

Shareholder Employment at Red Dog Mine

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Introduction

Under the Alaska Native Claims Settlement Act of 1971, Iñupiat of northwest Alaska organized as shareholders in the NANA¹ Regional Corporation, Inc., and received title to 2,258,836 acres, including rights to the rich Red Dog zinc deposit. In 1982, NANA signed a joint-venture agreement with Teck² to develop the mine, including provisions for preferential hire for qualified NANA shareholders. The agreement aimed for 100% shareholder hire by 2001. As of 2010, Teck had 220 NANA shareholders in full-time employment, which is 53 percent of the workforce. Other mines around the world have similar indigenous or local hire agreements with mixed success. The Voisey's Bay mine sets the high mark for Canada with an Aboriginal hire rate of 54 percent (AETG 2008), followed by Ekati diamond mine at 50 percent (BHP Billiton 2011). So the track record for indigenous employment at Red Dog is high by global standards, although it falls short of NANA and Teck's goal. What are the continuing barriers to increasing shareholder hire, retention and promotion?

Review of the Literature

Two works by Ciaran O'Faircheallaigh (2002, 2006) lay the foundation for in-depth analysis of benefits to Aboriginal communities under Impact Benefit Agreements (IBAs), including employment. His 2002 book *A New Approach to Policy Evaluation: Mining and indigenous people* presents a methodology for evaluating program outcomes against the pluralistic and dynamic goals of key stakeholders and explaining policy outcomes. Chapters 4 and 5 analyze in depth the implementation of the employment and training programs provided under IBAs for two Australian uranium mines and explain and evaluate their effects (O'Faircheallaigh 2002). His follow-on article in 2006 reviews 30 years of literature on Canadian and Australian mining agreements and the resulting economic benefits for Aboriginal communities and identifies implications for the design of IBAs. Following O'Faircheallaigh (2006: 82), employment obstacles identified include:

- Lack of the skills and work experience required to compete on the open job market or to achieve advancement to more senior positions, and an absence or scarcity of affordable opportunities to upgrade existing skills;
- Racism towards and stereotyping of Aboriginal people by senior company managers, supervisors and co-workers;
- A tendency for managers to prioritise the demands of production and cost containment over Aboriginal employment and training in allocating financial and other resources, including their [the managers'] own time;
- Lack of awareness of employment and training opportunities among potential Aboriginal recruits;
- Alienation and loneliness arising from the unfamiliarity of industrial environments and distance from home communities, leading to a failure to

¹ The name NANA derives from the predecessor organization Northwest Arctic Native Association.

² To be historically accurate, NANA signed with Cominco American which later merged with Teck. For consistency, the current corporate name of Teck or Teck Alaska will be used throughout.

complete training and education programs, irregular work patterns and high turnover;

- The reluctance of Aboriginal people to forgo land-based activities such as hunting and fishing that may conflict with regular wage employment;
- Absence of suitable accommodation for Aboriginal trainees and employees; and
- A failure to specifically address the needs and priorities of Aboriginal women employees and potential recruits.

He goes on to emphasize the importance of concrete goals and incentives or sanctions to ensure that Aboriginal employment is a priority for the project operator.

Following O’Faircheallaigh, Prno et al. (2010) took a program evaluation approach assessing the effectiveness of 14 IBAs for northern diamond mines relative to their stated objectives. He used three data sources: secondary socio-economic data, key informant interviews, and focus groups with IBA signatory communities. With respect to the objective of securing local benefits for Aboriginal communities, he found that income, employment and high-school completion all increased relative to control communities, and key informants reported benefits from employment and training. While the focus groups generally praised the benefits received, they were not entirely satisfied: for example, one participant said it was often “hard to get a good job,” and the job-specific training was for blue-collar “dirty” jobs. Furthermore, remote jobs come with some costs to family life.

Parsons and Barsi (2001) describe in some detail how a Human Resource Development Agreement and a Multi-party Training Plan were implemented in the uranium mining industry of northern Saskatchewan to increase northern and Aboriginal participation in mine employment. By 1998, Aboriginals constituted 40 per cent of the mine labor force. The largest company, Cameco, reported that 33 percent of their Aboriginal employees were in highly skilled trade and technical positions, and 3 percent had advanced to supervisory positions. There were corresponding improvements in educational attainment for the northern region. Government investments in training for mine employment reduced expenditures for social assistance and increased tax revenues, yielding an estimated net benefit of \$938 per person (Parsons and Barsi 2001 citing Painter 1998).

There are numerous other resource materials and studies about IBAs, and case studies and social impact reports for particular mines (see Kennett 1999, IBARN 2012, and NRC 2012), but little analysis specifically of challenges and strategies for indigenous hire, retention and promotion. There are many professionals working in the field, however, and their experiences are sometimes shared in conferences and other venues. The 2011 Canadian Aboriginal Minerals Association conference featured a panel discussion about the Aboriginal Skills and Employment Partnership (ASEP)³, which sought to fill 148 new mining positions over 30 months. As of November 2011, they had trained and placed 221 Aboriginal candidates with 98 per cent retention. Their ingredients of success included: strong partnership between First Nations, mining companies, educators and government; solid funding from industry and government; training initiatives tailored to employer and

³ Panelists represented the BC Aboriginal Mine Training Association <http://www.bcamta.ca/>, New Gold and Thompson Rivers University.

employee needs; and coaching that “provides consistent support to create an ‘employable’ and ‘promotable’ candidate pool” (Sterritt et al. 2011).

Indigenous Employment at Other Mines

A statistical profile from the 2006 Canadian Census shows that Aboriginal people make up a significant portion of the mining labor force in northern provinces and territories: 20 per cent in Saskatchewan, 17.2 per cent in Ontario, 14.4 per cent in British Columbia, and 12.4 per cent in the Northwest Territories (Natural Resources Canada 2009). Education and skill is a limiting factor: overall, 35 per cent of the Aboriginal labor force in mining lack high school certificates; only 4.3 per cent have university certificates, diplomas or degrees, compared with 15.3 per cent among their non-aboriginal counterparts (Natural Resources Canada 2009).

At the Ekati diamond mine in the Northwest Territories full-time employment for 2010 included 62 per cent Northern residents and 50 per cent Aboriginals (BHP Billiton 2011). This met the company’s hiring target of 62 per cent Northerners and exceeded the target of 31 per cent northern Aboriginals. (The distinction between Aboriginal and Northern hire can be seen as analogous to a distinction between NANA-shareholders and Alaska resident hiring preference.) Robert Beaulieu, community relations advisor for Ekati and a northern Aboriginal himself, comments on the benefits of Ekati employment in Aboriginal communities: “It empowers people, it give people hope.” As employment rates have risen, so have graduation rates, interest in skilled trades training, and interest in financial planning. “Certainly the employment numbers have increased and it added a positive spinoff effect with the younger generation... They see the value now of staying in school because their parents are driving a Ford F150—that’s how you can tell who is working for BHP” (Beaulieu 2010). Ted Blondin of Behcho Kó Development Corp observed that dropouts are coming back to school because they see the opportunity (Blondin 2006).

The Voisey’s Bay nickel mine in northern Labrador and the uranium mines in northern Saskatchewan also have strong records: 54 per cent out of 500 employees at Voisey’s Bay mine and 45 per cent of 2,459 employees in the uranium mines are Aboriginal (AETG 2008, p.32, 41).

The Diavik diamond mine in the Northwest Territories pledges to “maximize project-related employment opportunities for Northerners” and to give “pre-employment training” and first hiring priority to qualified Aboriginal applicants. The 1999 Diavik-Northwest Territories Agreement aims for Northerners comprising at least 66 per cent of total employment in operations while working toward a workforce of 100 per cent Northerners. In 2010 Diavik reported 561 (62 per cent) Northern employment and 269 (30 per cent) Aboriginal employment (Diavik 2011).

Eric Christensen, Joint Venture Manager for Daivik, reported that turnover among Aboriginal employees is about 20 per cent annually: turnover is lowest in the heavy mining equipment category, and highest among the equipment operators who can get higher pay working in the oil sands in Alberta (Christensen 2006). Patricia Dillon of Teck Cominco made a similar comment: “What is a sustainable approach to capacity development? The problem is human capital migrates” (Dillon 2006). Another panelist at

the conference mentioned a survey in Nunavut that indicated the higher the education level, the lower the desire to work in the resource sector.

The Musselwhite gold mine in Northwestern Ontario, in production since 1997, has achieved 25 per cent Aboriginal employment (Faubert 2006). The biggest barrier to increasing Aboriginal employment, says Claude Lemasson, general manager for Goldcorp, is meeting the minimum requirement of an 11th or 12th grade education (Lemasson 2006). Christensen added that alcohol and drug use have to be dealt with prior to employment (Christensen 2006). Adele Faubert, manager of Aboriginal affairs at Goldcorp, says best practices for retaining Aboriginal workers include: company willingness to rehire workers dismissed for poor attendance if they can show their life has stabilized, rehabilitation programs for employees who use drugs or alcohol and rehire after they are clean, work schedules and leave accommodating traditional harvest activities, and recognizing the importance of speaking their traditional languages (Faubert 2012).

