

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

U.S. ARMY CORPS OF ENGINEERS  
SCOPING MEETING PUBLIC COMMENTS  
PEBBLE MINE PROJECT

Location: Dillingham Middle School  
Dillingham, Alaska  
Date: April 17, 2018  
Time: 4:50 - 9:00 p.m.

APPEARANCES

FOR U.S. ARMY CORPS OF ENGINEERS:

Mike Montone, Chief of Regulatory Division  
Shane McCoy, Program Manager  
Katie McCafferty, Project Manager

FOR STATE OF ALASKA, DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF PROJECT MANAGEMENT AND PERMITTING:

Faith Martineau, Executive Director

FOR AECOM:

Bill Craig, Project Manager  
Jon Isaacs, Public Involvement Task Lead  
Jessica Evans, Stakeholder Engagement

FOR E3

Patty Murphy, Stakeholder

Pebble Mine Scoping Meeting Dillingham

1 P R O C E E D I N G S

2 MS. JACQUELINE NELSON: Jacqueline Nelson,  
3 J-a-c-q-u-e-l-i-n-e Nelson. As a Native woman, I have it  
4 deeply rooted in me to gather for my family. To gather is not  
5 something I wonder about. It's what I do. I do it without  
6 thinking. Every season of my entire life, there is something  
7 to gather; spring, summer, fall, and winter.

8 Every season involves a different species of fish,  
9 plants, and animals that our waters and land provide. The  
10 Nushagak River is my vein, my purpose. Without that vein, who  
11 would I be? What would I do? My gathering goes back to my  
12 earliest memories as a child. I just can't even imagine a  
13 life without our fish.

14 The fish is just the beginning. That river feeds an  
15 entire ecosystem, an ecosystem from the microorganisms to the  
16 brown bear; and at the top of the food chain, humans. And it  
17 provides for thousands and thousands of people, not just the  
18 people of Bristol Bay. Our wild natural resources reach all  
19 corners of this earth.

20 Yes, I understand how hard it is to make ends meet in a  
21 village. I understand there are few jobs available and how  
22 it's even compared to a third-world country status. I grew up  
23 in a village, but we can fill a freezer with all that our  
24 river and our land provide right in our own backyard.

25 There is no right or wrong way to live. There is no easy 2

Pebble Mine Scoping Meeting Dillingham

1 way to live either. Does putting a huge hole in the ground at  
2 the headwaters of this untouched ecosystem solve that? The  
3 answer is no. Man cannot prove that the storage cells will  
4 not fail, but man has proved that they can fail. How much  
5 more evidence is needed?

6 Mother Earth is too powerful for man to assume that these  
7 storage cells will withstand anything. She has proven over  
8 and over that she can make a devastating change in the blink  
9 of an eye. That power of Mother Earth, that is the respect we  
10 should all have for her, because if you care for her, she will  
11 provide endlessly.

12 I am the only advocate for me and my table, and my voice  
13 may never be heard, but at my table, sits my children, my  
14 grandchildren, and my grandchildren's children who have not  
15 yet even touched our great Mother Earth. We beg you, please,  
16 please, no Pebble Mine. Thank you.

17 MS. CHANICE JOHNSON: My name is Chanice Johnson,  
18 C-h-a-n-i-c-e. And I oppose the Pebble Mine. It really  
19 saddens me that our people are still fighting to stop the mine  
20 from going through. I'm 27 years old. And when I was in high  
21 school, I was a part of a group called Rebels to the Pebble  
22 and we formed a group to try to stop the Pebble.

23 And I now have three daughters and I really want them to  
24 be able to subsist off the lands. And that's why there should  
25 be no Pebble Mine. I can harvest food from all the seasons,

Pebble Mine Scoping Meeting Dillingham

1 from fish to caribou, the greens off the land, berries. And I  
2 hope that we can still have these from -- for the next  
3 generations to come, because it will be an end to our people  
4 if we can no longer live on -- live off the land like our  
5 ancestors taught us. So please help us stop the Pebble Mine.  
6 Thank you.

7 MR. JIMMY COOPCHIAK: Jimmy Coopchiak, J-i-m-m-y  
8 C-o-o-p-c-h-i-a-k. Good afternoon. My name is Jimmy  
9 Coopchiak. And I'm from Togiak, the western most point of  
10 Bristol Bay. I am against the project because I'll be  
11 impacted by this project as (indiscernible), subsistence and  
12 commercial fisherman.

13 The fish that I harvest for my family and extended family  
14 like right through the coast of Bristol Bay, and if there's a  
15 dam breach, there goes my fishing that I depend on. Also, the  
16 king eiders and geese that I harvest depend on a healthy  
17 ecosystem.

18 I came today to voice my concerns; even I might miss the  
19 migration of king eiders, because it's -- it's a fresh meat I  
20 depend on through the year. I harvest throughout the year,  
21 spring, summer, fall, and winter. That supermarket I depend  
22 on is that great Bristol Bay. Let's keep it pristine, the  
23 last great salmon fishery in the world.

24 And I, also -- also like to -- before they issue permits,  
25 that they do a study of king eiders of Bristol Bay in Alaska.

Pebble Mine Scoping Meeting Dillingham

1 Thank you.

2 MS. INGRID ANDREW: Ingrid Andrew, I-n-g-r-i-d; last  
3 name Andrew, A-n-d-r-e-w. Our fight for clean water is not  
4 just for us. It's for the next generation for the children  
5 and for all the people that depend on uncontaminated fish and  
6 clean water.

7 We cannot risk our clean water because the fish depend on  
8 it and we depend on the fish for food and to keep our culture  
9 alive. It's based on our environment and the animals. They,  
10 too, need clean water. We cannot risk to lose that.

11 And after listening to this program, I think they did not  
12 consider all the things that can happen. There is so much  
13 here that comes into play once you do things. You don't know  
14 those ahead of time. Besides, there's a volcano, an active  
15 volcano close by, and all of that could really make things  
16 like undesirable.

17 Okay, all over my bottom statement is, this is the wrong  
18 place to have this mine. Thank you.

19 MS. MARIE PAUL: Marie Paul, M-a-r-i-e; last name  
20 P-a-u-l. Good evening, this is Marie Paul, better known as  
21 Pipiaq from Tuyuryaq, Togiak. I am the daughter of the late  
22 Henry and Betty Pavian, wife of Herman Paul from Manokotak,  
23 mother of five children, and grandma to five grandchildren.

24 I am a life-long resident of Togiak, a life-long  
25 subsistence user and gatherer. Growing up, we were brought

Pebble Mine Scoping Meeting Dillingham

1 out with all of our grandparents and parents, subsistence  
2 activities all over Bristol Bay, but mostly in Togiak area.  
3 It was and still is a very important part of our life. Our  
4 elders made sure they taught us how to live off of the land  
5 and water.

6 Our subsistence life style is year-round. Each season  
7 has its own bounty to offer with summer offering the best in  
8 preparation for the long winter months. Spring starts us off  
9 with gathering of greens that are just sprouting and continues  
10 through the fall.

11 Shortly after, our salmon season starts off with kings,  
12 then onto reds, chums, silvers, and pinks. This, to me, is  
13 most important as it sustains us as humans, and our dogs. We  
14 have a very short season in Alaska, but we work hard and make  
15 it happen. Each season is different, but always prevails.

16 Being the only one employed with a growing family and  
17 with a limited cash income to pay necessities, such as stove  
18 oil, electricity, basic groceries, phone bill, et cetera,  
19 subsistence was and still is the most important activity for  
20 survival. Our family depends on fish, on plants and meat that  
21 is provided by our land and water.

22 With the proposed large-scale mine, our land and water is  
23 at risk. I do not want this risk. It is not worth it. Gold  
24 and other precious metal will not feed my family, my children,  
25 and my grandchildren. I want our land and our water to remain

Pebble Mine Scoping Meeting Dillingham

1 pure and clean for generations to come. Despite the distance,  
2 I know we will be affected.

3 MS. BERTHA PAVIAN-LOCKUK: Bertha, B-e-r-t-h-a; last  
4 name, Pavian-Lockuk, P-a-v-i-a-n-L-o-c-k-u-k. Okay. My name  
5 is Bertha Pavian-Lockuk. I was born and raised in Togiak. I  
6 am a year-round resident, mother of five, grandparent of two.

7 Togiak is located 65 air miles west of Dillingham.  
8 Togiak is known to have the largest salmons in our Bristol Bay  
9 region. We have the largest herring grounds and a growing  
10 halibut fishery. Our population size is over 800 and  
11 definitely increases during spring and summer seasons for  
12 commercial fishing purposes.

13 I am here today to speak on behalf of my fellow  
14 year-round village residents who continue to reside in their  
15 communities. We are the very reason why our villages still  
16 remain to exist. Our homes, our villages is where we remain  
17 to continue on our elder elders' teachings of our very own  
18 subsistence ways of our lives.

19 We want to continue on making a living as such, because  
20 up to today, we raised and taught -- we were raised and taught  
21 by the best educators of our lives, who were -- who were --  
22 they were -- where we were raised, and we are still hunting  
23 and fishing and gathering to make the ends meet, to take care  
24 of our families, their families year-round, living off of our  
25 subsistence ways of our lives, subsisting with our sustainable 7

Pebble Mine Scoping Meeting Dillingham

1 healthy food sources that we gather off our vast clean lands,  
2 our clean, fresh, pristine waters, and our fresh, cold air.

3 Each season that comes in, brings forth a food source of  
4 its own for us to gather and preserve and share and share,  
5 alike, with our families and extended families. We are still  
6 here today because of our elder elders that have taught us  
7 well to continue our subsistence ways of our lives.

8 I want to continue to live that lifestyle and carry it on  
9 to our children, our grandchildren, just as my parents and  
10 grandparents did to me. We can do it. We are the very reason  
11 why our villages still exist today. We are the reason why my  
12 elder elders have spoken up before. If any of us were not  
13 continuing our subsistence lifestyle today, we would not have  
14 kept our villages occupied.

15 My elders spoke up against some developments that our  
16 state and federal governments had and were creating years  
17 before. Some developments are very helpful, while some  
18 developments are very destructive.

19 For the past several years, we, as Alaska Native who are  
20 here year-round, residing in our villages, have been speaking  
21 up against this Pebble Mine, the mine that has been in its  
22 exploring stages, despite of all our opposing voices, voices  
23 from all the surrounding villages in this region, all ages,  
24 all levels of our community members.

25 We are not heard yet. We do not want this mine. This



Pebble Mine Scoping Meeting Dillingham

1 mine will definitely destroy our livelihood if anything should  
2 happen to it. As much as I have learned today about mines,  
3 this mine is definitely not for this region.

4 Its proposed location is located right in the very heart  
5 location of our most important sustainable resource, the  
6 salmons. It's the major spawning ground for our salmons.  
7 Iliamna is our very heart, the mother of our spawning grounds.  
8 Even the lakes and streams that is surrounded -- surrounding  
9 the lake.

10 They are just as important as the ones that are in the  
11 proposed site. My region will also be affected in every which  
12 way, even though it is located the farthest west of your  
13 proposed site. My ground is and should be just as important  
14 as your site that needs to be protected.

15 All these years, as an Alaska Native, I have witnessed  
16 our culture. Our traditional ways of our lives make drastic  
17 twists and turns due to all the rules and regulations that  
18 have been applied to us through our state and federal  
19 governments.

20 Our original traditional and cultural ways of our lives  
21 have been altered. We, as Alaska Native communities, yes,  
22 have complied with all of what we have been put through all  
23 these years. When is our voice going to be heard? We are  
24 just as human as you are. We still have families that need to  
25 use the land, our waters, and the air.

Pebble Mine Scoping Meeting Dillingham

1           This Pebble Mine development will definitely destroy our  
2 whole region all by itself. The location of the proposed  
3 development, the Pebble Mine, is right in the heart of our  
4 most important source of our seasonal income, our fresh, wild  
5 salmons, our most healthiest chemical-free resource that keeps  
6 my region financially taken care of, and salmon being the most  
7 widely used source of food to provide to all our families  
8 year-round.

9           If we allow it to move forward, it already is damaging my  
10 pristine land, water, and air by exploring this site, by  
11 drilling using chemicals that will just multiple in size in no  
12 time. It will just destroy any living thing that comes in its  
13 way, including many members of my Alaska Native Community  
14 residents.

15           We are already in its way and this development grows in  
16 size and structure. Our major source of it sure is to be  
17 destroyed or destroy our already pristine land and waters that  
18 provide our region with healthy, nutritious, sustainable foods  
19 that our entire state and world relies on. (Speaks Yup'ik).  
20 I wish our voices and our wishes will be heard and when  
21 (speaks Yup'ik). Quyana.

22           MS. SHARON CLARK: My name is Sharon Clark,  
23 S-h-a-r-o-n C-l-a-r-k. And I have my granddaughter, Kayla  
24 Wassily-Walker, K-a-y-l-a W-a-s-s-i-l-y-W-a-l-k-e-r.

25           My name is Sharon Clark. I reside in Clark's Point,

Pebble Mine Scoping Meeting Dillingham

1 which is my home where I have raised three of my children and  
2 seven grandchildren, where we commercial and subsistence fish  
3 and live off the land.

4 Five generations of my family have fished this bay and  
5 continue to do so. I am a fisher -- subsistence fisher woman  
6 and gatherer and living a cultural lifestyle which has  
7 sustained my family and ancestors for thousands of years.  
8 I've been involved in this process (indiscernible) for the  
9 past 10 years, and have -- have gone to various hearings, and  
10 heard from many scientists, biologists, engineers talk --  
11 talking about the damaging effects of an open-pit mine that  
12 would cause effects should something happen to the headwaters  
13 of the Kuktuli, because our salmon go there to spawn.

14 Metallic sulfide mining has potential to adversely affect  
15 salmon resources and chemistry of our waters and have a  
16 serious consequence on the survival of salmon. I worry that  
17 the pollution and toxins could have a devastating effect on my  
18 niece as a subsistence gatherer and fisherman and -- and would  
19 have a huge impact on the human health and cultural resources  
20 of our area.

21 For -- for the -- the harm and the challenge to the  
22 mining of the headwaters of one of the most world's largest  
23 salmon and sport industry could be devastating to us.  
24 Pollution into our waters isn't a guarantee that creating a  
25 huge pit mine could destroy and pollute our streams. The

Pebble Mine Scoping Meeting Dillingham

1 streams, of course, lead towards the ocean and, therefore,  
2 salmon.

3 If -- if not built to fit the need, poor resources and  
4 development can be deadly to our fish and our wild game,  
5 because of the spawning and rearing of fish in the area. It  
6 could also pollute our drinking water, because lakes pour into  
7 streams, and streams into rivers, and rivers into bays, and  
8 bays into oceans.

9 We need to look at the short and long-term development  
10 and protect the resources that will support us for a long  
11 time. Water is very powerful and needs to be respected.  
12 There are -- five elements that we see here is the cold, the  
13 heat, the water, the wind, and the fire. We need to respect  
14 them. There is an earthquake fault in the Lake Iliamna area  
15 that is active quite -- quite, but -- but not at a very large  
16 scale on the Richter scale.

17 I worry about how the water would be treated in the  
18 treatment in the dams, because looking at the video that was  
19 just presented, it takes hundred -- 850 feet of water before  
20 they could discharge or -- or move that water to another  
21 scene.

22 I would like to have the assurance of the Army Corps of  
23 Engineers to have a liner sufficient so that no leakage or  
24 drainage could occur, because this can cause severe damage  
25 and -- and lead to contaminants on our -- on our road systems

Pebble Mine Scoping Meeting Dillingham

1 and groundwaters.

2 So, in turn, we're asking that the Army Corps of  
3 Engineers look very carefully at protecting our natural  
4 resources and supporting the actions of the Bristol Bay  
5 residents who have grave concern for this mine coming into the  
6 Iliamna area.

7 We're tired of fighting with the State of Alaska who  
8 should be working and listening to us as residents. This  
9 great state has a lot to lose if any contaminants or a natural  
10 disaster should occur. And we would like to see and recognize  
11 that -- that the impact statements within the environmental  
12 protection agency stay in place and are secured for our people  
13 that live in the area.

14 Mines come and go. And -- and this one, they say, is for  
15 20 years, but it may be longer. And we cannot live off gold.  
16 Our -- our main living resources within the area is taken off  
17 the land. The prevailing winds could send contaminants across  
18 the ways to our bays. The leachings could go into the streams  
19 that -- that -- where our salmon spawn. The wild -- wildlife,  
20 they deteriorate, because of the noise and the sound and the  
21 growth in population in those areas that create jobs for  
22 mining activity. We would like to see that our culture and --  
23 and banks and headwaters be protected in the event for that  
24 there is any leaching into any of the lakes and streams.

25 My main concern is -- is whether or not Pebble would have

1 a security bond that will secure the amounts of dollars that  
2 are processed in our bays through -- through commercial  
3 fishing activity, and which supplements our diet and intake of  
4 our -- our communities.

5 The -- the one thing, too, that is so necessary is within  
6 the NEPA -- NEPA, is when they prepare the environmental  
7 impact statement, that they really look at -- at the streams  
8 that were never monitored or the fish were never, ever  
9 counted, because there's many, many streams in that area that  
10 actually have fish fry in them. And with the amount of water  
11 that it takes to operate a mine, I'm wondering whether or not  
12 the volume is sufficient in the area.

13 So my concern is that they look out for the consequences  
14 that may affect the people of Bristol Bay, because our main  
15 resource is what we get off of lands, the river systems,  
16 and -- and also the air and -- and the surrounding tundras in  
17 the environment where we gather all of our herbs and our  
18 berries for intake into our -- into our bodies.

19 If our water streams become contaminated, the future  
20 generation will be drinking out of plastic bottles and  
21 consumables, and it's far more expensive for us to even  
22 fathom that. I will be providing more testimony as I get to  
23 read the scoping plan. Thank you.

24 In closing, I would like the Corps of Engineers to really  
25 pay attention to the Bristol Bay plan that the EPA had

Pebble Mine Scoping Meeting Dillingham

1 approved out of Washington, D.C. I think that would be saving  
2 grace for our residents that reside in the area that are  
3 living here, and will continue to live here. Thank you.

4 MR. HARRY WASSILY, SR.: Okay. My name is Harry  
5 Wassily, Sr.; Harry, H-a-r-r-y; Wassily, W-a-s-s-i-l-y.  
6 That's Senior. Well, I'm from Clark's Point, and I'm born and  
7 raised from Clark's Point. And (indiscernible) commercial  
8 fishing and subsistence all my life, and been raised off our  
9 Native food like salmon, ducks, geese, caribou, moose. And  
10 born and raised up -- up here in Bristol Bay. And upstream,  
11 that salmon is our livelihood, both commercially and for our  
12 subsistence lifestyle.

13 But I'm stating that if they build this Pebble Mine, it  
14 will have a big effect to both the salmon and the -- the land  
15 and the resources like caribou and moose, because if there's  
16 an oil spill or a leakage from the tailing pond, that will get  
17 both on the land and also in our water streams, because this  
18 Pebble Mine is going to be built at the headwaters of our  
19 fishing industry.

20 The salmons, they all run up river to go spawn, and  
21 that's where the Pebble Mine is, way up. And they'll also  
22 affect the water that they'll be using and -- because both the  
23 humans, us, and the animals, we -- we depend on fresh water  
24 for -- to drink.

25 And it's like our salmon, they need that fresh water to

1 go up and spawn. Besides, there's other fish like pike, trout  
2 that -- especially up in Iliamna, there -- that place is the  
3 only place left that they (indiscernible) that have freshwater  
4 seals that really need to be protected, because they're the  
5 last ones that are pretty much on this earth.

6 But that's -- that's the important thing is that I'm  
7 stating for my children, my grandchildren, and the great  
8 grandchildren to come. If this mine ever have an impact, my  
9 grandchildren and children will probably have to end up -- be  
10 buying water just to drink. There will be no more fresh water  
11 for us.

12 But let's hope that Army Corps of Engineers and the EPA  
13 for Bristol Bay -- they're the only last ones to defend our  
14 government that -- us that depend on fish and on our  
15 resources, caribou and our berries, to fight -- to help fight  
16 us against the Pebble with the federal government and that --  
17 hope that they'll help us protect Bristol Bay from any type of  
18 development, the Pebble Mine or even oil development.

