esmeralda
Hasbrouck	NHD #179	WK Mining (USA)	11/15/87	NMC 461791	Esmeralda
Hasbrouck	NHD #190	WK Mining (USA)	11/17/87	NMC 461796	Esmeralda
Hasbrouck	NHD #191	WK Mining (USA)	11/17/87	NMC 461797	Esmeralda
Hasbrouck	NHD #192	WK Mining (USA)	11/17/87	NMC 461798	Esmeralda
Hasbrouck	NHD #193	WK Mining (USA)	11/17/87	NMC 461799	Esmeralda
Hasbrouck	NHD #194	WK Mining (USA)	11/17/87	NMC 461800	Esmeralda
Hasbrouck	NHD #195	WK Mining (USA)	11/15/87	NMC 461801	Esmeralda
Hasbrouck	NHD #196	WK Mining (USA)	11/15/87	NMC 461802	Esmeralda
Hasbrouck	NHD #197	WK Mining (USA)	11/15/87	NMC 461803	Esmeralda
Hasbrouck	NHD #198	WK Mining (USA)	11/15/87	NMC 461804	Esmeralda
Hasbrouck	NHD #199	WK Mining (USA)	11/15/87	NMC 461805	Esmeralda
Hasbrouck	NHD #200	WK Mining (USA)	11/17/87	NMC 461806	Esmeralda

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Hasbrouck	NHD #203	WK Mining (USA)	11/16/87	NMC 461809	Esmeralda
Hasbrouck	NHD #204	WK Mining (USA)	11/16/87	NMC 461810	Esmeralda
Hasbrouck	NHD #206	WK Mining (USA)	01/05/88	NMC 461812	Esmeralda
Hasbrouck	NHD #207	WK Mining (USA)	01/05/88	NMC 461813	Esmeralda
Hasbrouck	NHD #212	WK Mining (USA)	01/07/88	NMC 461818	Esmeralda
Hasbrouck	New Little Butte	WK Mining (USA)	09/23/92	NMC 670365	Esmeralda
Hasbrouck	New Ltl Butte Frac	WK Mining (USA)	09/23/92	NMC 670366	Esmeralda
Hasbrouck	NHD 154M	WK Mining (USA)	05/09/95	NMC 718388	Esmeralda
Hasbrouck	NHD 155M	WK Mining (USA)	05/09/95	NMC 718389	Esmeralda
Hasbrouck	NHD 156M	WK Mining (USA)	05/09/95	NMC 718390	Esmeralda
Hasbrouck	NHD 157M	WK Mining (USA)	05/09/95	NMC 718391	Esmeralda
Hasbrouck	NHD 158M	WK Mining (USA)	05/09/95	NMC 718392	Esmeralda
Hasbrouck	NHD 159M	WK Mining (USA)	05/09/95	NMC 718393	Esmeralda
Hasbrouck	NHD 169M	WK Mining (USA)	05/09/95	NMC 718394	Esmeralda
Hasbrouck	NHD 171M	WK Mining (USA)	05/09/95	NMC 718395	Esmeralda
Hasbrouck	NHD 186M	WK Mining (USA)	05/09/95	NMC 718396	Esmeralda
Hasbrouck	NHD 187M	WK Mining (USA)	05/09/95	NMC 718397	Esmeralda
Hasbrouck	NHD 188M	WK Mining (USA)	05/09/95	NMC 718398	Esmeralda
Hasbrouck	NHD 189M	WK Mining (USA)	05/09/95	NMC 718399	Esmeralda
Hasbrouck	NHD #167J	WK Mining (USA)	10/28/95	NMC 730689	Esmeralda
Hasbrouck	TP 1	WK Mining (USA)	08/18/03	NMC 853864	Esmeralda
Hasbrouck	TP 2	WK Mining (USA)	08/18/03	NMC 853865	Esmeralda
Hasbrouck	FF 1	WK Mining (USA)	1/22/2011	NMC1041621	Esmeralda
Hasbrouck	FF 2	WK Mining (USA)	1/22/2011	NMC1041622	Esmeralda
Hasbrouck	FF 3	WK Mining (USA)	1/22/2011	NMC1041623	Esmeralda
Hasbrouck	FF 4	WK Mining (USA)	1/22/2011	NMC1041624	Esmeralda
Hasbrouck	FF 5	WK Mining (USA)	1/22/2011	NMC1041625	Esmeralda
Hasbrouck	FF 6	WK Mining (USA)	1/22/2011	NMC1041626	Esmeralda
Hasbrouck	FF 7	WK Mining (USA)	1/22/2011	NMC1041627	Esmeralda
Hasbrouck	FF 8	WK Mining (USA)	1/22/2011	NMC1041628	Esmeralda
Hasbrouck	FF 9	WK Mining (USA)	1/22/2011	NMC1041629	Esmeralda
Hasbrouck	FF 10	WK Mining (USA)	1/22/2011	NMC1041630	Esmeralda
Hasbrouck	FF 11	WK Mining (USA)	1/22/2011	NMC1041631	Esmeralda
Hasbrouck	FF 12	WK Mining (USA)	1/23/2011	NMC1041632	Esmeralda
Hasbrouck	FF 13	WK Mining (USA)	1/23/2011	NMC1041633	Esmeralda
Hasbrouck	FF 14	WK Mining (USA)	1/23/2011	NMC1041634	Esmeralda
Hasbrouck	FF 15	WK Mining (USA)	1/24/2011	NMC1041635	Esmeralda
Hasbrouck	FF 16	WK Mining (USA)	1/24/2011	NMC1041636	Esmeralda
Hasbrouck	FF 17	WK Mining (USA)	1/24/2011	NMC1041637	Esmeralda
Hasbrouck	FF 19	WK Mining (USA)	1/24/2011	NMC1041638	Esmeralda
Hasbrouck	FF 20	WK Mining (USA)	1/25/2011	NMC1041639	Esmeralda
Hasbrouck	FF 21	WK Mining (USA)	1/25/2011	NMC1041640	Esmeralda
Hasbrouck	FF 22	WK Mining (USA)	4/12/2011	NMC1041641	Esmeralda
Hasbrouck	HAS 1	WK Mining (USA)	6/6/2010	NMC 1026485	Esmeralda
Hasbrouck	HAS 2	WK Mining (USA)	6/6/2010	NMC 1026486	Esmeralda