Effects of the Red Dog Mine on the Region

The story of the mine began in 1968 when a bush pilot and prospector from Kotzebue brought the area to the attention of the U.S. Geological Survey (USGS). By 1970, the USGS had published a report indicating the presence of large mineral deposits. NANA Regional Corporation, which organized in 1972 under ANCSA, selected the site in 1974 as part of its land entitlement. Conflicting claims by the State of Alaska and Cominco, Ltd., delayed patent to the mineral rights until a federal ruling in 1980 settled it.

Meanwhile, the question of whether to develop it was extensively discussed in the communities, seeking to balance economic goals with advancement for Iñupiaq language, culture, and values and weighing possible effects on subsistence hunting and lifestyle. By the early 1980s however, many elders⁴ were speaking out on the need for development to create jobs. In 1982, NANA signed the development agreement with Teck Resources, including provisions for preferential hire for qualified NANA shareholders. Site construction began in 1986 and operations began in December 1989.

Red Dog is located in the DeLong Mountains, 40 miles north of the village of Noatak and 52 miles east of the village of Kivalina on the Chukchi Sea (Map 1). No roads existed in this area before construction of the 52-mile road through the Cape Krusenstern National Monument from the mine site to the port. Once zinc and lead concentrate is processed at the mine site, loads are trucked to the port for storage until the water is free of ice. Though mining takes place throughout the year, shipping can only occur during the short ice-free summer period, about 100 days per year. Small barges lighter the ore from the shallow coastline to ships located in deeper waters before being shipped to smelters around the world. There are no communities or residences in the vicinity of the mine. Employees generally work two weeks on and two weeks off, commuting on company chartered air carriers from communities throughout the borough or from Anchorage (the largest city in Alaska).

⁴ In Alaska Native cultures elders are highly respected, and their opinions carry great weight.

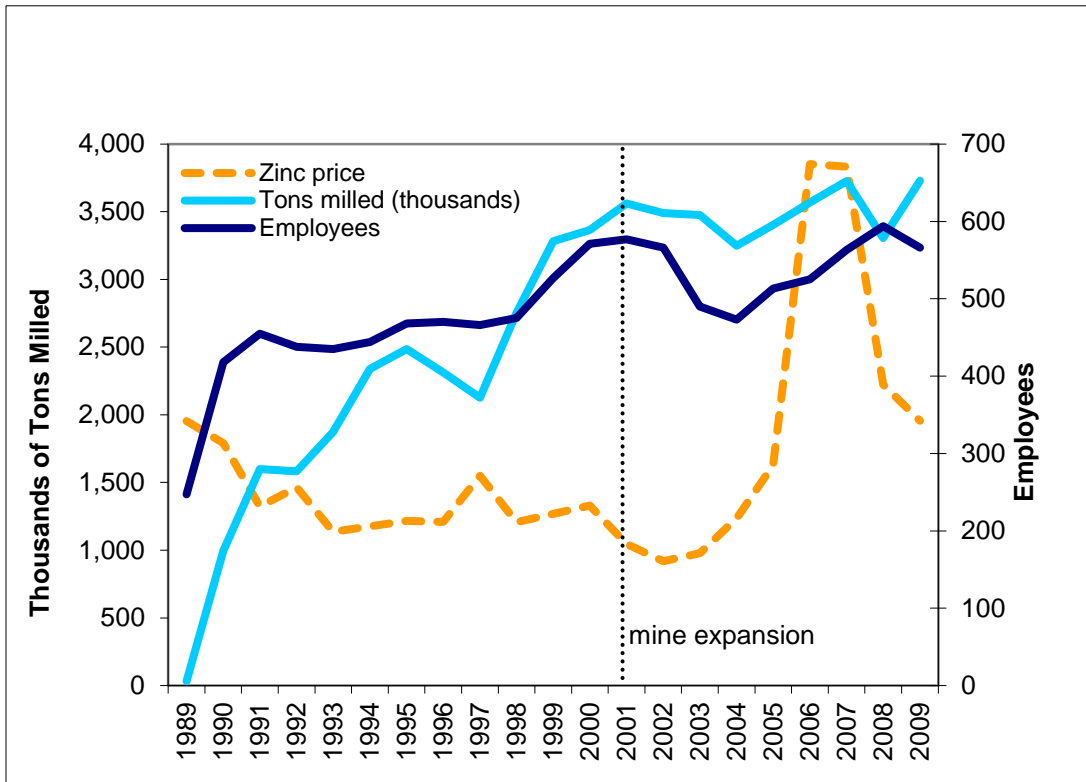


Map 1. Location of the Red Dog Mine in Northwest Alaska
 Source: NANA

At the time it was built, the expected life of the mine was 22 years. Since the approval of permits for the Aqqualuk extension to the mine, however, the current projected closure date has moved forward to 2031.

Figure 1 shows Red Dog production, employees, and world zinc prices from 1989, the first year of Red Dog's production, to 2009. Employment at Red Dog Mine rises and falls seasonally with shipping and construction, and across years with mine production. Production rates have been affected by world zinc prices. Note in particular the large-scale mine expansion, which began in April 1996 and ended in September 1998, increasing production by 35 percent and employment by 22 percent.

Figure 1. Red Dog Production, Employment and Zinc Price, 1989-2009

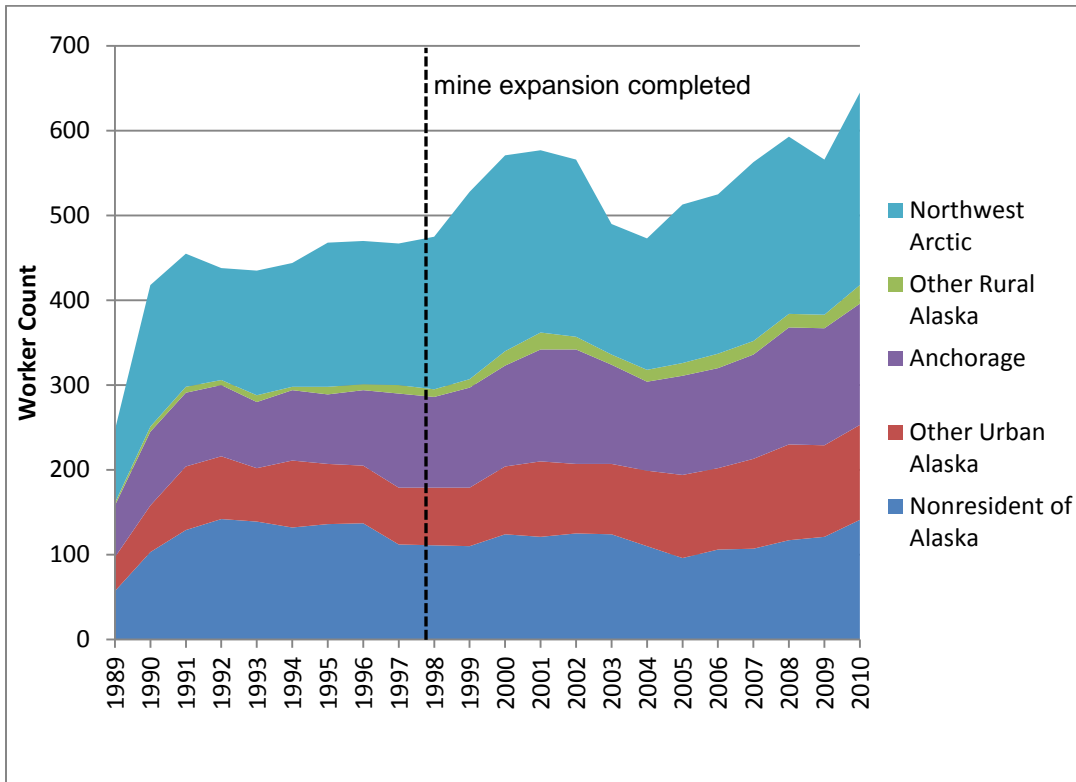


Sources: Alaska Department of Labor & Workforce Development, Research and Analysis Section, Alaska's Mineral Industry 2009 Special Report 64 (DGGs) Table 20, and International Monetary Fund Primary Commodity Prices <http://www.imf.org/external/np/res/commod/index.asp>

Figure 2 displays Red Dog employment by region. This figure shows that that the largest number of employees reside in the Norwest Arctic region, although substantial numbers commute from Anchorage, elsewhere in Alaska, and even from outside the state. The substantial year to year variation in employment is mostly driven by temporary and seasonal workers, who are predominantly local residents and shareholders. Employment from other regions is more stable with a modestly increasing trend.