19 Because we live off our fishery and all our fish are  
20 (indiscernible). I've been born and raised and -- and I'd  
21 like to see my children, grandchildren be able to live off our  
22 land. And I appreciate the Army Corps of Engineers and EPA  
23 can help the Bristol Bay people fight against any type of this  
24 kind of development. Thank you, I appreciate it.

25 MS. GAYLA HOSETH: Hi, my name is Gayla Hoseth,



Pebble Mine Scoping Meeting Dillingham

1 G-a-y-l-a; last name, H-o-s-e-t-h. All right. This hearing  
2 today in Dillingham is in (speaks Yup'ik). We're located in  
3 Bristol Bay. We're home of the Yup'ik, Aleut, and Dena'ina  
4 people here. We live off the land and ocean. The salmon --  
5 we share our resources with people throughout the world with  
6 our fishing. And our salmon is the answer to food security.

7 Issues and concerns to be addressed in the EIS: I was  
8 thinking of some ideas and traditional cultural sites,  
9 historical sites in this area our people have been harvesting  
10 on for thousands of years. Soil samples -- they have done  
11 soil samples, I believe, in three or four areas. And have  
12 these same soil samples for the cultural sites been done in  
13 the new corridor section on that Pebble project video that we  
14 just got done viewing?

15 On the state of Alaska side, we need an ANS, which is the  
16 amount necessary for subsistence for all species of fish and  
17 wildlife. Misinformation needs to be updated with today's  
18 ANS. The last update, I believe, was in 2005.

19 To answer the third question, the way in which land and  
20 resources might be affected by this project: Devastating if  
21 the Mount Polley disaster happened here in Bristol Bay. I  
22 feel so sorry for the people who were su -- who were sustained  
23 by the Fraser River for their salmon. This cannot happen  
24 here; need I say more?

25 Alternatives: You guys are looking for alternatives. A 17

1 no-mine alternative. Reference the EPA, the Bristol Bay  
2 area -- the Bristol Bay assessment is a reference good  
3 documentation.

4 Our people here have been commenting for over a decade.  
5 EPA has heard from over one million people to invoke the  
6 404(c), this last comment period that we were in. How much  
7 more do we need to hear from the people from around the U.S.  
8 and the world that this world class -- the world's largest  
9 salmon run needs to be protected?

10 Why would we trade one resource for another? Who is  
11 going to speak for the animals, the birds, the animals on the  
12 land, the sea life in the water? Who is going to speak for  
13 the seals in Lake Iliamna, the belugas in the Cook Inlet, the  
14 birds that migrate through? Where are they going to go?  
15 What's going to happen? We cannot have this devastation here  
16 in the Bristol Bay region, and this mine cannot get put in.  
17 That's it.

18 MR. CHRISTOPHER MAINES: Christopher Maines,  
19 C-h-r-i-s-t-o-p-h-e-r M-a-i-n-e-s. So open-pit or strip  
20 mining like the one proposed by the Pebble Mine has been  
21 hugely opposed in the Bristol Bay area, primarily for the  
22 reason of protecting local wildlife, subsistence practices,  
23 environment, water quality, and the land for which the  
24 indigenous people of this area called home for a millennia.

25 Worldwide, 40 percent of mining occurs at the surface

1 according to Greenpeace International. Compared with  
2 underground mining, surface mining is much more efficient.  
3 Unfortunately, this economy comes with strict environmental  
4 costs, because the surface environment is destroyed and  
5 polluted during the mining process.

6 An open-pit mining operation virtually eliminates any  
7 biologic life at the surface. Vegetation is stripped and the  
8 surface at the dig site is left completely barren. Without  
9 replanting or restoring the ecosystem, a strip-mining site can  
10 take decades to recover.

11 Abandoned mining pits can also pose extreme risks. The  
12 slope of the mining walls can be steep or even vertical, and  
13 the structural stability of access points is constantly  
14 changing as erosion occurs. Without vegetation to stabilize  
15 the surface, land slides and rock slides can occur without  
16 warning.

17 AMD or acid mine drainage is a serious environmental  
18 concern associated with strip mining like the one proposed.  
19 The sulfides form sulphuric acids, which dissolves nearby rock  
20 and releases dangerous metalloids into local streams and  
21 groundwater. This polluted water can kill life along with  
22 water resources for miles.

23 The Questa Mine in New Mexico, for example, is the root  
24 cause for more than eight miles of damage to the Red River.  
25 The Pebble partnership said it is listening to feedback from

1 nearby communities and scaled down its plans by 50 percent.  
2 Among the revisions, the company said they're creating a mine  
3 in a way that limits, potentially, acidic drainage to just one  
4 waterway, and not one the sockeye salmon depend on, but only  
5 consider sockeye salmon in that statement and no other species  
6 that exists in that area were mentioned at all.

7 It has also scrapped plans to use cyanide to recover more  
8 gold from the site. One of the major concerns from residents  
9 is the tailings created by the mine. Pebble plans to contain  
10 the tailings in the TSF or tailings storage facility, which  
11 they ensure would stand the test of time, any potential  
12 earthquakes, and be constructed of earthen material.

13 I just don't see how they can ensure its stability after  
14 what occurred with another gold/copper open-pit mine. The  
15 Mount Polley mine disaster in August of 2014 showed that such  
16 a mine can fail. Additionally, Pebble hasn't considered the  
17 effects of the dissolved copper on salmon. No real study has  
18 been done of those potential impacts to those fish

19 One alternative I would like to offer up as the least  
20 environmentally-damaging, practical alternative would be  
21 creating a bio-mining facility. Bio-mining is a technique of  
22 extracting metals from ores and other solid materials,  
23 typically using prokaryotes or fungi. These organisms secrete  
24 different organic compounds that release metals from the  
25 environment and bring it back to the cell where they're

1 typically used to coordinate electrons.

2 This practice has been around since the mid 1900s. I  
3 know it's not widely used in America, but it possibly can be.  
4 And this is one example where it could be beneficial. Some --  
5 so bio-mining is an environmentally-friendly technique,  
6 compared to typical mining. Mining releases many pollutants,  
7 while the only chemicals released from bio-mining is  
8 metabolites or gases that the bacteria secrete themselves.

9 The same concept can be used for bio-remediation models.  
10 Bacteria can be inoculated into environments contaminated with  
11 metals, oils, or other toxic compounds. The bacteria can  
12 clean the environment by absorbing these toxic compounds to  
13 create energy in the cell.

14 Microbes can achieve things at a chemical level that you  
15 can't do as a human. Bacteria can mine for metals, clean oil  
16 spills, purify gold, and use radioactive elements for energy.  
17 The most current bio-mining operations use naturally occurring  
18 microbial communities, because these types of organisms are  
19 already common in the environment. The risk from the release  
20 of the microbes, themselves, into the local environment are  
21 considered to be relatively small.

22 The greatest environmental risks are related to leakage  
23 and treatment of the acidic metal rich solutions created by  
24 the microbes, which is similar to the acid mine drainage from  
25 some abandoned mines. The risk can be managed by ensuring

1 that bio-mining is conducted under controlled conditions with  
2 proper sealing and waste management protocols.

3 In conclusion, traditional mining methods require harsh  
4 chemicals, lots of energy, and produce many pollutants. In  
5 contrast, bio-mining uses little energy and produces few  
6 microbial byproducts, such as organic acid and gases.

7 Because it's cheap and simple, bio-mining can effectively  
8 exploit low-grade source of metals, even mine tailings, which  
9 would otherwise be uneconomical using traditional methods.

10 The development of industrial mineral processing using  
11 microorganisms has been established now in several countries,  
12 including South Africa, Brazil, and Australia. Additional  
13 countries are increasingly turning to bio-mining, such as  
14 Finland, Chile, and Uganda.

15 Chile has exhausted much of its copper-rich ores and now  
16 uses -- utilizes bio-mining, while Uganda has been extracting  
17 cobalt from copper mine tailings for over a decade. So I  
18 figure bio-mining is the least environmentally-damaging,  
19 practical alternative for the proposed mine as it stands now.  
20 Thank you.

21 MS. KIMBERLY WILLIAMS: My name is Kimberly  
22 Williams, K-i-m-b-e-r-l-y; Williams, W-i-l-l-i-a-m-s. I live  
23 in Dillingham. I am a member chief of Curyung Tribe, and a  
24 board member of Bristol Bay Native Corporation.

25 I've commented in Kokhanok, Newhalen, Nondalton, and New 22

Pebble Mine Scoping Meeting Dillingham

1 Stuyahok. My comments today are different. I don't have  
2 prepared set of notes like I did in the other communities. I  
3 recall at a very young age down at Kanakanak Beach with my  
4 grandparents. My grandfather had put out a net, a 25-fathom  
5 salmon net. And I camped with him, and the next day, we went  
6 down to pick the net in the mud, and the whole net was full of  
7 sockeye.

8 As a young girl, my job was to go out and pick those  
9 sockeye, because my grandmother's smokehouse was on the beach.  
10 That's my earliest memory of helping my -- my grandparents  
11 fishing.

12 Today, you're asking us to comment on the Pebble project.  
13 And its impacts to salmon are of my greatest concern. And not  
14 only sockeye, but all species of salmon, because in the  
15 Nushagak, we have all five species of salmon.

16 I want the Corps to consider a no-mine alternative in the  
17 EIS process. I'm located in Dillingham, and the Nushagak  
18 River is not encompassed in a borough. We are not a part of  
19 the Lake and Peninsula Borough. We have no permitting process  
20 like Lake and Peninsula Borough does, yet, the tailings  
21 impoundment facility and the PAG, the potentially  
22 acid-generating tailings facility, is all located on the north  
23 fork of the Kuktuli River. That river flows into the  
24 Mulchatna, which flows into the Nushagak, and flows right  
25 outside my community, yet, we have no permitting process like

23

Pebble Mine Scoping Meeting Dillingham

1 the Lake and Peninsula Borough. We have no say.

2 We come to this process here, and I'm talking to a  
3 recorder, and I've attended those other community meetings  
4 where people got to speak into a mic in front of everybody.  
5 And in Dillingham, I am talking to you, individually, and not  
6 to a -- my entire community. That is racism.

7 I believe the Corps, by action tonight, is suppressing  
8 the people of Dillingham. They are limiting us in our ability  
9 to speak. We have to stand in a line, and I've stood in line  
10 for like 10 minutes. In other communities, everybody got to  
11 sit down and they got to be -- come up to the mic when their  
12 name was called.

13 This whole process is what I am concerned about. And if  
14 you're treating Dillingham differently, because we are the  
15 largest community in the Bristol Bay region with 2,300 people,  
16 I just don't understand how the Corps actually thought that  
17 all 2,300 people would be showing up, and we would have  
18 volumes of people waiting to testify. I counted about 50  
19 people that came into the meeting, and maybe not all 50  
20 testified. And this treatment of Dillingham, again, I find,  
21 by the Corps is just uncalled for and should be taken to task.

22 My biggest concern with this project is the  
23 pre-production phase, which is supposed to last 14 years of a  
24 20-year mine process of which it's supposed to create and  
25 dewater. And in those 14 years, that dewatering phase will



Pebble Mine Scoping Meeting Dillingham

1 impact the north fork of the Koktuli, the south fork of the  
2 Koktuli, and Upper Talarik, and all of the streams that are --  
3 flow down river. Because what I understand from this process,  
4 the hydrology is that water from this area flows under --  
5 underground, and will come out even further away like on the  
6 New Stuyahok River -- or the Stuyahok River. So that concerns  
7 me related to the -- the dewatering of the -- the site.

8 I, like many other people, are concerned with the berries  
9 and the transportation across Iliamna Lake. I'm concerned  
10 with the Amakedori port. It is critical habitat for beluga  
11 and sea otter in Cook Inlet. That is a big concern of mine.

12 I would ask the Corps to consider this mine as a no-mine  
13 alternative as it comes out with EIS. I can't image how the  
14 Corps can accept, in December, that this was a complete  
15 application by the Pebble Limited, Partnership, when their  
16 whole transportation corridor has not been studied. In the 14  
17 years that Pebble Limited, Partnership has put together their  
18 baseline studies, they have not even looked at a  
19 transportation across Iliamna Lake with a southern route from  
20 a road that goes by Kokhanok and out into Cook Inlet. So how  
21 the Corps can believe this application is complete is mind  
22 boggling. Thank you.

23 MS. PATRICIA TREYDTE: My name is Patricia Treydte,  
24 P-a-t-r-i-c-i-a T-r-e-y-d-t-e. And I'm a resident of  
25 Dillingham. My entire adult life, I supported myself fishing 25

1 salmon. I married a fisherman. Our daughter fishes for a  
2 living. I live in a community that fishes both for  
3 subsistence and commercially.

4 I live in a community that serves a fishing fleet from  
5 all over the country. Our stores bring in more product. Our  
6 hospital puts on extra staff. Our power plant amps up their  
7 power production, and support services spring up when the  
8 fleet is in town.

9 Fishing is the main economic driver here. It is also a  
10 lifestyle, how we define ourselves as Alaskans. I'm concerned  
11 about the effect of the Pebble Mine or any other large  
12 upstream development that will -- will have on our income.  
13 Fish prices are fickle. Fish consumers are fickle.

14 We market our fish based on our sustainability, and the  
15 fact that they come from pristine Alaska waters. Customers  
16 are increasingly concerned about these issues and anything  
17 that threatens this image, destroys our best marketing tool.

18 When the Exxon Valdez oil spill happened, even though it  
19 did not directly affect our fish, it did affect the price we  
20 got for them. People didn't want to risk eating tainted or  
21 endangered fish. There was no chance of any effect on our  
22 fish. They were the same great fish they always were. We  
23 just got less money for them based on public perception.

24 This phenomena was like -- luckily, recognized by the  
25 courts and, eventually, we received settlement checks from

1 Exxon. It was too little, too late, but at least it was a  
2 recognition that the effect on us was real. A legal precedent  
3 had been set.

4 If someone like -- if something like the Exxon spill can  
5 affect our price, a high profile mine like Pebble in our  
6 watershed is likely to have an even more deleterious effect on  
7 our price. And this is before any physical damage is actually  
8 done. This is just the short-term economic damage.

9 But I would like you to think in the long-term, also. In  
10 addition to the mine structures and tailings containment, just  
11 the infrastructure to develop and support Pebble Mine will be  
12 huge and disruptive. As we know, the -- the creations of man  
13 don't last forever.

14 Please don't approve a project that will, perpetually,  
15 put at risk a fish run that supports so many, a run whose life  
16 span is measured in millennia, for a mine that has a life  
17 measured in decades.

18 And as a bit of a postscript, please note that the entity  
19 requesting this permit is -- is Canadian. Canadian mining  
20 companies have a long history of developing mines in this  
21 country, retreating to Canada when things go bad, and leaving  
22 the mess for the American taxpayer to clean up. There's no  
23 bond large enough to cover the long-term damage this mine can  
24 do. Do not allow it to happen in the first place. Okay.

25 MS. KATHERINE CARSCALLEN: Okay. My name is

Pebble Mine Scoping Meeting Dillingham

1 Katherine Carscallen, K-a-t-h-e-r-i-n-e C-a-r-s-c-a-l-l-e-n.

2 Hi, I was born and raised in -- my name is Katherine

3 Carscallen. I was born and raised in Dillingham, Alaska, and  
4 have grown up in a commercial fishing and subsistence family.

5 I struggled to put together testimony today. I tried to  
6 make it fact-based and verifiable and keep my personal story  
7 out of it, because I'm tired of hearing our concerns dismissed  
8 as passionate, but anecdotal. But that really is impossible,  
9 because this is personal.

10 Bristol Bay salmon, water, berries, animals, and birds  
11 affect every aspect of my life, and there's no way around  
12 that. I fish in the Nushagak my whole life and have been  
13 running my 32-foot bowpicker for the past seven years.

14 Pebble Mine would end what has been a generational career  
15 for me and my family, and permanently impact the region I call  
16 home. For a decade now, I've heard the company and the State  
17 of Alaska say, over and over again, hold off your judgment  
18 until there's been a mine plan; wait for the EIS process.  
19 That's where your concerns will be heard. Wait and see; wait  
20 and see.

21 So now we are here and I have three minutes to comment on  
22 a mine plan which has been a moving target, and I do not  
23 believe it accurately reflects the final mine if Pebble were  
24 permitted.

25 Please consider economic impacts to the fishery. Bristol

28

1 Bay salmon markets are complex and changing. Way before any  
2 direct physical impacts on Bristol Bay salmon, Pebble Mine's  
3 construction would have direct, immediate, and irreversible  
4 negative economic impacts.

5 We've worked for decades to expand our markets to a U.S.  
6 Based consumer who is willing to pay a premium for clean,  
7 wild, sustainable salmon. This consumer base would erode the  
8 minute a mine went through. The Exxon Valdez and Deepwater  
9 Horizon oil spills affect the fisherman far beyond those in  
10 oiled waters. Seafood prices immediately dropped and millions  
11 have been spent to restore the reputations of these areas.

12 You must take this into account as a direct impact on our  
13 existing industry. This is an unfair tradeoff and limit on  
14 our marketability, which we will never be reimbursed for. Is  
15 my speed okay? Should I slow down? (Court reporter  
16 acknowledged she was fine). Okay.

17 Please also consider impacts on salmon habitat. The  
18 University of Washington has credited Bristol Bay's diverse  
19 salmon portfolio as being responsible for our successful and  
20 sustainable salmon runs through the centuries.

21 Two hundred years ago, we were not unique in having such  
22 a large, unscathed nursery for salmon, but today, we are one  
23 of the only large salmon regions who is not sharing waterways,  
24 drainages, shores with another industry.

25 It is not coincidence that we are also one of the only

Pebble Mine Scoping Meeting Dillingham

1 sustainable, and by far, the largest salmon fisheries  
2 remaining. Permitting the first of what would be many mines  
3 in this region, would send us down the same path of every  
4 other U.S. coastline. This is more than just a choice of  
5 trading several thousand acres of salmon habitat for a mine.  
6 This is the decision to change the landscape and future of our  
7 last right -- great -- our last wild salmon stronghold  
8 permanently.

9 This brings me to what I see your role is as permitters.  
10 For years, I've heard people say, there's new technology; that  
11 mine is going to be built one way or another. They can find a  
12 way to do it without harming the environment. My question has  
13 always been, who is going to make them?

14 Of all the large-scale permitted mines in North America,  
15 an unacceptably high majority of them have ended up polluting  
16 in a major way, at a point, that is no longer the fault of the  
17 mining companies; that is the fault of the agencies who  
18 permitted them.

19 With what is at stake here and the potential to  
20 devastate, do not be shy to hold them to higher standards than  
21 have been -- than have ever been applied. Creating an  
22 environment where what we have is valued higher than what  
23 could be -- require -- I'm going to skip this part. Do  
24 whatever it takes to truly guarantee our water will not be  
25 harmed, not just what makes the mine economically viable for a<sub>30</sub>

1 foreing company.

2 Finally, do you ever say no? I've always been terrified  
3 of reaching the permitting process, because I've always viewed  
4 it as a path to yes, and for us, the beginning of the end. As  
5 populations continue to increase, and our world's resources  
6 begin to compete, we cannot say, yes, to everything. We  
7 cannot trade a region's existence as we know it, and one of  
8 our state's greatest renewable food sources for copper and  
9 gold. If there was ever a permit you were going to say, no,  
10 to, Pebble is it.

11 MR. MALCOM WRIGHT: Malcolm Wright, M-a-l-c-o-l-m  
12 W-r-i-g-h-t. Good afternoon. Thank you for taking our  
13 testimony and welcome to Dillingham. My name is Malcolm  
14 Wright. I am a commercial fisherman and a medivac EMT based  
15 in Dillingham.

16 Just a few days ago, I had an excellent view of the  
17 Pebble prospect on a flight back from Anchorage to Dillingham.  
18 The snow is thawing fast and streams flowing from the  
19 exploration area down toward Iliamna and into the Nushagak  
20 tributaries were full and overflowing the surrounding land.

21 I grew up 3,000 miles from here. As a young man, I came  
22 to southwest Alaska to fish commercially. I settled in  
23 Dillingham, married, and we have raised our family here. My  
24 sons and I help support our family with cash from commercial  
25 fishing and by filling our freezers with fish and game

1 produced by this bountiful, salmon-fed ecosystem.