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Hasbrouck	HAS 3	WK Mining (USA)	6/6/2010	NMC 1026487	Esmeralda
Hasbrouck	HAS 4	WK Mining (USA)	6/6/2010	NMC 1026488	Esmeralda
Hasbrouck	HAS 5	WK Mining (USA)	6/6/2010	NMC 1026489	Esmeralda
Hasbrouck	HAS 6	WK Mining (USA)	6/6/2010	NMC 1026490	Esmeralda
Hasbrouck	HAS 7	WK Mining (USA)	6/6/2010	NMC 1026491	Esmeralda
Hasbrouck	HAS 8	WK Mining (USA)	6/6/2010	NMC 1026492	Esmeralda
Hasbrouck	HAS 9	WK Mining (USA)	6/6/2010	NMC 1026493	Esmeralda
Hasbrouck	HAS 10	WK Mining (USA)	6/6/2010	NMC 1026494	Esmeralda
Hasbrouck	HAS 11	WK Mining (USA)	6/6/2010	NMC 1026495	Esmeralda
Hasbrouck	HAS 12	WK Mining (USA)	6/6/2010	NMC 1026496	Esmeralda
Hasbrouck	HAS 13	WK Mining (USA)	6/6/2010	NMC 1026497	Esmeralda
Hasbrouck	HAS 14	WK Mining (USA)	6/6/2010	NMC 1026498	Esmeralda
Hasbrouck	HAS 15	WK Mining (USA)	6/6/2010	NMC 1026499	Esmeralda
Hasbrouck	HAS 16	WK Mining (USA)	6/6/2010	NMC 1026500	Esmeralda
Hasbrouck	HAS 17	WK Mining (USA)	6/6/2010	NMC 1026501	Esmeralda
Hasbrouck	HAS 18	WK Mining (USA)	6/6/2010	NMC 1026502	Esmeralda
Hasbrouck	HAS 19	WK Mining (USA)	6/6/2010	NMC 1026503	Esmeralda
Hasbrouck	HAS 20	WK Mining (USA)	6/6/2010	NMC 1026504	Esmeralda
Hasbrouck	HAS 21	WK Mining (USA)	6/6/2010	NMC 1026505	Esmeralda
Hasbrouck	HAS 22	WK Mining (USA)	6/6/2010	NMC 1026506	Esmeralda
Hasbrouck	HAS 23	WK Mining (USA)	6/6/2010	NMC 1026507	Esmeralda
Hasbrouck	HAS 24	WK Mining (USA)	6/6/2010	NMC 1026508	Esmeralda
Hasbrouck	HAS 25	WK Mining (USA)	6/6/2010	NMC 1026509	Esmeralda
Hasbrouck	HAS 26	WK Mining (USA)	6/6/2010	NMC 1026510	Esmeralda
Hasbrouck	HAS 27	WK Mining (USA)	6/6/2010	NMC 1026511	Esmeralda
Hasbrouck	HAS 28	WK Mining (USA)	6/6/2010	NMC 1026512	Esmeralda
Hasbrouck	HAS 29	WK Mining (USA)	6/6/2010	NMC 1026513	Esmeralda
Hasbrouck	HAS 30	WK Mining (USA)	6/6/2010	NMC 1026514	Esmeralda
Hasbrouck	HAS 31	WK Mining (USA)	6/6/2010	NMC 1026515	Esmeralda
Hasbrouck	HAS 32	WK Mining (USA)	6/6/2010	NMC 1026516	Esmeralda
Hasbrouck	HAS 33	WK Mining (USA)	6/6/2010	NMC 1026517	Esmeralda
Hasbrouck	HAS 34	WK Mining (USA)	6/6/2010	NMC 1026518	Esmeralda
Hasbrouck	HAS 35	WK Mining (USA)	6/6/2010	NMC 1026519	Esmeralda
Hasbrouck	HAS 36	WK Mining (USA)	6/6/2010	NMC 1026520	Esmeralda
Hasbrouck	HAS 37	WK Mining (USA)	6/6/2010	NMC 1026521	Esmeralda
Hasbrouck	HAS 38	WK Mining (USA)	6/6/2010	NMC 1026522	Esmeralda
Hasbrouck	HAS 39	WK Mining (USA)	6/6/2010	NMC 1026523	Esmeralda
Hasbrouck	HAS 40	WK Mining (USA)	6/6/2010	NMC 1026524	Esmeralda
Hasbrouck	HAS 41	WK Mining (USA)	6/6/2010	NMC 1026525	Esmeralda
Hasbrouck	HAS 42	WK Mining (USA)	6/6/2010	NMC 1026526	Esmeralda
Hasbrouck	HAS 43	WK Mining (USA)	6/6/2010	NMC 1026527	Esmeralda
Hasbrouck	HAS 44	WK Mining (USA)	6/6/2010	NMC 1026528	Esmeralda
Hasbrouck	HAS 45	WK Mining (USA)	6/6/2010	NMC 1026529	Esmeralda
Hasbrouck	HAS 46	WK Mining (USA)	6/6/2010	NMC 1026530	Esmeralda
Hasbrouck	HAS 47	WK Mining (USA)	6/6/2010	NMC 1026531	Esmeralda
Hasbrouck	HAS 48	WK Mining (USA)	6/6/2010	NMC 1026532	Esmeralda

AREA	Claim Name	Claim Owner	Location Date	BLM Serial No.	Filing County
Hasbrouck	HAS 49	WK Mining (USA)	6/6/2010	NMC 1026533	Esmeralda
Hasbrouck	HAS 50	WK Mining (USA)	6/6/2010	NMC 1026534	Esmeralda
Hasbrouck	HAS 51	WK Mining (USA)	6/6/2010	NMC 1026535	Esmeralda
Hasbrouck	HAS 52	WK Mining (USA)	6/6/2010	NMC 1026536	Esmeralda
Hasbrouck	HAS 53	WK Mining (USA)	6/6/2010	NMC 1026537	Esmeralda
Hasbrouck	HAS 54	WK Mining (USA)	6/6/2010	NMC 1026538	Esmeralda
Hasbrouck	HAS 55	WK Mining (USA)	6/6/2010	NMC 1026539	Esmeralda
Hasbrouck	HAS 56	WK Mining (USA)	6/6/2010	NMC 1026540	Esmeralda
Hasbrouck	HAS 57	WK Mining (USA)	6/6/2010	NMC 1026541	Esmeralda
Hasbrouck	HAS 58	WK Mining (USA)	6/6/2010	NMC 1026542	Esmeralda
Hasbrouck	HAS 59	WK Mining (USA)	6/6/2010	NMC 1026543	Esmeralda
Hasbrouck	HSR 2	WK Mining (USA)	7/21/2011	NMC 1054626	Esmeralda
Hasbrouck	HSR 3	WK Mining (USA)	7/21/2011	NMC 1054627	Esmeralda
Hasbrouck	HSR 15	WK Mining (USA)	7/20/2011	NMC 1054628	Esmeralda
Hasbrouck	HSR 28	WK Mining (USA)	7/21/2011	NMC 1054629	Esmeralda
Hasbrouck	HSR 29	WK Mining (USA)	7/21/2011	NMC 1054630	Esmeralda
Hasbrouck	HSR 37	WK Mining (USA)	7/21/2011	NMC 1054631	Esmeralda
Hasbrouck	HSR 38	WK Mining (USA)	7/21/2011	NMC 1054632	Esmeralda
Hasbrouck	HSR 39	WK Mining (USA)	7/21/2011	NMC 1054633	Esmeralda
Hasbrouck	HSR 44	WK Mining (USA)	7/21/2011	NMC 1054634	Esmeralda
Hasbrouck	HSR 45	WK Mining (USA)	7/21/2011	NMC 1054635	Esmeralda
Hasbrouck	HSR 46	WK Mining (USA)	7/21/2011	NMC 1054636	Esmeralda
Hasbrouck	HSR 47	WK Mining (USA)	7/21/2011	NMC 1054637	Esmeralda
Hasbrouck	HSR 48	WK Mining (USA)	7/21/2011	NMC 1054638	Esmeralda
Hasbrouck	HSR 49	WK Mining (USA)	7/21/2011	NMC 1054639	Esmeralda
Hasbrouck	HSR 50	WK Mining (USA)	7/21/2011	NMC 1054640	Esmeralda
Hasbrouck	HSR 51	WK Mining (USA)	7/21/2011	NMC 1054641	Esmeralda
Hasbrouck	HSR 52	WK Mining (USA)	7/21/2011	NMC 1054642	Esmeralda
Hasbrouck	HSR 53	WK Mining (USA)	7/21/2011	NMC 1054643	Esmeralda
Hasbrouck	HSR 54	WK Mining (USA)	7/21/2011	NMC 1054644	Esmeralda
Hasbrouck	HSR 55	WK Mining (USA)	7/21/2011	NMC 1054645	Esmeralda
Hasbrouck	HSR 195	WK Mining (USA)	7/21/2011	NMC 1054646	Esmeralda
Hasbrouck	HSR 299	WK Mining (USA)	7/21/2011	NMC 1054647	Esmeralda
Hasbrouck	HSR 300	WK Mining (USA)	7/21/2011	NMC 1054648	Esmeralda
Hasbrouck	HSR 301	WK Mining (USA)	7/21/2011	NMC 1054649	Esmeralda
Hasbrouck	HSR 302	WK Mining (USA)	7/21/2011	NMC 1054650	Esmeralda

Hasbrouck Patented Claims

AREA	Claim Name	Claim Owner	Patent No.	MS#	APN#
Hasbrouck	Eliza Jane	WK Mining (USA)	443624	4143	000-005-83
Hasbrouck	Polo	WK Mining (USA)	443624	4143	000-005-83
Hasbrouck	Desert King	WK Mining (USA)	443624	4143	000-005-83
Hasbrouck	Star of the East	WK Mining (USA)	443624	4143	000-005-83
Hasbrouck	Sierra Nevada	WK Mining (USA)	703972	4337	000-005-83
Hasbrouck	Lode	WK Mining (USA)	703972	4337	000-005-83