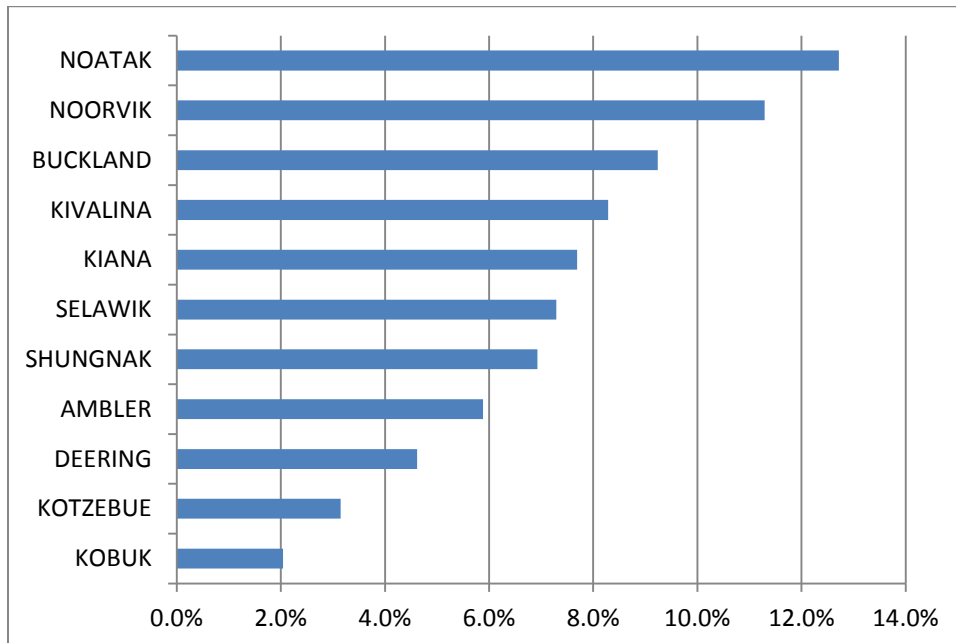
Figure 3 illustrates employment at Red Dog as a percent of total employment in each of the borough communities in 2000. For Noatak and Kivalina, the communities which are geographically closest to the mine and enjoy preferential hire, mine employment represents 12 percent and 8 percent of employment respectively.

Figure 2. Red Dog Employment by Region, 1989-2010



Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section.

Figure 3. Employment at Red Dog as a percent of Total Employment by NWAB Community, 2009



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section . Worker count includes private sector, state and local government anywhere in Alaska; excludes federal government and self employed. Residence based upon Alaska PFD data. See: <http://labor.alaska.gov/research/alari/> for definition and methodology

The mine provides substantial socioeconomic benefits to the region. In 2010, 92 borough residents were employed at the mine, with a payroll of \$24 million. Royalty payments to NANA totaled \$146 million, and shareholder dividends that year were over \$20.5 million.⁵ The 2009 payment in lieu of taxes to the Northwest Arctic Borough was \$6.7 million. The mine also contributes to the local economy through the purchase of local goods and services, contributions to nonprofits, and in-kind services for specific events such as emergency response (NANA 2011; Teck, 2011).

The payments in lieu of taxes (PILT) by the mine were key to the organization of the borough government in 1986, helping the region gain a valuable tool for self-determination and local control of schools, planning and public services.⁶ From 2002 to 2007 the PILT constituted 87 percent of the Northwest Arctic Borough's general fund revenues (excluding facility usage fees paid by the school district) (Tetra Tech 2009: G-19). Increased income in the region has contributed to improvements in infrastructure and public services, including schools, emergency response, economic development and planning. Although the borough lags behind the rest of the state in educational attainment, the trend over the last 30 years has been improving, due in part to the mine. The mine provides incentive to complete a high-school degree or GED—a minimum requirement for a job—and the PILT and the educational programs directly supported by Teck⁷ significantly expand educational and training opportunities in the region.

While income and employment have a generally positive effect on social and psychological health, there are also tradeoffs, including the strain on families and children of the prolonged absences of family members working at the mine (Tetra Tech 2009: 3-257)

The relationship between the village of Kivalina (population 374) and the Red Dog Mine has been complex. The location of the mine upstream from the village caused concern regarding water quality in the Wulik River, the municipal water source and a subsistence fishing area. Water sampling, however, has not shown an increase in heavy metal contaminants.⁸ As reported in the EIS (Tetra Tech 2009: Ch 3.12), some residents of Kivalina claim localized, adverse effects of the road on caribou, of the port on beluga whales, and of contaminated road dust on berries, displacing some traditional subsistence hunting and gathering activities to other areas. Due to its proximity to the mine (52 air miles west), residents of Kivalina are given priority for employment at the mine: in 2009, 14 Kivalina residents were employed there, and mine employment represented 19 percent of total wages in the village (ADLWD 2011). In Kivalina opinion is divided, with some leaders speaking out against the mine and others in support. It is the only community in the region which has voiced opposition to the mine.

⁵ For analysis of the strong correlation between royalty income and dividends paid to shareholders see Tetrattech 2009, pp.3.308-10.

⁶ Regions of Alaska lacking a local source of revenue support have no county or regional-level government and are administered directly by the state.

⁷ For details, see the section “Red Dog and NANA Initiatives to Promote Shareholder Employment.”

⁸ In fact, mine water management has generally decreased the level of naturally occurring heavy metal contaminants in the Wulik River compared to pre-mine conditions (Tetra Tech 2009 p.3-61)

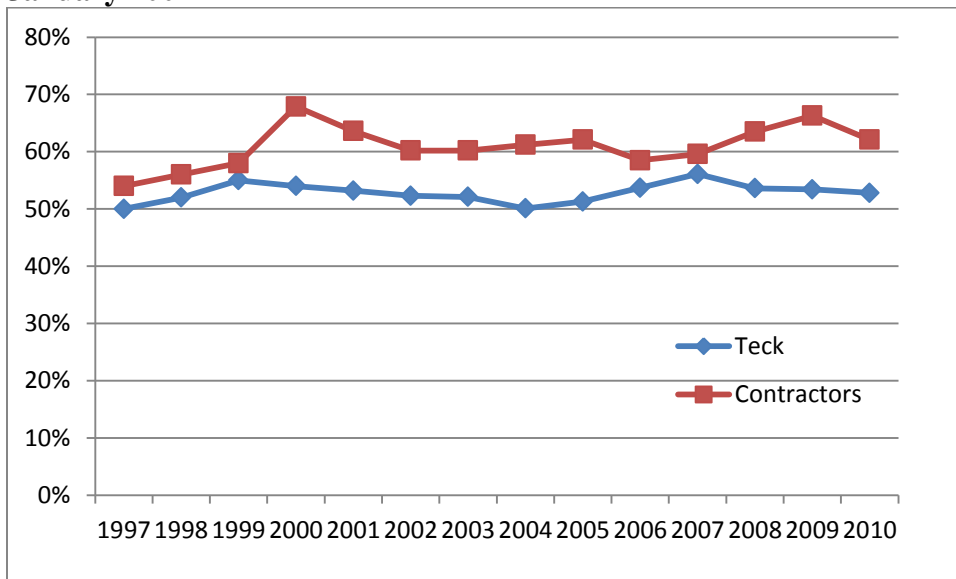
While Noatak residents (population 514) raise similar environmental concerns, overall they support the mine. Noatak residents also receive priority for employment due to their proximity to the mine (40 air miles south). In 2009, 29 Noatak residents were employed at Red Dog, and mine employment represented 24 percent of the total wages earned in Noatak (ADLWD 2011).

Shareholder Hire at Red Dog Mine

The 1982 NANA- Cominco joint-venture agreement gave first hiring preference for all Red Dog jobs to qualified NANA shareholders. Residents from Noatak and Kivalina, the two villages closest to the mine, were given additional hiring preference based on the idea that their communities would be most directly affected by the mine’s operations. The agreement aimed for 100 percent shareholder hire by 2001.

Figure 4 shows shareholders as a percentage of the workforce for Teck and for the two major subcontractors. In 2010, Teck Alaska had 220 NANA shareholders in full-time employment, which is 53 percent of the workforce. The subcontracted companies of NANA Management Services, which provides catering and other services for the mine, and NANA Lynden, which provides transportation services between the mine and the port, together had 54 shareholders in full-time employment, which is 62 percent of their workforce. Of all employees on the Red Dog property (which does not include several of the contracting companies), 58 percent are shareholders. Wages to these shareholders totaled \$28.1 million (Teck 2011)

Figure 4. Shareholder and Non-shareholder Employees of Red Dog Mine by Salary, January 2007



Findings on Shareholder Hire, Retention and Promotion

Figure 5 shows the pattern of shareholder employment by salary level in 2007. It shows 100 percent shareholder employment in entry-level job classes, and zero percent at the top management level. While there is a strong shareholder cohort at every level up through journey level, about \$100,000 to \$110,000 per year, there appears to be a ceiling above that level.