2 When I'm not fishing, I work as a flight EMT on local  
3 medivacs and as an EMS instructor. I, my extended family, my  
4 patients, and my co-workers all live on and depend on these  
5 river systems. I have chosen to live in this beautiful part  
6 of the world for going on 35 years, but I did not grow up  
7 here.

8 When I was child, I would sometimes explore a copper mine  
9 near my grandparents' place in Vermont. It was a small mine  
10 in the same sort of sulfide mineralogy that we have here at  
11 the headwaters of the Nushagak and Kvichak River systems.  
12 That mine had both open pits and tunnels and, of course, a  
13 large tailings pond.

14 The Elizabeth Mine closed more than a decade before I was  
15 born, but throughout my youth, it remained a rust-colored  
16 wasteland with a lifeless Koolaid green lake filling one pit.  
17 There was no vegetation in the acreage surrounding the mine,  
18 and the air reeked of sulfur. As a kid, I thought it was  
19 really cool. We used to pretend we were exploring Mars or  
20 (indiscernible).

21 The creek on my grandparents' property was dead  
22 downstream of the point where water from the mine trickled  
23 into it. That brook and others polluted by the runoff from  
24 the mine fed a river. That river was sterile; dead. And the  
25 biggest river -- I'm sorry. The bigger river it fed into was 32



Pebble Mine Scoping Meeting Dillingham

1 severely affected; and they remained so for two generations.

2 In recent years, 60 years or more since the Elizabeth  
3 Mine's owners abandoned it, the tailings pond has finally been  
4 capped and I am told the toxic runoff has been substantially  
5 mitigated, all at taxpayer expense -- at our expense.

6 Federal reg -- regulatory agencies are endlessly  
7 criticized by big businesses who want to convert natural  
8 resources into cash without restraint or responsibility.  
9 Their business plan is to push for expansion, then cut and run  
10 when profits diminish, and then let others clean up the mess  
11 or live in it.

12 In my lifetime, I've seen government regulations return  
13 skies that were yellow and brown to blue. Rivers that were  
14 poisonous, even flammable, have become clear again with fish  
15 that are safe to eat. And overall, these actions have been  
16 good for the nation's economy, as well as the health of its  
17 people.

18 But times have changed. Now, we are facing the absurdity  
19 of immense, multi-billion dollar, multi-national corporation  
20 whining about the, quote, unfairness of being restricted from  
21 unearthing sulfurous ore and exposing the waste to rain and  
22 snow at the headwaters of two great rivers.

23 Pebble poses as a poor victim in this, but they are a  
24 goliath who can outspend the agencies and organizations  
25 charged with protecting our resources 10 to 1. Pebble claims 33

1 that their plan is for a, quote, small mine. I've seen a  
2 small sulfite mine and seen that even one smaller than what  
3 Pebble is currently proposing can severely damage a river,  
4 leaving it nearly sterile and mining that watershed's  
5 residents, the resources they once had.

6 But if Pebble is allowed to proceed, this will not be a  
7 small mine. It will be the first hole in an immense mining  
8 district. The Pebble claim is a bulls-eye in the center of  
9 many more claims, covering more than two drainages or -- I'm  
10 sorry -- covering most of the two drainages.

11 These mines will expand as long as they are profitable,  
12 and no amount of regulation will keep the owners from  
13 abandon -- abandoning them and their tailings ponds if history  
14 is any guide. The people of Bristol Bay will be left to live  
15 as best they can in the aftermath. Cleanup and mitigation, if  
16 any, will be at the expense of local people and of the  
17 nation's taxpayers, as it has always been in the past.

18 And all year long, wind will cover the lands of the  
19 mining district with toxic dust from pits and from the ore  
20 trucks. And at this time of year, the melting snow will wash  
21 that dust down into the salmon beds of the Nushagak and  
22 Kvichak, so even before there is an all too likely  
23 catastrophic tailing spill, the system will have steadily been  
24 poisoned. Approval of the Pebble Mine will be the thin end of  
25 a wedge, which would do immense damage to this remarkable

Pebble Mine Scoping Meeting Dillingham

1 system and to the people, fish, and wildlife who thrive in it.  
2 Thank you.

3 MR. DAN DUNAWAY: Okay, so I'm Dan Dunaway and  
4 I'm -- (court reporter asks for spelling). Oh, that's right.  
5 D-u-n-a-w-a-y. And I'm a Dillingham resident of about 29  
6 years, I think it is. And a retired fisheries biologist, so  
7 I've worked in the area where some of this is talking about;  
8 and I've hunted there.

9 COURT REPORTER: You're welcome to read your statement  
10 into the record if you want.

11 MR. DAN DUNAWAY: Well, I don't know if I want to -- I  
12 guess one of my first concern -- large concerns is that I  
13 would like to see in this EIS, to recognize that this smaller  
14 mine plan, I -- I fully believe, is a placeholder and a  
15 toe-in-the-door effort. So I would hope to see the EIS  
16 recognize that it's very possibly the mine -- very likely it  
17 would be expanded and possibly with the infrastructure that  
18 would come with it, would precipitate more mines

19 The impacts of a larger single mine and/or more mines in  
20 the area should be, at least thought about, recognized as --  
21 for real possibility, and I'd like to see some discussion of  
22 impacts from multiple mines. I think it would be far -- more  
23 far-reaching in subsistence, social situations, and impacts on  
24 the fish and wildlife in the area.

25 And I think once the infrastructure is in place, it will 35

1 be very hard to resist expansion. So I think It's specious  
2 and unrealistic to only focus analysis on this one mine.

3 My second and very large concern is just everything about  
4 water. The little film loop that we saw here, does tell me  
5 they are considering some of this -- some of the effects of  
6 water. I don't know (indiscernible). And I'm especially  
7 concerned about how all of this mine activity will affect the  
8 subsurface waters. We've learned -- and thanks to Pebble's  
9 ex -- extensive work so far, that there's a lot of subsurface  
10 movement of the water among drainages in the area.

11 I don't know how thoroughly this is mapped out, but it  
12 may need to be, very thoroughly, mapped out for a variety of  
13 reasons, from formation of this pit. Will this interrupt  
14 flows or redirect them? Will water flow into this mine at a  
15 high rate? Other mines that have been attempted around Alaska  
16 have, actually, been totally defeated by water and filtration.  
17 So I wonder how realistically they looked at that.

18 Also, I -- that could possibly dewater or change the  
19 whole water regime, and even in some places, the surface water  
20 flows if this thing turns into what amounts to a large drain.

21 So to the extent that they've mapped this out or maybe  
22 they need to do more work, that water will have to be treated.  
23 And it did seem to suggest, and I hope develop further, a  
24 discussion of (indiscernible) water that they -- that's  
25 flowing into the mine and the mine site and is treated, it

Pebble Mine Scoping Meeting Dillingham

1 should then be -- how are they going to release it and where?

2 That film alluded to something that they would be  
3 releasing it, maybe proportional to what exists in the  
4 existing drainages. I hope that whole discussion gets  
5 thoroughly analyzed and discussed.

6 I'm wondering, too, eventuality of this pit running or  
7 playing out and filling with water. Then, at that point, we  
8 may have -- where will that water go? Could it, then, kind of  
9 be a reverse thing? Could there be water flowing against  
10 subsurface, now potentially polluted with leachate from the  
11 remaining rock? Could that be flowing into the subsurface  
12 aquifers and such? I'm not a hydrologist. I don't even know  
13 all the right terms. But could we have polluted water, then,  
14 leaking from the pit subsurface into the various drainages?  
15 And what -- how can they manage that? I'm very afraid they  
16 cannot manage that.

17 It's one thing just to pu -- pump some water out of the  
18 pit and treat it and release it, but the water they cannot  
19 control worries me. And what conditions that water -- where  
20 it goes could have -- be highly toxic to fish or the -- the  
21 ecosystem. And it might leak back into even Lake Iliamna. So  
22 they need to spend lots and lots of time on what's going on.

23 Also, some years are wetter than others. They're --  
24 they're going to have quite a few large water wells,  
25 apparently, for their production use and human use. How will 37

1 these wells affect the subsurface aquifers? And I don't know  
2 what amount of water they're planning to draw out, but there  
3 are places in the world where -- and so right here in  
4 Dillingham, we seen it where one house puts in a well and it  
5 causes a nearby house well to dry up.

6 Things like that can happen at their end, yet on a much,  
7 much larger scale. And then would that, by interfering with  
8 subsurface water, drawing it out through a well -- and what  
9 will that do to the rest of water regime? Could water flows  
10 change direction?

11 I also -- I -- they list, in one of their handouts, a  
12 30-year treatment period. Given that so many mines of this  
13 type, worldwide, require water treatment in perpetuity, is  
14 what we usually hear, I challenge that the 30-year is  
15 marketing and not fact-based.

16 How long has the big pit in Butte, Montana been so toxic  
17 the birds die in it to this day? I think that was more  
18 concentrated ore than we're talking here, but still.

19 My next general topic is natural gas supply. Up until  
20 maybe the late 90s, maybe well into the early 2000s -- or  
21 2000s, was frequent news items in Anchorage about the  
22 dwindling and limited supply of natural gas for the uses of  
23 the Cook Inlet/Anchorage area.

24 How is it we magically have more gas now and can even  
25 entertain a gas supply sufficient to generate electricity

1 that's, what, two-thirds the level of what the -- the  
2 Anchorage/Kenai grid system produces today? Or it might be  
3 higher; it's a very -- we're talking 230 megabytes for this --  
4 megawatts for this mine, I think, is at 325 or something is  
5 generated in the Anchorage/Kenai road system area. And I have  
6 to admit, my numbers might be loose, but I hope they get the  
7 right numbers and take a look at this.

8 And if there's not enough gas, are they going to go to  
9 some sort of liquid fuel oil? And that raises a whole bunch  
10 of other management containment and use issues for spills,  
11 pollution, and so on -- storage; on and on.

12 And then if the mine gets this big and uses that much  
13 gas, are they going to be competing with the urban areas? And  
14 how realistic is this whole plan to use natural gas,  
15 especially when I think Donlin is planning to use diesel.

16 My next category was impacts to Lake Iliamna, which is a  
17 little bit related to water, again, but a lot -- focusing on  
18 the year-round barge traffic and ice-breaking barges across  
19 the lake.

20 There was -- at one time, there was speculation that some  
21 of the poor returns in the Kvichak system of the early 2000s,  
22 I think it was -- there was real serious concerns, and there  
23 was some speculation that it could have been due to incomplete  
24 ice cover on the lake causing the salmon smolt to ro -- rear a  
25 little too fast, to the point where they would become smolts

Pebble Mine Scoping Meeting Dillingham

1 and leave the system, go to saltwater, when they're actually a  
2 little bit undersized, but big enough to be smolt.

3 I don't know that that was ever verified, but I would  
4 worry or wonder if we should revisit that in the context of,  
5 if we have a -- a barge busting up the ice, how might that  
6 disrupt the winter ice regime for resident species, fish,  
7 birds, mammals, as well as people, and -- and as well as  
8 salmon and other migratory species.

9 There's also -- and I -- I assume they're really going to  
10 look at spill management. I have been on that lake when it  
11 was in a ferocious storm, and, actually, boat went aground. I  
12 spent four days on that big island near Big Mountain. It blew  
13 70 for three days solid; over 70.

14 Shore or freshwater lakes have -- in storms, their waves  
15 are at a shorter period, and they can be kind of vicious,  
16 though, I assume the boat were going to be built for that. I  
17 am curious how the boat design is going to be and how they're  
18 going to get it in the lake. I think it -- the weights that  
19 they expect to carry, that such a boat might not make it up  
20 the Kvichak River. So are they going to build it in place or  
21 what?

22 So I -- but I am extremely concerned about polluting the  
23 lake as well. I've spent a lot of time sailing up and down  
24 it, back and forth across it. It's a very special place that  
25 you can drop a penny in 30 feet of water and see it go all the

40



1 way to the bottom and watch the salmon spawn down there.

2       Okay, and a fifth kind of category here is the salt --  
3 what I call the saltwater road corridor and as well as all the  
4 other mine associated roads. The saltwater road corridor area  
5 I call from Amakedori to Kokhanok area. For all roads, I'm  
6 very, very concerned about proper construction and maintenance  
7 to avoid interrupting surface water flows, to limit as --  
8 as -- to a very high degree, the amount of runoff that could  
9 find ways into the streams.

10       I want to see proper waterway crossings, meaning, in my  
11 mind, extra large culverts, more bridges that are made to  
12 assure safe and year-round passage of fish and water. It  
13 might mean you have a lot of wars with beavers, because they  
14 love culverts and can utterly destroy large culverts.

15       But silt runoff, any other kind of runoff from the roads  
16 getting into these rivers that are so clean, how will traffic  
17 on these roads affect the animals of all sorts, and any sort  
18 of normal migratory paths? So it would be a concern.

19       Shoot, one thing flipped through my head; and what was  
20 it? It's slipped my mind at the moment. Maybe I'll re --  
21 remember it as we go on. Oh, actually, and to -- I have to,  
22 grudgingly, think that there's a fair possibility that the  
23 Amakedori Road is a better way than a road on the north side  
24 of the Lake Iliamna. From my really slim knowledge of the  
25 area, it appears it might a be more solid route, better --

Pebble Mine Scoping Meeting Dillingham

1 better possibilities for a road base. So I have to  
2 acknowledge it -- it might be the better way.

3 I don't know about snow management on the no -- south  
4 side of the Alaska peninsula in the winter. That's an area of  
5 ferocious storms, and I'll address that kind of next.

6 When I speak to the Amakedori port facilities in this --  
7 I guess number six category for me, when I used to work out of  
8 the Kodiak office or I was in there, I used to hear of  
9 Amakedori area spoken of frequently, but I didn't really know  
10 much about it and never had experience there.

11 I believe there's some commercial fisheries occur in the  
12 area, so I'm very concerned what all of this activity would do  
13 to the commercial fisherman who were there first; well, after  
14 the Native folks. And that is a culturally significant area  
15 according to everything I can look up, which usually means it  
16 was an important place for food and for survival, and that  
17 needs to be addressed as well.

18 But potential interferences and effects on the fisheries  
19 and fish populations from port activities, port facilities,  
20 the dredging, vessel activity; I believe it's now -- I've seen  
21 recently that it's a somewhat popular sport fishing  
22 destination. People may not want to pay a whole lot of money  
23 to go fishing next to a big port facility.

24 All of this is very, very close to St. Augustine volcano;  
25 extremely active volcano, so I would expect that an exhaustive

Pebble Mine Scoping Meeting Dillingham

1 analysis of the seismic threats, the seismic nature of the  
2 bottom where they're trying to put this gas pipeline, where  
3 they're trying put a port facility -- as we well know, some of  
4 these rock-fill jetties don't last much in an earthquake.  
5 Could be just flat-out hazardous to be over there. From  
6 AASHTO's position, what that's going to do to large ships  
7 trying to come in and out? And I hope you talk to the  
8 commercial fishermen and boatmen from the Homer area that have  
9 a lot of experience with this.

10 I think I touched on what historical sites would be at  
11 risk or what would be done to protect them in the area of the  
12 port. I understand there are some there. That port site is  
13 extremely exposed to the open ocean and in particular  
14 directions; kind of an east, southeast, I believe it is.

15 That area has notoriously horrible weather. Kamishak  
16 Bay, Barren Islands, all of that can be difficult. You can  
17 tell by the amount of driftwood piled high in Amakedori Bay  
18 along the beaches. These are going to present -- storms will  
19 present serious threats to the port facilities and I -- with  
20 the shallowness of that bay and the size of the ships you're  
21 talking about running, sooner or later you're going to have a  
22 grounding.

23 I don't -- I don't think you can avoid it. We've had  
24 groundings right in Unalaska Bay that are far more protected.  
25 And so I -- I think you really got to evaluate this. I think 43

1 the dredging -- it sounds like a tremendous amount of  
2 dredging. It's going to be crazy expensive; dredging is very  
3 expensive. I think it's interesting you're considering  
4 putting all those dredge spoils on -- on land. What are you  
5 going to do to those dredge spoils to make sure that stuff  
6 doesn't run back into the bay or nearby creeks and -- and silt  
7 them up in these large storms?

8       Yeah, I learned here in this film a little more about how  
9 that ore is going to be handled. I think these ore containers  
10 are a better way to go than open-ore trucks. But given the  
11 likelihood that there will be shipping interruptions, I  
12 assume -- it isn't clear from the -- the plans that I've been  
13 able to look at, how much of a storage facility you're going  
14 to have.

15       But some contingencies for waiting for shipping  
16 interruptions and so on, will have to be made. And it should  
17 be well away from the ocean. Should be in a seismically-safe  
18 place and away from tsunami risks, and normal -- just what  
19 their normal bad weather is, which is horrendous at times.

20       And then to expand beyond this to the whole mine plan,  
21 you're near all these volcanos and faults. I'm concerned  
22 about seis -- engineering for pro -- proper level of seismic  
23 activity must be done. I'm very concerned about the height  
24 and depth of these tailings storage areas and these waste rock  
25 storage areas.

Pebble Mine Scoping Meeting Dillingham

1           And I think tradeoffs between having the lower, more  
2 stable storage areas at the expense of more area being  
3 covered, should be evaluated. The height of the main storage  
4 area seems, frighteningly, high to me and, particularly, if  
5 this stuff is some sort of a loose slurry that gets turned to  
6 a gel, like the old Turnagain Subdivision in Anchorage did in  
7 the big earthquake. I had friends living there, saw it right  
8 after the earthquake happened. People tend to forget that and  
9 they're, foolishly, building in that area now.

10           But with all of the volcanos and earthquake activity, the  
11 whole mine site should be engineered for -- to take a -- the  
12 biggest earthquake. We just had, what, a 7.9 in the middle  
13 Pacific. Cook Inlet is pretty active.

14           And that's the extent of my comments as far as specifics  
15 that I can come at this time. I think it's a mistake to try  
16 to build this at all.

17           MR. THOMAS TILDEN: Thomas Tilden, T-i-l-d-e-n.  
18 Okay. My name is Thomas Tilden. I'm a lifelong resident here  
19 in Bristol Bay. I grew up in a small village along the  
20 Nushagak River. The Yup'ik name is called Ohgsenakale. But  
21 we ha -- we used to -- it used to be called Portage Creek, and  
22 that's what -- what a lot of people referred to, but then --  
23 then we got a post office, then we just changed the name to  
24 Ohgsenakale; and that's O-h-g-s-e-n-a-k-a-l-e.

25           There was a small village and that's -- but that's where 45

Pebble Mine Scoping Meeting Dillingham

1 I -- that's where I grew up back in the 60s. And -- and we  
2 went up there. I've been a fisherman all my life. I've been  
3 a subsistence fisherman. I've been a long-line fisherman.  
4 I've been a seiner, and I've been a gillnetter. And I've  
5 fished herring. I've fished halibut, and I've fished salmon.

6 And one of the things that -- that -- back in the 60s,  
7 the runs were being intercepted by the Japanese high seas  
8 fishermen. And so we hardly caught any -- we hardly caught  
9 any fish, because they would have these miles and miles of  
10 tangled web out there, and -- and we'd find our nets and our  
11 cork lines along the beach where we had our summer camp down  
12 in Igushik -- on the Igushik River is where we had our summer  
13 camp and our commercial set nets.

14 The federal government came in and gave us blocks of --  
15 blocks of cheese to live on. And a lot of -- a lot of the  
16 Yup'ik people up there in the village didn't even know what  
17 the cheese was for or how to eat or cook it. There was no  
18 instructions. They gave us blocks of butter and then they  
19 gave us crackers, and -- and that was it.

20 And so, basically, we lived off the freshwater fish that  
21 was in the river system up there. That's one -- that's one of  
22 the things about this mine, is that they have never thoroughly  
23 investigated how many fish people, actually, depend on in the  
24 wintertime, the trout, the pike, the suckers, the whitefish  
25 that are -- that are up in the -- along the Kuktuli River, the

46

Pebble Mine Scoping Meeting Dillingham

1 Nushagak River and -- and some of the tributaries that are up  
2 there.

3 There's a really strong run -- run of whitefish. At one  
4 time, it was commercially opened back in the early 70s and,  
5 however, they closed it down due to the fact that they thought  
6 it was a base fish to salmon and other fish that were  
7 migrating. And the same -- the same they said about the  
8 smelts, but the smelts were in the tidal water, and they would  
9 come up to within a mile or so of Portage Creek where I lived  
10 and we would catch them on high tides.