Hasbrouck	San Jose	WK Mining (USA)	703972	4337	000-005-83
Hasbrouck	Nonpareil No. 1	WK Mining (USA)	899381	4385	000-005-83
Hasbrouck	Nonpareil No. 2	WK Mining (USA)	899381	4385	000-005-83
Hasbrouck	Royal	WK Mining (USA)	818585	4386	000-005-83
Hasbrouck	Last Chance	WK Mining (USA)	828482	4416	000-005-83
Hasbrouck	Last Chance No. 1	WK Mining (USA)	828482	4416	000-005-83
Hasbrouck	Last Chance No. 2	WK Mining (USA)	828482	4416	000-005-83
Hasbrouck	Last Chance No. 3	WK Mining (USA)	828482	4416	000-005-83
Hasbrouck	Nonpareil No. 3	WK Mining (USA)	809601	4436	000-005-83
Hasbrouck	Nonpareil No. 4	WK Mining (USA)	809601	4436	000-005-83
Hasbrouck	Nonpareil No. 5	WK Mining (USA)	857954	4437	000-005-83
Hasbrouck	Nonpareil No. 6	WK Mining (USA)	857954	4437	000-000-50
Hasbrouck	Nonpareil No. 7	WK Mining (USA)	857954	4437	000-000-50
Hasbrouck	Nonpareil No. 8	WK Mining (USA)	857954	4437	000-000-50
Hasbrouck	Nonpareil No. 9	WK Mining (USA)	857951	4437	000-003-38
Hasbrouck	Nonpareil No. 10	WK Mining (USA)	857951	4437	000-003-38
Hasbrouck	Nonpareil No. 11	WK Mining (USA)	857951	4437	000-003-38
Hasbrouck	Silver King	WK Mining (USA)	891082	4387	000-002-89
Hasbrouck	Silver King No.1	WK Mining (USA)	891082	4387	000-002-89
Hasbrouck	TFG	WK Mining (USA)	819102	4428	000-002-85 000-001-39
Hasbrouck	TFG1	WK Mining (USA)	819102	4428	000-002-85
Hasbrouck	TFG2	WK Mining (USA)	819102	4428	000-002-85

Three Hills Unpatented Claims

AREA	Claim Name	Claim Owner	Location Date	BLM Serial No.	Filing County
Three Hills	Three Hills #1	WK Mining (USA)	02/14/74	NMC 82240	Esmeralda
Three Hills	Three Hills #2	WK Mining (USA)	02/14/74	NMC 82241	Esmeralda
Three Hills	Three Hills #3	WK Mining (USA)	02/14/74	NMC 82242	Esmeralda
Three Hills	Three Hills #4	WK Mining (USA)	02/14/74	NMC 82243	Esmeralda
Three Hills	Three Hills #5	WK Mining (USA)	02/14/74	NMC 82244	Esmeralda
Three Hills	Three Hills #6	WK Mining (USA)	02/14/74	NMC 82245	Esmeralda
Three Hills	Three Hills #7	WK Mining (USA)	02/14/74	NMC 82246	Esmeralda
Three Hills	ABA #15	WK Mining (USA)	12/15/75	NMC 82247	Esmeralda
Three Hills	ABA #16	WK Mining (USA)	12/15/75	NMC 82248	Esmeralda
Three Hills	ABA #17	WK Mining (USA)	12/15/75	NMC 82249	Esmeralda
Three Hills	ABA #18	WK Mining (USA)	12/15/75	NMC 82250	Esmeralda
Three Hills	ABA #19	WK Mining (USA)	12/15/75	NMC 82251	Esmeralda
Three Hills	ABA #24	WK Mining (USA)	12/15/75	NMC 82252	Esmeralda
Three Hills	ABA #25	WK Mining (USA)	12/15/75	NMC 82253	Esmeralda
Three Hills	ABA #26	WK Mining (USA)	12/15/75	NMC 82254	Esmeralda
Three Hills	TH 1	WK Mining (USA)	4/16/2012	NMC1072691	Esmeralda
Three Hills	TH 2	WK Mining (USA)	4/16/2012	NMC1072692	Esmeralda
Three Hills	TH 3	WK Mining (USA)	4/16/2012	NMC1072693	Esmeralda
Three Hills	TH 4	WK Mining (USA)	4/16/2012	NMC1072694	Esmeralda
Three Hills	TH 5	WK Mining (USA)	4/16/2012	NMC1072695	Esmeralda
Three Hills	TH 6	WK Mining (USA)	4/16/2012	NMC1072696	Esmeralda
Three Hills	TH 7	WK Mining (USA)	4/16/2012	NMC1072697	Esmeralda
Three Hills	TH 8	WK Mining (USA)	4/16/2012	NMC1072698	Esmeralda
Three Hills	TH 9	WK Mining (USA)	4/16/2012	NMC1072699	Esmeralda
Three Hills	TH 10	WK Mining (USA)	4/16/2012	NMC1072700	Esmeralda
Three Hills	TH 11	WK Mining (USA)	4/16/2012	NMC1072701	Esmeralda
Three Hills	TH 12	WK Mining (USA)	4/16/2012	NMC1072702	Esmeralda
Three Hills	TH 13	WK Mining (USA)	4/16/2012	NMC1072703	Esmeralda
Three Hills	TH 14	WK Mining (USA)	4/16/2012	NMC1072704	Esmeralda
Three Hills	TH 15	WK Mining (USA)	4/16/2012	NMC1072705	Esmeralda
Three Hills	TH 16	WK Mining (USA)	4/16/2012	NMC1072706	Esmeralda
Three Hills	TH 17	WK Mining (USA)	4/16/2012	NMC1072707	Esmeralda
Three Hills	TH 18	WK Mining (USA)	4/16/2012	NMC1072708	Esmeralda
Three Hills	TH 19	WK Mining (USA)	4/16/2012	NMC1072709	Esmeralda
Three Hills	TH 20	WK Mining (USA)	4/16/2012	NMC1072710	Esmeralda
Three Hills	TH 21	WK Mining (USA)	4/16/2012	NMC1072711	Esmeralda
Three Hills	TH 22	WK Mining (USA)	4/16/2012	NMC1072712	Esmeralda
Three Hills	TH 23	WK Mining (USA)	4/16/2012	NMC1072713	Esmeralda
Three Hills	TH 24	WK Mining (USA)	4/16/2012	NMC1072714	Esmeralda
Three Hills	TH 25	WK Mining (USA)	4/16/2012	NMC1072715	Esmeralda
Three Hills	TH 26	WK Mining (USA)	4/16/2012	NMC1072716	Esmeralda
Three Hills	TH 27	WK Mining (USA)	4/16/2012	NMC1072717	Esmeralda
Three Hills	TH 28	WK Mining (USA)	4/16/2012	NMC1072718	Esmeralda
Three Hills	TH 29	WK Mining (USA)	4/16/2012	NMC1072719	Esmeralda

