



## U.S. Department of the Interior Bureau of Land Management

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### Environmental Assessment and Plan of Operations Amendment

Mineral Material Disposal of Tailings from Federal Placer Mining Claims 43 CFR §3600

**Applicant:** XS Platinum, Inc., successor in interest to  
R. A. Hanson Mining Company, Inc. and  
the Goodnews Bay Mining Company

**Case File Number:** AA-091137  
DOI-BLM-AK-1330-2009-0015-EA



#### **Location:**

Federal Mining Claims of XS Platinum, Inc  
Seward Meridian  
T. 14 – 16 S., R. 75 W.

**Prepared by:**  
Anchorage Field Office

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## 1.0. INTRODUCTION

XS Platinum, Inc., an Australian Corporation, is the successor in interest to A. Hanson Mining Company, Inc. and the Goodnews Bay Mining Company. Goodnews Bay Mining Company and Hanson Mining Company, Inc. were engaged in placer mining for platinum in the vicinity of Platinum, Alaska from the mid 1930's through the 1990's. As a consequence of these operations there are approximately 44 million cubic yards of tailings on the mining claims. XS Platinum, Inc., the current owner and operator of the claims, is desirous of selling a portion of its waste material, the tailings from its operations, as mineral materials.



Figure 1 Tailing at XS Platinum Claims, Platinum, Alaska

### 1.1. Land Status

The lands upon which the tailing piles are located are all unpatented, federal mining claims. The lands and claims are administered by the Bureau of Land Management. Patent applications have been filed for title to the land upon which all the claims have been located. Calista Corporation has also selected the lands upon which all the claims have been located for conveyance under the Alaska Native Claims Settlement Act.<sup>1</sup> The road, Red Mountain Road, upon which the tailing/mineral material will be transported from the unpatented mining claims to market was developed by the mining claimant, constitutes the claimant's ingress and egress to its claims, and

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<sup>1</sup> BLM administered lands require consultation with ANCSA Native Corporations on proposals to use Native selected lands. 43 CFR §2650.1(a)(2)(i).

Environmental document No: DOI-BLM-AK-1300-0004-EA

pre-dates the Alaska Native Claims Settlement Act Section 17(b) road easement that overlays it. The land surrounding the claims is privately held.

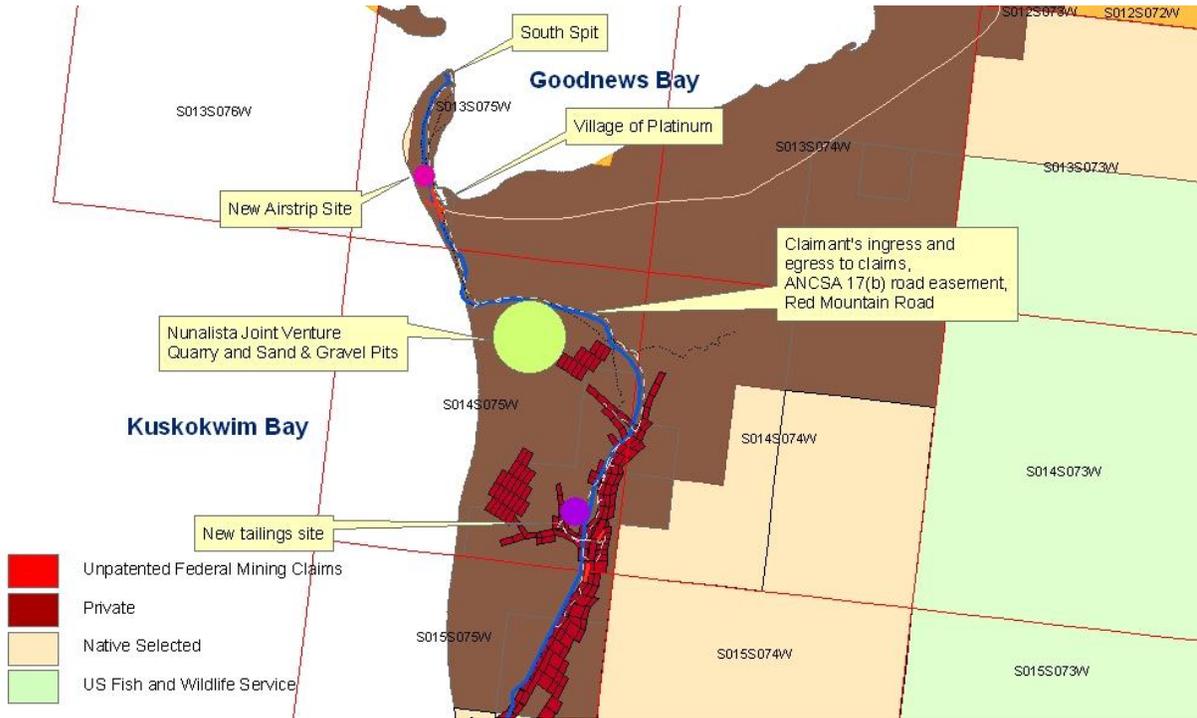


Figure 2 Land Ownership

The claims that are being worked under the claimant’s approved plan of operations are:

Table 1 Claims from which mineral material disposal will occur

| Claim/BLM File No: | Location Date |
|--------------------|---------------|
| AA-032117          | 1937          |
| AA-032118          | 1938          |
| AA-032194          | 1935          |
| AA-032120          | 1927          |
| AA-032227          | 1935          |
| AA-032119          | 1935          |
| AA-032260          | 1930          |
| AA-032259          | 1935          |
| AA-032256          | 1937          |
| AA-032266          | 1933          |
| AA-032264          | 1927          |
| AA-032267          | 1927          |
| AA-032263          | 1933          |
| AA-032262          | 1927          |

## **1.2. Relationship to Statutes, Regulations, Policies, Plans or Other Environmental Analyses**

### **1.2.1. Statutory and Regulatory Authority**

The Materials Act of 1947 authorizes the Secretary of Interior's sale of mineral material from public lands, 30 U.S.C. §601. It is the Bureau of Land Management's policy that sand and gravel found on unpatented, mining claims located before 1955, where the claimant has not asserted an interest in the sand and gravel as a locatable mineral and has not marketed it from the time of initial location as such, is the property of the United States and subject to the provisions of the Materials Act of 1947. The Bureau of Land Management regulates sales of mineral materials in accordance with the provisions of 43 CFR Part 3600.

That said sand and gravel may be used in support of mining operations without the Bureau's authorization, i.e. to maintain the claimant's access to its claims, in this instance, Red Mountain Road.

## **1.3. Plan Conformance 43 CFR §1610.5-3**

### **1.3.1. BLM-Alaska's Bay Resource Management Plan**

The lands to be affected by the proposed action, here the unpatented mining claims, are located within the Bureau of Land Management-Alaska's Bay Resource Management Plan planning area. The Bay Resource Management Plan, November 4, 2008, at page 25 provides:

This RMP recommends revocation of withdrawals to open approximately 1,100,654 acres of unencumbered BLM land and any selected lands relinquished from selection to salable mineral development.

Although the lands to be affected are subject to Public Land Order 5184, the Order provides that the land "...shall remain subject to administration by the Secretary of the Interior under applicable laws and regulations and his authority to make contracts and to grant leases, permits, rights-of-way, or easements." Thus although the Bureau of Land Management-Alaska's Bay Resource Management Plan contemplates revocation of Public Land Order 5184 and restoration of the land to the public domain and operation of the public land laws before mineral material sales may be authorized, the Plan provision is superfluous.

