

Mining and fishing convergence in Southwest Alaska

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ABSTRACT

This descriptive case study details the Alaskan Pebble Mine Project to illustrate how stakeholders with divergent agendas often yield regional influence from an economic, environmental, and cultural perspective. The Pebble Mine Project involves three of Alaska's four major economic drivers: fishing, mining, and tourism (with energy as the fourth). A group of international investors, Pebble Limited Partnership, proposed the development of an immense porphyry copper, gold, and molybdenum mine in Alaska's Bristol Bay region on the world's second-largest ore deposit of its type. According to estimates, mine production could reach 82B pounds of copper and molybdenum and 416M ounces of gold and silver (Northern Dynasty, 2019). Bristol Bay's headwaters and its tributaries also produce the world's most prolific annual multispecies salmon migration. The salmon fishery contributes \$1.5B annually to the Alaskan gross domestic product (Institute for Journalism and Natural Resources, 2019). The Pebble Limited Partnership and its supporters hailed the potential influx of tax revenue to the State and the economic development of the depressed region. However, Pebble Mine's opponents emphasized the potentially negative impact of significant industrial development on the Bristol Bay region's commercial fisheries, natural environment, tourism, and territorial rights to subsistence for the Indigenous Alaskans in the region. After more than a decade of planning, contentious debate, and contradictory regulatory rulings, Pebble Limited Partnership will cease development, having failed to demonstrate acceptable environmental impact. The Pebble Mine debate has been costly and polarizing, but revealed lessons learned that were later successfully integrated into a comparable mining venture.

Keywords: Bristol Bay, Pebble Mine, Pebble Limited Partnership

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MINING AND FISHING CONVERGENCE IN SOUTHWEST ALASKA

One of the world's immense but largely untouched mineral deposits exists just below the earth's surface, nearly 100 miles northeast of Bristol Bay in Southwest Alaska. Through a project called Pebble Mine, developers and investors proposed to mine the deposit's porphyry copper, gold, and molybdenum to transform the region and the State economically. Mineral resources are one of the two extraordinary natural attributes of the region. The headwaters of Bristol's rivers and streams also yield the world's most prolific salmon fishery. Commercial fishing in Bristol Bay is one of Alaska's most important economic drivers. The network of rivers and streams flowing into the Bristol Bay sustains tens of millions of salmon across all five species - king, sockeye, pink, silver, and chum (Bristol Bay Native Corporation, n.d.). The seemingly endless migration of salmon each summer also makes Bristol a world-class sportfishing and tourist destination - another prominent economic driver in the region.

Many of Bristol's Alaska Natives live traditional lives extraordinarily similar to their ancestors who inhabited the region for millennia. They have an inseparable connection with the land and the water. The late Harvey Samuelsen, a respected Alaska Native elder, once stated that the "land is the gift of our ancestors and the guarantee of our right to continue our subsistence lifestyle. Land is the heart of our culture. Without the land, we are nothing" (Nushagak-Mulchatna Watershed Council, 2007).

Despite a struggling Alaskan economy, Alaskans have been unable to make commercial fishing, tourism, mining, and traditional Alaska Native subsistence life coexist in the Bristol Bay Region. The disagreement's core issue is the potential for Pebble Mine's environmental impact on the Bristol Bay fishery. Pebble's proponents argue that the mine will have a negligible adverse effect on the region's ecology but will create substantial economic outcomes, create thousands of well-paying jobs, develop the rural infrastructure, and answer the global demand for precious metals. Opponents believe the mine will harm the natural environment, reduce the fisheries' yield, and constrain the Alaska Native subsistence lifestyle and culture. This descriptive case study evaluates the Pebble Mine debate to illustrate how stakeholders with divergent agendas can yield significant regional influence from an economic, environmental, and cultural perspective.

The Bristol Bay Region, Alaska

Bristol is bordered to the south by the Aleutian Island Chain, the East and North by the Alaskan Peninsula, and the West by the Bering Sea. It includes 12.5M acres of marine waters and is roughly the size of West Virginia. With mountains, valleys, rivers, moose, and especially fish, the Bristol Bay Region is ruggedly wild and naturally beautiful. One can travel scores of miles by air or boat and not experience another human. Although challenging to access, its vast natural resources create tremendous but largely untapped economic opportunities (United States Environmental Protection Agency, n.d.).