11 And they stopped us from fishing those, as well,  
12 commercially, and so -- but we could catch them subsistence,  
13 and we'd catch them by gillnets, fishing through the ice, or  
14 scooping them up. And -- and that -- and that has been going  
15 for years and years. When you -- when you find old films,  
16 back in the 20s and 30s, you'll see those -- the old Eskimos  
17 scooping up the -- the smelt, because they're -- they're so  
18 much in abundance. And the fish -- and the fish is also  
19 chased after by the beluga and the seal.

20 And when they did monitoring studies here, they found out  
21 that -- that in the summertime when the salmon come in, that  
22 smelts move out into the shoals, which is off the cape down  
23 below Ekuk and Clark's Point. But those were -- those were  
24 foods that we depended on.

25 And in 1962, it was such a disastrous year that -- and it<sub>47</sub>

1 was such a cold winter, that we ran out of food in the  
2 village. And the teacher made me go and hang the flag up --  
3 upside down to declare that we had a -- an emergency. And, of  
4 course, my dad went over and cut the flag down. He says, no,  
5 we're not going to risk a pilot coming in here when we could  
6 just live off the land, and that's what we did.

7 That's -- that's how we survived was, we were able to  
8 live off the land. We were able to find patches of ground  
9 and -- and pick the berries. The cranberry will last right  
10 through to your next spring. And so a lot of the birds and  
11 animals and people live off of that cranberry in the early  
12 spring.

13 And up -- up near the -- up near the site, there's a lot  
14 of cranberries also up there; blackberries, as well as  
15 salmonberries. So the -- so the other -- the -- of course,  
16 the other thing that -- that we lived off was -- was that  
17 it -- we had a caribou herd that was behind the village, as  
18 well as moose within the vicinity, and we'd catch -- catch  
19 those.

20 The beavers were always under water, so we never caught  
21 the beaver, but we were able to catch the moose, caribou. And  
22 then when the young birch -- when the young birch first starts  
23 growing, the roots suck up what little -- as soon as they  
24 start thawing, they start sucking up this water in it. It  
25 becomes really sweet, and so we were able to eat birch bark,



Pebble Mine Scoping Meeting Dillingham

1 young birch bark, as well. And that's the only time that you  
2 can eat it. You can't eat it any other time, because it turns  
3 sour after that.

4 So -- so it was the land that -- that took care of us  
5 during -- during that time in 1960 -- in the early 60s. And  
6 that -- that's how it is, yet, to -- to this day, is that a  
7 lot of our people, when you go into their freezers, you find  
8 ferns that are -- are the first plant to bloom and the  
9 first -- our first harvest is the ferns. You have to eat them  
10 only when they're curled up before they open up, because after  
11 they open up, they're no more good. You can't eat them  
12 anymore. So that's -- that's how we would start our  
13 summer/spring.

14 And then the other thing, of course, is anytime there's a  
15 spring, there's a long plant, and I can't remember the name of  
16 it, but we call them (speaks Yup'ik). And they -- we would  
17 make -- we'd pick those and make akutaq and -- and eat them  
18 raw or boil them, and so -- so those plants were crucial to --  
19 to our -- our way of life.

20 And there's no -- there's no big Safeway or any huge  
21 grocery stores here. We have two -- or, actually, three  
22 stores here in Dillingham. And we're -- we're sort of  
23 blessed, I guess, and -- but a lot of the people out in the  
24 villages -- there's a lot of villages with no stores. And --  
25 and so they're impacted more, particularly along the Nushagak 49

1 River and up in the Iliamna area, as well.

2 And we've got to know these plants and fish and -- as  
3 food -- food for us. In the village of Newhalen, which has  
4 abundance of blackberries, they don't allow berry pickers up  
5 there, because they -- they feel that it destroys the plant,  
6 and so we have to pick by hand in those areas.

7 And then the -- the -- all of the berries in this area,  
8 we pick the high bush cranberries, the low bush cranberry, the  
9 salmonberry. I'm not -- I'm trying to think of the -- we call  
10 salmonberry because of the color, but I don't know the name --  
11 the name that you'd find in the dictionary. But there's the  
12 salmonberry, the blackberry, the blueberry, the huckleberry  
13 are all the berries that we pick off of this land.

14 And so -- and, of course -- of course, in the springtime,  
15 too, we used to travel by dog over to -- to Kvichak River,  
16 because there's a -- there's a difference in the -- the  
17 Kvichak River and the Nushagak River, a one degree water  
18 difference. And that don't seem like much, but to the  
19 ecosystem, it -- it -- it's a lot. Because what happens in  
20 the Kvichak is that we were able to go over there and get  
21 ducks and geese early on, in April, by dog team. And it --  
22 and even though that our place was still iced up, and it makes  
23 a big difference.

24 If you -- if you -- I just flew from King Salmon just  
25 tonight, and -- and all of the lakes are -- are clear. And

1 you come to here to Dillingham, and you'll notice that we  
2 still have ice in your lakes. That one degree difference  
3 is -- is huge. It's very critical along the Kvichak River.  
4 That's where the Talarik Creek runs into the Lake Iliamna and  
5 then that flows down to the Kvichak River.

6 And so -- and -- and the -- when you start looking at the  
7 numbers of fish that come into the -- into these river  
8 systems, that tells another story, too, because there's been  
9 huge -- huge numbers of fish coming out of the Kvichak River  
10 system. And -- and then when Fish -- Fish and Game started  
11 playing around up there, trying to make it a 50 -- a 50  
12 million run fishery, they destroyed it. And -- and it,  
13 basically, collapsed on itself. Because what had happened was  
14 that all of the -- all of the fry that was set loose, was  
15 eaten, abundantly, by the pike, the whitefish, the grayling,  
16 and the suckers. And so they grew enormously huge.

17 And so when the smaller ones came in, those fish were --  
18 those predators were still there and they -- they end up  
19 eating a lot of those salmon, so there -- the fish didn't  
20 survive. So we had a huge crash back in the 60s and 70s or  
21 late 60s and 70s because of that -- that folly that had  
22 happened.

23 But all of this -- all of this food that -- that we --  
24 that we live off and -- and -- and we know, caribou migrated  
25 up there right through the -- right where -- right where

Pebble Mine Scoping Meeting Dillingham

1 Pebble Mine is. And when you go to Pebble Mine web page and  
2 you take a look, they have a helicopter that flew under the  
3 700-foot level and flew the Talarik Creek. And they're --  
4 they're pretty proud of that; pretty proud of the photographs  
5 that they took.

6 But they didn't know that, at that time that they were  
7 taking those pictures, the caribou were migrating. And  
8 caribou, when they migrate, one of the things you never, ever  
9 do is you never, ever shoot the first caribou, because those  
10 are the leaders and the herd follows them.

11 And even in Anaktuvuk Pass where -- where those are  
12 caribou people, those people just live off the caribou that  
13 migrate through Anaktuvuk Pass, and they will tell you the  
14 same thing, that you never kill the first caribou. You never  
15 spook the first caribou, because it will change the routes of  
16 the caribou.

17 And that's, basically, what happened when those guys were  
18 filming and those guys were exploring, was that the caribou  
19 were coming through there. They ended up going around the  
20 other side -- other side of the mountains. And so for a whole  
21 decade, we never saw any caribou, because of the -- that --  
22 that's destroyed the exploratory stage.

23 And now -- now that they have been not doing anything up  
24 there for a few years, the caribou have finally come back.  
25 And now because for -- there was a whole decade that we didn't

Pebble Mine Scoping Meeting Dillingham

1 have any caribou and -- and so -- because of the -- because of  
2 the changed route that -- that they did. So just through an  
3 exploration, they have impacted our lives already.

4 The first people to notice it, of course, were the people  
5 of Newhalen, one of our first -- first meetings. When Pebble  
6 first came in, they used to meet with all of the villages.  
7 And then they quit meeting with us that were against some  
8 questioning the mine. They quit meeting with us and only met  
9 with those villages that were pro mining, and they gave them  
10 jobs and money and -- and all kind of benes to keep them on  
11 their side.

12 In fact, when you look at -- when you look at the dams  
13 that they proposed, the first proposed dam that they had was  
14 Talarik Creek Valley. They were going to border that off and  
15 that's where they were going to put their tailings. And in  
16 one of the public meetings up there, they said, heaven forbid  
17 if anything happens, that we don't want to ruin the trout in  
18 the Talarik Creek, so -- so they moved it down the way from  
19 there.

20 And since us folks over here along the Nushagak River  
21 are -- we have been opposed to that mine, because the --  
22 because of the studies that they shared with us showed that  
23 the -- the dye that they dropped into some of the holes -- we  
24 kept on -- when we first started meeting with them, we kept on  
25 insisting that we get a hydrology report. We wanted a -- we

1 wanted a hydrology and geology report from them.

2 And hydrology report that they shared with us, at that  
3 time, basically, showed that the dye that they dropped into  
4 the river systems just spread out everywhere. It was like  
5 a -- it was -- it -- they were on the plateau.

6 And -- and so -- and -- and when you fly up there and you  
7 take a look, you take a look at the Talarik Creek coming in --  
8 coming in from the southeast portion, and the Koktuli River  
9 coming in from the west and south, and, of course, the north  
10 Koktuli coming in from the north and west -- and you -- and  
11 when you -- when you're there, you -- you find -- you realized  
12 how close they're all related to.

13 And I -- I talked to a geologist about this, because I  
14 was really curious because -- because they had told us that --  
15 they had told us that the -- the copper that they had  
16 discovered and the gold and the molybdenum they said was from  
17 volcano fallout. But there was no volcano there, and so we  
18 didn't know where the vol -- volcano that they were referring  
19 to, where that fallout came from.

20 And it wasn't until till years later that I started  
21 talking to another geologist down in Nevada, and I told him  
22 the situation. And -- and, at that time, they had made a  
23 discovery over on the east side, Pebble -- what they call  
24 Pebble East. And it was a -- it's a tremendous find. It --  
25 it -- it has really high content of gold and -- but it's

1 really -- in a really small area.

2 And -- and I was telling this geologist about this. And  
3 he -- he laughed. And he says -- he says, you didn't believe  
4 them about them about the volcano? I says, well, I'm -- I'm  
5 wondering about it. He says, basically, what had happened was  
6 that there was a continental shift of the earth, and lava had  
7 poured into the -- into the hole when there was a -- when  
8 there was a down -- downdraft.

9 And that lava settled, and that's where that high  
10 molybdenum, high copper, high gold is located.

11 And so after hearing that, I brought -- of course, I  
12 brought it back to Pebble, and then, all of a sudden, their  
13 story changed, that, yeah, it was -- it probably wasn't  
14 volcano; it was probably a shift.

15 Now, that -- that brings me to their studies. They say  
16 that the seismic lines end just before it gets to the mine. If  
17 their -- if their find is a seismic shift, how could it end  
18 over there, and how could it happen over here? Somebody is  
19 lying to somebody here.

20 And -- and that -- you know, that really makes me wonder,  
21 because when -- when the State of Alaska, the Department of  
22 Natural Resources and any kind of mining company wants to do  
23 business, they walk hand-in-hand to get those permits, and  
24 DNR, basically, tells them the minimum that -- what they need  
25 in order to get that permit. And so that's -- that's what

Pebble Mine Scoping Meeting Dillingham

1 those mining companies build.

2 And -- and so what we have is, I think -- I think the  
3 studies that we have that are on the books right now are  
4 biased -- are very biased, because the guy that -- the head of  
5 DNR, the mining agency at that time, he came and we had asked  
6 him to come give us a talk at our BBNA board meeting. I'm on  
7 the BBNA board of directors. I'm vice-chairman there.

8 And -- and he -- he told us that -- he told us about --  
9 about mining. He gave us all the things that he had to do in  
10 order to issue a permit to this mine. And he gave me a --  
11 I -- at the end of the session, he was catching a plane, so I  
12 gave him a ride to the airport.

13 And he tells me in -- on the way to the airport, he says,  
14 Tom -- he says, what can I do to convince you that this is a  
15 good mine? You got to change your mind and -- and look at  
16 this as a benefit. And so that's why I firmly believe that  
17 this -- this mine is -- has not been totally taken a look at  
18 independently.

19 If you have someone that is pro mine already on there  
20 that's going to issue a permit, then -- then you no longer  
21 have a -- you no longer have a good -- good -- good study.  
22 You have a biased study.

23 And -- and -- and so I -- I'm really -- I'm really  
24 worried about that. I'm really worried about the subsistence  
25 and how it's going to affect us. I'm really worried about the



Pebble Mine Scoping Meeting Dillingham

1 water -- the water coming out of -- I believe it's southwest  
2 of the Pan -- they call it Frying Pan Lake. That water  
3 pouring out of that river -- out of that mountain, millions of  
4 gallons a minute, is the source of water. And -- and that  
5 water -- they're going to have to stop that water from going  
6 into their pit.

7 Where that -- where that huge amount of water is coming  
8 from, they don't even know that, because it's on the hill and  
9 they haven't dug around that area.

10 And -- and the other thing about the water with the  
11 Yup'ik people along the Nushagak River, the Yup'ik people  
12 along the Nushagak River are -- overwhelming majority of them  
13 are Russian Orthodox, and -- and they bless that water every  
14 single year. Water is holy to them. Every home you go to,  
15 you will find a jar, a gallon jug, a bottle of water on  
16 everybody's table or in everybody's home, because they use  
17 that water to heal themselves, to put on wounds. They use  
18 that water to -- to bless each other. They use that water to  
19 baptize people. And water -- water is holy to these people.  
20 And -- and that has been going on ever since the Orthodox  
21 people have come in here in the 1700s.

22 And -- and even prior -- even prior to that, there was an  
23 old elder up in New Stu that -- that had talked about that  
24 water, and he had always told the young hunters not to -- not  
25 to go up in that area, because it was a sanctuary. It was a

Pebble Mine Scoping Meeting Dillingham

1 place where there was a lot of growth. And to them, it was  
2 kind of like a haven for -- for where everything came from.

3 And so they -- so even -- even us today in modern day and  
4 age, we don't go all the way up there. We go as far as Swan  
5 River along the Koktuli River. And there's hills right there,  
6 just before the end -- end of the Koktuli River that -- that  
7 we hunt in that area. But that's -- that's, basically, the  
8 limits to where we go. And -- but that -- that water is holy  
9 to everyone.

10 And the other thing I want to talk about is that -- is  
11 that, you know, the salmon that -- that comes down the Kvichak  
12 River and Nushagak River, the -- the -- that's a world  
13 product. That's not -- that don't -- don't just belong to us.  
14 China, Japan, the United Kingdom, they all get -- Korea --  
15 they all get -- they -- they trade that salmon. That's a --  
16 that's a world product. It provides over 20,000 jobs on an  
17 annual basis from tenders to cannery workers to processors to  
18 laborers to can makers to everyone; even candidate Hillary  
19 Clinton even worked at a salmon cannery down in Southeast.

20 And so it -- it -- salmon in Alaska here is a world -- a  
21 world product. But your -- we -- we provide over 50 percent  
22 of the salmon to the world from -- from these waters. And so  
23 it's -- it's really, really important that we continue.

24 I've taken a look at their study. I've taken a look at  
25 their -- the amount of -- oh, what do you call that -- lining. 58

Pebble Mine Scoping Meeting Dillingham

1 You've got to excuse me, because I was -- I've been up since  
2 2:00 a.m. flying back from Washington, D.C. And I'm kind of  
3 tired. My lines are kind of jumbled.

4 But the liners that they're proposing is -- if you went  
5 down to N&N Market and bought a shopping bag -- got a shopping  
6 bag, it's thicker than that, but, basically, made out of the  
7 same material. It's not going to contain the tons and tons of  
8 dirt that they're going to be putting on that rock. And --  
9 and it's just -- it's just too -- too sens -- too sensitive  
10 of -- of an area.

11 The -- the other thing I want to point out of -- I forgot  
12 to mention, on the geology was that -- is that around the  
13 Pacific, they -- they call it the Ring of Fire, and -- and  
14 you -- you wonder how come there's such abundant salmon in  
15 this area. It's, basically, because we're part of that Ring  
16 of Fire. We're on the other side of that Ring of Fire, but we  
17 still feel the heat. And that's where -- and that's where you  
18 could see -- earlier, when I mentioned that the Kvichak River  
19 is one degree warmer than the Nushagak River, it's because  
20 it's closer to the Ring of Fire.

21 And all that water that comes out, in all of these river  
22 systems, is warmer, and it's -- it's really productive for --  
23 for salmon to breed and -- and to survive. So they -- so they  
24 are able to do that.

25 I -- I looked at -- I took a Pebble -- I took Pebble up, 59

Pebble Mine Scoping Meeting Dillingham

1 but I -- I looked at other mines. I believe that there are  
2 good mines in this world. I truly believe that. I -- I  
3 looked at three mines that they -- they maybe look at, was the  
4 Gibraltar Mine in British Columbia, the Highlander Mine in  
5 British Columbia, and the Polley Mine in British Columbia.  
6 Well, we all know what happened to the Polley Mine.

7 When you look at that, scientifically, you find out that  
8 the -- that the dam that they had built, basically, was -- one  
9 area just had one small, slippery spot. And all that pressure  
10 that they put on that slippery spot broke, eventually. And so  
11 no dam is foolproof.

12 And then the other part of that geology I forgot to  
13 mention was that earthquakes that happened. The 1964 -- when  
14 the earthquake hit, and Bristol Bay -- everybody tells you  
15 about the rolling -- rolling hills. That's, basically,  
16 because of all the wetlands and the water that was there.

17 And the -- Pebble claims -- Pebble claims that -- that  
18 down in Chile, that they -- that they had built a world-class  
19 dam down there, and it sustained an 8.9, I believe -- 8.9  
20 earthquake. And so they say that they can build dams that can  
21 sustain 8.9 earthquakes.

22 And I say, hogwash. Because when you look at terrain,  
23 the -- down in the -- down where Chile is, is the -- the  
24 mountain range where the Pacific plate and the Atlantic plate  
25 had collided and created the Andes Mountains. And geologists 60

1 will tell you that this is one the most solid piece of ground  
2 in the world.

3 You're not going to see, in an earthquake, a rolling --  
4 rolling effect, but you're going to see a whole body moving,  
5 and that's a lot different than -- than something that's  
6 rolling. Because if it starts rolling up there, their dam is  
7 going to burst. And -- and the reason why it didn't have --  
8 break down in the Chile, is because of the fact that  
9 everything was moving at the same time.

10 And -- and the water system down there is totally  
11 different. In fact, both the Highlander and the Gibraltar  
12 Mines are sitting on a high plateau, like Pebble, but it was a  
13 dry land. They had to bring water up to it. And in -- in --  
14 in -- the Pebble Mine is wetlands. It's not -- it's a  
15 highland, wetland area, and it's not -- it's not like  
16 Gibraltar or -- or the Highlander in British Columbia.

17 And -- and back to that -- back to the Chile, when  
18 that -- when those two mount -- when that mountain range was  
19 created, and all of the water, it was (indiscernible) America  
20 there, it -- part of the water used to come out into the  
21 Pacific side, and part of it used to come into the -- into the  
22 Atlantic side.

23 When -- when that collision happened and that mountain  
24 range was formed, the -- all the water drained into the  
25 Pacific side. That's why the -- that river is such a strong, 61

1 strong river. Because of the fact that it -- it takes most of  
2 that continent's water and shifts it over to the -- shifts it  
3 over to the Atlantic. So there's -- there's no -- you  
4 can't -- you -- you can't convince me that -- that the --  
5 that -- that a mining dam could survive an 8.9 earthquake.

6 During the -- during the exploratory stage of this mine,  
7 it has had negative effects already. And -- and I mentioned a  
8 fact that the first people to notice were the hunters from  
9 Newhalen, who had hunted that Talarik Creek, and all of a  
10 sudden, the moose and the caribou were not there.

11 They were the first people to tell -- tell the mining  
12 company that. And, of course, they heard from us when our  
13 caribou, all of a sudden, disappeared. It wasn't -- it wasn't  
14 by coincidence that they disappeared; it was the noise that  
15 they created up there.