## **1.4. Other Environmental Analyses**

### **1.4.1. Environmental Analyses**

XS Platinum, Inc's current plan of operations which focused on the processing of tailings for residual platinum placer material, was analyzed in Environmental Assessment, AK-040-93-013 which culminated in a Finding of No Significant Impact, dated January 27, 1994; again in an Administrative Decision and Documentation of Land Use Plan Conformance and NEPA Adequacy, AK-040-AD01-013, dated May 2, 2001; and lastly in an Administrative Decision and Documentation of Land Use Plan Conformance and NEPA Adequacy, AK-010-08-DNA-025, dated May 14, 2008.

In addition, the State of Alaska, Department of Transportation and Public Facilities, prepared an Environmental Assessment and Finding of No Significant Impact for the development of a new airstrip at Platinum in 2002.

The foregoing environmental reviews and their respective analyzes are incorporated by reference.

## **2.0. FEDERAL ACTION**

The Bureau of Land Management proposes to authorize the disposal of approximately 200,000 cubic yards of tailing/mineral materials from the claims identified in Table 1, - 20,000 cubic yards for maintenance of the Red Mountain Road with the balance available to XS Platinum for mineral material sales.<sup>2</sup>

### **2.1. Proposed Action – Sale of mineral materials**

As XS Platinum, Inc. processes the current tailings for residual platinum it will generate new tailings. These new tailings will be the source for tailing/mineral materials disposal. Approximately 180,000 cubic yards of the material will be transported to the South Spit of Goodnews Bay for further dispersal, if any, by XS Platinum, Inc.

Of the 200,000 cubic yards of tailing/mineral material that will be removed from the mining claims, 20,000 cubic yards will be used by XS Platinum, Inc. for maintenance of the Red Mountain Road. Ten thousand cubic yards of the 20,000 cubic yards of tailing/mineral material will be used immediately for road maintenance and 10,000 cubic yards will be stockpiled for future road maintenance. The initial 10,000 cubic yards will be immediately dispersed along Red Mountain Road with a higher concentration of dispersal between XS Platinum, Inc's mining operations and the Nunalista Joint Venture Quarry and Gravel Pit than between Nunalista Joint Venture's operations and the South Spit of Goodnews Bay.

Of the balance of the tailing/mineral material, 25,000 cubic yards will be used by XS Platinum, Inc. to meet its contract obligations with the State of Alaska to provide sand and gravel for development of a new airstrip at Platinum, Alaska. XS Platinum Inc. anticipates that it will take three to six trucks an hour, ten hours a day, five days a week, for four straight weeks to meet its contract obligations. Transport of the material will be accomplished by three new tractors and dump trailers that are currently available for shipment from the lower 48. XS Platinum, Inc. is attempting to have the tractors and dump trailers delivered to Platinum, Alaska by mid May, 2009. Each dump trailer has a capacity of 40 tons, has 4-axles, and is 58-foot long. XS Platinum Inc. expects to begin delivery of the tailing/mineral material to the new airstrip site by late June through August 1, 2009. The new airstrip site and the point of delivery for the 25,000 cubic yards of tailing/mineral material is approximately nine miles to the northwest of the claims at the

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<sup>2</sup> The tailings material or mineral material to be disposed of represents less than ½ of one percent of the total tailing/mineral material available for reclamation of both historic and on-going locatable mineral development. It is comparatively a de minimus amount of material. Thus, the consequences relating to disposal of 200,000 cubic yards of tailing/mineral material vis-à-vis reclamation material is not addressed in this document.

approximate terminus of Red Mountain Road on the South Spit of Goodnews Bay. Routing for the delivery will likely go through the village of Platinum.

The balance of the 200,000 cubic yards of material or approximately 155,000 cubic yards of material will remain on site at XS Platinum, Inc's mine site and will be available to XS Platinum, Inc. for future mineral material sales. The three new tractor/dump trailers will remain at XS Platinum, Inc's mine site for future mineral material delivery, tentatively to the wharf and harborage on the South Spit of Goodnews Bay.

Red Mountain Road is the only road between the mining claims and the south Spit of Goodnews Bay. The Road goes through the Village of Platinum; *see* Appendix A for the State of Alaska's Community Profile for the Village of Platinum. There are 41 residents, 17 households, 9 families, and 26 housing units within the village.

The tailing/mineral material used to meet XS Platinum, Inc's mineral material sales will come directly from its processing operations for residual platinum. As a consequence the material will have high water content.

All vehicles used to load and transport the tailing/mineral material will be fueled and maintained at the mining camp's established fuel site.

## **2.2. No Action Alternative – No sale of mineral materials**

Under the no-action alternative the Bureau of Land Management would not authorize the disposal of the tailing/mineral material from XS Platinum, Inc's a mining claims. XS Platinum, Inc. would fail to meet its contract obligations to the State of Alaska unless it could find an alternate source for the mineral material. XS Platinum Inc. would not be able to offset its cost of placer mining operations through the sale of tailing/mineral material.

### 3.0. AFFECTED ENVIRONMENT

#### 3.1. Ecosystem Provinces<sup>3</sup>

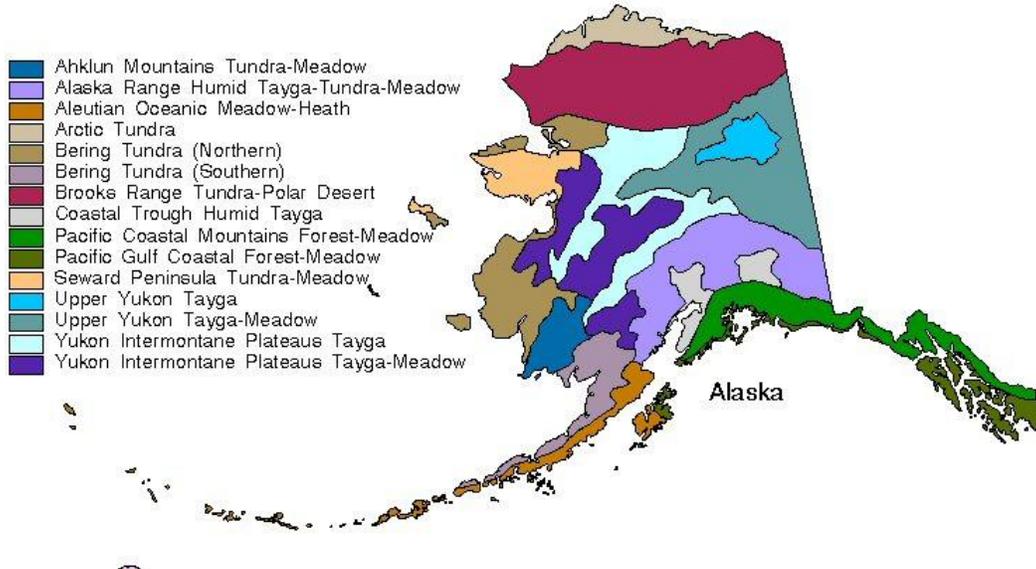


Figure 3 Alaska's Ecosystem Provinces

The Ahklun Mountains Tundra-Meadow Ecosystem Province will be impacted by the mineral material disposal discussed in this document.

*Land-surface form.*--Groups of rugged steep-walled mountains with sharp summits 2,000-5,000 ft (600-1,500 m) high, separated by broad flat valleys and lowlands, rise abruptly above the lowlands and low hills to the north and east. The mountains consist of strongly deformed sedimentary and volcanic rocks, with some bodies of schist. There are many narrow glacial lakes in U-shaped canyons. A few small cirque glaciers are found at the highest elevations.