Geography

In addition to Bristol Bay itself, the region has three active volcanoes and Lake Iliamna, the third-largest lake entirely in the United States. Vast watersheds of the Togiak, Nushagak, Kvichak, and Ugashik rivers and their many tributaries with headwaters initiated by the melting

snowpack in the Alaska Range dominate the region. Tidal mudflats, sandy and gravelly shorelines, and bluffs of glaciofluvial material up to 200 feet high characterize the area. The cities of Dillingham and King Salmon are the major population centers with less than 9,000 permanent residents combined. These cities are not connected with the statewide road system and are only accessible by air or marine vessel. Due to geographic isolation, the area lacks a robust power, transportation, and telecommunications infrastructure (United States Environmental Protection Agency, n.d.).

People

Alaska Natives, including those of Aleut and Dena'ina Athabascan descent, live vibrantly in the Bristol Bay region. Today, Yup'ik and Dena'ina are prevalent in the 31 tribal communities in the region, which serve as the people's cultural and structural focal points. While they have embraced more modern technologies and have adopted some new methods, the Alaska Native people of the region, such as the Yup'ik, maintain many of their ancestors' traditional ways. They still rely on the natural hunting, fishing, and gathering yield of the watershed. Bear, moose, caribou, salmon, geese, berries, and plants fill smokehouses, drying racks, freezers, and canning jars. Hunting, fishing, and gathering are central to traditional Alaska Native culture. (Nushagak-Mulchatna Watershed Council, 2007).

Natural Resources

According to the Institute for Journalism and Natural Resources (2019), Bristol Bay, Alaska, is the highest-producing wild salmon fishery in the world. It produces half of the world's sockeye salmon, provides 14,000 jobs, and contributes \$1.5B annually to the Alaskan gross domestic product. Moreover, Bristol Bay fisheries demonstrate sustainable, renewable, responsible, and stable resource extraction.

A 2018 resource estimate issued by Northern Dynasty (2019) identified that the mineral deposit at the proposed Pebble Mine location has 57B pounds of copper, 71M ounces of gold, 3.4B pounds of molybdenum, and 345M ounces of silver. Those measurements indicate the likelihood of an additional 25B pounds of copper, 36M ounces of gold, 2.2B pounds of molybdenum, and 170M ounces of silver.

THE PEBBLE LIMITED PARTNERSHIP

The Pebble Limited Partnership (PLP) is a mining venture that has attempted to develop Pebble Mine since 2001. According to Friedman (2017), PLP formerly consisted of several prominent investors, including Anglo American, a London-based development corporation, and Northern Dynasty Minerals Limited, headquartered in Canada. By 2015, most significant investors divested interest in PLP, leaving Northern Dynasty Minerals as the sole owner. Since 2017, PLP has sought additional investors. The PLP declared its commitment to developing the mine while protecting the natural environment and the fishery. PLP claimed that the mine could coexist with a healthy fishery, wildlife, and other resources by deploying best practices for land management before construction began and throughout the life of the project (Pebble, n.d.).

The Tension: Formal vs. Social License to Operate

The Pebble Project illustrates the tension in a firm seeking to maximize shareholder value when its efforts conflict with a community or other stakeholder interest. Firms can operate in the spirit of Milton Friedman (1970), who famously opined that business has one and only one social responsibility—to use its resources and engage in activities designed to increase its profits. The PLP has worked to fulfill what it feels is its fiduciary responsibility to maximize its firm's success on behalf of shareholders and investors.

Community stakeholders can present an interest not to develop mines due to cultural, economic, and environmental ramifications. Holley and Mitcham (2015) state that the social license to operate is rooted in community consent for the mining operation. According to Moffat and Zhang (2014), it is increasingly evident that obtaining a formal license to operate from governments and meeting regulatory requirements is no longer enough for mineral extraction ventures. Mining companies need to gain and maintain a social license to operate from local communities to avoid disruptive conflicts.

Key Public Policy Decisions

Several public policy matters at the national and state levels, and their subsequent decisions influenced Pebble Mine's development between 2014 and 2020. In most cases, these decisions designated or withheld authority to issue development permits near Alaskan fisheries. The debates resulted in several interruptions and a number of untimely pauses to the project's progress throughout this period and ultimately influenced its resolution.