Three Hills	TH 30	WK Mining (USA)	4/16/2012	NMC1072720	Esmeralda
Three Hills	TH 31	WK Mining (USA)	4/17/2012	NMC1072721	Esmeralda
Three Hills	TH 32	WK Mining (USA)	4/17/2012	NMC1072722	Esmeralda
Three Hills	TH 33	WK Mining (USA)	4/17/2012	NMC1072723	Esmeralda
Three Hills	TH 34	WK Mining (USA)	4/17/2012	NMC1072724	Esmeralda
Three Hills	TH 35	WK Mining (USA)	4/17/2012	NMC1072725	Esmeralda
Three Hills	TH 36	WK Mining (USA)	4/17/2012	NMC1072726	Esmeralda
Three Hills	TH 37	WK Mining (USA)	4/17/2012	NMC1072727	Esmeralda
Three Hills	TH 38	WK Mining (USA)	4/17/2012	NMC1072728	Esmeralda
Three Hills	TH 39	WK Mining (USA)	4/17/2012	NMC1072729	Esmeralda
Three Hills	TH 40	WK Mining (USA)	4/17/2012	NMC1072730	Esmeralda
Three Hills	TH 41	WK Mining (USA)	4/17/2012	NMC1072731	Esmeralda
Three Hills	TH 42	WK Mining (USA)	4/17/2012	NMC1072732	Esmeralda
Three Hills	TH 43	WK Mining (USA)	4/17/2012	NMC1072733	Esmeralda
Three Hills	TH 44	WK Mining (USA)	4/17/2012	NMC1072734	Nye and Esmeralda
Three Hills	TH 45	WK Mining (USA)	4/17/2012	NMC1072735	Esmeralda
Three Hills	TH 46	WK Mining (USA)	4/17/2012	NMC1072736	Nye and Esmeralda
Three Hills	TH 47	WK Mining (USA)	4/17/2012	NMC1072737	Esmeralda
Three Hills	TH 48	WK Mining (USA)	4/17/2012	NMC1072738	Nye and Esmeralda
Three Hills	TH 49	WK Mining (USA)	4/17/2012	NMC1072739	Esmeralda
Three Hills	TH 50	WK Mining (USA)	4/17/2012	NMC1072740	Nye and Esmeralda
Three Hills	TH 51	WK Mining (USA)	4/17/2012	NMC1072741	Esmeralda
Three Hills	TH 52	WK Mining (USA)	4/17/2012	NMC1072742	Nye and Esmeralda
Three Hills	TH 53	WK Mining (USA)	4/17/2012	NMC1072743	Esmeralda
Three Hills	TH 54	WK Mining (USA)	4/17/2012	NMC1072744	Nye and Esmeralda
Three Hills	TH 55	WK Mining (USA)	4/17/2012	NMC1072745	Esmeralda
Three Hills	TH 56	WK Mining (USA)	4/17/2012	NMC1072746	Nye and Esmeralda
Three Hills	TH 57	WK Mining (USA)	4/17/2012	NMC1072747	Esmeralda
Three Hills	TH 58	WK Mining (USA)	4/17/2012	NMC1072748	Nye and Esmeralda
Three Hills	TH 59	WK Mining (USA)	4/17/2012	NMC1072749	Esmeralda
Three Hills	TH 60	WK Mining (USA)	4/17/2012	NMC1072750	Nye and Esmeralda
Three Hills	TH 61	WK Mining (USA)	4/17/2012	NMC1072751	Nye and Esmeralda
Three Hills	TH 61A	WK Mining (USA)	3/22/2013	NMC1089460	Esmeralda
Three Hills	TH 62	WK Mining (USA)	3/22/2013	NMC1089461	Esmeralda
Three Hills	TH 63	WK Mining (USA)	3/22/2013	NMC1089462	Esmeralda
Three Hills	TH 64	WK Mining (USA)	3/22/2013	NMC1089463	Esmeralda
Three Hills	TH 65	WK Mining (USA)	3/22/2013	NMC1089464	Esmeralda
Three Hills	TH 66	WK Mining (USA)	3/22/2013	NMC1089465	Esmeralda
Three Hills	TH 67	WK Mining (USA)	3/22/2013	NMC1089466	Esmeralda
Three Hills	TH 68	WK Mining (USA)	3/22/2013	NMC1089467	Esmeralda
Three Hills	TH 69	WK Mining (USA)	3/22/2013	NMC1089468	Esmeralda
Three Hills	TH 70	WK Mining (USA)	3/22/2013	NMC1089469	Esmeralda
Three Hills	TH 71	WK Mining (USA)	3/22/2013	NMC1089470	Esmeralda
Three Hills	TH 72	WK Mining (USA)	3/22/2013	NMC1089471	Esmeralda
Three Hills	TH 73	WK Mining (USA)	3/22/2013	NMC1089472	Esmeralda
Three Hills	TH 74	WK Mining (USA)	3/22/2013	NMC1089473	Esmeralda
Three Hills	TH 75	WK Mining (USA)	3/22/2013	NMC1089474	Esmeralda
Three Hills	TH 76	WK Mining (USA)	3/22/2013	NMC1089475	Esmeralda

Three Hills	TH 77	WK Mining (USA)	3/22/2013	NMC1089476	Esmeralda
Three Hills	TH 78	WK Mining (USA)	3/22/2013	NMC1089477	Esmeralda
Three Hills	TH 79	WK Mining (USA)	3/22/2013	NMC1089478	Esmeralda
Three Hills	TH 80	WK Mining (USA)	3/22/2013	NMC1089479	Esmeralda
Three Hills	TH 81	WK Mining (USA)	3/22/2013	NMC1089480	Esmeralda
Three Hills	TH 82	WK Mining (USA)	3/22/2013	NMC1089481	Esmeralda
Three Hills	TH 83	WK Mining (USA)	3/22/2013	NMC1089482	Esmeralda
Three Hills	TH 84	WK Mining (USA)	3/22/2013	NMC1089483	Esmeralda

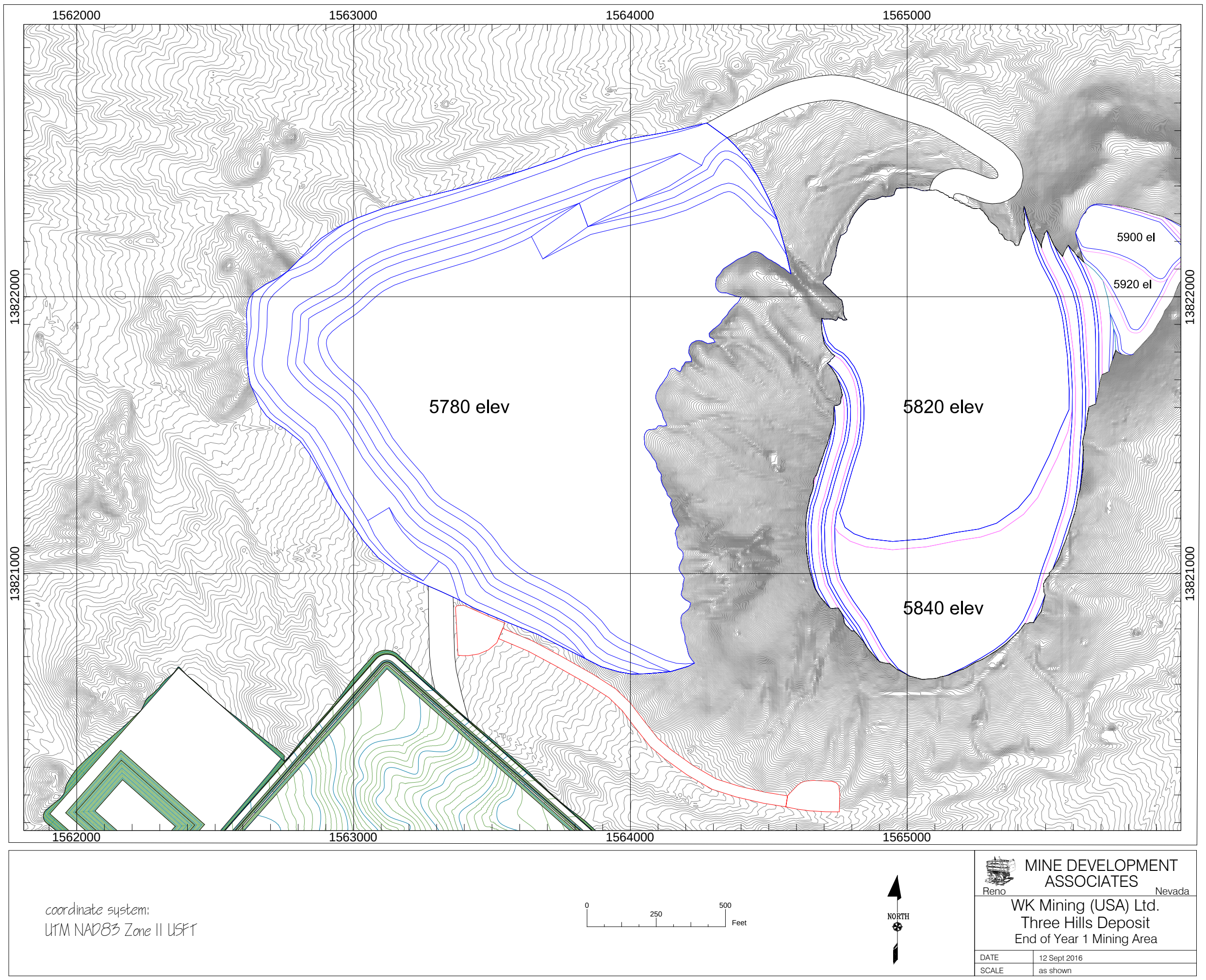
Three Hills Patented Claims

AREA	Claim Name	Claim Owner	Patent No.	MS#	APN#
Three Hills	Uranus	WK Mining (USA)	277076	3898	000-005-86
Three Hills	Jupiter	WK Mining (USA)	277076	3898	000-006-98
Three Hills	Ruby No. 3	WK Mining (USA)	848685	4463	000-001-02
Three Hills	Ruby No. 4	WK Mining (USA)	848685	4463	000-000-37
Three Hills	Ruby No. 5	WK Mining (USA)	848685	4463	000-000-58
Three Hills	Saturn	WK Mining (USA)	277076	3898	000-003-17
Three Hills	Rex	Eastfield Resources (USA)	654427, 848685	Eastfield Option	A Portion of 000-005-77
Three Hills	Ruby	Eastfield Resources (USA)	848685	Eastfield Option	A Portion of 000-005-77
Three Hills	Ruby 2	Eastfield Resources (USA)	848685	Eastfield Option	A Portion of 000-005-77
Three Hills	Great Western	Eastfield Resources (USA)	848685	Eastfield Option	A Portion of 000-005-77
Three Hills	Mars	Eastfield Resources (USA)	277076	Eastfield Option	A Portion of 000-005-77
Three Hills	Moon	Eastfield Resources (USA)	277076	Eastfield Option	A Portion of 000-005-77
Three Hills	Venus	Eastfield Resources (USA)	277076	Eastfield Option	A Portion of 000-005-77