*Climate.*--The marine-phase tundra climate is characterized by cold winters and cool, short summers. Average winter daily temperatures range from a minimum of 3F (-16C) to a maximum of 18F (-8C). Mean summer temperatures have daily lows around 46F (8C) and highs around 61 to 66F (16 to 19C). Annual precipitation ranges from 39 in (1,000 mm) in the lowlands to over 78 in (2,000 mm) in the higher mountains, with a pronounced summer maximum. Average annual snowfall ranges from 78 to 196 in (2,000 to 5,000 mm), with a similar seasonal pattern.

*Vegetation.*--Alpine tundra predominates in the mountains, whereas moist tundra communities occupy valley bottoms. Black spruce forest vegetation dominates some hills and ridges. Forests of white spruce, paper birch, and alder cover low hills along major rivers.

<sup>3</sup> Source: <http://www.nearctica.com/ecology/ecoreg/m126.htm>

The Y-K Delta is classified as within the northern boreal vegetative subzone which is characterized by subarctic tundra underlain by permafrost and coastal plains frequently inundated by Bering Sea tides. Vegetation in the Platinum area is typical of arctic and subarctic areas. Vegetation on the South Spit is relatively sparse and characterized by upland species such as grasses on the west and low heath tundra on the east. The South Spit's vegetation is dominated by crowberry with lichen; lyne grass, dwarf willow, mosses, and blueberries also present. Toward the village and to the east, the vegetation includes reed bent grass, roseroot, and potentilla. West of the village the vegetation is predominantly crowberry; however, roseroot, potentilla, mosses, and lichen are also present.<sup>4</sup>

Wetlands are common along streams and other water bodies and in depressions underlain by permafrost. These are classified as palustrine wetlands. Gravel bars (vegetated and un-vegetated) within the Smalls River are classified as riverine wetlands. Areas characterized by eelgrass and kelp beds offshore of the South Spit are estuarine and marine wetlands. Ponds and small lakes in the vicinity of Platinum are classified as lacustrine wetlands. South Spit generally would be considered upland, although a few areas of wetlands exist at the north end. There are several small to tiny ponds in the vicinity of Red Mountain Road. Wetlands also exist to the east along a small drainage into Goodnews Bay. A larger pond is present at the far north end of the South Spit of Goodnews Bay near the end of the Red Mountain Road.

*Soils.*--Principal soils are Inceptisols. Mountain soils are formed in very stony and gravelly colluvium material over bedrock. Valley soils are formed over glacial till. Permafrost occurs sporadically.

*Fauna.*--Beaver are abundant mammals, with large numbers harvested annually.

Blackpoll warblers are common breeders in conifer stands in river valleys.

Wood frogs have been reported.

Sockeye salmon are the most abundant fish, but chum, king, and silver salmon are also numerous.

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<sup>4</sup> State of Alaska Environmental Assessment for Platinum Airstrip Development, Page 21.

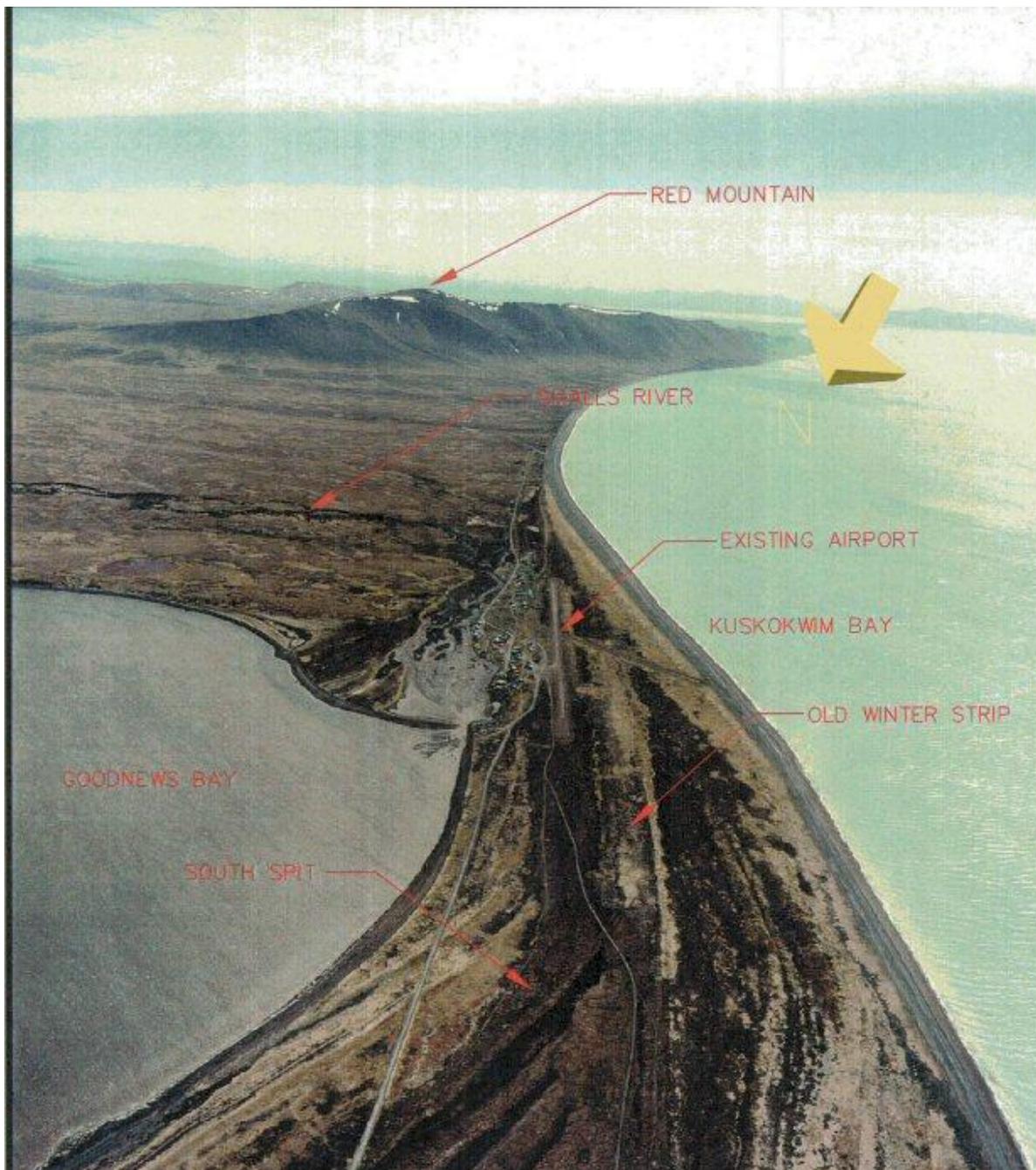


**Figure 4 Flock of Steller eiders**

Migrating flocks of Steller eiders are found in the Goodnews Bay area from early April through early June.

In June 1997 the US Fish and Wildlife Service conducted arctic and Aleutian tern surveys in Platinum. Observations from 1997 and 1998 surveys indicated that the main Aleutian and arctic tern nesting areas on the South Spit of Goodnews Bay are within flat, open, areas that contain bare soils and low growing sparsely vegetated tundra habitat.

*Land Use.*--Human population is low and dispersed. Recreational and subsistence hunting and fishing are the main uses.