Figure 5. Shareholder and Non-shareholder Employees of Red Dog Mine by Salary, January 2007

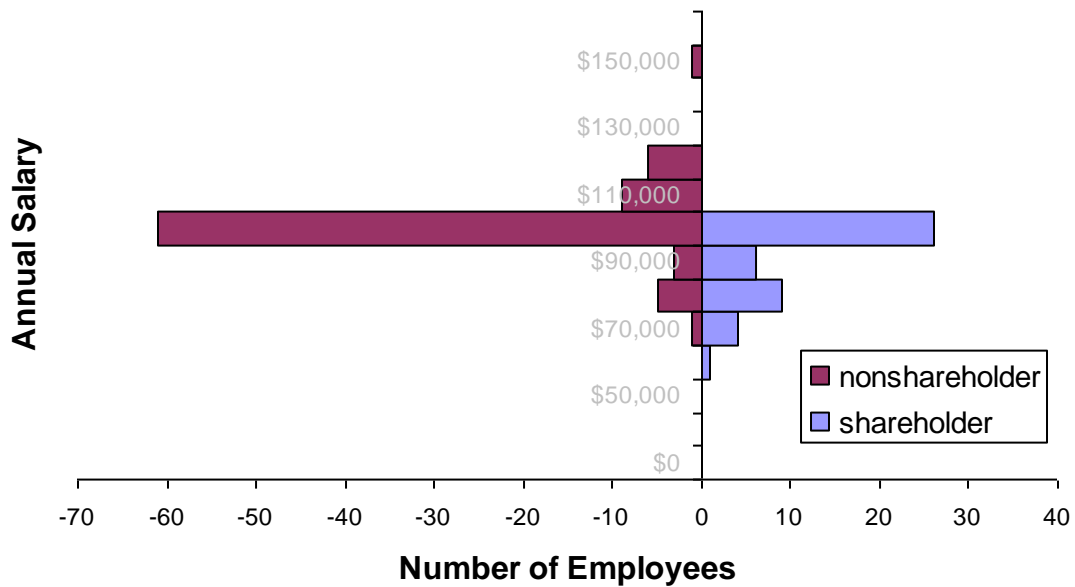
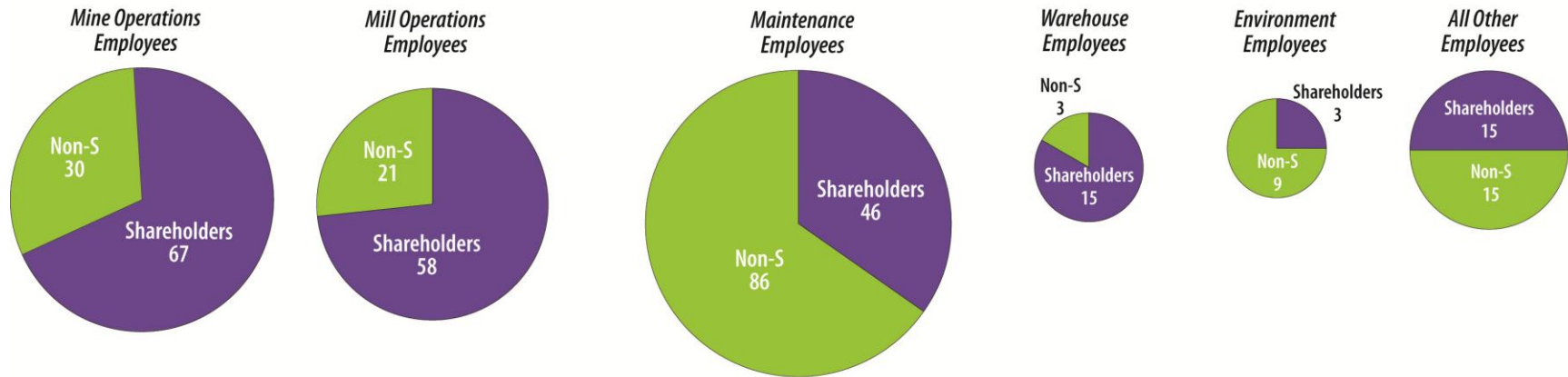


Figure 6 shows the same data broken out by division. Overall, mill and mine operations have the strongest record of shareholder employment, while maintenance has the weakest. Every division at Red Dog shows the same pattern of strong shareholder hire in entry-level positions and a ceiling below the top levels.

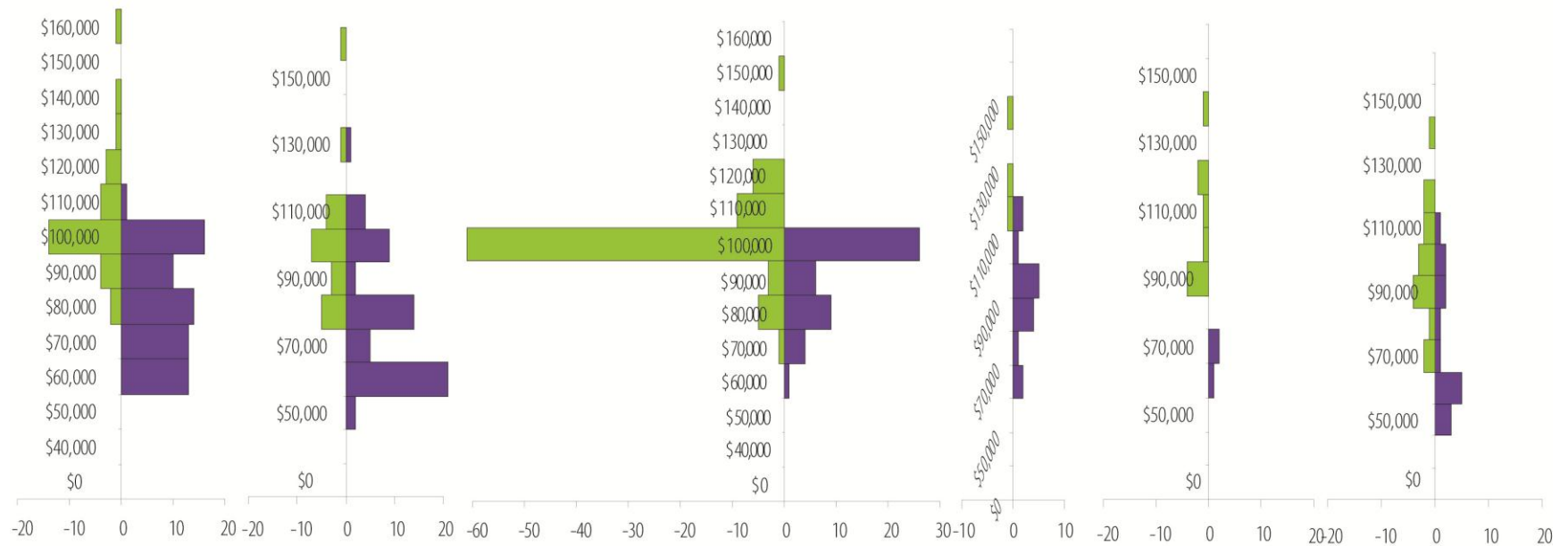
Analysis of shareholder employment by community of residence reveals that the largest numbers of employees are from Anchorage and Kotzebue. Noorvik, the third largest community population in the borough, is next largest in Red Dog employment. In addition to population size, proximity to the mine is also a factor predicting employment at Red Dog, as is the hiring preference given to Noatak and Kivalina. Communities also differ in their retention or turnover rates, with Kotzebue showing high turnover and Shungnak showing low turnover. Interestingly, Shungnak also has the highest high-school attendance rate out of any school in the borough.

Figure 6.

**Shareholder and Non-Shareholder Employees of Red Dog Mine,
By Division and Annual Salary, January**



Number of Employees by Salary Range
(In thousands of dollars)



Career Progression

Figure 7. Career Progression

The flowchart Figure 7 shows the steps to employment and promotion at Red Dog for NANA shareholders. Each box in the left column represents success at moving on to the next career step. Each box in the right column represents a choice or failure, for whatever reason, to move on to the next career step. Beginning with a high school diploma, this chart and the accompanying text illustrate and explain the factors why shareholder employees (or potential shareholder employees) do and do not progress to the next level. The information contained in the following pages is based on interviews with Red Dog employees, management, former employees, and community members, and supplemented with available data from public and private sources.

Education

The minimum educational requirement for a job at the Red Dog mine is a high school diploma or GED equivalent. Therefore, graduation from high school is one of the first deciding factors in shareholder hire. The adult population in the borough has a comparatively low rate of educational attainment: 79 percent of adults over the age of 25 have graduated from high school (US Census Bureau 2010).

The trend over the last 40 years, however, has been improving. Figure 8 shows the percent of high school graduates in the Northwest region rose sharply between 1970 and 1980, increasing from 24 percent to almost 50 percent. This trend is similar in other rural Alaska regions and is likely because during that period the government built for the first time high schools in rural villages throughout Alaska. High-school graduate levels continued to rise in the 1980s, but at a slower pace, growing from nearly 50 percent in 1980 to almost 65 percent. Since 1990 educational levels among Northwest region residents continued to rise faster than in other areas of the state and narrow the achievement gap, reaching 78.7 percent of adults with high-school diplomas in 2005-09 compared with 81.8 percent for other rural Alaska census areas and 90.7 percent for Alaska’s general population.