Section 404 (c) of the Clean Water Act of 1972

The United States Army Corps of Engineers (USACE) is the federal agency that maintains jurisdiction over human activities that introduce foreign substances into water bodies. USACE issues permits for development projects that discharge dredged materials and fill into rivers and other wetlands. They conduct assessments and prepare environmental impact statements (EIS) to substantiate these permitting decisions (U.S. Army Corps of Engineers, n.d.). USACE administers permits necessary for any work, including construction and dredging, in the nation's navigable waters. Balancing the reasonably foreseeable advantages and disadvantages of proposed projects, the Corps makes permit decisions that recognize the United States' aquatic ecosystems' essential values to the general public. It also considers the property rights of private citizens who want to use their land (U.S. Army Corps of Engineers, n.d.).

The Clean Water Act of 1972 regulates pollutants and other foreign materials in the United States' surface waters and territories. The 404-C provision of the act empowers the Environmental Protection Agency (EPA) to prevent USACE from permitting any activity that has an unacceptable adverse effect on municipal water supplies, shellfish beds, and fishery areas (United States Environmental Protection Agency, n.d.). Typically, the EPA will allow USACE to assess the environmental impact before invoking clause 404-C. However, in 2014, the EPA issued a preemptive veto that prevented the permitting process for Pebble Mine even before USACE assessed environmental impact. Proponents of the mine alleged improper collusion between the EPA and environmental activists. Alaskan lawmakers questioned the legitimacy of

EPA's authority, federal overreach, and the intrusion into Alaska's right to self-determination on its lands (Warrick, 2015).

In July of 2019, after public debate, reconsiderations, and lawsuits, the EPA withdrew its preemptive determination allowing USACE to assess the environmental impact and address the Pebble Mine permit request. The agency sought to remove the agency's outdated, preemptive proposed veto of the Pebble Mine and restore the well-understood permit review process (United States Environmental Protection Agency, 2019).

2014 Ballot Measure 4

The Alaska Bristol Bay Mining Ban question, or Ballot Measure 4, appeared on the November 4, 2014 ballot and was approved with 66% of voters in favor. It resulted in AS Sec. 38.05.142, Legislative Approval Required for Large Scale Mines, 2014. The ballot measure stipulated that, in addition to federal permitting requirements, legislative approval by the State of Alaska was also required for large-scale metallic sulfide mining operations in the Bristol Bay Fisheries reserve (Ballotpedia, n.d.). Proponents of the ballot measure cited that toxic residue, drudge material, and fill from the proposed mine would negatively affect the fishery. Opponents noted that in addition to jeopardizing the Alaskan economy, the law politicizes the scientific permitting process, limits free enterprise, and encroaches on the executive branch's purview to administer laws (Alaska Miners Association, n.d.).

2018 Ballot Measure 1

In a 2018 referendum, 62 % of Alaskans rejected the proposal to require permits for development activities affecting fisheries. Ballot Measure 1, officially the Salmon Habitat Protections and Permits Initiative, 2018, would require the Department of Fish and Game (ADF&G) to apply new standards to permitting activities and development projects with the potential to harm fish habitat (Ballotpedia, n.d.). Opponents of the measure felt it would stagnate development and that existing legislation was sufficient to protect fisheries. Proponents felt that development should no longer be held hostage by the changing landscape of the legislature. Existing legislation was subject to political alignment and could be unduly influenced by administration changes or legislative composition (Harball, 2018).

THE CASE AGAINST PEBBLE

Key Stakeholders

Key stakeholders in opposition to Pebble Mine included environmental groups, a prominent regional Alaska Native corporation, Alaska tribal organizations, and political leadership.

The National Resource Defense Council (NRDC) is United States-based 501(c)(3) non-profit international organization that advocates for environmental causes. The NRDC is one environmental group that has opposed Pebble Mine since its inception. The council called on the Trump administration to affirm that the Pebble Mine has no place in Alaska's Bristol Bay and planned to do so with the Biden administration (NRDC, n.d.).