**Figure 5 A view of the South Spit Goodnews Bay from the Southwest.  
Note XS Platinum Inc's claims are on the south side of Red Mountain.**

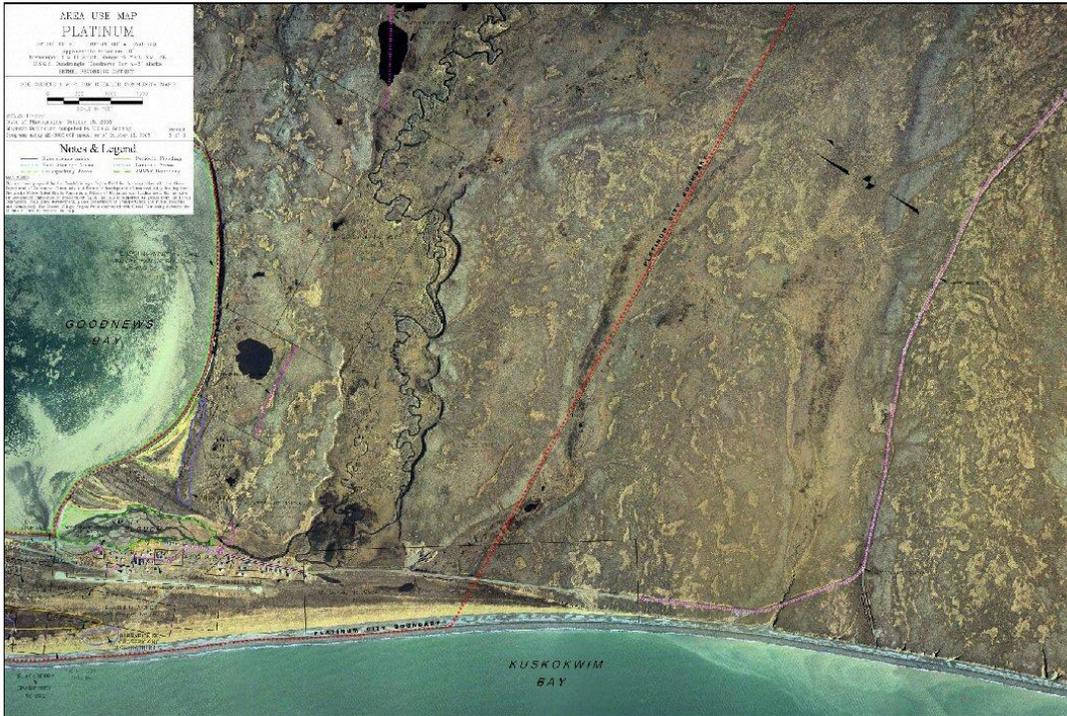


Figure 6 Red Mountain Road enters the frame on the top right and proceeds through the Village of Platinum near the current airstrip on the left bottom of the frame.

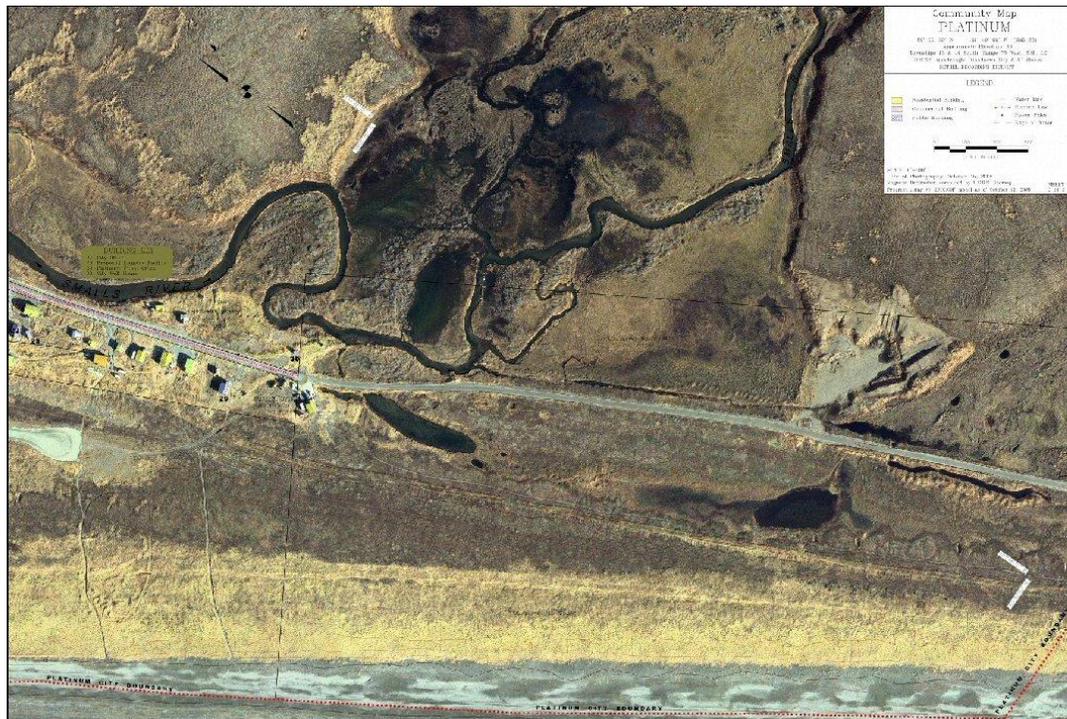


Figure 7 Red Mountain Road as it enters the Village of Platinum from the East.



**Figure 8 Red Mountain Road and current airstrip west end of Village of Platinum on the South Spit of Goodnews Bay**

### 3.2. Critical Elements of the Human Environment

The following discussion is organized around the ten significance criteria described in 40 CFR §1508.27 and incorporated into BLM’s 14 Critical Elements of the Human Environment (H-1790-1), and supplemental Instruction Memorandums, Acts, Regulations and Executive Orders. There is a fifteenth Critical Element of the Human Environment in Alaska, Subsistence, Alaska National Interest Lands Conservation Act, Title VIII, Sections 801 and 802 and a sixteenth, Essential Fish Habitat, Magnuson – Stevens Fishery Conservation and Management Act.

The definition of “Human environment” provided by the Council of Environmental Quality is:

"Human environment" shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with the environment. (See the definition of "effects" (§1508.8).) This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment.

[40 CFR §1508.14]

The definition of “Effects” provided by the Council is:

"Effects" include:

(a) Direct effects, which are caused by the action and occur at the same time and place.

(b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

[40 CFR §1508.8]

### **3.2.1. Unaffected Critical Elements of the Human Environment**

The following Critical Elements of the Human Environment have been analyzed and are either not present or will not be affected by the Proposed Action or the No Action Alternative:

- Areas of Critical Environmental Concern
- Cultural Resources
- Environmental Justice
- Essential Fish Habitat
- Farm Lands, Prime or Unique
- Floodplains
- Native American Religious Concerns
- Subsistence
- Water Quality, Surface & Ground
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wilderness

### **3.2.2. Affected Critical Elements of the Human Environment**

The following Critical Elements of the Human Environment may be affected by the Proposed Action or the No Action Alternative:

#### **3.2.2.1. Air Quality<sup>5</sup>**

Platinum is considered a Class II Attainment area. There are no industrial or other sources of air pollution in the immediate vicinity of the village. That said dust is a widespread problem in Alaska. There are many causes: wind-blown dust from glaciers, gravel pits, dry river beds, human activity on non-vegetated land and most particularly increased usage of vehicles such as four wheelers, trucks and automobiles on dirt roads.

In the past three years the Alaska Department of Environmental Conservation received dust complaints from over 50 communities. Twelve villages either have or are conducting dust monitoring. Eight of those communities have recorded exceedances of the PM10 standard.

#### **3.2.2.2. Invasive, Non-native Species<sup>6</sup>**

With increased trade and travel, invasions by introduced vascular plants are becoming commonplace and are widely recognized as one of the most serious threats to biodiversity and to economies. Introduced plants can have wide-ranging negative effects on ecosystems. These include alterations to the physical structure of habitats, nutrient cycling, fertility and productivity, hydrological regimes, and food webs.

