

## 1. TESTING

Although enough prior drilling has been done to approximate the economically viable deposits suitable for placer mining, further, more concentrated, drilling will be done before any ground is broken. This additional drilling will help to locate the limits of all viable deposits more accurately. By accurately locating these deposits, Ferguson Placer Inc. (FPI) will be able to minimize their disturbance by mining only what is viable. No ground will be broken if a suitable grade is not proven first.

Gravel will be sampled in intervals as the overburden is stripped, to insure no pay material is accidentally stockpiled as overburden.

## 2. DIVERSIONS

A total of nine diversions totaling 3417 linear yards have been proposed to ensure the mining operation is located at a minimum of 25 feet from the flood plane of Walker Fork. Diagrams showing the location of these can be found in figures 6-8 of Appendix B. The nine proposed diversions would utilize previous abandoned stream channels and other off channel features where possible (approximately 2753 linear yards). To help keep the stream channel as natural as possible, the abandoned channels would be cleared of silt and debris with an excavator and re engineered to insure the same fall rate and flood capacities are kept relative to the existing stream channel.

Stream meanders that can not be easily diverted using abandoned channels will be left in place and a 25 foot buffer will be left on each side of the flood plane. These areas may be mined at a later date, but is outside the scope of this project.

## 3. REMOVAL OF OVERBURDEN

Once an area has been proven viable and conflicting streams have been properly diverted, the next stage of the mining process will be the removal of overburden. This will be carried out in three stages: removal of organic muck with dozers, removal of gravel with dozer, removal of remaining gravel with excavators.

The proposed mining area is covered in a layer of frozen organic soil/muck ranging from six inches to twelve feet in depth. The expected average depth determined from drill data is to be 3.58 feet, resulting in total of 957 467 cubic yards of organic material to be excavated. A break down of this number in terms of volume per year can be found in appendix E. The muck will be excavated primarily in the sub freezing months of the year, March, April, October, and November, when the soft swampy areas are frozen sufficiently to handle the weight of heavy equipment. The frozen material will be ripped into chunks and pushed into stockpiles by a D475 and

a D9L dozer. Due to the lack of moisture in the material, it is possible to stack it higher and closer to minimize the disturbed area. Initially, on the first pass up the valley (2013, 2014) this material will be stacked on land proven uneconomic to mine along the northern boundary of the proposed cut shown in figures 3,4,5 of Appendix B. This stockpile will reach 40 yards outside the 150 yard pit and reach a maximum height of 8 yards. It will be positioned so that it can easily segregated from the gravel overburden and making it possible to redistribute during the restoration stage, providing sufficient topsoil to promote vegetation and wetlands regrowth. To allow the gravel interval to thaw in time to be processed, a full seasons cut will need to be stripped to gravel one year in advance (e.g. The proposed mining area of 2014 will need to be opened to gravel by the spring of 2013). This time delay is why our predicted proposed production starts at 50% and ramps up to 100% in the third year.

Once the organic overburden is removed in the spring, the remaining gravel overburden is left to thaw naturally. When enough gravel has thawed it is removed and stockpiled with D475 and D9L dozers next to and on top of the organic overburden piles. This allows the ground bellow it to continue to thaw at a faster rate. A series of ditches and small pumps will also be used to circulate water to further aid in the thawing. The over burden will continue to be removed as it thaws to the pay layer determined by testing.

The final step in removing the overburden is to excavate the ramps (toes) left by the bulldozer. The remaining overburden toes are lifted out of the active cut with an excavator and stacked along side the pit in piles. These piles will reach a maximum height of 7 yards and a width of 12 yards. Approximately 1 898 733 cubic yards of gravel overburden will be removed in total during the 5 year project. See appendix E for expected total amounts per year. It is important to have this overburden removed the fall prior to mining in the following spring (e.g. Material to be processed in spring of 2014 must be prepared down to pay layer by fall of 2013).

#### 4. PROCESSING PAY MATERIAL

Once all overburden has been removed and enough time has been allowed for pay material to thaw sufficiently, the material can then be processed and the desirable minerals can be removed. FPI intends to use a 6-foot diameter floating trommel to process their material. The material is fed into the front (hopper) of the machine and is then classified down to ½ inch. The larger, coarse tailings are deposited in the rear by conveyor. The material smaller than ½ inch is passed over a set of gold catching tables and the fine tailings are then deposited at the rear. The floating trommel will progress up the cut as the excavator advances the pond. Approximately 1 072 000 cubic yards of pay material is expect to be processed over the 5 year project. All the water used for processing is contained in a closed loop system, re-circulating in the pond and sealed from seepage by a series of dams across the cut spaced approximately every 100 yards.

## 5. RESTORATION

After the material is processed and stacked, the tailings are leveled off and capped with the overburden stockpiled on the side. This process can happen instantaneously as the ground is mined. The gravel and sand overburden is backfilled first and the organics last. This allows the layers to be backfilled in the order they came out. If additional organics are needed for proper re-vegetation, more can be spread out when they are removed from the adjacent cut.



POA-1999-354-M1, APMA 9124, Ferguson Placer, Inc., Walker Fork

Mine area stripped to prepare for mining in 2012/ 2013



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Site has ample organic overburden for reclamation purposes



POA-1999-354-M1, APMA 9124, Ferguson Placer, Inc., Walker Fork

Site contains areas that flood and capture sediment during high water events on Walker Fork, due to presence of an abandoned flood-gate left by a former operator. Applicant proposes to construct depressions that will function as low velocity off-channel wetlands as they regenerate, similar to features that are currently present at the site.



POA-1999-354-M1, APMA 9124, Ferguson Placer, Inc., Walker Fork

Close-up of high water silt accumulation



Walker Fork





POA-1999-354-M1, APMA 9124, Ferguson Placer, Inc., Walker Fork

Ferguson reclamation from previous Canadian operation



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