The Alaska Native Claims Settlement Act (1971) establishes Alaska Native corporations to provide fair and just settlement of all claims by Natives and Native groups of Alaska based on aboriginal land rights. These regionally aligned corporations are essential economic centers in Alaska because they crusade many of their shareholder members' social and cultural agendas. The Bristol Bay Native Corporation (BBNC) aligns regionally with Southwest Alaska. BBNC vocally declared opposition to the Pebble Mine because they claim that science has proven it will have unacceptable, adverse impacts on Bristol Bay's watershed (n.d.).

Several native Alaska Native Tribal organizations were active and vocal opponents of Pebble Mine. One such organization, the United Tribes of Bristol Bay (UTBB), is a tribal consortium working to protect the traditional Yup'ik, Dena'ina, and Alutiiq ways of life in Southwest Alaska that depend on the pristine Bristol Bay Watershed and all it sustains, most notably Bristol Bay's wild salmon (n.d.). Jensen (2015) underscores opposition under a moral obligation to protect the land and a political commitment to maintain the territorial sovereignty of the Alaska Native peoples of the region.

Alaska's Republican U.S. Senators Lisa Murkowski and Dan Sullivan endorsed USACE's decision to deny the Pebble Permit. Murkowski was unequivocal, stating, "I understand, respect, and support this decision. I agree that a permit should not be issued. I thank the administration for its commitment to the protection of this world-class watershed and salmon fishery" (Lisa Murkowski, 2020).

Irrevocable Ecological Damage to the Bristol Bay Fishery

Opposition to Pebble Mine centered primarily on the potential harm or destruction of the prolific salmon fishery in the mine site's vicinity. Holley and Mitcham (2016) describe the most prevalent environmental concern among Pebble opponents as the potential introduction of acidic, metal-rich water into the headwaters, either by leakage from the mine site or by a catastrophic failure of the containment structures. These concerns are substantiated in scientific studies such as Maest et al. (2020), who concluded that pit lake overflow at the mine site would adversely affect salmon populations for at least 35 miles downstream of the mine site, encroaching on the South Fork Kaktuli drainage. According to some mine opponents, its transportation infrastructure could damage the area as the mine itself. In mines the size of Pebble, it is often necessary to construct roads to haul materials to the site during development and operations and extract resources from the area for transport to markets (Kravitz & Blair, 2019). Pebble would require developers to construct a transportation corridor to the mine that would compromise 55 potential salmon-producing streams. The transportation corridor presents risks to the salmon runs. Filling wetlands, hydrologic modifications, spillage or runoff of contaminants and fine sediment, and dust deposition could potentially diminish the salmon production in the fishery.

Importance of Fishing to the Region

According to opponents of Pebble Mine, commercial fishing, subsistence fishing, and sportfishing are essential for Alaska's economy and culture. They argue that mining and fisheries cannot coexist in Southwest Alaska because of the environmental effects.

Commercial fishing is an immense industry in Bristol Bay. According to a University of Alaska Institute of Social and Economic Research (2013) report, the Bristol watershed is the world's most valuable wild salmon fishery. It typically supplies almost half of the world's wild

sockeye salmon. The report adds that in 2010, harvesting, processing, and retailing of Bristol Bay salmon generated \$1.5B in output or sales value across the U.S. In 2010, Bristol Bay produced 29M sockeye salmon worth \$165M in harvest value. In addition to commercial fishing, subsistence fishing is an integral part of Bristol.

Alaska Natives of the region cite the potential impact of degraded fishery yields on subsistence fishing. For generations, subsistence fishing in Southwest Alaska has been central to the Indigenous way of life. According to Holen (2009), the subsistence model fills the pantry with canned salmon and maintains a multigenerational cultural tradition. Holen adds that Alaska Natives share the cultural practice and knowledge of fishing to preserve their indigenous way of life with the next generation. In the Bristol Region, subsistence fishing occurs concurrently with sportfishing.

Sportfishing is another economic driver that opponents of Pebble fear the mine will compromise. According to the Alaska Department of Fish and Game (2007), fishers purchased over 500,000 licenses. In addition, sportfishing contributed 15,879 jobs, \$246M in tax revenues, and \$545M in income. Resident spending was \$733M, and nonresident expenditure was \$652M. Anglers fishing in Alaska spent nearly \$1.4B on fishing trips, fishing equipment, and the development and maintenance of land used primarily to pursue sportfishing in Alaska. Resident spending was \$733M, and nonresident expenditure was \$652M.