Arctic tundra and Taiga habitats have remained relatively insulated from the negative ecological, economic, and social impacts due to invasive non-native plant species. Most non-native plant populations in Alaska are small and largely restricted to areas of human disturbance. However, arctic and boreal habitats are generally subject to significant natural substrate disturbances, making them susceptible to invasion by weedy non-native species that are primarily disturbance specialists. Further, the natural disturbances display high connectivity. Areas of human disturbance may act as foci for invasions into arctic and boreal habitats.

Currently, introduced plants compose a small percentage of the flora and biomass of arctic Alaska. However, weed outbreaks have accelerated in the last five years. Roads and pipelines act as sources and corridors for introduced plants. At river crossings, plants can be easily dispersed into a new, extensive natural corridor system that is also dominated by substrate disturbance.

#### **3.2.2.3. Threatened and endangered Species<sup>7</sup>**

The Steller's sea lion, found in the Goodnews Bay area, is listed as an endangered species and may be found foraging in the vicinity of the South Spit of Goodnews Bay. The spectacled eider, which is listed as a threatened species, may move through the area during migration. The

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<sup>5</sup> State of Alaska Environmental Assessment for Platinum Airstrip Development, Page 22.

<sup>6</sup> Source: [http://akweeds.uaa.alaska.edu/pdfs/AAAS\\_Invasive\\_non-native\\_plants\\_arctic.pdf](http://akweeds.uaa.alaska.edu/pdfs/AAAS_Invasive_non-native_plants_arctic.pdf)

<sup>7</sup> State of Alaska Environmental Assessment for Platinum Airstrip Development, Page 25.

Steller's eider, also a threatened species, migrates through the area and is more common than the spectacled eider.



Steller sea lions are highly gregarious on land and use the same sites for breeding, pupping, and resting year after year. The most well known Steller sea lion habitats are rookeries, where adult animals gather to breed and give birth from late May to early July. Steller sea lions are polygynous; dominant males mate with many females. Rookeries and haulouts (where sea lions rest and take refuge throughout the year) are usually located on relatively remote islands where access by predators is limited. Steller sea lions prey primarily upon schooling fishes, such as pollock and herring, as well as invertebrates, such as squid and octopus. They can be found throughout the

North Pacific Ocean from the Kuril Islands and Okhotsk Sea, through the Aleutian Islands and Bering Sea, and south along the North American coast to central California. About 70 percent of the worldwide Steller sea lion population resides in Alaska.

Female sea lions appear to select places for giving birth that are gently sloping and protected from waves (Sandegren 1970, Edie 1977). Pups normally stay on land for about two weeks, and then spend an increasing amount of time in intertidal areas and swimming near shore. Mothers spend more time foraging as pups grow older and less time on shore nursing (Milette and Trites 2003). Females with pups begin dispersing from rookeries to haulouts when the pups are about 2.5 months-of-age (Raum-Suryan *et al.* 2004, Maniscalco *et al.* 2002, 2006).

Haulout is the term used to describe terrestrial areas used by adult sea lions during times other than the breeding season and by non-breeding adults and subadults throughout the year. Sites used as rookeries in the breeding season may also be used as haulouts during other times of year. Some haulouts are used year-around while others only on a seasonal basis. Sea lions are sometimes seen hauled out on jetties and breakwaters, navigational aids, floating docks, and sea ice. Many animals also use traditional rafting sites, which are places where they rest on the ocean surface in a tightly packed group (Bigg 1985, NMFS unpublished data).

Although rookeries and haulouts occur in many types of areas, sea lions display strong site fidelity to specific locations from year to year. Factors that influence the suitability of a particular area may include substrate, exposure, proximity to food resources, oceanographic conditions, tradition of use, and season (Calkins and Pitcher 1982, Ban 2005), as well as the extent and type of human activities in the region (Johnson *et al.* 1989). Thermoregulatory factors may play an important role in site selection (Gentry 1970, Sandegren 1970).

A review of the 2008 Recovery Plan for the Steller Sea Lion by the National Oceanic and Atmospheric Administration, National Marine Fisheries Services, suggests that there are no

known rookeries in the immediate vicinity of the Platinum, Alaska and that the closest major haul out is approximately 28 miles to the south of Platinum, Alaska at Cape Newenham.



Spectacled eiders are diving ducks that spend most of the year in marine waters where they probably feed on bottom-dwelling molluscs and crustaceans. Around the time of spring break-up, breeding pairs move to nesting areas on wet coastal tundra. They establish nests near shallow ponds or lakes, usually within 3 meters (10 ft) of water. During this season they feed by diving and dabbling in ponds and wetlands, eating aquatic insects, crustaceans, and vegetation. Soon after eggs are laid, males leave the

nesting grounds for offshore molting areas, usually by the end of June. Females whose nests failed leave the nesting area to molt at sea by mid-August. Breeding females and their young remain on the nesting grounds until early September. Molting flocks gather in relatively shallow coastal water, usually less than 36 m (120 ft) deep. While moving between nesting and molting areas, spectacled eiders travel along the coast up to 50 km (31 mi) offshore. During the winter months of October through March, they move far offshore to waters up to 65 m (213 ft) deep, where they sometimes gather in dense flocks in openings of nearly continuous sea ice.



Steller's eiders are diving ducks that spend most of the year in shallow, near-shore marine waters. Molting and wintering flocks congregate in protected lagoons and bays, as well as along rocky headlands and islets. They feed by diving and dabbling for molluscs and crustaceans in shallow water. In summer, they nest on coastal tundra adjacent to small ponds or within drained lake basins. During the breeding season they feed on aquatic insects and plants in freshwater ponds and streams.

*Photo: Michele M. Johnson*

#### **3.2.2.4. Wastes, Hazardous or Solid**

None of the subject claims are known to be contaminated by oil or hazardous substance releases. There are no known, solid wastes located on the subject claims.

### **3.3. Non-Critical Elements of the Human Environment**

The following Non-Critical Elements of the Human Environment may be affected by the

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Proposed Action or the No Action Alternative:

### 3.3.1. Noise

Residents of Platinum have indicated that during the period of operations, the Nunalista Joint Venture may be running as many as seventy truck loads of mineral material per day along Red Mountain Road and through the village of Platinum to Knik Construction's facilities on the South Spit of Goodnews Bay.

### 3.3.2. Socio-economic considerations<sup>8</sup>

Sand, gravel and quarry rock are significant components of the subsurface estate that Calista Corporation received through ANCSA. These materials generate corporate revenue through sales for commercial and residential development and through grant-funded and capital-funded projects.



Upgrading rural airstrips to meet FAA safety standards and federal funding for transportation projects in Alaska communities provide a continuing demand for sand, gravel and rock. Runway lengthening, widening or relocation requires both embankment and surfacing materials which can be sourced within the Region. Other community infrastructure projects require construction materials to build village water and sewer systems, access roads and docks. Overall regional population growth and the resulting need for additional housing and other facilities increase the demand for sand and gravel for embankments and foundations.

The Nunalista Joint Venture between Calista Corporation and Knik Construction manages several key material extraction sites in the Region, including the Kalskag, Platinum and Goodnews Bay rock quarries, and the Aniak and Platinum gravel pits. These road and barge accessible sites provide several varieties of construction material to the growing Bethel market as well as other villages along the Kuskokwim River and Delta. The Kalskag, Goodnews and Platinum quarries furnish a more durable, high-quality crushed aggregate product that is suitable for road surfacing and airstrip surface courses.