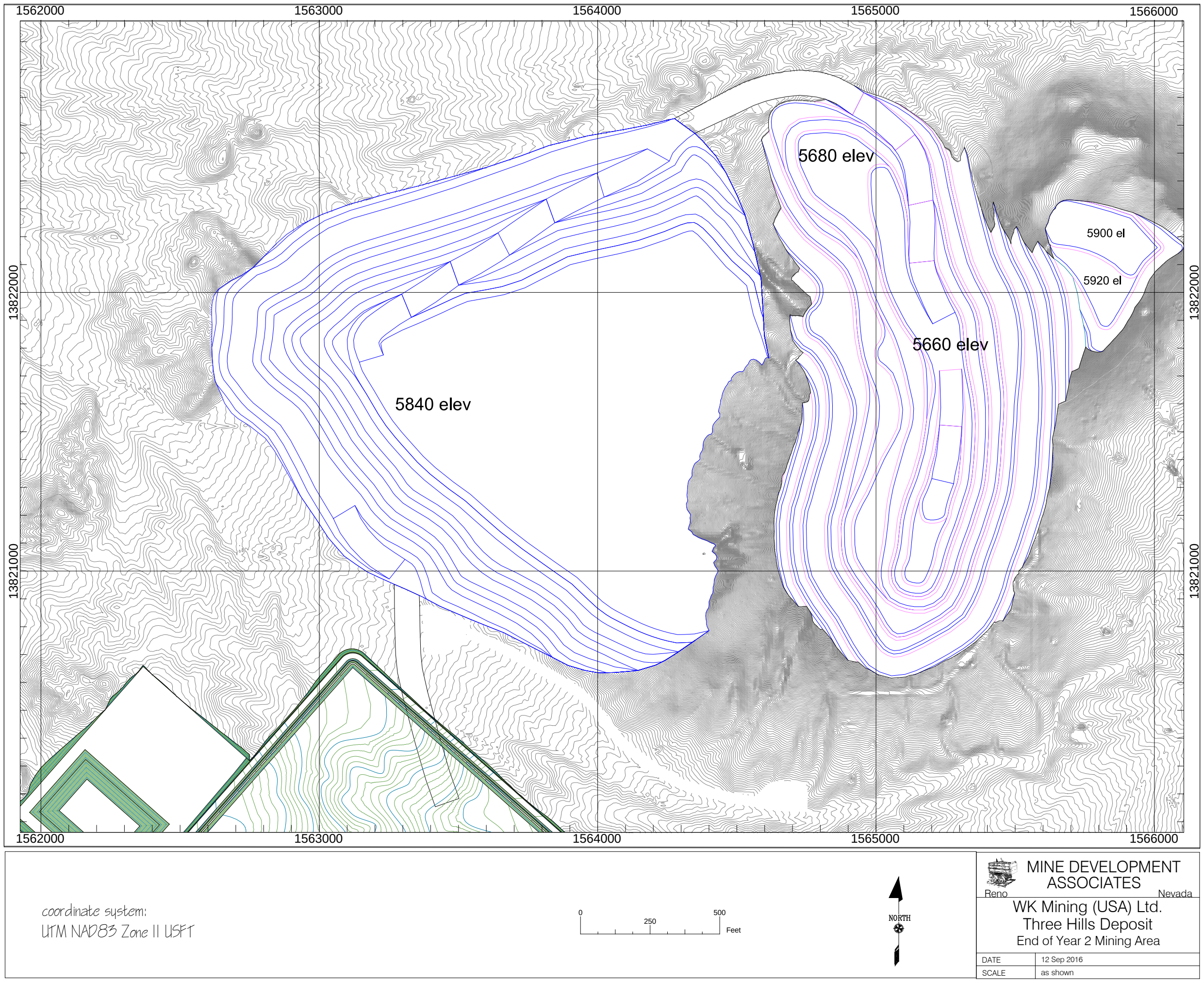
APPENDIX B

Three Hills Mine End of Year Pits and Dumps

Three Hills Mine: End of Year 1



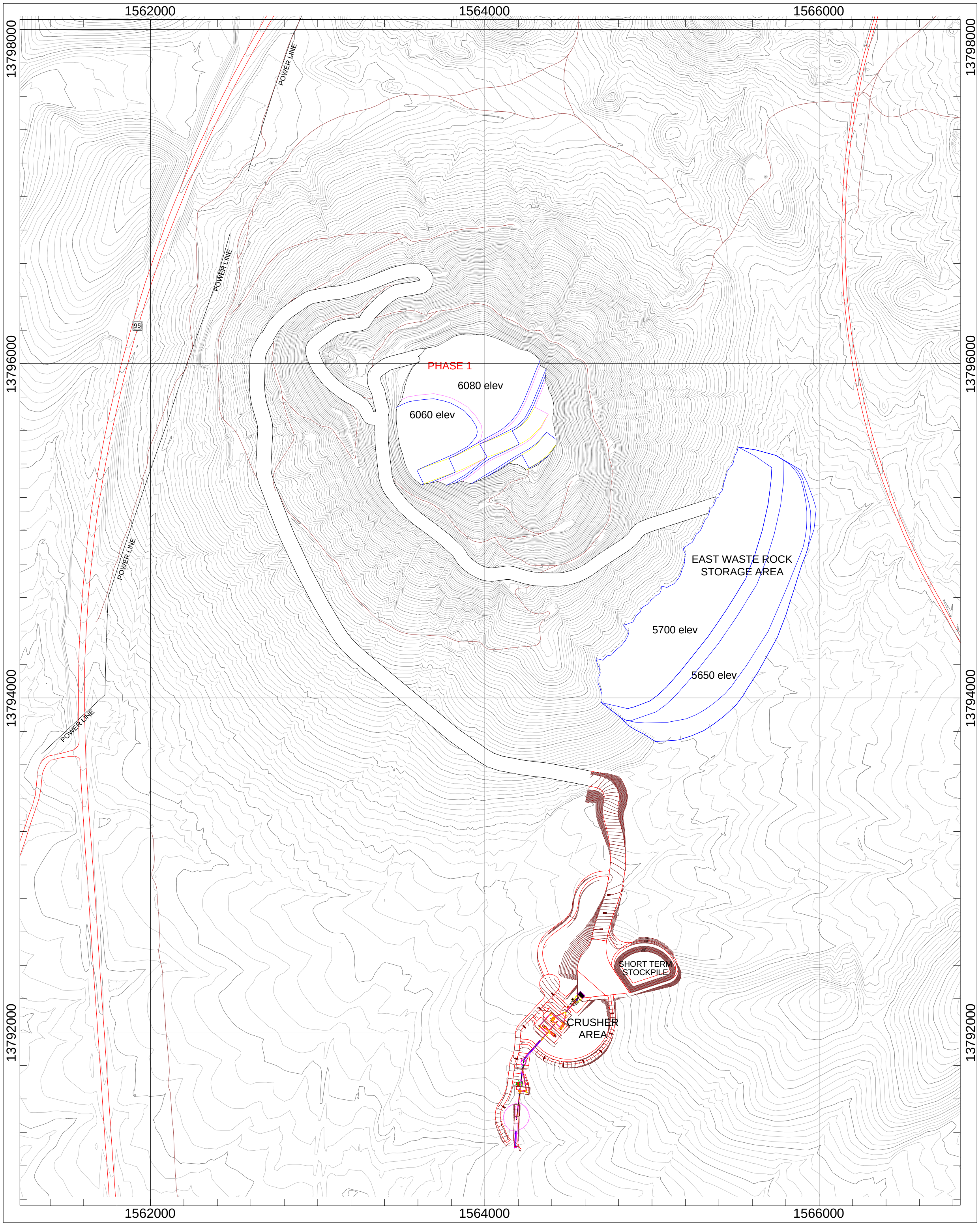
Three Hills Mine: End of Year 2



APPENDIX C

Hasbrouck Mine End of Year Pits and Dumps

Hasbrouck Mine: End of Year 2



coordinate system:
UTM NAD83 Zone 11 USFT

0 500 1000 Feet

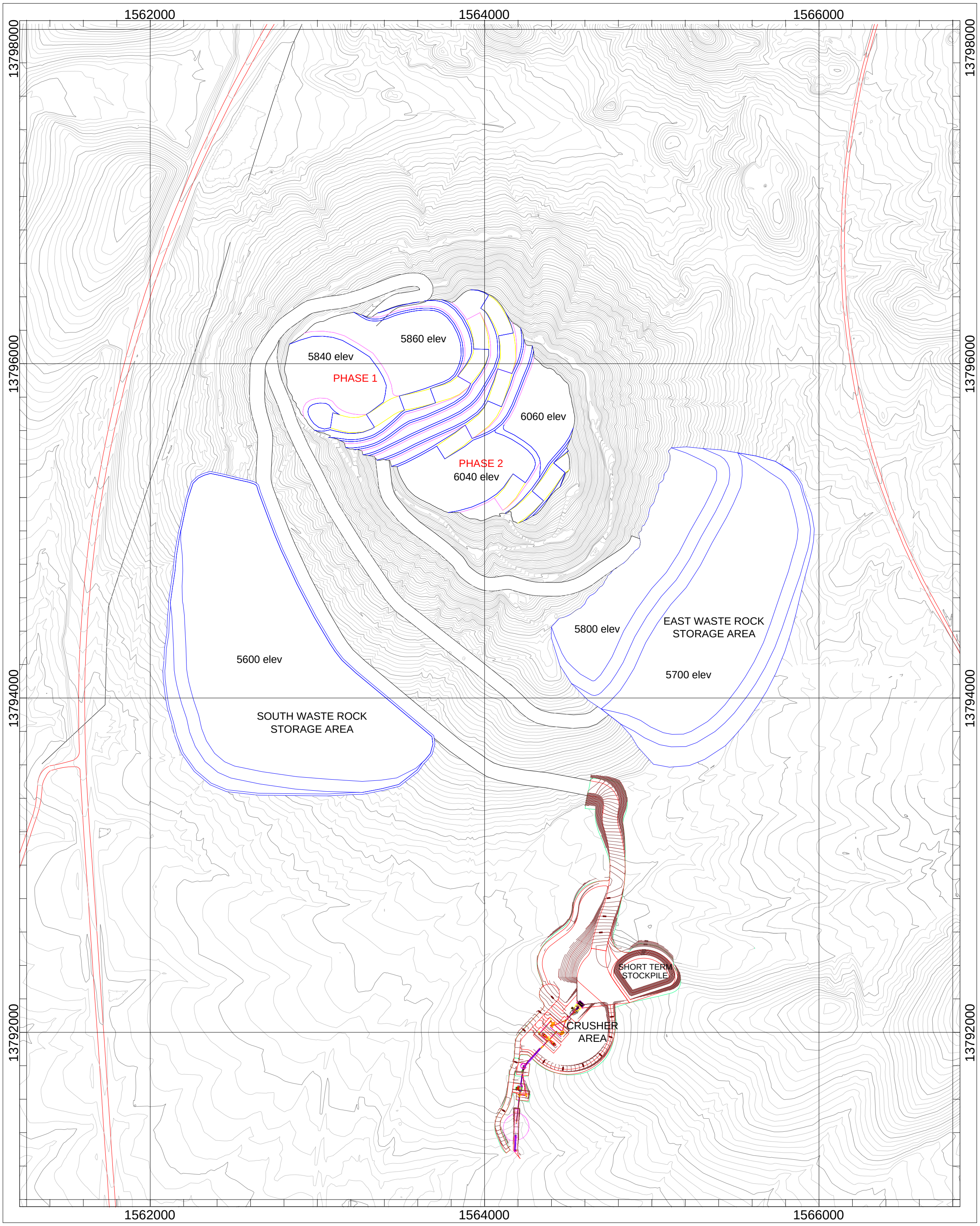
NORTH

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

WK Mining (USA) Ltd.
Hasbrouck Deposit
End of Year 2 Mining Area

DATE	29 Apr 2015
SCALE	as shown