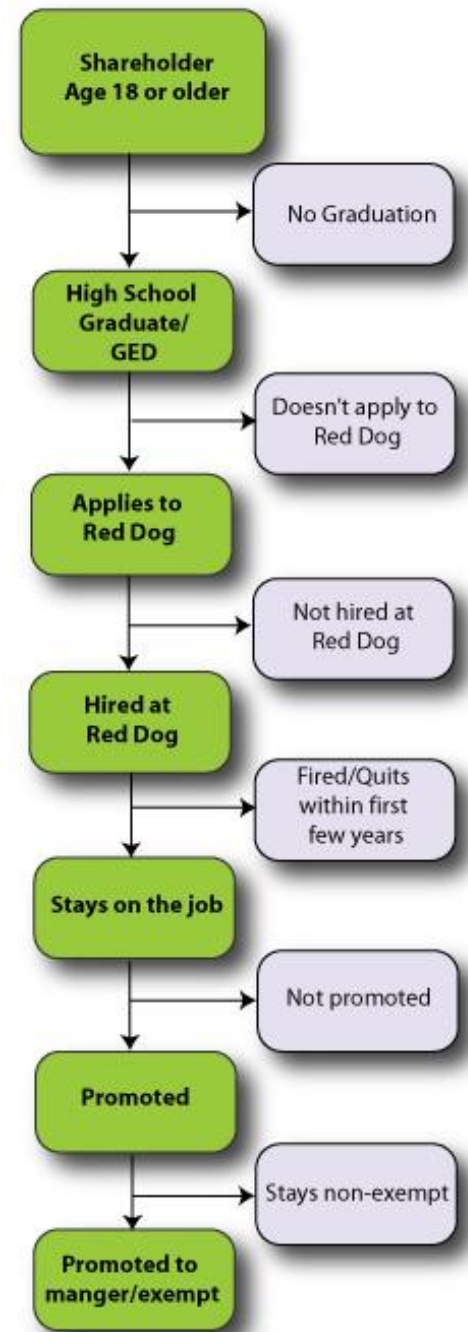
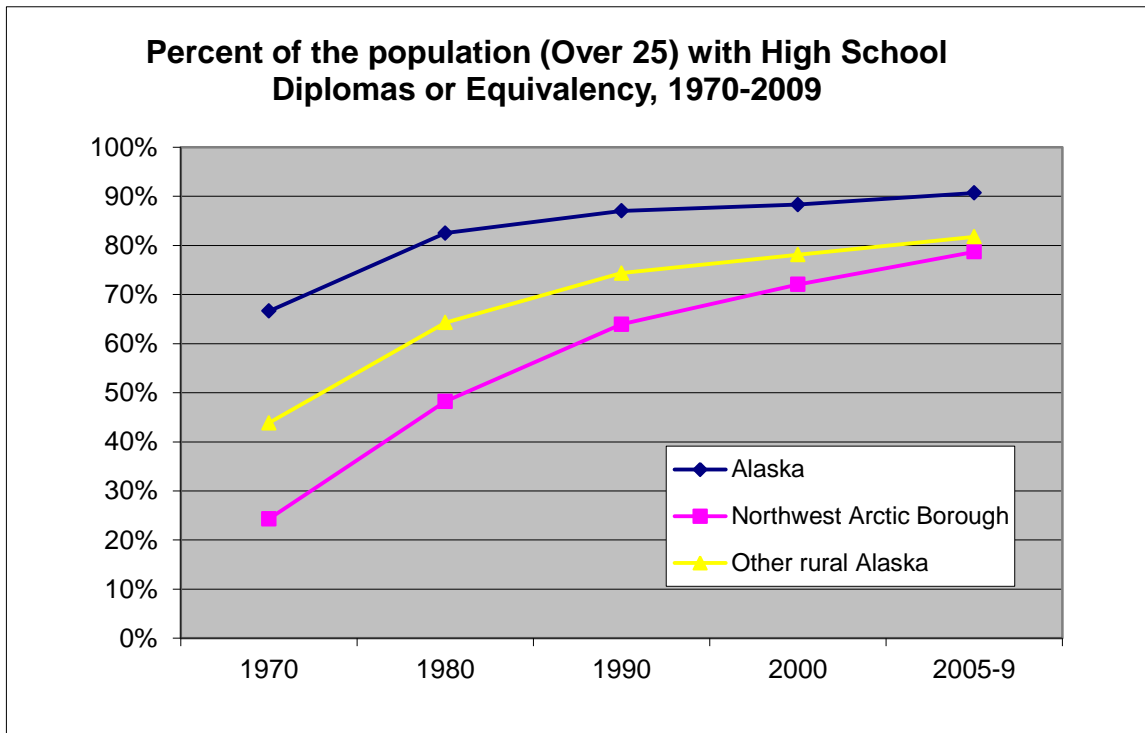


Figure 8. Increases in Educational Attainment, 1970-2009



Source: U.S. Bureau of the Census. "Other rural Alaska" is PUMA 400 excluding the Northwest Arctic Borough.

Data from the Alaska Department of Education for 2009-10 show that the school attendance rate (85 percent) and the high school graduation rate (55.6 percent) in the Northwest Arctic Borough are both significantly lower than in Alaska as a whole (90 percent and 59 percent respectively), and lower than in Anchorage, which is a large and accessible labor market for Red Dog. High-school attendance rates by community show that only Shugnak and Noorvik meet or exceed school attendance rates in the rest of the state.

Our informants see the main obstacles to high-school graduation in the borough as school truancy and tardiness, to which drug use, lack of law enforcement, the role of parents in education, and the subsistence lifestyle contribute. The subsistence lifestyle revolves around animal migration patterns, weather and seasons rather than alarm clocks and school schedules. The presence of subsistence-based values and habits within borough communities may make consistent school attendance, and therefore high-school graduation, more difficult to achieve. Several local informants mentioned that the parents of some students do not take sufficient interest in their children's formal education to ensure that they are at school on time, consistently and with their homework completed. Drug and alcohol usage consumes time, money and motivation of students and their families, which also contributes to truancy and tardiness. A school official says truancy and tardiness are rampant in Northwest Arctic communities, and some of the students who do show up on time sometimes fall asleep in class due to lack of sleep. Experiments adjusting the time that school begins have not helped. Current initiatives to improve attendance have enlisted support

from the governor on down and secured the cooperation of law enforcement officials in enforcing the truancy laws. Progressive efforts by the school district to work with parents now can culminate in a fine to parents after 20 unexcused absences.

In addition to subsistence hunts and community events, major statewide events affect attendance in rural school districts differently than in urban school districts. The Alaska Federation of Natives Convention, which is held in October, often causes week-long absences from school when families travel to Anchorage or Fairbanks to attend the convention. Also, the disbursement of Alaska Permanent Fund Dividend checks—a per capita share of the earnings from Alaska’s oil revenues savings account—in October causes absences from school when families make their subsequent trip to Anchorage for Christmas shopping.

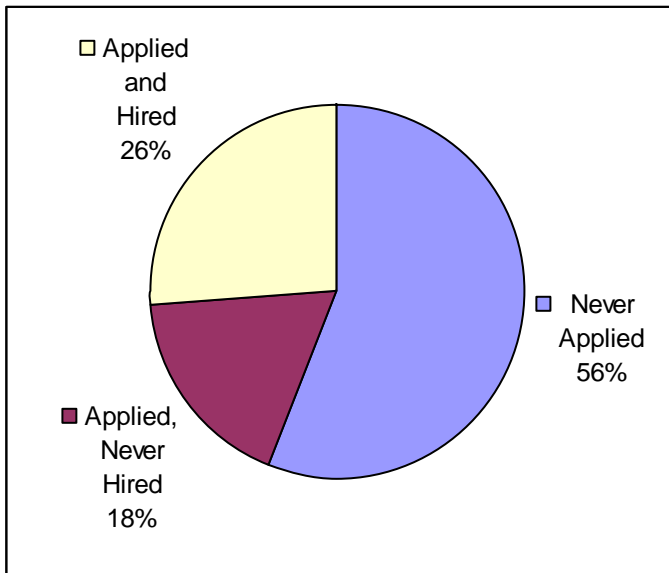
School attendance is a critical factor in whether or not a student graduates from high school and is eligible for an entry-level job at Red Dog. Plus, school habits carry over into work habits. One Noatak teacher mentioned how children who show up for school on time generally do well at Red Dog and that those who do not show up for school on time usually do not keep their jobs at Red Dog very long. Aspects of village life, including subsistence traditions, drugs, and school-year interruptions, contribute to elevated school drop-out rates. For the majority who do graduate, though, the next decision is whether to apply for a job at Red Dog.

Decision to Apply

The Northwest Arctic Borough conducted an employment access survey in January of 2001, including questions regarding barriers to employment. The survey targeted working age (18-64) residents in the ten borough villages. Of the 764 respondents (44 percent of the target population), 26 percent of the respondents reported working at Red Dog either presently or in the past; 18 percent had applied to Red Dog but were not hired; and 56 percent had never applied (Figure 9).