Sand, gravel and crushed rock provide economic resources to communities in the Calista Region through surface disturbance payments to ANCSA village corporations, and Shareholder

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<sup>8</sup> Source: [http://www.calistacorp.com/land/sand\\_gravel\\_quarry\\_rock.html](http://www.calistacorp.com/land/sand_gravel_quarry_rock.html)

employment during extraction, hauling, shipping and placement of materials used in local construction projects

#### **4.0. ENVIRONMENTAL CONSEQUENCES**

As all aspects of the proposed action, mineral material extraction, processing, use, etc., other than transport of the tailing/mineral material have been addressed in the environmental documents identified in Paragraph 1.4.1., the following is limited to transport of the tailing/mineral material from XS Platinum, Inc's mining claims to the South Spit of Goodnews Bay.

#### **4.1. Critical elements of the Human Environment**

##### **4.1.1. Affected Critical Elements of the Human Environment**

##### **4.1.1.1. Air Quality**

The poor air quality in Platinum is presumed to be a consequence of its terrain and location on a spit on the Kuskokwim Bay of the Bering Sea. Additionally, local residents advise that as many as sixty to seventy Knik Construction Company, Inc. trucks per day traverse Red Mountain Road and travel through the village to the wharf and harborage on the South Spit of Goodnews Bay.

The transport of an additional thirty to sixty truck loads of mineral material for a forty-five day period will lower the air quality during that period by increasing the amount of particulate matter in the air throughout the route to the South Spit of Goodnews Bay including within the village of Platinum.

Dust can cause and aggravate respiratory and heart conditions. Those at greatest risk are children, seniors, and people with asthma and other respiratory or heart conditions.

##### **4.1.1.2. Invasive, Non-native Species**

Executive Order 13112, dated February 3, 1999, provides that each Federal Agency shall "... *prevent the introduction of invasive species*; ... and not authorize ... actions that ... are **likely** to cause or promote the introduction or spread of invasive species in the United States ... *and that all feasible and prudent measures to minimize risk of harm will be taken ....*" [Emphasis added.]

Mud and debris on equipment and personal field gear may carry seeds of invasive, noxious and/or non-native plants from work on other land bases from outside of the Ahklun Mountains Tundra-Meadow Ecosystem Province thereby posing a threat to the ecosystem's integrity and biodiversity.

##### **4.1.1.3. Threatened and endangered species**

Recovery of the Steller sea lion (*Eumetopias jubatus*) population in Alaska constitutes a significant challenge to resource managers since the cause (s) of the decline remain a mystery. However, a principal symptom of the population, increased juvenile sea lion mortality, appears to be related to changes in food availability. Such changes may be due to natural shifts in fish community composition, anthropogenic factors, or both.

Repeated disturbances of breeding or haulout sites by aircraft, boats, pedestrians, construction, or fishing activities (e.g. geoduck and urchin dive fisheries) can lead to animals temporarily leaving haulouts and rookeries (Sandegren 1970; Calkins and Curatolo 1980; Johnson et al. 1989; Brown 1997) and eventually to permanent abandonment (Pike and Maxwell 1958; Kenyon 1962).

Habituation to human activities may occur at haulouts, and Steller sea lions at winter feeding sites often habituate to chronic disturbances, with some haulout sites located in high traffic areas close to major urban centres such as Vancouver and Victoria (Bigg 1985; Olesiuk 2004).

However, acute noises, such as blasting or demolition, nearby haulouts may result in stampeding of Steller sea lions, resulting in pronounced, localized (as opposed to population-wide) disturbances.

Although habituation to human activities may occur at haulouts, Steller sea lions are particularly vulnerable to disturbances on breeding rookeries. Human intrusion onto breeding rookeries (e.g. to census animals, capture pups for tagging or branding) appears to be highly disruptive and often causes animals to escape into the water or to nearby haulouts (Lewis 1987; Scordino 2006; Olesiuk, unpublished observations). Disturbances can result in increased pup mortality due to drowning, trampling or separation of pups from mothers. Recovery times of haulout sites from disturbances such as scat collections is highly variable, ranging from as little as a few hours to as much as a couple of weeks (Kucey 2005; J. Etzkorn, Carmanah Lighthouse, B.C., pers. comm.), but disturbance of rookeries may persist over a number of years (Olesiuk, unpublished observations). Additionally, disturbance may have energetic costs for both pups and mothers, should feeding or nursing opportunities be disrupted.

Breeding site fidelity is another factor in disturbance of rookeries. During control programs conducted prior to 1970, some breeding animals were likely displaced to other rookeries, but the majority of sea lions continued to return to sites that had been heavily disturbed for many consecutive years. At the Sea Otter Group rookery, in spite of the highly disruptive nature of the culls, animals continued to use the rookery for 17 years before the colony was completely eradicated. Thus, Steller sea lion reproductive biology may not have the plasticity to adapt to disturbances near breeding colonies.

As mentioned above, severity of population level impact is low for haulouts, but moderate for disturbance to rookeries. There are no documented haulouts or rookeries in the immediate vicinity of Platinum, Alaska.

The proposed action is land based, entails moving tailing/mineral material from a previously disturbed mine site upon an existing road which is inland and away from habitats where migrating eiders may be staging. These areas do not provide nesting habitat for Steller's or spectacled eiders, and the timing of the operation (June 1<sup>st</sup> to August 31<sup>st</sup>) is outside of the period when eiders may be wintering or migrating through the area. The proposed action is

therefore not likely to adversely affect Steller's or spectacled eiders.

#### **4.1.1.4. Wastes, Hazardous or Solid**

Operation of vehicles and heavy equipment presents potential for spills of fuel/oil/grease from mechanical breakdown, accidents, and spills at fuel sites. Non-hazardous solid waste (trash) will be generated also.

### **4.2. Non-Critical Elements of the Human Environment**

#### **4.2.1. Noise**

The transport of an additional thirty to sixty truck loads of mineral material over the sixty to seventy truck loads of material already on the Red Mountain Road from the Nunalista Joint Venture's operations will increase noise levels and intensity throughout the route to the South Spit of Goodnews Bay including within the village of Platinum. The increase in noise and intensity will last for so long as XS Platinum, Inc. transport tailing/mineral material to the South Spit of Goodnews Bay. Currently the period of operations is projected for the month of June 2009. After this 30 day period of increased activity, noise intensity is anticipated to subside to normal levels.

#### **4.2.2. Socio-economic impacts**

The authorization of XS Platinum, Inc's disposal of tailing/mineral material will result in increased competition with the Nunalista Joint Venture.

Calista Corporation is in a partnership relationship with Knik Construction Company, Inc. The name of the partnership is Nunalista Joint Venture. Calista Corporation is the second largest of the 13 regional corporations established under the Alaska Native Claims Settlement Act of 1971. It is a for profit corporation formed under state and federal laws, including the settlement act and its amendments. Knik Construction Company, Inc. is a subsidiary of Lyden Incorporated with its headquarters in Settle, Washington. Under the partnership agreement between Calista Corporation and Knik Construction Company, Inc., Knik Construction Company, Inc. is an operating partner. Under this arrangement, Calista receives royalty payments from Knik Construction Company, Inc. for all mineral materials owned by Calista but sold by Knik Construction Company, Inc. As the operating partner of Nunalista Joint Venture, Knik Construction Company, Inc. bid on the mineral material contract to supply "surface course" material for the State's upcoming development of a new airstrip at Platinum, Alaska. XS Platinum, Inc. also submitted a bid on the same contract. XS Platinum, Inc. won the bid. As the United States owns the mineral material on XS Platinum's claims, the United States will receive royalties from XS Platinum, Inc's sale of the "surface course" material to be used to develop the new airstrip at Platinum, Alaska. However, as the land upon which the mining claims are located have all been selected by and for conveyance to Calista Corporation, the royalties paid to the United States by XS Platinum, Inc. will be held in trust for the benefit of Calista Corporation.