16 The -- one more thing on -- on the -- I got to look at my  
17 notes here. Oh, the air; I want to talk about the air.  
18 I've -- I've -- I've traveled throughout this bay area. I  
19 taught in the schools, safety courses for many years. I've  
20 taught survival courses to -- to the teachers in the -- in all  
21 the schools and -- and a lot of students, old Yup'ik survival  
22 skills is what I taught for 12 years -- no, 14 years, I'm  
23 sorry; 14 years.

24 And -- and -- well, one of the things that -- you know,  
25 during -- during all -- during all of that teaching that --

1 oh, man, I lost my train of thought here, but I'll have to  
2 come back on that. I was looking at my notes here, and I --  
3 I -- I skipped.

4 Oh, the wind. The wind, that's what I was talking about;  
5 the wind. Okay. So in -- in my -- in my travel to the -- to  
6 the villages, one of the things that impressed me in the  
7 village of Newhalen was that they were one of the first  
8 villages to put a windmill -- a huge windmill to help generate  
9 power in their village.

10 And then they -- they got -- had a windstorm that hit  
11 that -- hit that windmill and blew the blades over the village  
12 into the river and onto the lake. They found the blades,  
13 because the wind was so terrific coming through that valley.  
14 And that's -- and that's -- and that's where -- that's where  
15 they're at. They're at -- they're at a valley.

16 When we asked Pebble about the studies of the wind, we  
17 found out that -- that they had clocked 120-plus winds in that  
18 area. And, earlier, I was talking about the importance of the  
19 berries and the flowers and the plants that we eat. Those --  
20 those winds are going to be stirring up some of that dust,  
21 that toxic dust. That's going to affect all of that.

22 When I flew up there with a -- with another pilot, and  
23 one of the first things that really impressed him was that  
24 on -- on top of those hills, you will see boulders that have  
25 blown off the top, and you can see their trail, because they

1 rolled down that -- rolled down that hill. And those are huge  
2 boulders. And that tells you how much wind they have up  
3 there. You know, and -- and so they have a high -- high wind  
4 up in that area that -- that is going to blow.

5 And we have, predominantly, in the -- in the wintertime,  
6 we have, since the weather fronts come -- come from the west  
7 and always move east, and we -- and they follow the -- they,  
8 basically, follow the Aleutian Chain from Japan. And then  
9 once -- once they get to Bristol Bay, they either make a shift  
10 north, and they go up -- up around the Barrow and come down.  
11 That's how come you see when they hit Boston or when they hit  
12 New York, is because that's -- that -- that's how those --  
13 those moved, is that they -- they came down this way.

14 Another way that they come in is that they'll come in  
15 low. They'll come in below Bristol Bay and -- and go the  
16 other way. And -- and that's -- that's why you have these  
17 high winds is because you have these lows coming in all the  
18 time, colliding with these high pressures that are mostly on  
19 the Mainland.

20 And -- and so it's something that's unpredictable is the  
21 winds. You can't -- you can't predict the wind. We have lots  
22 of cancelled flights here due to the fact that -- due to the  
23 fact of the high winds and the storms that -- that we get.

24 And that's what they're going to be faced with up there.  
25 And you -- you take a look at their studies, and there's not



1 much about -- about the air pollution that's -- that's going  
2 to be created by the road that they're going to build.

3 You don't see anything about -- about the ice breaker and  
4 what kind of weather that is going to be facing about on  
5 Iliamna Lake. And -- and we all know that a huge ore ship  
6 went down in Lake Erie down in Michigan or outside of Chicago  
7 or somewhere. And -- and -- and -- and that's a lake system.  
8 And Iliamna Lake is no different -- is that those winds create  
9 huge effects of the water.

10 And I've flown -- I've flown from the village of Igiugig  
11 up to Pedro Bay, and there was a -- a wind coming off of  
12 the -- coming from the southeast. And so -- so the pilot had  
13 said that, let's -- let's go five miles off of that -- what  
14 they call Big Mountain. Big Mountain is an old Air Force base  
15 over there. It has an airport.

16 And so we took five miles off from the lake and went  
17 around there. And I had a briefcase sitting in back with my  
18 papers, because I was going up to the school to teach. And  
19 that -- that briefcase was slamming up on the ceiling and the  
20 floor and the side walls, because we hit such violent whether.  
21 And -- and that was just turbulence coming off of that  
22 mountain of -- of White Mountain. So there's -- those are  
23 winds, not only coming from the north, but when -- when it  
24 comes from southeast, as well.

25 And -- well, people from Iliamna and lake people, they

Pebble Mine Scoping Meeting Dillingham

1 could tell you all about the different kind of weather. And  
2 so that ice breaker that they have is not -- it's not  
3 foolproof, but it's not safe, totally safe, because it has a  
4 lot of elements that (indiscernible) to overcome.

5 The -- on other side -- on the other side of the  
6 peninsula, there -- where they're putting their port, of  
7 course, is -- is -- is part of what you call the Shelikof  
8 Strait, which is off of Kodiak. And -- and you will see,  
9 yearly, the -- the Shelikof Strait will have high winds coming  
10 through it all the time. Even on calm days, people that have  
11 traversed through there, have said that it's very -- very  
12 violent water. And -- and so -- so that gas pipeline and that  
13 ice breaker that they're proposing is -- is going to endure  
14 some really bad weather that they're going to have to deal  
15 with.

16 And not to mention the belugas that are on that side,  
17 which are endangered -- and an endangered species from Cook  
18 Inlet, because each of these belugas are -- are -- have --  
19 are -- have different pods. There's -- there's that pod over  
20 there. And, of course, on the -- on the Bristol Bay side, you  
21 have a pod that belongs to the Kvichak River. And then  
22 there's also another pod that belongs to the Nushagak River.

23 And the Nushagak and the Kvichak River pods are abundant,  
24 basically, because of the salmon. And -- and -- and over on  
25 the other side, they're -- they're -- they're endangered. No

Pebble Mine Scoping Meeting Dillingham

1 one can -- no one can hunt them. I -- I'm not too sure if I  
2 only can get one right now. But they used to get -- they used  
3 to get 30 or 40 and -- but we -- we still are able to get our  
4 beluga here.

5 And, then, of course, the seal -- you know, they done  
6 studies on the seal, the freshwater seal, and there's only two  
7 places in the world where you can get freshwater seal. One is  
8 in Russia and one is here in Iliamna Lake.

9 And they do have similarity in (indiscernible) to the  
10 seal down in the Kvichak River. There -- there's a bunch of  
11 seals there. I -- in fact, there's a bunch of seals all  
12 along -- along that coast and -- and -- and end up in Nushagak  
13 and Togiak. There's -- the seals that -- that migrate from up  
14 north come down and they move up. Willy Goodwin from  
15 Kotzebue, Alaska, who was doing the study on seals, tagged a  
16 seal that -- it was a female seal that swam all the way down  
17 to the Egegik River to mate, and then went back home, and so  
18 there -- the -- the seals migrate -- migrate throughout all  
19 the place.

20 But the final thing I want to say is that -- that I --  
21 like I say, I've been a fisherman. My kids fish. My -- my  
22 crew is my grandkids. I've -- I've put my daughters through  
23 school, through fishing. One of my daughters who graduated  
24 from Humboldt University graduated in top seven.

25 I have a daughter that just graduated from University of 67

1 Alaska, and is in the Fiji Islands right now as a Vista  
2 worker. And so salmon has been good to us. It will continue  
3 to be good to us.

4 Just like my -- my grandma who migrated from Nelson  
5 Island, which is up south of the Yukon River, came down here  
6 in 1924, and she told me -- she always told me that we were  
7 rich. She said we are rich, because the abundance of fish  
8 that we have and the abundance of food that we have, and the  
9 abundance of resources on the land.

10 And that's how I grew up thinking, that I was a rich --  
11 rich person because the land would always feed me. And  
12 that's -- that's the way it is to all of us. We are rich, but  
13 it can be taken away from us in no time. All of our  
14 freezers -- you come to my freezer and anybody's freezer,  
15 you'll find berries; you'll find moose; you'll find seal;  
16 you'll find whale; and you'll find all the plants in our  
17 freezer.

18 And -- but they can be emptied out overnight. It can be  
19 taken away from us and, in addition to the 20,000 other people  
20 that depend on this fishery. So I think this mine is the  
21 wrong time, wrong place.

22 I -- earlier, I mentioned that we sit on the Bristol  
23 Bay -- I sit on the Bristol Bay Native Association board of  
24 directors, and we did a two-year study in this area. And,  
25 basically, the people said, first thing we need to do is

Pebble Mine Scoping Meeting Dillingham

1 protect our resources, and -- and -- and we also said that,  
2 you know, we're pro development as long as it doesn't hurt the  
3 resources. And that's where -- that's, basically, where we  
4 stand today. That's pretty much all I got.

5 (Off record)

6 (End of Proceedings)

7 \* \* \* \* \*

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CERTIFICATE

UNITED STATES OF AMERICA            )  
  ) ss.  
STATE OF ALASKA                        )

I, Marci Lynch, Notary Public in and for the State of Alaska, residing at Fairbanks, Alaska, and Court Reporter for Marci Lynch & Associates, Inc., do hereby certify:

That the annexed and foregoing Pebble Mine Project Scoping Meeting Public Comments were taken before me on the 17th day of April, 2018, beginning at the hour of 4:50 p.m., at Dillingham, Alaska;

That these public comments, as heretofore annexed, are a true and correct transcription of the proceedings taken by me electronically and thereafter transcribed by me;

That I am not a relative or employee or attorney or counsel of any of the parties, nor am I financially interested in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this 27th day of April, 2018.

<b>A</b>	5:14;12:15;42:25; 45:13 <b>activities (2)</b> 6:2;42:19 <b>activity (8)</b> 6:19;13:22;14:3; 36:7;42:12,20;44:23; 45:10 <b>actually (9)</b> 14:10;24:16;27:7; 36:16;40:1,11;41:21; 46:23;49:21 <b>addition (2)</b> 27:10;68:19 <b>Additional (1)</b> 22:12 <b>Additionally (1)</b> 20:16 <b>address (1)</b> 42:5 <b>addressed (2)</b> 17:7;42:17 <b>admit (1)</b> 39:6 <b>adult (1)</b> 25:25 <b>adversely (1)</b> 11:14 <b>advocate (1)</b> 3:12 <b>affect (13)</b> 11:14;14:14;15:22; 26:19,19;27:5;28:11; 29:9;36:7;38:1;41:17; 56:25;63:21 <b>affected (4)</b> 7:2;9:11;17:20; 33:1 <b>afraid (1)</b> 37:15 <b>Africa (1)</b> 22:12 <b>aftermath (1)</b> 34:15 <b>afternoon (2)</b> 4:8;31:12 <b>again (4)</b> 24:20;28:17;33:14; 39:17 <b>against (7)</b> 4:10;8:15,21;16:16, 23;37:9;53:7 <b>age (2)</b> 23:3;58:4 <b>agencies (3)</b> 30:17;33:6,24 <b>agency (2)</b> 13:12;56:5 <b>ages (1)</b> 8:23 <b>ago (2)</b> 29:21;31:16 <b>aground (1)</b>	40:11 <b>ahead (1)</b> 5:14 <b>air (10)</b> 7:7;8:2;9:25;10:10; 14:16;32:18;62:17, 17;65:1,14 <b>airport (3)</b> 56:12,13;65:15 <b>akutaq (1)</b> 49:17 <b>Alaska (18)</b> 4:25;6:14;8:19; 9:15,21;10:13;13:7; 17:15;26:15;28:3,17; 31:22;36:15;42:4; 55:21;58:20;67:15; 68:1 <b>Alaskans (1)</b> 26:10 <b>Aleut (1)</b> 17:3 <b>Aleutian (1)</b> 64:8 <b>alike (1)</b> 8:5 <b>alive (1)</b> 5:9 <b>allow (3)</b> 10:9;27:24;50:4 <b>allowed (1)</b> 34:6 <b>alluded (1)</b> 37:2 <b>along (13)</b> 19:21;43:18;45:19; 46:11,25;49:25;51:3; 53:20;57:11,12;58:5; 67:12,12 <b>altered (1)</b> 9:21 <b>alternative (6)</b> 18:1;20:19,20; 22:19;23:16;25:13 <b>Alternatives (2)</b> 17:25,25 <b>always (11)</b> 6:15;26:22;30:13; 31:2,3;34:17;48:20; 57:24;64:7;68:6,11 <b>Amakedori (6)</b> 25:10;41:5,23;42:6, 9;43:17 <b>AMD (1)</b> 19:17 <b>America (3)</b> 21:3;30:14;61:19 <b>American (1)</b> 27:22 <b>Among (2)</b> 20:2;36:10 <b>amount (9)</b> 14:10;17:16;34:12;	38:2;41:8;43:17;44:1; 57:7;58:25 <b>amounts (2)</b> 14:1;36:20 <b>amps (1)</b> 26:6 <b>Anaktuvuk (2)</b> 52:11,13 <b>analysis (2)</b> 36:2;43:1 <b>analyzed (1)</b> 37:5 <b>ancestors (2)</b> 4:5;11:7 <b>Anchorage (3)</b> 31:17;38:21;45:6 <b>Anchorage/Kenai (2)</b> 39:2,5 <b>and/or (1)</b> 35:19 <b>Andes (1)</b> 60:25 <b>ANDREW (3)</b> 5:2,2,3 <b>A-n-d-r-e-w (1)</b> 5:3 <b>anecdotal (1)</b> 28:8 <b>animals (8)</b> 2:9;5:9;15:23; 18:11,11;28:10; 41:17;48:11 <b>annual (1)</b> 58:17 <b>ANS (2)</b> 17:15,18 <b>anymore (1)</b> 49:12 <b>apparently (1)</b> 37:25 <b>appears (1)</b> 41:25 <b>application (2)</b> 25:15,21 <b>applied (2)</b> 9:18;30:21 <b>appreciate (2)</b> 16:22,24 <b>Approval (1)</b> 34:24 <b>approve (1)</b> 27:14 <b>approved (1)</b> 15:1 <b>April (1)</b> 50:21 <b>aquifers (2)</b> 37:12;38:1 <b>area (50)</b> 6:2;11:20;12:5,14; 13:6,13,16;14:9,12; 15:2;17:9;18:2,21,24; 20:6;25:4;31:19;35:7,	20,24;36:10;38:23; 39:5;41:4,5,25;42:4,9, 12,14;43:8,11,15; 45:2,4,9;50:1,7;55:1; 57:9,25;58:7;59:10, 15;60:9;61:15;62:18; 63:18;64:4;68:24 <b>areas (8)</b> 13:21;17:11;29:11; 39:13;44:24,25;45:2; 50:6 <b>Army (4)</b> 12:22;13:2;16:12, 22 <b>around (10)</b> 18:7;21:2;28:11; 36:15;51:11;52:19; 57:9;59:12;64:10; 65:17 <b>aspect (1)</b> 28:11 <b>assessment (1)</b> 18:2 <b>associated (2)</b> 19:18;41:4 <b>Association (1)</b> 68:23 <b>assume (4)</b> 3:6;40:9,16;44:12 <b>assurance (1)</b> 12:22 <b>assure (1)</b> 41:12 <b>Atlantic (3)</b> 60:24;61:22;62:3 <b>attempted (1)</b> 36:15 <b>attended (1)</b> 24:3 <b>attention (1)</b> 14:25 <b>August (1)</b> 20:15 <b>Augustine (1)</b> 42:24 <b>Australia (1)</b> 22:12 <b>available (1)</b> 2:21 <b>avoid (2)</b> 41:7;43:23 <b>away (5)</b> 25:5;44:17,18; 68:13,19
			<b>B</b>	
			<b>back (19)</b> 2:11;20:25;31:17; 37:21;40:24;44:6; 46:1,6;47:4,16;51:20; 52:24;55:12;59:2; 61:17,17;63:2;65:17;	

67:17 <b>backyard (1)</b> 2:24 <b>bacteria (4)</b> 21:8,10,11,15 <b>bad (3)</b> 27:21;44:19;66:14 <b>bag (2)</b> 59:5,6 <b>banks (1)</b> 13:23 <b>baptize (1)</b> 57:19 <b>barge (2)</b> 39:18;40:5 <b>barges (1)</b> 39:18 <b>bark (2)</b> 48:25;49:1 <b>barren (2)</b> 19:8;43:16 <b>Barrow (1)</b> 64:10 <b>base (4)</b> 29:7;42:1;47:6; 65:14 <b>based (5)</b> 5:9;26:14,23;29:6; 31:14 <b>baseline (1)</b> 25:18 <b>basic (1)</b> 6:18 <b>basically (15)</b> 46:20;51:13;52:17; 54:3;55:5,24;58:7; 59:6,15;60:8,15;64:8; 66:24;68:25;69:3 <b>basis (1)</b> 58:17 <b>Bay (41)</b> 2:18;4:10,14,22,25; 6:2;7:8;11:4;13:4; 14:14,25;15:10; 16:13,17,23;17:3,21; 18:1,2,16,21;22:24; 24:15;28:10;29:1,2; 34:14;43:16,17,20,24; 44:6;45:19;60:14; 62:18;64:9,15;65:11; 66:20;68:23,23 <b>bays (4)</b> 12:7,8;13:18;14:2 <b>Bay's (1)</b> 29:18 <b>BBNA (2)</b> 56:6,7 <b>Beach (3)</b> 23:3,9;46:11 <b>beaches (1)</b> 43:18 <b>bear (1)</b> 2:16	<b>beautiful (1)</b> 32:5 <b>beaver (1)</b> 48:21 <b>beavers (2)</b> 41:13;48:20 <b>become (3)</b> 14:19;33:14;39:25 <b>becomes (1)</b> 48:25 <b>beds (1)</b> 34:21 <b>beg (1)</b> 3:15 <b>begin (1)</b> 31:6 <b>beginning (2)</b> 2:14;31:4 <b>behalf (1)</b> 7:13 <b>behind (1)</b> 48:17 <b>belong (1)</b> 58:13 <b>belongs (2)</b> 66:21,22 <b>below (2)</b> 47:23;64:15 <b>beluga (3)</b> 25:10;47:19;67:4 <b>belugas (3)</b> 18:13;66:16,18 <b>beneficial (1)</b> 21:4 <b>benefit (1)</b> 56:16 <b>benes (1)</b> 53:10 <b>berries (10)</b> 4:1;14:18;16:15; 25:8;28:10;48:9;50:7, 13;63:19;68:15 <b>berry (1)</b> 50:4 <b>BERTHA (3)</b> 7:3,3,5 <b>B-e-r-t-h-a (1)</b> 7:3 <b>Besides (2)</b> 5:14;16:1 <b>best (4)</b> 6:7;7:21;26:17; 34:15 <b>better (6)</b> 5:20;41:23,25;42:1, 2;44:10 <b>Betty (1)</b> 5:22 <b>beyond (2)</b> 29:9;44:20 <b>biased (3)</b> 56:4,4,22 <b>big (14)</b>	15:14;25:11;33:7; 38:16;39:12;40:2,12, 12;42:23;45:7;49:20; 50:23;65:14,14 <b>bigger (1)</b> 32:25 <b>biggest (3)</b> 24:22;32:25;45:12 <b>bill (1)</b> 6:18 <b>biologic (1)</b> 19:7 <b>biologist (1)</b> 35:6 <b>biologists (1)</b> 11:10 <b>bio-mining (11)</b> 20:21,21;21:5,7,17; 22:1,5,7,13,16,18 <b>bio-remediation (1)</b> 21:9 <b>birch (4)</b> 48:22,22,25;49:1 <b>birds (6)</b> 18:11,14;28:10; 38:17;40:7;48:10 <b>bit (3)</b> 27:18;39:17;40:2 <b>blackberries (2)</b> 48:14;50:4 <b>blackberry (1)</b> 50:12 <b>blades (2)</b> 63:11,12 <b>bless (2)</b> 57:13,18 <b>blessed (1)</b> 49:23 <b>blew (2)</b> 40:12;63:11 <b>blink (1)</b> 3:8 <b>blocks (3)</b> 46:14,15,18 <b>bloom (1)</b> 49:8 <b>blow (1)</b> 64:4 <b>blown (1)</b> 63:25 <b>blue (1)</b> 33:13 <b>blueberry (1)</b> 50:12 <b>board (4)</b> 22:24;56:6,7;68:23 <b>boat (4)</b> 40:11,16,17,19 <b>boatmen (1)</b> 43:8 <b>bodies (1)</b> 14:18 <b>body (1)</b>	61:4 <b>boggling (1)</b> 25:22 <b>boil (1)</b> 49:18 <b>bond (2)</b> 14:1;27:23 <b>books (1)</b> 56:3 <b>border (1)</b> 53:14 <b>born (7)</b> 7:5;15:6,10;16:20; 28:2,3;32:15 <b>borough (4)</b> 23:18,19,20;24:1 <b>Boston (1)</b> 64:11 <b>both (7)</b> 15:11,14,17,22; 26:2;32:12;61:11 <b>bottle (1)</b> 57:15 <b>bottles (1)</b> 14:20 <b>bottom (3)</b> 5:17;41:1;43:2 <b>bought (1)</b> 59:5 <b>boulders (2)</b> 63:24;64:2 <b>bountiful (1)</b> 32:1 <b>bounty (1)</b> 6:7 <b>bowpicker (1)</b> 28:13 <b>Brazil (1)</b> 22:12 <b>breach (1)</b> 4:15 <b>break (1)</b> 61:8 <b>breaker (3)</b> 65:3;66:2,13 <b>breed (1)</b> 59:23 <b>bridges (1)</b> 41:11 <b>briefcase (2)</b> 65:17,19 <b>bring (3)</b> 20:25;26:5;61:13 <b>brings (3)</b> 8:3;30:9;55:15 <b>Bristol (34)</b> 2:18;4:10,14,22,25; 6:2;7:8;13:4;14:14, 25;15:10;16:13,17, 23;17:3,21;18:1,2,16, 21;22:24;24:15; 28:10,25;29:2,18; 34:14;45:19;60:14;	64:9,15;66:20;68:22, 23 <b>British (4)</b> 60:4,5,5;61:16 <b>broke (1)</b> 60:10 <b>brook (1)</b> 32:23 <b>brought (3)</b> 5:25;55:11,12 <b>brown (2)</b> 2:16;33:13 <b>build (6)</b> 15:13;40:20;45:16; 56:1;60:20;65:2 <b>building (1)</b> 45:9 <b>built (6)</b> 12:3;15:18;30:11; 40:16;60:8,18 <b>bulls-eye (1)</b> 34:8 <b>bunch (3)</b> 39:9;67:10,11 <b>burst (1)</b> 61:7 <b>bush (2)</b> 50:8,8 <b>business (2)</b> 33:9;55:23 <b>businesses (1)</b> 33:7 <b>busting (1)</b> 40:5 <b>Butte (1)</b> 38:16 <b>butter (1)</b> 46:18 <b>buying (1)</b> 16:10 <b>byproducts (1)</b> 22:6
<b>C</b>				
				<b>call (11)</b> 28:15;41:3,5;49:16; 50:9;54:23;57:2; 58:25;59:13;65:14; 66:7 <b>called (5)</b> 3:21;18:24;24:12; 45:20,21 <b>calm (1)</b> 66:10 <b>came (11)</b> 4:18;24:19;31:21; 46:14;51:17;53:6; 54:19;56:5;58:2; 64:13;68:5 <b>camp (2)</b> 46:11,13 <b>camped (1)</b>