Hasbrouck Mine: End of Year 3



coordinate system:
UTM NAD83 Zone 11 USFT

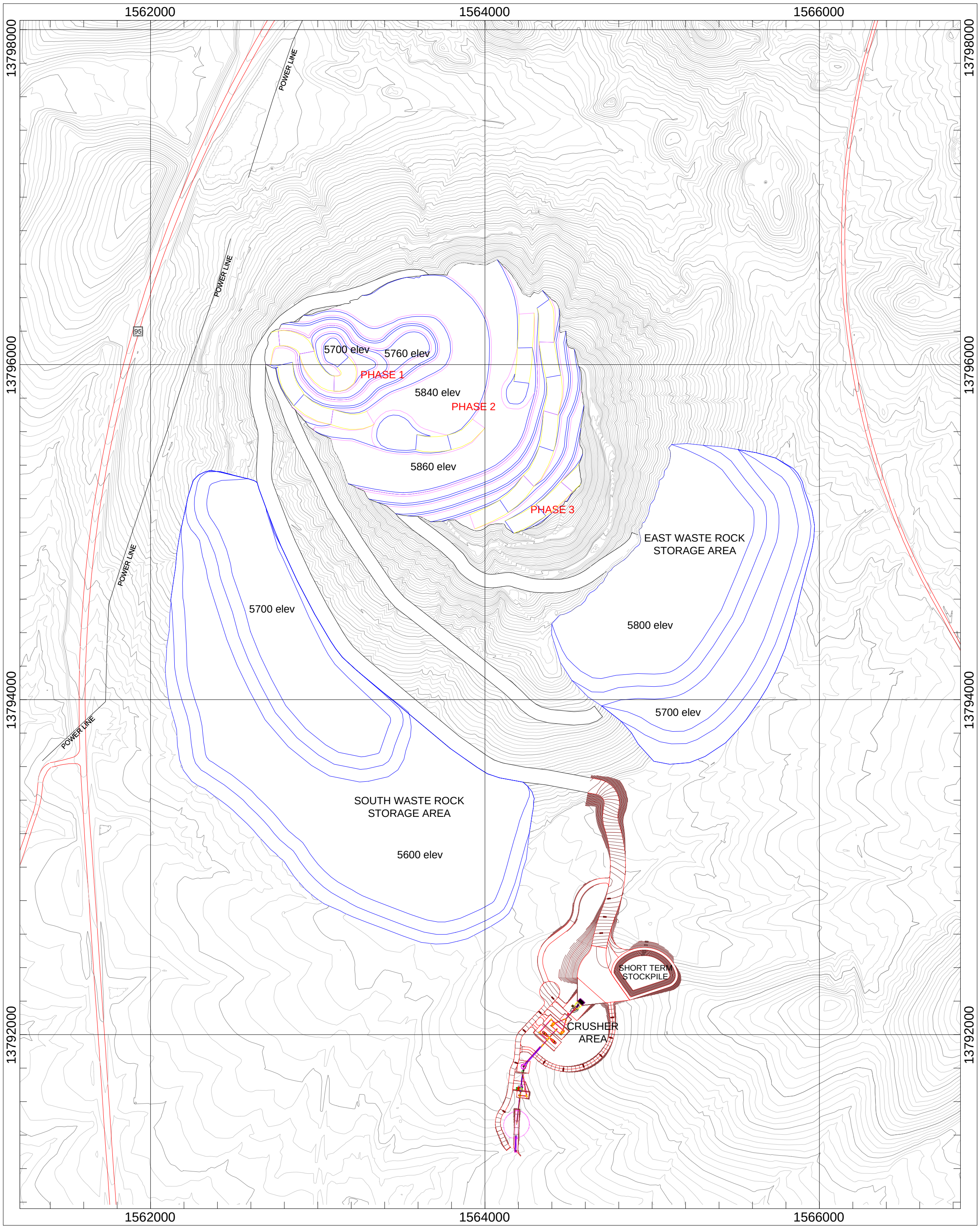
0 500 1000
Feet

MINE DEVELOPMENT
ASSOCIATES
Reno Nevada

WK Mining (USA) Ltd.
Hasbrouck Deposit
End of Year 3 Mining Area

DATE	17 Apr 2015
SCALE	as shown

Hasbrouck Mine: End of Year 4



coordinate system:
UTM NAD83 Zone 11 USFT

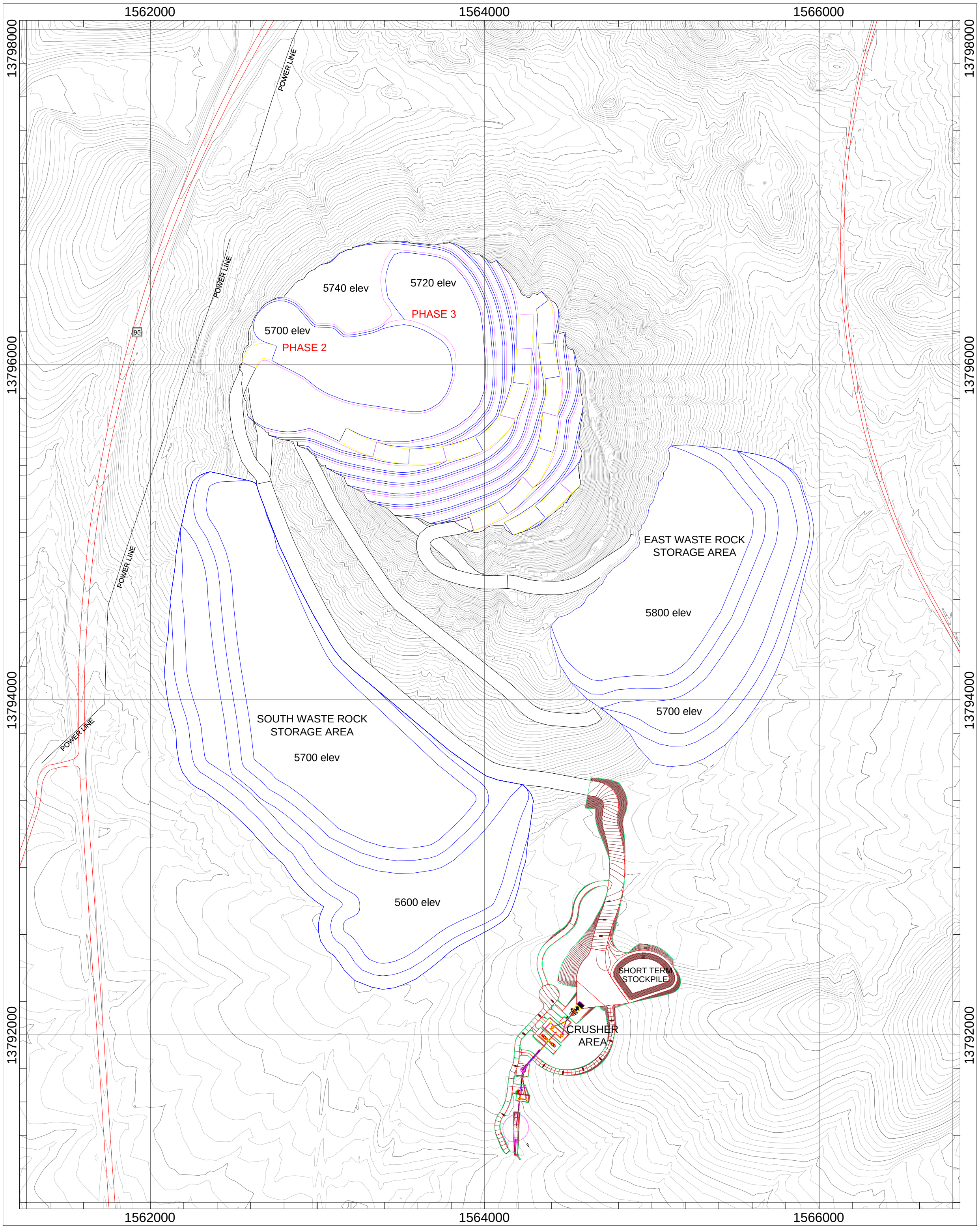
0 500 1000
Feet

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

WK Mining (USA) Ltd.
Hasbrouck Deposit
End of Year 4 Mining Area

DATE	29 Apr 2015
SCALE	as shown