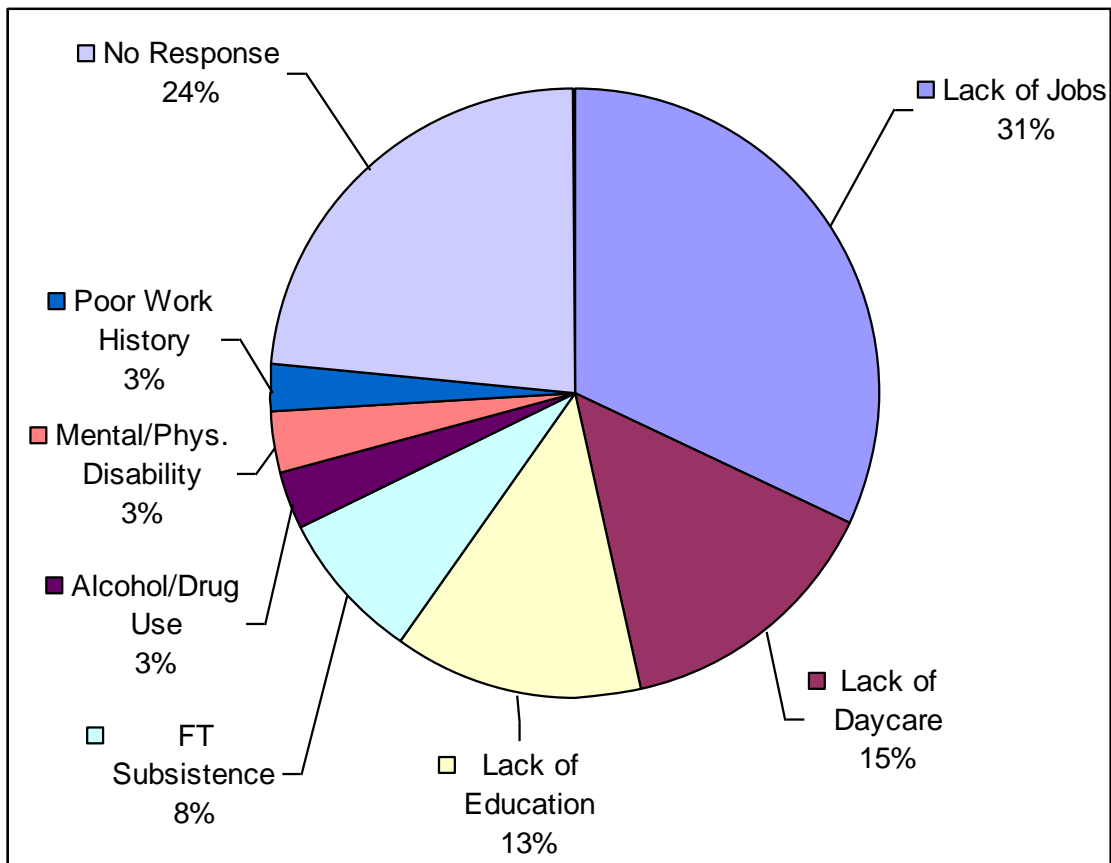
A major reason for not applying to Red Dog is that some people are not looking for a job because of family responsibilities, higher education, self-employment or subsistence activities. Others do not apply because they do not expect to be hired. "Alcohol/drug use, a poor employment record, and a mental or physical disability were each cited as barriers to personal employment by about 3 percent of survey respondents." (NWAB 2001) In the same borough survey, of those not working, 13 percent cited lack of education as the primary barrier to their own employment, 15 percent cited a lack of daycare, 8 percent cited their involvement in subsistence activities, and 31 percent indicated that a lack of jobs was the primary employment barrier (Figure 10).

Figure 9. Village Resident Applications to Red Dog



Source: Northwest Arctic Borough employment and training survey, 2001.

Figure 10. Primary Barrier to Employment



Source: Northwest Arctic Borough employment and training survey, 2001.

One informant believed that the barrier of alcohol and drug use was underreported in the survey, and many informants thought that alcohol and drug use were a significant barrier to employment. One informant estimated drug and alcohol use to be a problem in as much as 75 percent of the working-age (16-65) population. Some potential applicants, then, may not apply because they expect they will not pass the mandatory drug and alcohol tests during the application process.

Results from the Survey of Living Conditions in the Arctic, which included northern as well as western Alaska, are similar. Among Iñupiat age 18-64 who did not work in the week prior to the survey, were not in school and not retired, 73 percent did not have high-school diplomas. Of those who did have a diploma, 58 percent said they were not working because of illness, disability or family responsibilities; 13 percent said they were hunting or fishing; 14 percent cited other barriers to work, including lack of requisite skills or drug or alcohol issues; 36 percent said they were not working because there were no jobs available; and 27 percent said there was no particular reason for not working (Poppel 2007). (Totals more than 100 percent due to multiple responses.)

Another reason for not applying is because, for whatever reason, the potential applicant is not interested in employment at Red Dog. Some do not like the remote location and work schedule—two or four weeks on with 12 hour shifts and one or two weeks off. Others will not apply because they've heard about the difficult work conditions. A few disapprove: allegedly, some residents of Kivalina will not apply because of their views on Red Dog's environmental effects.

Outreach activities by NANA and Teck in the communities are very thorough, minimizing the possibility that some shareholders who would like to work may not apply to Red Dog because they are not fully aware of the job opportunities at the mine. Promotion in elementary schools, high schools and in the community ensure that community members know what jobs are available and how they can get the necessary skills, training and education to be eligible for those jobs.

If a shareholder applies for a job at Red Dog, though, the next step is to see whether he or she will be hired.

Hiring

The hiring process consists of a paper application, on-site interview, drug test and entry test. Besides the normal deciding factors in hiring such as work history, skills, experience and references, factors such as the drug and entry tests and the availability of jobs themselves are notable in Red Dog shareholder hiring. The entry test is a series of questions asking for the applicants' views on things like fighting, drugs, and work ethic and has the goal of assessing whether or not the applicant will adapt to the behavioral norms of the work culture.

The drug test, which is implemented during the on-site interview, is a barrier to hire. According to the large majority of interviewees, drug and alcohol use is a huge barrier to employment, affecting potential employees at the education, application, and hiring stages.

There are not enough jobs at Red Dog for every shareholder that applies. Hiring preference goes to residents of Kivalina and Noatak. Still, there are differing perceptions about the chance of getting a job. Some sources from Red Dog, Kotzebue, Noatak and Kivalina said that for those who have diplomas or GEDs and who do not use drugs and alcohol, the chances of getting hired are extremely high. Others from Red Dog, Noatak and Kivalina, though, said that many educated and qualified applicants from their respective communities have been denied jobs or have never gotten a call back regarding their application because there were no openings. Some Kivalina residents believed that Red Dog was engaging in hiring discrimination against those that speak out against the mine's effects on the local environment.

In the borough survey, 30 percent of unemployed respondents indicated that a lack of jobs was the primary barrier to their own employment, and 36 percent of SLiCA survey respondents in the potential labor force said they were not working because there were no jobs available.

Retention

One of the biggest challenges to shareholder employment is the turnover rate, which one mine manager said to be 20 percent per year and as high as 40 percent in the mill, where conditions are the roughest. The noise level, dust and closed space in the mill are hard on everyone, but the conditions may be particularly unattractive to people who are accustomed to spending time out on the land. Turnover among shareholder employees generally is much higher than among other employees. Several factors contribute to this, most notably the drastic change that happens when a shareholder moves from village life into a job at the mine. Many borough-based shareholders are not used to things like being away from their family for an extended time, a work schedule that requires consistent punctuality, the sacrifice of missing some home community activities, an environment where about 40 percent of the people are non-Native, and an authority structure that often requires proactive communication and a significant degree of self-starting and self-reliance. Cultural support eases the difficulty of the transition, though. Crews comprised of mostly shareholders or crews who have shareholders or shareholder-sympathetic supervisors work well together and have lower turnover.

Shareholder employees sometimes must choose between keeping their job and attending a subsistence hunt or funeral back home, and some choose to quit rather than miss the community event. While Red Dog attempts to accommodate leave requests by providing extra “subsistence leave” and by allowing bereavement leave to relatives other than immediate family, some shareholders find that their need for leave exceeds what Red Dog is willing to offer. If no other employee is available to do their job and the supervisor is unable to grant leave, some employees feel compelled to quit. If they quit with notice, they are eligible for rehire after three months, if there is an opening. If they quit without notice or are fired, they are eligible to reapply after 6 months.

Several shareholders who have attained “exempt” status believe that part of the problem with turnover traces back to habits in the home. They believe many parents do not discipline their children adequately and do not take a sufficient interest in their children’s education, leaving them unprepared and unable to cope with the discipline and work ethic required at Red Dog.

A cultural rift may make work conditions more difficult for Alaska Natives. One informant thought that some non-Natives view Natives as being able to get away with anything and some Natives view non-Natives as being arrogant and superior-minded. During meal time, many Natives will pack their meal in a styrofoam container and take it back to their room to eat. This is more frequent at the end of the day or the end of the rotation when they are more tired. Those who do eat in the cafeteria generally eat at tables with their Native friends and coworkers separate from the non-Natives.

If a shareholder employee is able to overcome these initial struggles with formal employment and culture shock and stay on the job, the next step is to work towards promotion.

Promotion

To be promoted at Red Dog, one needs to take the initiative to move up the ladder, a quality which sometimes conflicts with Iñupiat culture. Traditional Iñupiaq values have been codified in the *Iñupiat Ilitqusi*—translated roughly as “the wisdom and lessons of the Iñupiaq people (McNabb 1991: 63).” Humility is listed as one of the core values. Self-promotion is frowned upon: if you do good work, it should be self-evident. According to several employees at Red Dog, in the traditional culture it would not

be culturally appropriate to ask for a promotion or extra responsibility. Instead, many Alaska Native employees would prefer for someone to ask them if they would like to be a supervisor. Non-Natives are culturally more accustomed to self-promotion.