THE CASE FOR PEBBLE

Key Stakeholders

The Pebble Limited Partnership and its investors naturally lobbied for mine development. The mining community in Alaska supported the PLP and wanted to protect the permitting process at Pebble, and other proposed and ongoing mining developments in Alaska. A powerful coalition of business-centric stakeholders called Stand for Alaska supported Pebble Mine. They sought the economic benefits of the mine project and rejected undue political influence on the permitting process. NANA and Doyon were regional Alaska Native Corporations aligned with Pebble Mine. Governor Mike Dunleavy, elected with a pro-business platform, also rejected the permit denial. Alaska's lone Member of the U.S. House of Representatives, Congressman Don Young (2020), stated that the Pebble project "has been subject to the political whims, decisions, and opinions of federal agencies and bureaucrats who disagree with how we Alaskans choose to live and work."

Pebble is Necessary to Repair the Alaska Economy

Pebble Mine's proponents primarily cited the need for increased economic growth through diversification and greater attention to other revenue drivers beyond the oil and gas sector. Alaska has struggled economically throughout the Pebble debate. Guettabi (2018) demonstrated that, in 2018, Alaska was in its longest-ever recession with 34 straight months of negative growth. According to Wright (2017), Alaska relies on fossil fuel taxation for revenue, and Alaskan oil production has fallen since the 1980s. Given oil and gas industry reductions, the mine would provide another substantial tax revenue source for the state.

Proponents argue that Pebble Mine could bring other development to the region. The mine would require power plants, natural gas pipelines, telecommunications infrastructure, and

roads. The development would infuse high-paying jobs into the region and result in greater access to healthcare and education for the people of Bristol Bay.

The Permit Denial was Political and not Scientific

Some stakeholders sought to protect due process in development decisions. They argued that science and economics, not politics, should drive development decisions. In a letter to then-President Donald Trump, 66 signees from the Conservative Action Project (2020) outlined their support of Pebble Mine and their objection to the permit denial. Arguing inappropriate political influence, the group stated that political interference in the EIS process was improper. They cited that the PLP spent over \$150M on scientific studies considering every possible environmental impact of building and operating the mine. They also argued that USACE objectively assessed environmental impact as required by the National Environmental Policy Act after an exhaustive review lasting more than a year. They felt that politicians should not infringe on the integrity of the process.

RESOLUTION AND CURRENT STATUS

USACE ultimately denied PLP's application for a Clean Water Act wetlands fill permit on November 25, 2020. This decision essentially ended the Pebble Mine project as proposed. Several events and findings illustrate the final resolution process.

FEIS and Compensatory Mitigation Requirements

An environmental impact statement (EIS) is an environmental document required by the National Environmental Policy Act (NEPA) for actions that significantly affect the quality of the human environment (Cooperation of Agencies, 1970). USACE published a final environmental impact statement (FEIS) for Pebble Mine on July 23, 2020. According to Brehmer (2020), the FEIS stated that Pebble Mine would remove 99 miles of fish habitat at the mine site but pose little risk to the broader area. The FEIS corroborated a preliminary EIS released by USACE in February 2020. USACE later notified PLP in a letter that "discharges at the mine site would cause unavoidable adverse impacts to aquatic resources and, preliminarily, that those adverse impacts would result in significant degradation to those aquatic resources" (E&E News, n.d.). The letter further stated that, before a record of determination (ROD) for the permit, PLP would require in-kind compensatory mitigation within the Kaktuli River Watershed and compensate for all direct and indirect impacts caused by discharges into aquatic resources at the mine site. Doing so would avoid adverse effects on aquatic resources from discharges associated with the transportation corridor and the port site. Brehmer (2020) added that the mitigation requirements issued by ACOE seemed to contradict the final EIS, which generally maintained that there would be no measurable change in the numbers of salmon returning to the Nushagak and Kvichak rivers or in the long-term health of the commercial fisheries in the region.

Two days ahead of the November 18, 2020 deadline, PLP submitted its compensatory mitigation plans, indicating that they far exceeded the requirements described by USACE. PLP CEO Tom Collier responded publicly that the company would substantially expand the aquatic areas addressed beyond that which USACE required (Brehmer, 2020).