Hasbrouck Mine: End of Year 5



coordinate system:
UTM NAD83 Zone 11 USFT

0 500 1000
Feet

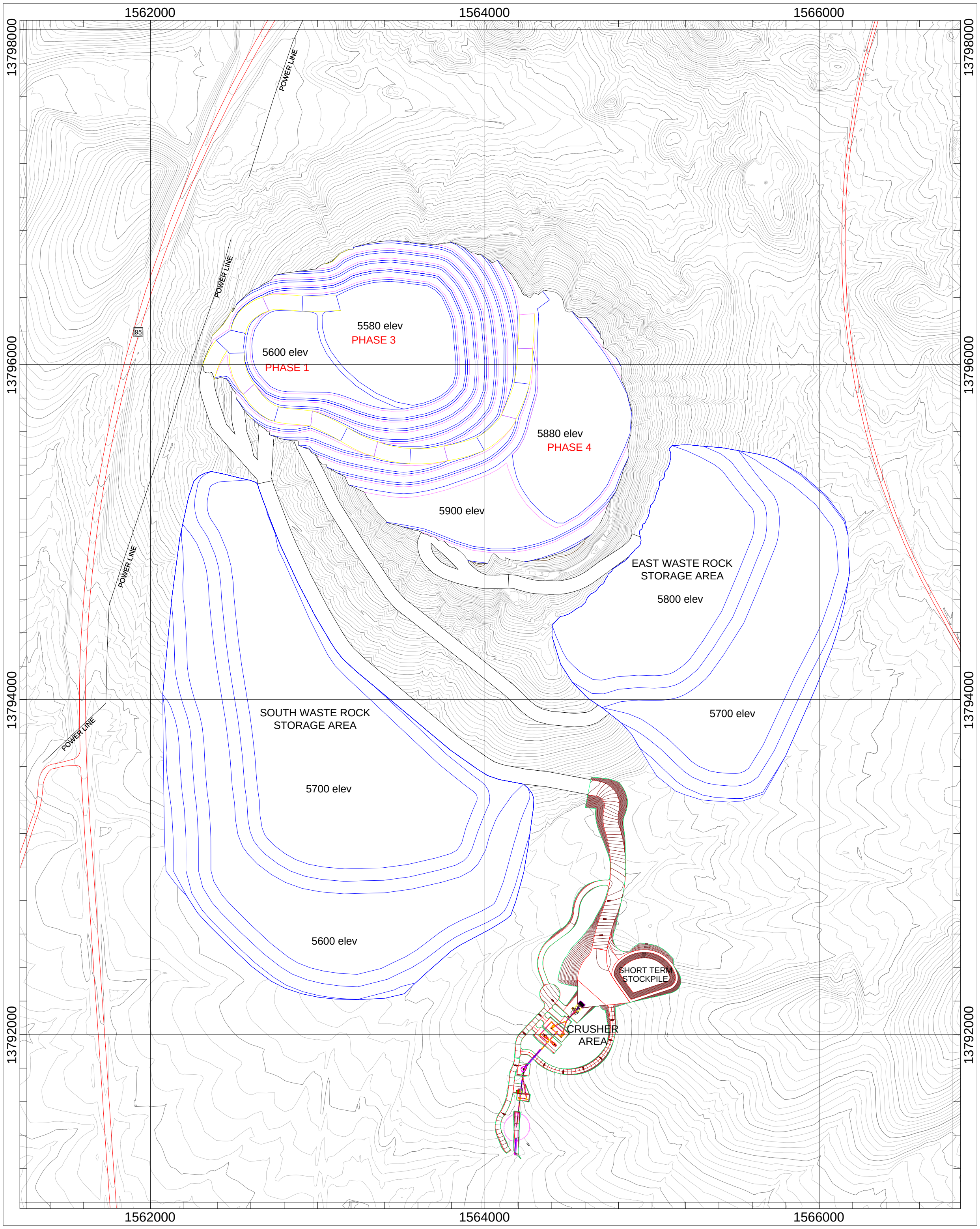
NORTH

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

WK Mining (USA) Ltd.
Hasbrouck Deposit
End of Year 5 Mining Area

DATE	24 Apr 2015
SCALE	as shown

Hasbrouck Mine: End of Year 6



coordinate system:
UTM NAD83 Zone 11 USFT

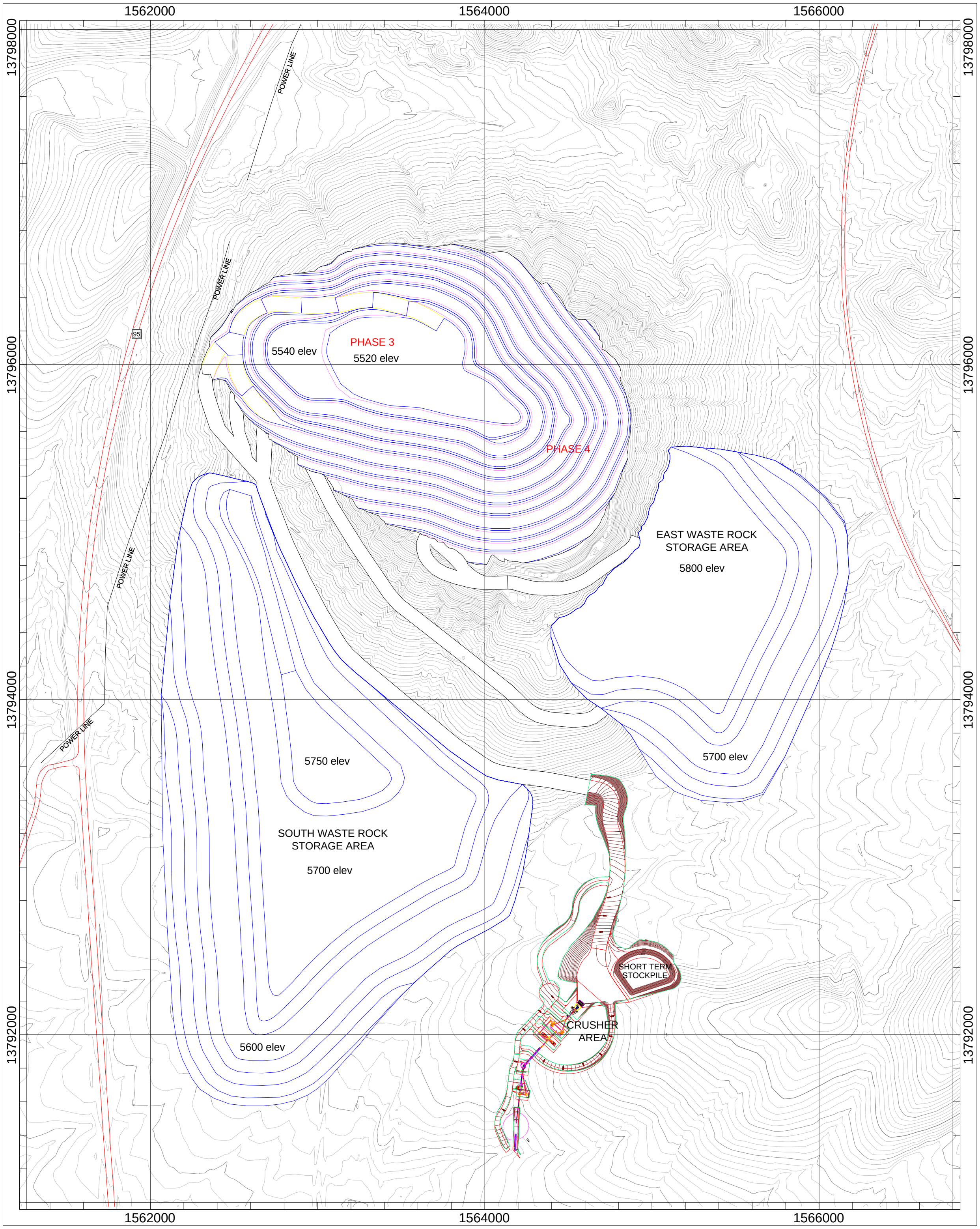
0 500 1000
Feet

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

WK Mining (USA) Ltd.
Hasbrouck Deposit
End of Year 6 Mining Area