It is not known whether Xs Platinum, Inc. is engaged in local hire efforts nor is it known whether the award of the airstrip contract to XS Platinum, Inc. will effect employment locally or regionally.

### **4.3. RECOMMENDED MITIGATION MEASURES**

It is recommended that XS Platinum, Inc's operation be restricted as follows:

#### **4.3.1. Critical Elements of the Human Environment**

##### **4.3.1.1. Air Quality**

To reduce the amount of particulate matter affecting air quality:

1. All tailing/mineral material loaded for disposal shall be saturated by water prior to loading.
2. All dry truck loads of tailing/mineral material shall be covered by a tarp during transport along Red Mountain Road.
3. Minimally, water trucks shall precede all XS Platinum, Inc. haul trucks as they proceed through the village of Platinum and discharge a sufficient amount of water on Red Mountain Road to abate all dust associated with transport of the tailing/mineral material through the Village of Platinum.
4. Water of the entire route between the mining claims and the Village of Platinum is encouraged.
5. All XS Platinum, Inc. haul trucks shall proceed through the village of Platinum at no greater a speed than ten miles an hour.
6. To the extent practicable, the use of engine breaking shall be avoided throughout the transportation route.
7. Engine breaking is prohibited within the Village of Platinum.
8. Hours of operation within the Village of Platinum will cease no later than 10:00 PM.

##### **4.3.1.2. Invasive, Non-native species**

To avoid the introduction of invasive non-native species the tractors and dump trailers shall be power washed prior to use on the mining claims and preferably prior to loading for transport from the continental United States.

##### **4.3.1.3. Threatened and Endangered Species**

To protect Steller Sea Lions a survey for Steller Sea Lion haul outs should be conducted immediately prior to initiation of activities. If Steller Sea Lions haul outs are in the project area, maintain an appropriate distance to avoid disturbance of the animal.

To protect spectacled eiders and their breeding, molting, and wintering habitat, the U.S. Fish & Wildlife Service recommends the guidelines below for projects and activities within the range of spectacled eiders. Adherence to these guidelines will help avoid the illegal take of spectacled eiders, and reduce the potential for adverse effects to the species. If these guidelines cannot be followed, consultation with the U.S. Fish & Wildlife Service is required.

For projects within the breeding range of spectacled eiders:

1. Assess whether spectacled eiders are likely to use the project area for nesting or brood-rearing. Contact the U.S. Fish & Wildlife Service for assistance. For projects conducted during the breeding season, a US Fish and Wildlife Service-approved survey

for spectacled eiders should be conducted in the year of construction, prior to initiation of activities.

2. If spectacled eider nests are in the project area, the following activities require special permits from the US Fish and Wildlife Service where the activity occurs within 200 meters (656 feet) of nest sites:
  - *Vehicle and foot traffic from May 20 through August 1, except on existing roads.*
  - *Construction of permanent facilities, placement of fill, or alteration of habitat.*
  - *Introduction of high noise levels from May 20 through August 1, including but not limited to noise from airports, blasting, and compressor stations.*

Eiders are present on breeding grounds from mid-May through mid-September, but activities any time of year may affect them through habitat modification.

To protect Steller's eiders and their breeding, molting, and wintering habitat, the U.S. Fish & Wildlife Service recommends the guidelines below for projects and activities within the range of Steller's eiders. Adherence to these guidelines will help avoid the illegal take of Steller's eiders, and reduce the potential for adverse effects to the species. If these guidelines cannot be followed, consultation with the U.S. Fish & Wildlife Service is required.

For projects within the breeding range of Steller's eiders:

1. Assess whether Steller's eiders are likely to use the project area for nesting or brood-rearing. Contact the U.S. Fish & Wildlife Service for assistance. For projects conducted during the breeding season, a Service-approved survey for Steller's eiders should be conducted in the year of construction, prior to initiation of activities.
2. If Steller's eider nests are in the project area, the following activities require special permits from the U.S. Fish and Wildlife Service where the activity occurs within 200 meters (656 feet) of nest sites:
  - *Vehicle and foot traffic from May 20 through August 1, except on existing roads.*
  - *Construction of permanent facilities, placement of fill, or alteration of habitat.*
  - *Introduction of high noise levels from May 20 through August 1, including but not limited to noise from airports, blasting, and compressor stations.*

Eiders are present on breeding grounds from mid-May through mid-September, but activities any time of year may affect them through habitat modification.

#### **4.3.1.4. Wastes, Hazardous and Solid**

All wastes should be managed in accordance with applicable State of Alaska and Federal laws and regulations. Each vehicle should carry a spill kit to contain accidental releases until cleanup can be conducted.

#### **4.3.2. Non-critical Elements of the Human Environment**

##### **4.3.2.1. Noise**

See Paragraph 4.3.1.1 above.

**4.3.2.2. Socio-Economic**

Where appropriate, the royalties paid to the United States by XS Platinum, Inc. will be held in trust for the benefit of Calsita Corporation.

**5.0 CONSULTATION AND COORDINATION**

**5.1. List of Preparers**

The following BLM specialists participated in the preparation of this analysis:

|                  |   |
|------------------|---|
| Donna Redding    | Cultural Resources                      |
| Laurie Thorpe    | Vegetation, Invasive/Non-Native Species |
| Geoff Beyersdorf | Subsistence/Wildlife                    |
| Bruce Seppi      | Threatened or Endangered Species        |
| Larry Beck       | Wastes, Hazardous and Solid             |
| James Whitlock   | Minerals                                |

**5.2. Agency and Public Consultation**

ANCSA Native corporations.

**Case File No:** AA-091100

**Environmental document No:** DOI-BLM-AK-1300-0004-EA

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**Appendix A State of Alaska, Platinum Community Profile**



# Community Database Online

State of Alaska > Commerce > DCRA Home > Community Database Online > Details



## Platinum

### Community Overview

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| <b>Current Population:</b>          | 47 (2007 DCCED Certified Population) |
| <b>Incorporation Type:</b>          | 2nd Class City                       |
| <b>Borough Located In:</b>          | Unorganized                          |
| <b>School District:</b>             | Lower Kuskokwim Schools              |
| <b>Regional Native Corporation:</b> | Calista Corporation                  |

#### Location:

Platinum is located on the Bering Sea coast, below Red Mountain on the south spit of Goodnews Bay. It lies 11 miles from Goodnews Bay and 123 miles southwest of Bethel. It is 440 miles west of Anchorage. It lies at approximately 59.013060 North Latitude and -161.816390 West Longitude. (Sec. 32, T013S, R075W, Seward Meridian.) Platinum is located in the Bethel Recording District. The area encompasses 44.6 sq. miles of land and 0.1 sq. miles of water. Platinum has a marine climate. Average annual precipitation is 22 inches, with 43 inches of snowfall. Summer highs range from 53 to 57, winter highs average 6 to 9. Extremes have been measured from 82 to -34.

#### History:

Platinum is near a traditional village site called Arviq. The community was established shortly after traces of platinum were discovered by an Eskimo named Walter Smith in 1926. Between 1927 and 1934, several small placer mines operated on creeks in the area. Some 3,000 troy ounces of platinum were mined over that period, with a value of about \$48 per ounce. A post office opened in 1935. The "big strike" occurred in October of 1936, which brought a stampede of prospectors for "white gold." The claims

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proved to be too deep for hand mining methods and were bought out by two companies. The largest, Goodnews Mining Co., eventually acquired title to over 150 claims. In 1937 a large dredge was built at the mining site, about 10 miles from the village of Platinum. The Company also constructed bunkhouses, a recreation hall, offices, shops and a cafeteria. Platinum developed as a "company town," with the store, water, and electricity supplied by the mine. A school opened in 1960. By 1975, 545,000 ounces of platinum had been mined at the site. The city government was formed. The mine was later sold to Hanson Properties, who estimate reserves of over 500,000 ounces -- it ceased operations in 1990.