Record of Decision

USACE guidelines prescribe that, following the close of a comment period on a FEIS, if all information has been received to make a permit decision, the Corps will prepare a Record of Decision (ROD) for the action and publish a public notice (U.S. Army Corps of Engineers, n.d.). USACE administered a ROD for Pebble Mine on November 25, 2020, in which it concluded that the benefits of the proposed elimination and alteration of wetlands, streams, and other waters within its jurisdiction did not outweigh the detriments that such eliminations and alterations would cause. The Corps based its determination on the FEIS information, the mitigation plans, extensive public commentary, and the analysis of the public interest review factors. Alaska District USACE Commander Colonel Damon Delarosa stated in the ROD report that “as those eliminations and alterations would be necessary to realize any benefits from the proposed project, I have found that the project is contrary to the public interest” (U.S. Army Corps of Engineers, 2020).

Appeals and Reconsiderations

As of the spring of 2022, the Pebble debate was still mired in indecision. Specifically, PLP and the State of Alaska’s Department of Law both appealed the denial of the Pebble Mine Clean Water Act wetlands fill permit. PLP (n.d.) argued that “Army Corps of Engineers Alaska District officials ignored their own findings and set arbitrary wetlands protection requirements when they rejected the corporation’s fervently contested mine plan, according to Pebble’s appeal documents published January 27.” The State of Alaska positioned a similar appeal. Governor Mike Dunleavy (2021) felt that the flawed decision by the Alaska District created a dangerous precedent that would undoubtedly harm Alaska’s future. He thought that any potential project could fall victim to the same questionable standards. Dunleavy insisted that Alaska must prevent a federal agency like the Alaska District of the Army Corps of Engineers from using the regulatory process to effectively prevent the State from fulfilling a constitutional mandate to develop its natural resources. On May 26, 2021, USACE’s Pacific Ocean Division (POD) received the administrative record from USACE Alaska District containing relevant documents for consideration by the Division Engineer (USACE, 2021). USACE assigned a new officer to review the appeal in June of 2021 (Roan, 2021) and announced that, due to the complexity of the appeal and its volumes of data, the appeal could take over a year to complete (Bohrer, 2021). USACE stated that, over the past decade, the average completion of a regulatory appeal took approximately one year. The volume and complexity of the information to consider for the Pebble appeal far surpassed that of an average appeal.

Concurrent to the ongoing appeal, the EPA revived its effort to block Pebble by revising its previously denied preemptive veto under the Clean Water Act clause 404-C (Ross, 2022). While unified in its objection to Pebble, the Alaska Congressional delegation of Murkowski, Sullivan, and Young remain opposed to the 404-C provision arguing to undo federal encroachment on Alaska’s ability to decide on such matters (Murkowski, 2021). Adjudication of this provision was ongoing.

In an additional parallel attempt to intercede Pebble’s development, an Alaska Native organization headquartered in the Bristol Bay area called Pedro Bay has proposed to sell conservation easements for more than 44,000 of the corporation’s 92,100 acres of land in

southwest Alaska (Hathaway, 2021). These easements would make the land off-limits to development, including Pebble's necessary mining road (Ruskin, 2021).

Implications and Lessons Learned: Donlin Gold

The world's most prolific salmon fishery and an immense mineral deposit are two of the world's most extraordinary natural resource sites. The proximity of these sites within the Bristol Bay region of Southwest Alaska means that it is impossible to consider one without the other. However, after over ten years of debate and dialog, it is still unclear if only the fishery will contribute to the Alaskan economy in the near future. Fishing and mining have, thus far, been unable to coexist in the Bristol Bay Region. Because of the impasse, the gold, copper, and molybdenum may remain buried below the Bristol watershed's rolling hills in perpetuity. Buried with the valuable metals might be the opportunity to transform a struggling economy.