23:5 <b>can (58)</b> 2:23;3:4,8,25;4:2,4; 5:12;8:10;12:4,24; 16:23;19:9,11,12,15, 21;20:13,16;21:3,9, 10,11,14,15,25;22:7; 25:14,21;27:4,23; 30:11;33:24;34:3,15; 37:15;38:6,24;40:15, 25;41:14;42:15; 43:16,16,23;45:15; 49:2;56:14;58:18; 60:20,20;63:25;67:1, 1,2,7;68:13,18,18 <b>can't (3)</b> 25:13;49:15;62:4 <b>Canada (1)</b> 27:21 <b>Canadian (2)</b> 27:19,19 <b>cancelled (1)</b> 64:22 <b>candidate (1)</b> 58:18 <b>cannery (2)</b> 58:17,19 <b>cape (1)</b> 47:22 <b>capped (1)</b> 33:4 <b>care (4)</b> 3:10;7:23;10:6; 49:4 <b>career (1)</b> 28:14 <b>carefully (1)</b> 13:3 <b>caribou (21)</b> 4:1;15:9,15;16:15; 48:17,21;51:24;52:7, 8,9,12,12,14,15,16,18, 21,24;53:1;62:10,13 <b>carry (2)</b> 8:8;40:19 <b>CARSCALLEN (3)</b> 27:25;28:1,3 <b>C-a-r-s-c-a-l-l-e-n (1)</b> 28:1 <b>cash (3)</b> 6:17;31:24;33:8 <b>catastrophic (1)</b> 34:23 <b>catch (6)</b> 47:10,12,13;48:18, 18,21 <b>catching (1)</b> 56:11 <b>category (3)</b> 39:16;41:2;42:7 <b>caught (3)</b> 46:8,8;48:20 <b>cause (3)</b>	11:12;12:24;19:24 <b>causes (1)</b> 38:5 <b>causing (1)</b> 39:24 <b>ceiling (1)</b> 65:19 <b>cell (2)</b> 20:25;21:13 <b>cells (2)</b> 3:3,7 <b>center (1)</b> 34:8 <b>centuries (1)</b> 29:20 <b>cetera (1)</b> 6:18 <b>chain (2)</b> 2:16;64:8 <b>challenge (2)</b> 11:21;38:14 <b>chance (1)</b> 26:21 <b>change (6)</b> 3:8;30:6;36:18; 38:10;52:15;56:15 <b>changed (4)</b> 33:18;45:23;53:2; 55:13 <b>changing (2)</b> 19:14;29:1 <b>CHANICE (2)</b> 3:17,17 <b>C-h-a-n-i-c-e (1)</b> 3:18 <b>charged (1)</b> 33:25 <b>chased (1)</b> 47:19 <b>cheap (1)</b> 22:7 <b>checks (1)</b> 26:25 <b>cheese (2)</b> 46:15,17 <b>chemical (1)</b> 21:14 <b>chemical-free (1)</b> 10:5 <b>chemicals (3)</b> 10:11;21:7;22:4 <b>chemistry (1)</b> 11:15 <b>Chicago (1)</b> 65:6 <b>chief (1)</b> 22:23 <b>child (2)</b> 2:12;32:8 <b>children (10)</b> 3:13,14;5:4,23; 6:24;8:9;11:1;16:7,9, 21	<b>Chile (6)</b> 22:14,15;60:18,23; 61:8,17 <b>China (1)</b> 58:14 <b>choice (1)</b> 30:4 <b>chosen (1)</b> 32:5 <b>Christopher (2)</b> 18:18,18 <b>C-h-r-i-s-t-o-p-h-e-r (1)</b> 18:19 <b>chums (1)</b> 6:12 <b>claim (1)</b> 34:8 <b>claims (4)</b> 33:25;34:9;60:17, 17 <b>CLARK (3)</b> 10:22,22,25 <b>C-l-a-r-k (1)</b> 10:23 <b>Clark's (1)</b> 10:25 <b>Clark's (3)</b> 15:6,7;47:23 <b>class (1)</b> 18:8 <b>clean (13)</b> 5:3,6,7,10;7:1,8,1, 2;21:12,15;27:22; 29:6;33:10;41:16 <b>Cleanup (1)</b> 34:15 <b>clear (3)</b> 33:14;44:12;50:25 <b>Clinton (1)</b> 58:19 <b>clocked (1)</b> 63:17 <b>close (3)</b> 5:15;42:24;54:12 <b>closed (2)</b> 32:14;47:5 <b>closer (1)</b> 59:20 <b>closing (1)</b> 14:24 <b>coast (2)</b> 4:14;67:12 <b>coastline (1)</b> 30:4 <b>cobalt (1)</b> 22:17 <b>coincidence (2)</b> 29:25;62:14 <b>cold (3)</b> 8:2;12:12;48:1 <b>collapsed (1)</b> 51:13 <b>collided (1)</b>	60:25 <b>colliding (1)</b> 64:18 <b>collision (1)</b> 61:23 <b>color (1)</b> 50:10 <b>Columbia (4)</b> 60:4,5,5;61:16 <b>coming (17)</b> 13:5;48:5;51:9; 52:19;54:7,8,9,10; 57:1,7;63:13;64:17; 65:11,12,21,23;66:9 <b>comment (3)</b> 18:6;23:12;28:21 <b>commented (1)</b> 22:25 <b>commenting (1)</b> 18:4 <b>comments (2)</b> 23:1;45:14 <b>commercial (12)</b> 4:12;7:12;11:2; 14:2;15:7;28:4;31:14, 24;42:11,13;43:8; 46:13 <b>commercially (5)</b> 15:11;26:3;31:22; 47:4,12 <b>common (1)</b> 21:19 <b>communities (7)</b> 7:15;9:21;14:4; 20:1;21:18;23:2; 24:10 <b>community (8)</b> 8:24;10:13;23:25; 24:3,6,15;26:2,4 <b>companies (3)</b> 27:20;30:17;56:1 <b>company (5)</b> 20:2;28:16;31:1; 55:22;62:12 <b>compared (3)</b> 2:22;19:1;21:6 <b>compete (1)</b> 31:6 <b>competing (1)</b> 39:13 <b>complete (2)</b> 25:14,21 <b>completely (1)</b> 19:8 <b>complex (1)</b> 29:1 <b>complied (1)</b> 9:22 <b>compounds (3)</b> 20:24;21:11,12 <b>concentrated (1)</b> 38:18 <b>concept (1)</b>	21:9 <b>concern (10)</b> 13:5,25;14:13; 19:18;23:13;24:22; 25:11;35:12;36:3; 41:18 <b>concerned (11)</b> 24:13;25:8,9;26:10, 16;36:7;40:22;41:6; 42:12;44:21,23 <b>concerns (8)</b> 4:18;17:7;20:8; 25:6;28:7,19;35:12; 39:22 <b>conclusion (1)</b> 22:3 <b>conditions (2)</b> 22:1;37:19 <b>conducted (1)</b> 22:1 <b>consequence (1)</b> 11:16 <b>consequences (1)</b> 14:13 <b>consider (6)</b> 5:12;20:5;23:16; 25:12;28:25;29:17 <b>considered (2)</b> 20:16;21:21 <b>considering (2)</b> 36:5;44:3 <b>constantly (1)</b> 19:13 <b>constructed (1)</b> 20:12 <b>construction (2)</b> 29:3;41:6 <b>consumables (1)</b> 14:21 <b>consumer (2)</b> 29:6,7 <b>consumers (1)</b> 26:13 <b>contain (2)</b> 20:9;59:7 <b>containers (1)</b> 44:9 <b>containment (2)</b> 27:10;39:10 <b>contaminants (3)</b> 12:25;13:9,17 <b>contaminated (2)</b> 14:19;21:10 <b>content (1)</b> 54:25 <b>context (1)</b> 40:4 <b>continental (1)</b> 55:6 <b>continent's (1)</b> 62:2 <b>contingencies (1)</b> 44:15
--	---	---	---	---

<p><b>continue (10)</b> 7:14,17,19;8:7,8; 11:5;15:3;31:5;58:23; 68:2</p> <p><b>continues (1)</b> 6:9</p> <p><b>continuing (1)</b> 8:13</p> <p><b>contrast (1)</b> 22:5</p> <p><b>control (1)</b> 37:19</p> <p><b>controlled (1)</b> 22:1</p> <p><b>convert (1)</b> 33:7</p> <p><b>convince (2)</b> 56:14;62:4</p> <p><b>Cook (7)</b> 18:13;25:11,20; 38:23;45:13;46:17; 66:17</p> <p><b>cool (1)</b> 32:19</p> <p><b>COOPCHIAK (2)</b> 4:7,9</p> <p><b>C-o-o-p-c-h-i-a-k (1)</b> 4:8</p> <p><b>Coophiak (1)</b> 4:7</p> <p><b>coordinate (1)</b> 21:1</p> <p><b>copper (6)</b> 20:17;22:17;31:8; 32:8;54:15;55:10</p> <p><b>copper-rich (1)</b> 22:15</p> <p><b>cork (1)</b> 46:11</p> <p><b>corners (1)</b> 2:19</p> <p><b>Corporation (2)</b> 22:24;33:19</p> <p><b>Corps (12)</b> 12:22;13:2;14:24; 16:12,22;23:16;24:7, 16,21;25:12,14,21</p> <p><b>corridor (4)</b> 17:13;25:16;41:3,4</p> <p><b>costs (1)</b> 19:4</p> <p><b>counted (2)</b> 14:9;24:18</p> <p><b>countries (2)</b> 22:11,13</p> <p><b>country (3)</b> 2:22;26:5;27:21</p> <p><b>course (14)</b> 12:1;32:12;48:4,15; 49:14;50:14,14;53:4; 54:9;55:11;62:12; 66:7,20;67:5</p> <p><b>courses (2)</b> 62:19,20</p>	<p><b>Court (3)</b> 29:15;35:4,9</p> <p><b>courts (1)</b> 26:25</p> <p><b>cover (3)</b> 27:23;34:18;39:24</p> <p><b>covered (1)</b> 45:3</p> <p><b>covering (2)</b> 34:9,10</p> <p><b>co-workers (1)</b> 32:4</p> <p><b>crackers (1)</b> 46:19</p> <p><b>cranberries (2)</b> 48:14;50:8</p> <p><b>cranberry (3)</b> 48:9,11;50:8</p> <p><b>crash (1)</b> 51:20</p> <p><b>crazy (1)</b> 44:2</p> <p><b>create (4)</b> 13:21;21:13;24:24; 65:8</p> <p><b>created (6)</b> 20:9;21:23;60:25; 61:19;62:15;65:2</p> <p><b>creating (5)</b> 8:16;11:24;20:2,21; 30:21</p> <p><b>creations (1)</b> 27:12</p> <p><b>credited (1)</b> 29:18</p> <p><b>creek (9)</b> 32:21;45:21;47:9; 51:4;52:3;53:14,18; 54:7;62:9</p> <p><b>creeks (1)</b> 44:6</p> <p><b>crew (1)</b> 67:22</p> <p><b>critical (2)</b> 25:10;51:3</p> <p><b>criticized (1)</b> 33:7</p> <p><b>crossings (1)</b> 41:10</p> <p><b>crucial (1)</b> 49:18</p> <p><b>cultural (5)</b> 9:20;11:6,19;17:8, 12</p> <p><b>culturally (1)</b> 42:14</p> <p><b>culture (3)</b> 5:8;9:16;13:22</p> <p><b>culverts (3)</b> 41:11,14,14</p> <p><b>curious (2)</b> 40:17;54:14</p>	<p><b>curled (1)</b> 49:10</p> <p><b>current (1)</b> 21:17</p> <p><b>currently (1)</b> 34:3</p> <p><b>Curyung (1)</b> 22:23</p> <p><b>Customers (1)</b> 26:15</p> <p><b>cut (2)</b> 33:9;48:4</p> <p><b>cyanide (1)</b> 20:7</p>	<p>2:4</p> <p><b>Deepwater (1)</b> 29:8</p> <p><b>defeated (1)</b> 36:16</p> <p><b>defend (1)</b> 16:13</p> <p><b>define (1)</b> 26:10</p> <p><b>definitely (4)</b> 7:11;9:1,3;10:1</p> <p><b>degree (4)</b> 41:8;50:17;51:2; 59:19</p> <p><b>deleterious (1)</b> 27:6</p> <p><b>Dena'ina (1)</b> 17:3</p> <p><b>Department (1)</b> 55:21</p> <p><b>depend (13)</b> 4:15,16,20,21;5:5,7, 8;15:23;16:14;20:4; 32:4;46:23;68:20</p> <p><b>depended (1)</b> 47:24</p> <p><b>depends (1)</b> 6:20</p> <p><b>depth (1)</b> 44:24</p> <p><b>design (1)</b> 40:17</p> <p><b>Despite (2)</b> 7:1;8:22</p> <p><b>destination (1)</b> 42:22</p> <p><b>destroy (6)</b> 9:1;10:1,12,17; 11:25;41:14</p> <p><b>destroyed (4)</b> 10:17;19:4;51:12; 52:22</p> <p><b>destroys (2)</b> 26:17;50:5</p> <p><b>destructive (1)</b> 8:18</p> <p><b>deteriorate (1)</b> 13:20</p> <p><b>devastate (1)</b> 30:20</p> <p><b>devastating (4)</b> 3:8;11:17,23;17:20</p> <p><b>devastation (1)</b> 18:15</p> <p><b>develop (2)</b> 27:11;36:23</p> <p><b>developing (1)</b> 27:20</p> <p><b>development (11)</b> 10:1,3,15;12:4,9; 16:18,18,24;22:10; 26:12;69:2</p> <p><b>developments (3)</b> 8:15,17,18</p>	<p><b>dewater (2)</b> 24:25;36:18</p> <p><b>dewatering (2)</b> 24:25;25:7</p> <p><b>dictionary (1)</b> 50:11</p> <p><b>didn't (6)</b> 26:20;46:16;51:19; 52:6;55:3;61:7</p> <p><b>die (1)</b> 38:17</p> <p><b>diesel (1)</b> 39:15</p> <p><b>diet (1)</b> 14:3</p> <p><b>difference (4)</b> 50:16,18,23;51:2</p> <p><b>different (9)</b> 2:8;6:15;20:24; 23:1;61:5,11;65:8; 66:1,19</p> <p><b>differently (1)</b> 24:14</p> <p><b>difficult (1)</b> 43:16</p> <p><b>dig (1)</b> 19:8</p> <p><b>Dillingham (18)</b> 7:7;17:2;22:23; 23:17;24:5,8,14,20; 25:25;28:3;31:13,15, 17,23;35:5;38:4; 49:22;51:1</p> <p><b>diminish (1)</b> 33:10</p> <p><b>direct (3)</b> 29:2,3,12</p> <p><b>direction (1)</b> 38:10</p> <p><b>directions (1)</b> 43:14</p> <p><b>directly (1)</b> 26:19</p> <p><b>directors (2)</b> 56:7;68:24</p> <p><b>dirt (1)</b> 59:8</p> <p><b>disappeared (2)</b> 62:13,14</p> <p><b>disaster (3)</b> 13:10;17:21;20:15</p> <p><b>disastrous (1)</b> 47:25</p> <p><b>discharge (1)</b> 12:20</p> <p><b>discovered (1)</b> 54:16</p> <p><b>discovery (1)</b> 54:23</p> <p><b>discussed (1)</b> 37:5</p> <p><b>discussion (3)</b></p>
		<b>D</b>		
		<p><b>dad (1)</b> 48:4</p> <p><b>dam (7)</b> 4:15;53:13;60:8,11, 19;61:6;62:5</p> <p><b>damage (7)</b> 12:24;19:24;27:7,8, 23;34:3,25</p> <p><b>damaging (2)</b> 10:9;11:11</p> <p><b>dams (3)</b> 12:18;53:12;60:20</p> <p><b>DAN (3)</b> 35:3,3,11</p> <p><b>dangerous (1)</b> 19:20</p> <p><b>daughter (3)</b> 5:21;26:1;67:25</p> <p><b>daughters (3)</b> 3:23;67:22,23</p> <p><b>day (4)</b> 23:5;38:17;49:6; 58:3</p> <p><b>days (4)</b> 31:16;40:12,13; 66:10</p> <p><b>DC (2)</b> 15:1;59:2</p> <p><b>dead (2)</b> 32:21,24</p> <p><b>deadly (1)</b> 12:4</p> <p><b>deal (1)</b> 66:14</p> <p><b>decade (6)</b> 18:4;22:17;28:16; 32:14;52:21,25</p> <p><b>decades (3)</b> 19:10;27:17;29:5</p> <p><b>December (1)</b> 25:14</p> <p><b>decision (1)</b> 30:6</p> <p><b>declare (1)</b> 48:3</p> <p><b>deeply (1)</b></p>		