Other cultural incompatibilities include the style of training and learning and the authority structure at the mine. Much of the training at Red Dog tends to be book-and-lecture based, particularly in trades for which the U.S. Department of Labor prescribes curricula and standards. The traditional teaching and learning style in Iñupiat culture, however, is by observation, experiential learning and social interaction (Barnhart and Kawagley 2005, Kawagley 1995, Roderick 2009). A trainer at Red Dog noted that the Alaska Native employees learn far better with hands-on training and mentorship. Plus, mentorship is critical for Alaska Natives to build the self-esteem, motivation and leadership skills needed to move into a supervisory position. The authority structure at the mine is typical for a Western business. Supervisors have task, conduct and disciplinary authority over their subordinates and confrontation is often necessary to adjust performance or to train and instruct. This may be foreign to Alaska Native workers and lead to difficult situations, such as the reported case of an Iñupiaq who would rather not do an assigned task than have to tell his supervisor that he did not know how to do it. Also as a result of the alien authority and disciplinary structure, some Alaska Natives do not desire to move into supervisory positions because they do not want to be required to discipline their friends and relatives who would then be their subordinates. (For a discussion of analogous cross-cultural issues in village utility management in western Alaska, see Haley and Brelsford 1999)

Education is another decisive factor in shareholder promotion. A college degree is often needed to move up the ranks, but university life, which keeps shareholders far away from home for extended periods of time, is often too big of a culture shock. Another disincentive to getting the necessary degree is that one does not need a degree to make a good salary at Red Dog. Even starting salaries are much higher than most alternatives in the region. Scholarships are usually available to virtually any current employee interested in getting a degree to gain skills or knowledge for their job, provided they continue working for Red Dog for at least as many years as Red Dog finances their education. Therefore, opportunities are available if the aforementioned barriers can be overcome. But Red Dog is not the only source for college scholarships, and shareholders who do complete a college degree have many job opportunities to choose from; few degree holders choose a career in mining.

If a shareholder is able to secure a promotion within the non-exempt (non-managerial) employment category, the last and final step is to be promoted into an exempt (managerial) position.

Manager

Very few shareholders are in exempt (managerial) positions. While many of the factors in the previous section contribute to this, many Red Dog employees and residents of local communities say that the single biggest reason for so few exempt shareholder employees is that there is virtually no managerial training. A few interviewees mentioned weekend manager training courses, but courses are not offered often, do little to build the leadership skills necessary to prepare employees for a managerial position, and when an employee does take this course it often does not result in a promotion. There is a need for skilled managers at Red Dog, though: the turnover rate among top-level management has been relatively high, in the 20-23 percent range (Hall 2012). Teck tends to bring in managers from other projects rather than work to fill in the positions from Red Dog's own ranks. From the company's point of view, breadth of experience at other mines adds valuable perspective for managers. Few shareholders want to relocate outside the state for years to acquire this kind of experience. One exempt shareholder suggested a different approach: make it a priority to have shareholders fill in as "relief" (temporary) supervisors as

often as possible. By getting on-the-job supervisor experience, shareholders can build the leadership skills needed for exempt positions. This ties in with the hands-on training and mentorship that interviewees had stressed is critical to shareholder promotion in general.

Wayne Hall, general manager at Red Dog, reported (Hall 2012):

The challenge for us has been in attracting degreed professional shareholders. This maybe from the lack or small number of shareholders that have the education or background needed for the highest manager levels at the mine. However, as the workforce ages we are seeing an increase in the number of shareholders that hold supervisory roles. Most of those individuals have worked her for a long time, have gained the work experience, and have worked their way up to those positions, however most of this people do not hold degrees so they would not quality for the skilled manager positions. Personally, I think another contributing factor is that once a shareholder receives a degree they are employable anywhere, which increases the competition for those people and many do not want to work a rotational schedule. (They would rather work for NANA or a NANA company for example).

Red Dog and NANA Initiatives to Promote Shareholder Employment

The Red Dog agreement provides for education, training and employment of NANA shareholders. The 1982 agreement also provided for the establishment of a NANA-Teck joint employment and training committee which supervises the hiring, training, and promotion of NANA shareholders. The original emphasis was on providing shareholders with scholarships, but since 2000 the emphasis has shifted to employment.

Ongoing education programs include: full scholarships for NANA shareholders who want to go to universities to pursue studies which could lead to employment in the mining operation; apprenticeships for trades such as heavy duty mechanic, electrical, millwright and power generation; and a School-to-Work Partnership with the Northwest Arctic Borough School District that includes a Job Shadow program to introduce students at the grade 10 level to the work opportunities in the mine, and an annual Career Day and essay contest that provides winners with the opportunity to tour the Red Dog facilities. In addition, Teck provides on- and off-site education and training programs, such as the Cooperative Education Job Share Program which offers employees a semester-on, semester-off job/education schedule that provides tuition aid after six months of employment at Red Dog.

In 2006 the employment and training committee instituted new initiatives toward the 100 percent shareholder hire goal. In April, 2006, leadership training was provided to 110 supervisors and targeted trainees. Progression programs and training opportunities for shareholder employees are being developed and implemented, with emphasis on shareholders in Noatak and Kivalina as provided in the Red Dog operating agreement. And a cross cultural training program is being developed to train Teck Cominco senior managers, contractors, and subcontractors at Red Dog.

Another innovation is the formation of two new shareholder relations positions who are NANA employees based at Red Dog to respond to shareholder concerns. The new positions provide counseling, mediation and advocacy for shareholder employees who have problems at work or home-work life conflicts to resolve. They also work closely with the NANA Regional Corporation President, Teck Cominco senior management, and Red Dog contractors to address issues and serve on the Employment & Training Committee.

NANA's efforts to create job opportunities for shareholders go well beyond Red Dog. Since 2000, NANA Development Corporation has shifted its strategy from passive income generation—i.e. money earned from the stock market or from the price of zinc—to growing operating income. Concurrent with this,

NANA's human resources department has focused on career development programs for shareholders, and specifically to create and fill internship positions in NANA companies. NANA owns more than a dozen joint venture businesses including five world-wide businesses engaged in federal contracting. The human resources department promotes these internship opportunities for on-the-job training as well as training, development and college scholarship programs that help prepare shareholders for good careers. NANA sponsors an annual career and business fair in Kotzebue and also holds career development and employment workshops in the villages

These efforts are bearing fruit. In 2004, NANA companies and partners employed 630 shareholders and paid them \$27 million in wages. By 2010, NANA and partners employed over 1,315 shareholders and paid over \$47 million in wages to them.

Education Initiatives to Promote Shareholder Employment

Coordinated leadership in the region across the four major organizations (NANA Regional Corporation, Maniilaq Association, Northwest Arctic Borough, and Northwest Arctic School District) has helped advance the shared goal of creating a well-trained and employable workforce in the region. The first initiative toward shareholder hire actually preceded the mine. At the request of local leaders, a state training center was established in Kotzebue in 1982 to prepare shareholders for future jobs. The intent was to build a skilled, local workforce without having to send people outside the region (Parfit 1981). The early years were plagued with low student enrollment, idle facilities, and complaints of the lack of relevant jobs after graduation. Threatened with the prospect of discontinued funding, four local organizations collaborated to reorganize it to provide a seamless and efficient system of post-secondary and vocational education serving the needs of regional residents and employers.

The Alaska Technical Center (ATC) is now a statewide vocational and technical education training facility operated by the Northwest Arctic School District with state funding. There are four main areas of emphasis: office occupations, building industrial technology, industrial mine maintenance, and health occupations. The ATC program also provides a variety of short-term training opportunities depending on employment needs and demands. ATC collaborates in partnerships with industry and state agencies in response to regional training needs to anticipate areas of potential opportunities for job growth.

ATC staff has worked closely with Teck Cominco personnel to place ATC graduates in jobs at Red Dog. The Teck Cominco human resources staff passes along information on upcoming job openings, expectations, and training needs. According to an ATC representative, 18 of 20 graduates participating in the 14-week spring session for millwright maintenance training under the Industrial Mine Technology program were placed in Red Dog related positions (Atoruk 2007). No training for upper management jobs at Red Dog are currently available at ATC.

ATC is one of 13 regional adult basic education state programs providing basic skills instruction to adults in reading, writing, and mathematics in preparation for transitioning into the labor market, higher education, or vocational training. Employment at Red Dog is a major incentive to complete ATC's training and vocational programs and complete the GED program. The GED preparation program is designed for students who have not met the high school diploma requirements. The program includes skill development in required subject areas including English, reading, science, social studies and mathematics. Students in the ABE /GED Program are evaluated to determine skill level and provided with an individualized study plan including tutoring services, computer-assisted instruction, self-paced directed instruction, group instruction, as well as audio/visual supplemental instruction.

In the 2010-11 school year, the ATC GED program had 445 students enrolled from Kotzebue (186), Ambler (15), Buckland (4), Deering (8), Kiana (21), Kivalina (39), Kobuk (8), Noatak (16), Noorvik (75), Selawik (64) and Shungnak (9). Twenty eight students, both young and older adults, graduated that year, and another 32 graduated the year before.

The point of contact for disseminating information in outlying communities about ATC training opportunities and courses is NANA's resource technician working out of the local tribal government office in each village. Applications and other paperwork are sent to the resource technician who disseminates the information and assists with the paperwork process. There is also an annual recruitment visit to each village for ATC and for Chukchi College in Kotzebue.

ATC periodically surveys the region for feedback on community training and high school graduate needs. The 2006 survey found that communities and employers both wanted more basic job readiness skills, entry level training, and professional development for youth entering the workforce (Edenshaw 2006). A continuing challenge is that the center's core programs prepare students for career-based jobs, but residents living in smaller, outlying areas have limited job opportunities in their home communities. Another challenge is that student progress is often interrupted by seasonal employment and subsistence activities.