Meanwhile, the vibrant commercial fishery, Alaska Native subsistence grounds, and sportfishing sanctuary will continue to flourish in the near term. The renewable resource, and the Alaska Native connection with it, will remain temporarily unthreatened. For centuries, the salmon of Bristol Bay have returned every year, spawned, and died. If unaltered by a change in the direction of the mine's development, this timeless cycle will produce prolific yields for centuries to come. Although there is no imminent threat to the fishery, those whose livelihood and lifestyle depend on it remain anxious amidst the myriad challenges and appeals that mine proponents continue to pursue. The PLP and its partners invested millions into research, development, and permitting. Opposing stakeholders have paid millions in legal fees, lobbyists, media campaigns, and external experts. According to Demuijnck and Festerling (2016), corporate activities with significant social or environmental impact are most effective when broadly accepted or even acclaimed by society and the impacted communities. PLP failed to obtain a social license to operate and, instead, sought only a formal license through the permitting process. The permitting process was, to some, unduly influenced by political agendas. The debate held the region hostage and delayed Alaskans from investing energy and resources into other priorities. It has deeply divided Alaskans at a time that the State requires collaboration and unity.

The Donlin Gold Mine project is another substantial mining venture in Alaska that benefitted from learned lessons from the Pebble debate. Novagold Resources and Barrick Gold USA, a subsidiary of Barrick, are developing the Donlin Gold Mine, approximately 155 miles northeast of Bethel, Alaska (Mine, 2014). It projects to yield 1.5M ounces of gold during the first five years of operation and 1.1M ounces during the rest of the mine life. Construction of the \$6.7B mine will occur over three to four years and will employ up to 2,500 people. The mine expects to operate for 27 years while directly employing 600-1,000 people. The majority of the mine's employees will come from the region and be Native Alaskan corporate shareholders (Ground Truth Trekking, 2015).

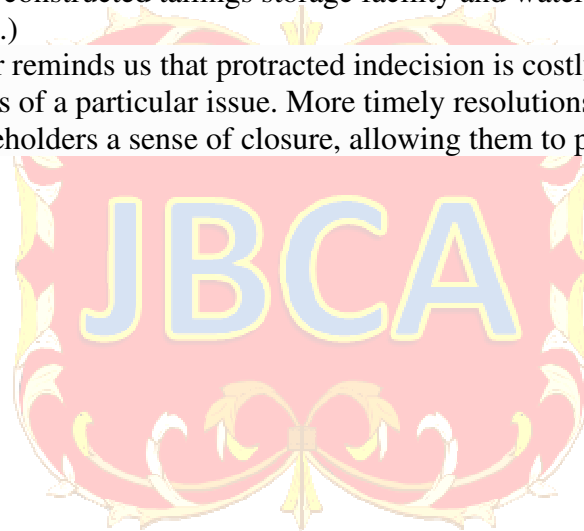
The Donlin Gold project will impact local and regional communities with tax revenue and reduced welfare payments. A portion of the mine's profits would be distributed to other native corporations throughout the state via the Section 7(i) clause in the Alaska Native Claims Settlement Act. Mine development will infuse roads, power, and telecommunications infrastructure into the surrounding communities (Ground Truth Trekking, 2015).

Like Pebble, Donlin has faced opposition from more than a dozen area tribes and other Indigenous groups in recent years. Opponents have expressed concern that the mine will

irreparably damage the Kuskokwim's fisheries, a primary subsistence resource for area residents (Brehmer, 2022).

Learning from the Pebble experience, Donlin obtained both social and formal license and, thus, a less turbulent path to realizing the mine's potential. Donlin gained social license through support from both the Kuskokwim and Calista Corporations. These are large, regional Native Corporations that yield significant political, economic, and social influence. Donlin received a formal license through a favorable record of decision from the Army Corps of Engineers on its environmental impact statement following a roughly six-year review (Brehmer, 2021). Further, Donlin obtained additional state-level authorizations, including air quality and Alaska Pollutant Discharge Elimination System (APDES) wastewater discharge permits, the pipeline, and hazardous materials safety administration (PHMSA) special permit, the Title 16 fish habitat permits for the mine and transportation facilities, the Waste Management permit, and the Reclamation and Closure Plan Approval by the Alaska Departments of Environmental Conservation and Natural Resources (Novagold, n.d.). Donlin will complete the permitting process upon final authorization by the State Pipeline Coordinator's Section for the sections of a natural gas pipeline to be constructed tailings storage facility and water retention and diversion structures (Novagold, n.d.)

The Pebble matter reminds us that protracted indecision is costly and wasteful to stakeholders on both sides of a particular issue. More timely resolutions, such as those in the Donlin project, give stakeholders a sense of closure, allowing them to pivot to other value-creating activities.



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