<p>35:21;36:24;37:4  <b>dismissed (1)</b>                  28:7  <b>disrupt (1)</b>                  40:6  <b>disruptive (1)</b>                  27:12  <b>dissolved (1)</b>                  20:17  <b>dissolves (1)</b>                  19:19  <b>distance (1)</b>                  7:1  <b>district (2)</b>                  34:8,19  <b>diverse (1)</b>                  29:18  <b>DNR (2)</b>                  55:24;56:5  <b>documentation (1)</b>                  18:3  <b>doesn't (1)</b>                  69:2  <b>dog (2)</b>                  50:15,21  <b>dogs (1)</b>                  6:13  <b>dollar (1)</b>                  33:19  <b>dollars (1)</b>                  14:1  <b>don't (12)</b>                  20:13;27:13;36:11;                  38:1;40:3;42:3;43:4;                  50:4,10;53:17;57:8;                  58:4  <b>done (8)</b>                  17:10,12,14;20:18;                  27:8;43:11;44:23;                  67:5  <b>Donlin (1)</b>                  39:15  <b>down (39)</b>                  20:1;23:3,6;24:11;                  25:3;29:15;30:3;                  31:19;34:21;40:23;                  41:1;46:11;47:5,22;                  48:3,4;51:5;53:18;                  54:21;55:8;58:11,19;                  59:5;60:18,19,23,23;                  61:8,10;64:1,1,10,13;                  65:6,6;67:10,14,16;                  68:5  <b>downdraft (1)</b>                  55:8  <b>downstream (1)</b>                  32:22  <b>drain (1)</b>                  36:20  <b>drainage (4)</b>                  12:24;19:17;20:3;                  21:24  <b>drainages (6)</b></p>	<p>29:24;34:9,10;                  36:10;37:4,14  <b>drained (1)</b>                  61:24  <b>drastic (1)</b>                  9:16  <b>draw (1)</b>                  38:2  <b>drawing (1)</b>                  38:8  <b>dredge (2)</b>                  44:4,5  <b>dredging (4)</b>                  42:20;44:1,2,2  <b>driftwood (1)</b>                  43:17  <b>drilling (1)</b>                  10:11  <b>drink (2)</b>                  15:24;16:10  <b>drinking (2)</b>                  12:6;14:20  <b>driver (1)</b>                  26:9  <b>drop (1)</b>                  40:25  <b>dropped (3)</b>                  29:10;53:23;54:3  <b>dry (2)</b>                  38:5;61:13  <b>ducks (2)</b>                  15:9;50:21  <b>due (5)</b>                  9:17;39:23;47:5;                  64:22,22  <b>dug (1)</b>                  57:9  <b>Dunaway (3)</b>                  35:3,3,11  <b>D-u-n-a-w-a-y (1)</b>                  35:5  <b>during (9)</b>                  7:11;19:5;49:5,5;                  62:6,6,25,25,25  <b>dust (4)</b>                  34:19,21;63:20,21  <b>dwindling (1)</b>                  38:22  <b>dye (2)</b>                  53:23;54:3</p>	<p><b>earthen (1)</b>                  20:12  <b>earthquake (10)</b>                  12:14;43:4;45:7,8,                  10,12;60:14,20;61:3;                  62:5  <b>earthquakes (3)</b>                  20:12;60:13,21  <b>east (4)</b>                  43:14;54:23,24;                  64:7  <b>easy (1)</b>                  2:25  <b>eat (9)</b>                  33:15;46:17;48:25;                  49:2,2,9,11,17;63:19  <b>eaten (1)</b>                  51:15  <b>eating (2)</b>                  26:20;51:19  <b>economic (4)</b>                  26:9;27:8;28:25;                  29:4  <b>economically (1)</b>                  30:25  <b>economy (2)</b>                  19:3;33:16  <b>ecosystem (8)</b>                  2:15,15;3:2;4:17;                  19:9;32:1;37:21;                  50:19  <b>educators (1)</b>                  7:21  <b>effect (7)</b>                  11:17;15:14;26:11,                  21;27:2,6;61:4  <b>effectively (1)</b>                  22:7  <b>effects (7)</b>                  11:11,12;20:17;                  36:5;42:18;62:7;65:9  <b>efficient (1)</b>                  19:2  <b>effort (1)</b>                  35:15  <b>Egegik (1)</b>                  67:17  <b>eiders (3)</b>                  4:16,19,25  <b>eight (1)</b>                  19:24  <b>EIS (6)</b>                  17:7;23:17;25:13;                  28:18;35:13,15  <b>either (2)</b>                  3:1;64:9  <b>Ekuk (1)</b>                  47:23  <b>elder (4)</b>                  7:17;8:6,12;57:23  <b>elders (4)</b>                  6:4;8:6,12,15  <b>elders' (1)</b></p>	<p>7:17  <b>electricity (2)</b>                  6:18;38:25  <b>electrons (1)</b>                  21:1  <b>elements (3)</b>                  12:12;21:16;66:4  <b>eliminates (1)</b>                  19:6  <b>Elizabeth (2)</b>                  32:14;33:2  <b>emergency (1)</b>                  48:3  <b>employed (1)</b>                  6:16  <b>emptied (1)</b>                  68:18  <b>EMS (1)</b>                  32:3  <b>EMT (2)</b>                  31:14;32:2  <b>encompassed (1)</b>                  23:18  <b>end (14)</b>                  4:3;16:9;28:14;                  31:4;34:24;38:6;                  51:18;55:16,17;                  56:11;58:6,6;67:12;                  69:6  <b>endangered (4)</b>                  26:21;66:17,17,25  <b>ended (2)</b>                  30:15;52:19  <b>endlessly (2)</b>                  3:11;33:6  <b>ends (2)</b>                  2:20;7:23  <b>endure (1)</b>                  66:13  <b>energy (4)</b>                  21:13,16;22:4,5  <b>engineered (1)</b>                  45:11  <b>engineering (1)</b>                  44:22  <b>engineers (6)</b>                  11:10;12:23;13:3;                  14:24;16:12,22  <b>enormously (1)</b>                  51:16  <b>enough (3)</b>                  27:23;39:8;40:2  <b>ensure (2)</b>                  20:11,13  <b>ensuring (1)</b>                  21:25  <b>entertain (1)</b>                  38:25  <b>entire (5)</b>                  2:6,15;10:19;24:6;                  25:25  <b>entity (1)</b>                  27:18</p>	<p><b>environment (10)</b>                  5:9;14:17;18:23;                  19:4;20:25;21:12,19,                  20;30;12,22  <b>environmental (5)</b>                  13:11;14:6;19:3,17;                  21:22  <b>environmentally-damaging (2)</b>                  20:20;22:18  <b>environmentally-friendly (1)</b>                  21:5  <b>environments (1)</b>                  21:10  <b>EPA (5)</b>                  14:25;16:12,22;                  18:1,5  <b>Erie (1)</b>                  65:6  <b>erode (1)</b>                  29:7  <b>erosion (1)</b>                  19:14  <b>Eskimos (1)</b>                  47:16  <b>especially (3)</b>                  16:2;36:6;39:15  <b>established (1)</b>                  22:11  <b>et (1)</b>                  6:18  <b>evaluate (1)</b>                  43:25  <b>evaluated (1)</b>                  45:3  <b>even (32)</b>                  2:12,22;3:15;4:18;                  9:8,12;14:21;16:18;                  19:12;22:8;25:5,18;                  26:18;27:6;33:14;                  34:2,22;36:19;37:12,                  21;38:24;46:16;                  50:22;52:11;57:8,22,                  22;58:3,3,18,19;66:10  <b>evening (1)</b>                  5:20  <b>event (1)</b>                  13:23  <b>eventuality (1)</b>                  37:6  <b>eventually (2)</b>                  26:25;60:10  <b>everybody (3)</b>                  24:4,10;60:14  <b>everybody's (2)</b>                  57:16,16  <b>everyone (2)</b>                  58:9,18  <b>everywhere (1)</b>                  54:4  <b>evidence (1)</b>                  3:5  <b>ex (1)</b>                  36:9</p>
<b>E</b>				
<p><b>earlier (3)</b>                  59:18;63:18;68:22  <b>earliest (2)</b>                  2:12;23:10  <b>early (6)</b>                  38:20;39:21;47:4;                  48:11;49:5;50:21  <b>earth (6)</b>                  2:19;3:6,9,15;16:5;                  55:6</p>				

<b>example (2)</b> 19:23;21:4	<b>eye (1)</b> 3:9	17:22;50:5;59:17	53:4,5,5,6,13,24;62:8, 11;63:7,23;68:25	<b>flowers (1)</b> 63:19
<b>excellent (1)</b> 31:16	<b>F</b>	12:19;40:25	<b>fish (52)</b> 2:8,13,14;4:1,13; 5:5,7,8;6:20;11:2; 12:4,5;14:8,10;16:1, 14,19;17:16;20:18; 26:13,13,19,21,22,22; 27:15;28:12;31:22, 25;33:14;35:1,24; 37:20;40:6;41:12; 42:19;46:9,20,23; 47:6,6,18,18;50:2; 51:7,9,10,10,17,19; 67:21;68:7	<b>flowing (4)</b> 31:18;36:25;37:9, 11
<b>excuse (1)</b> 59:1	<b>faced (1)</b> 64:24	<b>fellow (1)</b> 7:13	<b>fished (5)</b> 11:4;26:14;46:5,5,5	<b>flown (2)</b> 65:10,10
<b>exhausted (1)</b> 22:15	<b>facilities (3)</b> 42:6,19;43:19	<b>female (1)</b> 67:16	<b>fisher (2)</b> 11:5,5	<b>flows (9)</b> 23:23,24,24;25:4; 36:14,20;38:9;41:7; 51:5
<b>exhaustive (1)</b> 42:25	<b>facility (7)</b> 20:10,21;23:21,22; 42:23;43:3;44:13	<b>ferns (2)</b> 49:8,9	<b>fisheries (4)</b> 30:1;35:6;42:11,18	<b>fly (1)</b> 54:6
<b>exist (2)</b> 7:16;8:11	<b>facing (2)</b> 33:18;65:4	<b>ferocious (2)</b> 40:11;42:5	<b>fisherman (10)</b> 4:12;11:18;26:1; 29:9;31:14;42:13; 46:2,3,3;67:21	<b>flying (1)</b> 59:2
<b>existence (1)</b> 31:7	<b>fact (10)</b> 26:15;47:5;53:12; 61:8,11;62:1,8;64:22, 23;67:11	<b>few (5)</b> 2:21;22:5;31:16; 37:24;52:24	<b>fishermen (2)</b> 43:8;46:8	<b>focus (1)</b> 36:2
<b>existing (2)</b> 29:13;37:4	<b>fact-based (2)</b> 28:6;38:15	<b>fickle (2)</b> 26:13,13	<b>fishery (6)</b> 4:23;7:10;16:19; 28:25;51:12;68:20	<b>focusing (1)</b> 39:17
<b>exists (2)</b> 20:6;37:3	<b>fail (3)</b> 3:4,4;20:16	<b>fifth (1)</b> 41:2	<b>fishes (2)</b> 26:1,2	<b>folks (2)</b> 42:14;53:20
<b>expand (3)</b> 29:5;34:11;44:20	<b>fair (1)</b> 41:22	<b>fight (4)</b> 5:3;16:15,15,23	<b>fit (1)</b> 12:3	<b>follow (2)</b> 64:7,8
<b>expanded (1)</b> 35:17	<b>fall (3)</b> 2:7;4:21;6:10	<b>fighting (2)</b> 3:19;13:7	<b>flaming (1)</b> 33:14	<b>follows (1)</b> 52:10
<b>expansion (2)</b> 33:9;36:1	<b>fallout (2)</b> 54:17,19	<b>figure (1)</b> 22:18	<b>films (1)</b> 47:15	<b>folly (1)</b> 51:21
<b>expect (2)</b> 40:19;42:25	<b>families (6)</b> 7:24,24;8:5,5;9:24; 10:7	<b>Fiji (1)</b> 68:1	<b>filling (3)</b> 31:25;32:16;37:7	<b>food (15)</b> 2:16;3:25;5:8;8:1, 3;10:7;15:9;17:6; 31:8;42:16;48:1;50:3, 3;51:23;68:8
<b>expense (4)</b> 33:5,5;34:16;45:2	<b>family (13)</b> 2:4;4:13,13;6:16, 20,24;11:4,7;28:4,15; 31:23,24;32:3	<b>fill (1)</b> 2:23	<b>film (3)</b> 36:4;37:2;44:8	<b>foods (2)</b> 10:18;47:24
<b>expensive (3)</b> 14:21;44:2,3	<b>far (8)</b> 14:21;29:9;30:1; 35:22;36:9;43:24; 45:14;58:4	<b>filling (3)</b> 31:25;32:16;37:7	<b>filming (1)</b> 52:18	<b>foolishly (1)</b> 45:9
<b>experience (2)</b> 42:10;43:9	<b>far-reaching (1)</b> 35:23	<b>films (1)</b> 47:15	<b>filtration (1)</b> 36:16	<b>foolproof (2)</b> 60:11;66:3
<b>exploit (1)</b> 22:8	<b>farthest (1)</b> 9:12	<b>filtration (1)</b> 36:16	<b>final (2)</b> 28:23;67:20	<b>forbid (1)</b> 53:16
<b>exploration (2)</b> 31:19;53:3	<b>fast (2)</b> 31:18;39:25	<b>final (2)</b> 28:23;67:20	<b>finally (3)</b> 31:2;33:3;52:24	<b>Force (1)</b> 65:14
<b>exploratory (2)</b> 52:22;62:6	<b>fathom (1)</b> 14:22	<b>finally (3)</b> 31:2;33:3;52:24	<b>financially (1)</b> 10:6	<b>foreing (1)</b> 31:1
<b>explore (1)</b> 32:8	<b>fault (3)</b> 12:14;30:16,17	<b>financially (1)</b> 10:6	<b>find (18)</b> 24:20;30:11;41:9; 46:10;47:15;48:8; 49:7;50:11;54:11,24; 55:17;57:15;60:7; 68:15,15,15,16,16	<b>forever (1)</b> 27:13
<b>exploring (4)</b> 8:22;10:10;32:19; 52:18	<b>faults (1)</b> 44:21	<b>find (18)</b> 24:20;30:11;41:9; 46:10;47:15;48:8; 49:7;50:11;54:11,24; 55:17;57:15;60:7; 68:15,15,15,16,16	<b>final (2)</b> 28:23;67:20	<b>forget (1)</b> 45:8
<b>exposed (1)</b> 43:13	<b>fed (2)</b> 32:24,25	<b>firmly (1)</b> 56:16	<b>flag (2)</b> 48:2,4	<b>forgot (2)</b> 59:11;60:12
<b>exposing (1)</b> 33:21	<b>federal (5)</b> 8:16;9:18;16:16; 33:6;46:14	<b>firmly (1)</b> 56:16	<b>flammable (1)</b> 33:14	<b>fork (3)</b> 23:23;25:1,1
<b>extended (3)</b> 4:13;8:5;32:3	<b>feed (2)</b> 6:24;68:11	<b>first (23)</b> 27:24;30:2;34:7; 35:12;42:13;48:22; 49:8,9,9;52:9,14,15;	<b>flat-out (1)</b> 43:5	<b>form (1)</b> 19:19
<b>extensive (1)</b> 36:9	<b>feedback (1)</b> 19:25	<b>firmly (1)</b> 56:16	<b>fleet (2)</b> 26:4,8	<b>formation (1)</b> 36:13
<b>extent (2)</b> 36:21;45:14	<b>feeds (1)</b> 2:14	<b>first (23)</b> 27:24;30:2;34:7; 35:12;42:13;48:22; 49:8,9,9;52:9,14,15;	<b>flew (4)</b> 50:24;52:2,3;63:22	<b>formed (2)</b> 3:22;61:24
<b>extra (2)</b> 26:6;41:11	<b>feel (3)</b>	<b>firmly (1)</b> 56:16	<b>flight (2)</b> 31:17;32:2	<b>forth (2)</b> 8:3;40:24
<b>extracting (2)</b> 20:22;22:16		<b>firmly (1)</b> 56:16	<b>flights (1)</b> 64:22	<b>forward (1)</b> 10:9
<b>extreme (1)</b> 19:11		<b>firmly (1)</b> 56:16	<b>flipped (1)</b> 41:19	<b>found (3)</b>
<b>extremely (3)</b> 40:22;42:25;43:13		<b>firmly (1)</b> 56:16	<b>floor (1)</b> 65:20	
<b>Exxon (4)</b> 26:18;27:1,4;29:8		<b>firmly (1)</b> 56:16	<b>flow (2)</b> 25:3;36:14	