Discussion

There are four ways to look at the question of shareholder employment: from the point of view of the individual job seeker, current employees, the mine managers, or the communities and region.

The problem from the individual job seeker's point of view is that there are simply not enough jobs available. Most people would prefer to have a job in their home community, where they can participate in day-to-day family life and community activities. People seek a job at Red Dog only because there are no (good) jobs available in their community, and they have decided the rate of pay and other benefits of working at Red Dog are high enough to compensate them for the disadvantages of long distance commuting. The borough's 2001 survey in the villages found that 18 percent of working-age residents had applied to Red Dog at some time but were not hired (NWAB 2001). While there are a number of reasons that they might not have been hired, the fact that at entry levels 100 percent of Red Dog employees are shareholders suggests that there are more shareholder applicants than jobs. Shareholders are competing against each other for the limited pool of entry-level jobs and the most qualified applicant wins.

Over the short term individuals cannot alter their qualifications for these jobs, but over the longer term they can. If they do not have high-school diplomas, ATC now provides motivated adults the opportunity to earn a GED from their home community. If they are drug or alcohol users, Maniilaq offers substance abuse programs in the villages to help them stop using. If they find it difficult to get to work on time, they can use an alarm clock and ask friends and family to help them in this effort. But these changes are not easy. The question becomes whether they want to work earnestly enough to motivate them to make these long-term changes in life style.

This is where the community comes in. Individuals need motivation and support from their family, friends and community to adapt to the work culture and successfully get and keep a job. If the community wants more of its young adults to get good jobs at Red Dog, the community must work together over time to build the skills and habits these youth will need. While the habit of regular attendance at school and arriving on time is not automatic in any culture, it may be uniquely challenging in a subsistence-based culture where schedules are traditionally driven by seasons and resource availability rather than the time

of day. Acquiring the skills for punctuality on clock-time, as in the dominant Western culture, must be nurtured, modeled and enforced by adults for years on end before young people learn the skills, internalize the values and can do it on their own. As the data showed, the communities with high rates of school attendance are the ones that achieve high rates of employment. If education and employment are a priority, every adult must take responsibility to see that every youth is attending school every day. Attitudes toward alcohol and drug use are set and enforced by adults in the community as well.

While the leadership must really come from the community itself, there are things that can be done at the level of public policy to help. One program that has been very successful in other countries is to tie public assistance to school attendance: families are eligible to receive assistance only if their school-age children attend school regularly. The work requirements for receiving public assistance in Alaska have been waived in rural villages because there are so few jobs. But unemployed parents can work for the long-term wellbeing of their family by getting their children to school, and seeing that they do their homework too. In Mexico, this type of economic incentive—the PROGRESA program—increased secondary school enrollment 20 percent (<http://www.ifpri.org/media/innews/202/050202.htm>).

Issues at work

For current employees the central issues concern working conditions, promotion opportunities, and conflicts between work and home life. Employee morale and turnover are key indicators for how well these issues are being resolved. Turnover and promotion are discussed below.

For mine managers, including managers at both partner companies NANA and Teck, the issue is the twin goal of shareholder employment and cost-efficient operations to maintain a globally competitive, profitable mining operation over the long term. Investing in a well-trained local labor force is a good economic strategy in a labor market characterized by labor shortages nationally, as well a good long-term investment in community relationships in an industry where good community relations matters more and more. It is this author's impression based on several face-to-face conversations with Red Dog managers and NANA employees that the commitment to shareholder hire is quite sincere, but the barriers they face to improving shareholder hire and retention in certain areas, especially in supervisory and management positions, are not easily overcome, and the solutions are long term, with no quick results. But constructive steps are being taken and there are opportunities for continuous improvement.

The most persistent personnel problems reported are tardiness to work and high turn over. Tardiness is a real problem in a work environment where the machines run 24 hours per day, seven days a week, and the crews need to be fully staffed. Short of a technological innovation that changes the nature of this operating environment, employees must adapt to the requirements of the work. As previously discussed, the foundations for habits of timeliness start at home and school. But for employees who have not mastered these skills, the company must use both carrots and sticks to promote timeliness. In addition to the policies already in place, the shareholder representative might try instituting a buddy system where an older employee who works the same shift might be paired with a new employee to mentor them on the requisite skills, like going to bed on time, using an alarm clock, and having a friend call on you at wake-up time.

High turn-over is a combination of push and pull. In a culture that is conflict averse, it is easier to quit the job than to deal head on with a conflict with a supervisor or other work problem. The shareholder representative should be a big help in mediating these sorts of work problems. Cross-cultural training for supervisors and managers should also help. Mentorship by older employees might also help new employees temper their feelings of discomfort with the new work environment. For departments that have particularly high problems with turnover, the shareholder representative might gather a group of those

employees to discuss what might be making that particular work environment difficult, and brainstorm small ways to improve it.

The pull-side of turnover is of course the desire to go home for subsistence hunting, funerals, or to attend to urgent family concerns. Supervisors already try to accommodate these requests for time off, subject to the availability of a qualified substitute to cover the shift. It is in the interests of employees and managers both to institute a labor pool system with enough on-call employees available to meet the need most of the time. There may be workers in non-critical tasks that can be reassigned to cover short-term vacancies, or there may be former employees who do not want to work full time but are willing to accept the occasional call-back. At the same time, it must remain the responsibility of workers to minimize these sorts of unplanned work interruptions. Quitting with advance planning, on good terms, with eligibility for rehire, is and should be acceptable. Managers should not count on all village-based employees to ever adopt the degree of career orientation or level of commitment to year-around work as is the norm in urban work culture. Village people have other priorities. People for whom full-time work is a priority often choose to move out of the villages. People who place a high priority on subsistence activities often prefer to work seasonally or intermittently rather than year around; they are not looking for a career; they will quit when it is time to do something else. Yet some people with deep ties to their community find that steady employment at Red Dog makes it possible to stay in the village and support their families.

Opportunities for Increasing Shareholder Employment

Where are the best opportunities for increasing shareholder employment at Red Dog?

Looking at the personnel data underlying Figures 4 and 5, the single largest job class filled by non-shareholder incumbents is the Mill Mechanic VI, followed by Heavy Duty Mechanic VI and Electrician VI, with 30, 15 and 9 jobs respectively. On the shareholder side, there are 11 shareholder Mill Mechanic VI employees, and eight more in grades II through IV. This suggests that there is no particular barrier to moving up in the job class once you are hired at an entry level, but there are too few entry level jobs to bring enough new entrants into the pipeline. The ETC might evaluate the possibility of investing in an extra-large cohort of entry-level Mill Mechanics just to provide the training, mentoring and experience opportunities for a cohort to move into the VI positions as they open up through attrition.

The problem with Heavy Equipment Mechanic IV appears to be similar but more acute: there are 10 shareholders already working at the journey level (IV), one at an intermediate (III) level, and none at all at entry level. There is no cohort in training and in line to fill vacancies at the IV level. It takes four to five years to progress from entry to journey level in heavy equipment mechanics. For electricians there are just two shareholders at the V level and one at the entry level.

All three of these job classes are in the Maintenance Division, which may make it easier to target a recruitment and training strategy. Every department develops their own competency development training plan (subject to federal regulations governing minimum hours of classroom and on-the-job training) which may make it easier to introduce targeted innovations. Increased training requires top management support, as training time means scheduled and reliable release time from work, which in turn requires extra staffing.

Promotion into managerial ranks is a different issue. Because managerial work properly involves broader knowledge, perspective and intellectual skills, it requires higher education and broader experience as well as managerial training and mentorship. NANA shareholders with college degrees have a wide field of job opportunities; Red Dog will need to be more competitive. Over the years there has been some change in emphasis regarding college scholarships. Red Dog was finding that very few of the students they supported came back to Red Dog to work. Consequently, scholarships are now more narrowly focused on

disciplines related to mining, such as mine engineering and metallurgy. While this strategy has a higher direct payoff ratio, the outreach and impact is correspondingly narrower. Red Dog might explore a program of summer internships for college students in a wider range of disciplines, at Red Dog or at Teck Cominco offices in Vancouver BC. Such a program would serve multiple purposes, including hands-on learning for students; financial support; courting their interests at a formative stage by increasing their familiarity with and knowledge of the mining industry and developing personal contacts and relationships; and identifying students with potential for follow-up cultivation and investment. The summer internship should explicitly include both work experience and leadership training.

From the community and regional point of view, the goal is a healthy economic base that sustains communities and compliments subsistence activities that anchor Iñupiat values, identity and wellbeing. Shareholder employment at Red Dog aims to serve this goal. Individual choices, however, do not always align with regional goals. When people have choices, they usually choose the path that they prefer, that they believe will improve their wellbeing. From this perspective, the goal should be for every shareholder to have the opportunity to work; if they choose to work at Red Dog or do something else—another job, higher education, or staying home for subsistence activities or family responsibilities—the larger goal of improving wellbeing is still being met. The real issue is whether every shareholder has the opportunity to work, to take satisfaction in their work, and contribute to the community. The same basic work skills that open the door to employment at Red Dog open doors to jobs elsewhere, and successful work experience at Red Dog enhances opportunity to secure other kinds of work. Education and basic job skills expand the range of choices and opportunities for people throughout their life.

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