**Culture:**

Because the community was founded as a commercial center, and has always seen an influx of outsiders, local traditions have not been retained as much as in other villages. Platinum is one of the few Eskimo villages in the region in which the first language of the children is English. The economy is primarily cash-based. The sale or importation of alcohol is banned in the village.

**Economy:**

Commercial fishing, the school, stores and City provide employment. Platinum is a major supplier of gravel to area villages. Nine residents hold commercial fishing permits. Subsistence activities are also an important part of the lifestyle. Salmon and seal are the staples of the diet. The community is interested in developing a marine repair facility and dry dock, a seafood processing plant, specialty seafoods venture, or herring roe aquaculture project.

**Facilities:**

Seven new HUD houses have individual water wells, septic systems and complete plumbing. During the summer, untreated water is hauled from approximately fifteen watering points. During winter, residents dig holes in the ice to draw water. Honeybuckets are disposed of in seepage pits. A washeteria is under construction. A feasibility study has recently been funded to examine sanitation alternatives. The City operates the electric service once provided by the mining company.

**Transportation:**

The community relies heavily on air transportation for passengers, mail and cargo service. There are two gravel airstrips. One is State-owned, at 3,304' long by 60' wide with a 1,924' long by 40' wide crosswind runway. The second is a 2,000' long by 75' wide gravel airstrip owned by the Platinum Mine. A seaplane landing site is also available. Barge services deliver goods twice a year. Boats, snow machines and ATVs are used for local travel and subsistence activities.

**Climate:**

Platinum has a marine climate. Average annual precipitation is 22 inches, with 43 inches of snowfall. Summer highs range from 53 to 57, winter highs average 6 to 9. Extremes have been measured from 82 to -34.

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**Appendix B Particulate Matter 10 explanation<sup>9</sup>**

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<sup>9</sup> California Environmental Protection Agency: <http://www.arb.ca.gov/html/brochure/pm10.htm>



## **What is Particulate Matter (PM10)?**

Particulate matter (PM10) pollution consists of very small liquid and solid particles floating in the air. Of greatest concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. These particles are less than 10 microns in diameter - about 1/7th the thickness of the a human hair - and are known as PM10. This includes fine particulate matter known as PM2.5.

PM10 is a major component of air pollution that threatens both our health and our environment.

## **Where does PM10 come from?**

In the western United States, there are sources of PM10 in both urban and rural are as, major sources include:

1. Motor vehicles.
2. Wood burning stoves and fireplaces.
3. Dust from construction, landfills, and agriculture.
4. Wildfires and brush/waste burning.
5. Industrial sources.
6. Windblown dust from open lands.

PM10 is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter also forms when gases emitted from motor vehicles and industry undergo chemical reactions in the atmosphere.

## **How does PM10 affect our health?**

PM10 is among the most harmful of all air pollutants. When inhaled these particles evade the respiratory system's natural defenses and lodge deep in the lungs.

Health problems begin as the body reacts to these foreign particles. PM10 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections.

Although particulate matter can cause health problems for everyone, certain people are especially vulnerable to PM10's adverse health effects. These "sensitive populations" include children, the elderly, exercising adults, and those suffering from asthma or bronchitis.

Of greatest concern are recent studies that link PM10 exposure to the premature death of people who already have heart and lung disease, especially the elderly.

## **Does PM10 affect our view?**

PM10 is often responsible for much of the haze that we think of as smog. This is a problem in our cities, rural areas and pristine areas - such as national parks and forests.

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**Appendix C Particulate Matter 10 Alaska<sup>10</sup>**

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<sup>10</sup> California Environmental Protection Agency: [http://www.dec.state.ak.us/air/anpms/pm/pm\\_bckgrd.htm](http://www.dec.state.ak.us/air/anpms/pm/pm_bckgrd.htm)



## Division of Air Quality

## Air Non-Point and Mobile Sources

State of Alaska > DEC > Air > ANPMS > Particulate Matter

## Particulate Matter

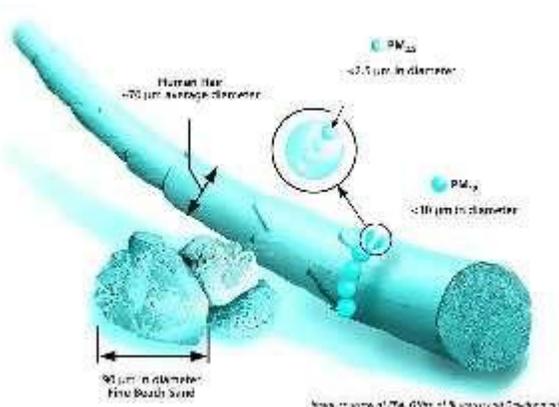
## Particulate Matter - Background Information

According to the Environmental Protection Agency (EPA), Particulate Matter (PM) is a "mixture of extremely small particles and liquid droplets."

Air quality professionals pay attention to particulate matter because these very small particles can cause health problems when inhaled. Specifically, particles less than 10 micrometers in diameter can pass the nose and throat and enter the lungs. A micrometer is one millionth of a meter.

Size is important to understand because the EPA classifies particulate matter as two types based on size. Alaska has problems with both types of particulate matter.

- **Coarse Particulate Matter (PM<sub>10</sub>)** is less than 10 micrometers in diameter. It primarily comes from road dust, agriculture dust, river beds, construction sites, mining operations, and similar activities. Most people in Alaska experience PM<sub>10</sub> as dust.
- **Fine Particulate Matter (PM<sub>2.5</sub>)** is less than 2.5 micrometers in diameter. PM<sub>2.5</sub> is a product of combustion, primarily caused by burning fuels. Examples of PM<sub>2.5</sub> sources include power plants, vehicles, wood burning stoves, and wildland fires.



A single human hair is approximately 70 micrometers or seven of the largest PM<sub>10</sub> particles in diameter. A single human hair is almost 30 times larger than the largest fine particle, PM<sub>2.5</sub>.

Air pollution standards are given as a mass of material in a volume of air: micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). A microgram is one millionth of a gram. A paper clip weighs about a gram. Imagine chopping the paperclip into a

million equally sized pieces. One of those pieces would weigh about a microgram. A cubic meter (approximately 39" X 39" X 39") describes a volume of air that is about the size of a washing machine. If you place one of the million pieces of the paper clip in the space occupied by the washing machine, you would have 1 µg/m<sup>3</sup>.

### **IMPLICATIONS FOR ALASKA**

Dust has long been a problem for rural Alaska. As populations grow and mechanized travel becomes more prevalent, the amount of dust seems to be increasing. Over the past six years, several Alaskan villages initiated PM<sub>10</sub> monitoring programs. Since EPA retained the 24 hour PM<sub>10</sub> standard, Alaskans have a standard to compare against the monitoring results. It appears a number of villages are in violation of the PM<sub>10</sub> standard.

PM<sub>2.5</sub> also is a problem. Until EPA revised the standard, Alaska had been in compliance with the PM<sub>2.5</sub> standard.

### **Links:**

EPA recommended Particulate Matter Resources: <http://oaspub.epa.gov/webimore/aboutepa.ebt4?search=12,1,903>

EPA Particulate Matter Research: <http://www.epa.gov/pmresearch/>