DATE	24 Apr 2015
SCALE	as shown

Hasbrouck Mine: End of Year 7



coordinate system:
UTM NAD83 Zone 11 USFT

0 500 1000 Feet

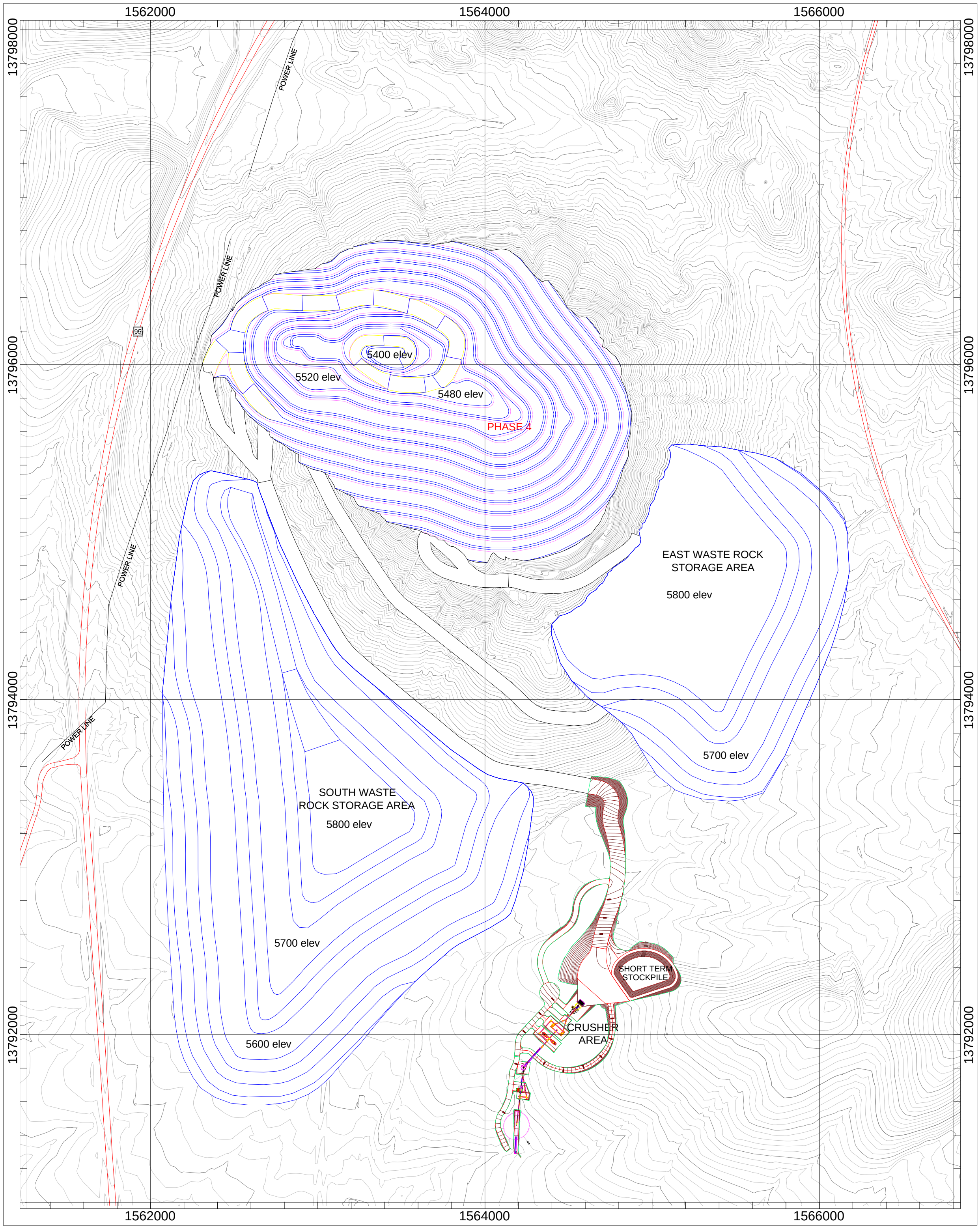
NORTH

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

WK Mining (USA) Ltd.
Hasbrouck Deposit
End of Year 7 Mining Area

DATE	24 Apr 2015
SCALE	as shown

Hasbrouck Mine: End of Year 8



coordinate system:
UTM NAD83 Zone 11 USFT

0 500 1000 Feet

MINE DEVELOPMENT ASSOCIATES
Reno Nevada

WK Mining (USA) Ltd.
Hasbrouck Deposit
End of Year 8 Mining Area

DATE	24 Apr 2015
SCALE	as shown