<p>47:20;63:12,17  <b>four (2)</b>                  17:11;40:12  <b>Fraser (1)</b>                  17:23  <b>freezer (4)</b>                  2:23;68:14,14,17  <b>freezers (3)</b>                  31:25;49:7;68:14  <b>frequent (1)</b>                  38:21  <b>frequently (1)</b>                  42:9  <b>fresh (7)</b>                  4:19;8:2,2;10:4;                  15:23,25;16:10  <b>freshwater (5)</b>                  16:3;40:14;46:20;                  67:6,7  <b>friends (1)</b>                  45:7  <b>frighteningly (1)</b>                  45:4  <b>front (1)</b>                  24:4  <b>fronts (1)</b>                  64:6  <b>fry (2)</b>                  14:10;51:14  <b>Frying (1)</b>                  57:2  <b>fuel (1)</b>                  39:9  <b>full (2)</b>                  23:6;31:20  <b>fully (1)</b>                  35:14  <b>fungi (1)</b>                  20:23  <b>further (2)</b>                  25:5;36:23  <b>future (2)</b>                  14:19;30:6</p>	<p>2:11;6:9;7:23  <b>gave (7)</b>                  46:14,18,19;53:9;                  56:9,10,12  <b>GAYLA (2)</b>                  16:25,25  <b>G-a-y-l-a (1)</b>                  17:1  <b>geese (3)</b>                  4:16;15:9;50:21  <b>gel (1)</b>                  45:6  <b>general (1)</b>                  38:19  <b>generate (2)</b>                  38:25;63:8  <b>generated (1)</b>                  39:5  <b>generation (2)</b>                  5:4;14:20  <b>generational (1)</b>                  28:14  <b>generations (4)</b>                  4:3;7:1;11:4;33:1  <b>geologist (3)</b>                  54:13,21;55:2  <b>geologists (1)</b>                  60:25  <b>geology (3)</b>                  54:1;59:12;60:12  <b>gets (4)</b>                  37:4;39:12;45:5;                  55:16  <b>Gibraltar (3)</b>                  60:4;61:11,16  <b>gillnets (1)</b>                  47:13  <b>gillnetter (1)</b>                  46:4  <b>girl (1)</b>                  23:8  <b>Given (2)</b>                  38:12;44:10  <b>goes (4)</b>                  2:11;4:15;25:20;                  37:20  <b>Gold (8)</b>                  6:23;13:15;20:8;                  21:16;31:9;54:16,25;                  55:10  <b>gold/copper (1)</b>                  20:14  <b>goliath (1)</b>                  33:24  <b>Good (13)</b>                  4:8;5:20;18:2;                  31:12;33:16;49:11;                  56:15,21,21,21;60:2;                  68:2,3  <b>Goodwin (1)</b>                  67:14  <b>government (4)</b>                  16:14,16;33:12;</p>	<p>46:14  <b>governments (2)</b>                  8:16;9:19  <b>grace (1)</b>                  15:2  <b>graduated (3)</b>                  67:23,24,25  <b>grandchildren (9)</b>                  3:14;5:23;6:25;8:9;                  11:2;16:7,8,9,21  <b>grandchildren's (1)</b>                  3:14  <b>granddaughter (1)</b>                  10:23  <b>grandfather (1)</b>                  23:4  <b>grandkids (1)</b>                  67:22  <b>grandma (2)</b>                  5:23;68:4  <b>grandmother's (1)</b>                  23:9  <b>grandparent (1)</b>                  7:6  <b>grandparents (4)</b>                  6:1;8:10;23:4,10  <b>grandparents' (2)</b>                  32:9,21  <b>grave (1)</b>                  13:5  <b>grayling (1)</b>                  51:15  <b>great (8)</b>                  3:15;4:22,23;13:9;                  16:7;26:22;30:7;                  33:22  <b>greatest (3)</b>                  21:22;23:13;31:8  <b>green (1)</b>                  32:16  <b>Greenpeace (1)</b>                  19:1  <b>greens (2)</b>                  4:1;6:9  <b>grew (6)</b>                  2:22;31:21;45:19;                  46:1;51:16;68:10  <b>grid (1)</b>                  39:2  <b>groceries (1)</b>                  6:18  <b>grocery (1)</b>                  49:21  <b>ground (5)</b>                  3:1;9:6,13;48:8;                  61:1  <b>grounding (1)</b>                  43:22  <b>groundings (1)</b>                  43:24  <b>grounds (2)</b>                  7:9;9:7  <b>groundwater (1)</b></p>	<p>19:21  <b>groundwaters (1)</b>                  13:1  <b>group (2)</b>                  3:21,22  <b>grow (1)</b>                  32:6  <b>Growing (4)</b>                  5:25;6:16;7:9;                  48:23  <b>grown (1)</b>                  28:4  <b>grows (1)</b>                  10:15  <b>growth (2)</b>                  13:21;58:1  <b>grudgingly (1)</b>                  41:22  <b>guarantee (2)</b>                  11:24;30:24  <b>guess (3)</b>                  35:12;42:7;49:23  <b>guide (1)</b>                  34:14  <b>guy (1)</b>                  56:4  <b>guys (3)</b>                  17:25;52:17,18</p>	<p><b>harmed (1)</b>                  30:25  <b>harming (1)</b>                  30:12  <b>Harry (3)</b>                  15:4,4,5  <b>H-a-r-r-y (1)</b>                  15:5  <b>harsh (1)</b>                  22:3  <b>harvest (5)</b>                  3:25;4:13,16,20;                  49:9  <b>harvesting (1)</b>                  17:9  <b>haven (1)</b>                  58:2  <b>hazardous (1)</b>                  43:5  <b>head (2)</b>                  41:19;56:4  <b>headwaters (7)</b>                  3:2;11:12,22;13:23;                  15:18;32:11;33:22  <b>heal (1)</b>                  57:17  <b>health (2)</b>                  11:19;33:16  <b>healthiest (1)</b>                  10:5  <b>healthy (3)</b>                  4:16;8:1;10:18  <b>hear (3)</b>                  18:7;38:14;42:8  <b>heard (10)</b>                  3:13;8:25;9:23;                  10:20;11:10;18:5;                  28:16,19;30:10;62:12  <b>hearing (3)</b>                  17:1;28:7;55:11  <b>hearings (1)</b>                  11:9  <b>heart (3)</b>                  9:4,7;10:3  <b>heat (2)</b>                  12:13;59:17  <b>heaven (1)</b>                  53:16  <b>height (2)</b>                  44:23;45:3  <b>helicopter (1)</b>                  52:2  <b>help (6)</b>                  4:5;16:15,17,23;                  31:24;63:8  <b>helpful (1)</b>                  8:17  <b>helping (1)</b>                  23:10  <b>Henry (1)</b>                  5:22  <b>herbs (1)</b>                  14:17</p>
<b>G</b>			<b>H</b>	
<p><b>gallon (1)</b>                  57:15  <b>gallons (1)</b>                  57:4  <b>game (3)</b>                  12:4;31:25;51:10  <b>gas (9)</b>                  38:19,22,24,25;                  39:8,13,14;43:2;                  66:12  <b>gases (2)</b>                  21:8;22:6  <b>gather (6)</b>                  2:4,4,7;8:1,4;14:17  <b>gatherer (3)</b>                  5:25;11:6,18  <b>gathering (3)</b></p>			<p><b>ha (1)</b>                  45:21  <b>habitat (3)</b>                  25:10;29:17;30:5  <b>halibut (2)</b>                  7:10;46:5  <b>hand (1)</b>                  50:6  <b>hand-in-hand (1)</b>                  55:23  <b>handled (1)</b>                  44:9  <b>handouts (1)</b>                  38:11  <b>hang (1)</b>                  48:2  <b>happen (9)</b>                  5:12;6:15;9:2;                  11:12;17:23;18:15;                  27:24;38:6;55:18  <b>happened (10)</b>                  17:21;26:18;45:8;                  51:13,22;52:17;55:5;                  60:6,13;61:23  <b>happens (2)</b>                  50:19;53:17  <b>hard (3)</b>                  2:20;6:14;36:1  <b>hardly (2)</b>                  46:8,8  <b>harm (1)</b>                  11:21</p>	

<p><b>herd (2)</b> 48:17;52:10</p> <p><b>Herman (1)</b> 5:22</p> <p><b>herring (2)</b> 7:9;46:5</p> <p><b>Hi (2)</b> 16:25;28:2</p> <p><b>high (21)</b> 3:20;27:5;30:15; 36:15;41:8;43:17; 45:4;46:7;47:10;50:8; 54:25;55:9,10,10; 61:12;64:3,3,17,18, 23;66:9</p> <p><b>higher (3)</b> 30:20;22;39:3</p> <p><b>highland (1)</b> 61:15</p> <p><b>Highlander (3)</b> 60:4;61:11,16</p> <p><b>highly (1)</b> 37:20</p> <p><b>hill (2)</b> 57:8;64:1</p> <p><b>Hillary (1)</b> 58:18</p> <p><b>hills (3)</b> 58:5;60:15;63:24</p> <p><b>historical (2)</b> 17:9;43:10</p> <p><b>history (2)</b> 27:20;34:13</p> <p><b>hit (6)</b> 60:14;63:10,11; 64:11,11;65:20</p> <p><b>hogwash (1)</b> 60:22</p> <p><b>hold (2)</b> 28:17;30:20</p> <p><b>hole (3)</b> 3:1;34:7;55:7</p> <p><b>holes (1)</b> 53:23</p> <p><b>holy (3)</b> 57:14,19;58:8</p> <p><b>home (7)</b> 11:1;17:3;18:24; 28:16;57:14,16;67:17</p> <p><b>Homer (1)</b> 43:8</p> <p><b>homes (1)</b> 7:16</p> <p><b>hope (8)</b> 4:2;16:12,17;35:15; 36:23;37:4;39:6;43:7</p> <p><b>Horizon (1)</b> 29:9</p> <p><b>horrendous (1)</b> 44:19</p> <p><b>horrible (1)</b> 43:15</p> <p><b>HOSETH (2)</b></p>	<p>16:25,25</p> <p><b>H-o-s-e-t-h (1)</b> 17:1</p> <p><b>hospital (1)</b> 26:6</p> <p><b>house (2)</b> 38:4,5</p> <p><b>huckleberry (1)</b> 50:12</p> <p><b>huge (15)</b> 3:1;11:19,25;27:12; 49:20;51:3,9,9,16,20; 57:7;63:8;64:1;65:5,9</p> <p><b>hugely (1)</b> 18:21</p> <p><b>human (4)</b> 9:24;11:19;21:15; 37:25</p> <p><b>humans (3)</b> 2:16;6:13;15:23</p> <p><b>Humboldt (1)</b> 67:24</p> <p><b>hundred (2)</b> 12:19;29:21</p> <p><b>hunt (2)</b> 58:7;67:1</p> <p><b>hunted (2)</b> 35:8;62:9</p> <p><b>hunters (2)</b> 57:24;62:8</p> <p><b>hunting (1)</b> 7:22</p> <p><b>hurt (1)</b> 69:2</p> <p><b>hydrologist (1)</b> 37:12</p> <p><b>hydrology (4)</b> 25:4;53:25;54:1,2</p>	<p>41:24;50:1;51:4;65:5, 8,25;67:8</p> <p><b>image (2)</b> 25:13;26:17</p> <p><b>imagine (1)</b> 2:12</p> <p><b>immediate (1)</b> 29:3</p> <p><b>immediately (1)</b> 29:10</p> <p><b>immense (3)</b> 33:19;34:7,25</p> <p><b>impact (7)</b> 11:19;13:11;14:7; 16:8;25:1;28:15; 29:12</p> <p><b>impacted (3)</b> 4:11;49:25;53:3</p> <p><b>impacts (10)</b> 20:18;23:13;28:25; 29:2,4,17;35:19,22, 23;39:16</p> <p><b>importance (1)</b> 63:18</p> <p><b>important (10)</b> 6:3,13,19;9:5,10, 13;10:4;16:6;42:16; 58:23</p> <p><b>impossible (1)</b> 28:8</p> <p><b>impoundment (1)</b> 23:21</p> <p><b>impressed (2)</b> 63:6,23</p> <p><b>including (2)</b> 10:13;22:12</p> <p><b>income (3)</b> 6:17;10:4;26:12</p> <p><b>incomplete (1)</b> 39:23</p> <p><b>increase (1)</b> 31:5</p> <p><b>increases (1)</b> 7:11</p> <p><b>increasingly (2)</b> 22:13;26:16</p> <p><b>independently (1)</b> 56:18</p> <p><b>indigenous (1)</b> 18:24</p> <p><b>indiscernible (11)</b> 4:11;11:8;15:7; 16:3,20;32:20;36:6, 24;61:19;66:4;67:9</p> <p><b>individually (1)</b> 24:5</p> <p><b>industrial (1)</b> 22:10</p> <p><b>industry (4)</b> 11:23;15:19;29:13, 24</p> <p><b>infrastructure (3)</b> 27:11;35:17,25</p>	<p><b>INGRID (2)</b> 5:2,2</p> <p><b>I-n-g-r-i-d (1)</b> 5:2</p> <p><b>Inlet (5)</b> 18:13;25:11,20; 45:13;66:18</p> <p><b>Inlet/Anchorage (1)</b> 38:23</p> <p><b>inoculated (1)</b> 21:10</p> <p><b>insisting (1)</b> 53:25</p> <p><b>instructions (1)</b> 46:18</p> <p><b>instructor (1)</b> 32:3</p> <p><b>intake (2)</b> 14:3,18</p> <p><b>intercepted (1)</b> 46:7</p> <p><b>interesting (1)</b> 44:3</p> <p><b>interferences (1)</b> 42:18</p> <p><b>interfering (1)</b> 38:7</p> <p><b>International (1)</b> 19:1</p> <p><b>interrupt (1)</b> 36:13</p> <p><b>interrupting (1)</b> 41:7</p> <p><b>interruptions (2)</b> 44:11,16</p> <p><b>into (51)</b> 5:13;11:24;12:6,7, 7,8;13:5,18,24;14:18, 18;19:20;21:10,20; 23:23,24;24:4,19; 25:20;29:12;31:19; 32:23,25;33:8;34:21; 35:10;36:14,20,25; 37:11,14,21;38:20; 41:9,16;44:6;47:22; 49:7;51:4,7,7;53:23; 54:3;55:7,7;57:6; 61:20,21,21,24;63:12</p> <p><b>investigated (1)</b> 46:23</p> <p><b>invoke (1)</b> 18:5</p> <p><b>involved (1)</b> 11:8</p> <p><b>involves (1)</b> 2:8</p> <p><b>irreversible (1)</b> 29:3</p> <p><b>island (2)</b> 40:12;68:5</p> <p><b>Islands (2)</b> 43:16;68:1</p> <p><b>issue (3)</b></p>	<p>4:24;56:10,20</p> <p><b>Issues (3)</b> 17:7;26:16;39:10</p> <p><b>It's (3)</b> 36:1;59:6,9</p> <p><b>items (1)</b> 38:21</p>
<b>J</b>				
			<p><b>Jacqueline (2)</b> 2:2,2</p> <p><b>J-a-c-q-u-e-l-i-n-e (1)</b> 2:3</p> <p><b>Japan (2)</b> 58:14;64:8</p> <p><b>Japanese (1)</b> 46:7</p> <p><b>jar (1)</b> 57:15</p> <p><b>jetties (1)</b> 43:4</p> <p><b>Jimmy (3)</b> 4:7,7,8</p> <p><b>J-i-m-m-y (1)</b> 4:7</p> <p><b>job (1)</b> 23:8</p> <p><b>jobs (4)</b> 2:21;13:21;53:10; 58:16</p> <p><b>JOHNSON (2)</b> 3:17,17</p> <p><b>judgment (1)</b> 28:17</p> <p><b>jug (1)</b> 57:15</p> <p><b>jumbled (1)</b> 59:3</p>	
<b>K</b>				
			<p><b>Kamishak (1)</b> 43:15</p> <p><b>Kanakanak (1)</b> 23:3</p> <p><b>KATHERINE (3)</b> 27:25;28:1,2</p> <p><b>K-a-t-h-e-r-i-n-e (1)</b> 28:1</p> <p><b>Kayla (1)</b> 10:23</p> <p><b>K-a-y-l-a (1)</b> 10:24</p> <p><b>keep (5)</b> 4:22;5:8;28:6; 34:12;53:10</p> <p><b>keeps (1)</b> 10:5</p> <p><b>kept (3)</b> 8:14;53:24,24</p> <p><b>kid (1)</b> 32:18</p>	

<p><b>kids (1)</b> 67:21</p> <p><b>kill (2)</b> 19:21;52:14</p> <p><b>Kimberly (2)</b> 22:21,21</p> <p><b>K-i-m-b-e-r-l-y (1)</b> 22:22</p> <p><b>kind (14)</b> 16:24;37:8;40:15; 41:2,15;42:5;43:14; 53:10;55:22;58:2; 59:2,3;65:4;66:1</p> <p><b>king (4)</b> 4:16,19,25;50:24</p> <p><b>Kingdom (1)</b> 58:14</p> <p><b>kings (1)</b> 6:11</p> <p><b>knowledge (1)</b> 41:24</p> <p><b>known (2)</b> 5:20;7:8</p> <p><b>Kodiak (2)</b> 42:8;66:8</p> <p><b>Kokhanok (3)</b> 22:25;25:20;41:5</p> <p><b>Koktuli (9)</b> 11:13;23:23;25:1,2; 46:25;54:8,10;58:5,6</p> <p><b>Koolaid (1)</b> 32:16</p> <p><b>Korea (1)</b> 58:14</p> <p><b>Kotzebue (1)</b> 67:15</p> <p><b>Kvichak (15)</b> 32:11;34:22;39:21; 40:20;50:15,17,20; 51:3,5,9;58:11;59:18; 66:21,23;67:10</p>	<p>48:6,8;49:4;50:13; 61:13;68:9,11</p> <p><b>lands (4)</b> 3:24;8:1;14:15; 34:18</p> <p><b>landscape (1)</b> 30:6</p> <p><b>large (14)</b> 12:15;26:11;27:23; 29:22,23;32:13; 35:12;36:3,20;37:24; 41:11,14;43:6;44:7</p> <p><b>larger (2)</b> 35:19;38:7</p> <p><b>large-scale (2)</b> 6:22;30:14</p> <p><b>largest (6)</b> 7:8,9;11:22;18:8; 24:15;30:1</p> <p><b>last (15)</b> 4:23;5:2,19;7:3; 16:5,13;17:1,18,18:6; 24:23;27:13;30:7,7; 43:4;48:9</p> <p><b>late (4)</b> 5:21;27:1;38:20; 51:21</p> <p><b>later (2)</b> 43:21;54:20</p> <p><b>laughed (1)</b> 55:3</p> <p><b>lava (2)</b> 55:6,9</p> <p><b>leachate (1)</b> 37:10</p> <p><b>leaching (1)</b> 13:24</p> <p><b>leachings (1)</b> 13:18</p> <p><b>lead (2)</b> 12:1,25</p> <p><b>leaders (1)</b> 52:10</p> <p><b>leak (1)</b> 37:21</p> <p><b>leakage (3)</b> 12:23;15:16;21:22</p> <p><b>leaking (1)</b> 37:14</p> <p><b>learned (3)</b> 9:2;36:8;44:8</p> <p><b>least (4)</b> 20:19;22:18;27:1; 35:20</p> <p><b>leave (1)</b> 40:1</p> <p><b>leaving (2)</b> 27:21;34:4</p> <p><b>left (3)</b> 16:3;19:8;34:14</p> <p><b>legal (1)</b> 27:2</p> <p><b>less (1)</b></p>	<p>26:23</p> <p><b>let's (1)</b> 65:13</p> <p><b>level (4)</b> 21:14;39:1;44:22; 52:3</p> <p><b>levels (1)</b> 8:24</p> <p><b>life (15)</b> 2:6,13;6:3,6;15:8; 18:12;19:7,21;25:25; 27:15,16;28:11,12; 46:2;49:19</p> <p><b>lifeless (1)</b> 32:16</p> <p><b>lifelong (1)</b> 45:18</p> <p><b>life-long (2)</b> 5:24,24</p> <p><b>lifestyle (5)</b> 8:8,13;11:6;15:12; 26:10</p> <p><b>lifetime (1)</b> 33:12</p> <p><b>likelihood (1)</b> 44:11</p> <p><b>likely (3)</b> 27:6;34:22;35:16</p> <p><b>limit (2)</b> 29:13;41:7</p> <p><b>limited (4)</b> 6:17;25:15,17; 38:22</p> <p><b>limiting (1)</b> 24:8</p> <p><b>limits (2)</b> 20:3;58:8</p> <p><b>line (2)</b> 24:9,9</p> <p><b>liner (1)</b> 12:23</p> <p><b>liners (1)</b> 59:4</p> <p><b>lines (3)</b> 46:11;55:16;59:3</p> <p><b>lining (1)</b> 58:25</p> <p><b>liquid (1)</b> 39:9</p> <p><b>list (1)</b> 38:11</p> <p><b>listening (3)</b> 5:11;13:8;19:25</p> <p><b>little (8)</b> 22:5;27:1;36:4; 39:17,25;40:2;44:8; 48:23</p> <p><b>live (26)</b> 2:25;3:1;4:4,4;6:4; 8:8;11:3;13:13,15; 15:3;16:19,21;17:4; 22:22;26:2,4;32:4,5; 33:11;34:14;46:15;</p>	<p>48:6,8,11;51:24; 52:12</p> <p><b>lived (3)</b> 46:20;47:9;48:16</p> <p><b>livelihood (2)</b> 9:1;15:11</p> <p><b>lives (7)</b> 7:18,21,25;8:7; 9:16,20;53:3</p> <p><b>living (8)</b> 7:19,24;10:12;11:6; 13:16;15:3;26:2;45:7</p> <p><b>local (5)</b> 18:22;19:20;21:20; 32:2;34:16</p> <p><b>located (7)</b> 7:7,9;4,12;17:2; 23:17,22;55:10</p> <p><b>location (3)</b> 9:4,5;10:2</p> <p><b>long (8)</b> 6:8;12:10;27:20; 34:11,18;38:16; 49:15;69:2</p> <p><b>longer (5)</b> 4:4;13:15;30:16; 56:20,21</p> <p><b>long-line (1)</b> 46:3</p> <p><b>long-term (3)</b> 12:9;27:9,23</p> <p><b>look (22)</b> 12:9;13:3;14:7,13; 39:7;40:10;42:15; 44:13;52:2;53:12,12; 54:7,7;56:15,17; 58:24,24;60:3,7,22; 62:16;64:25</p> <p><b>looked (5)</b> 25:18;36:17;59:25; 60:1,3</p> <p><b>looking (4)</b> 12:18;17:25;51:6; 63:2</p> <p><b>loop (1)</b> 36:4</p> <p><b>loose (3)</b> 39:6;45:5;51:14</p> <p><b>lose (2)</b> 5:10;13:9</p> <p><b>lost (1)</b> 63:1</p> <p><b>lot (21)</b> 13:9;36:9;39:17; 40:23;41:13;42:22; 43:9;45:22;46:15,15; 48:10,13;49:7,23,24; 50:19;51:19;58:1; 61:5;62:21;66:4</p> <p><b>lots (4)</b> 22:4;37:22,22; 64:21</p> <p><b>love (1)</b></p>	<p>41:14</p> <p><b>low (2)</b> 50:8;64:15</p> <p><b>lower (1)</b> 45:1</p> <p><b>low-grade (1)</b> 22:8</p> <p><b>lows (1)</b> 64:17</p> <p><b>luckily (1)</b> 26:24</p> <p><b>lying (1)</b> 55:19</p>
<b>M</b>				
			<p><b>magically (1)</b> 38:24</p> <p><b>main (5)</b> 13:16,25;14:14; 26:9;45:3</p> <p><b>Maines (2)</b> 18:18,18</p> <p><b>M-a-i-n-e-s (1)</b> 18:19</p> <p><b>Mainland (1)</b> 64:19</p> <p><b>maintenance (1)</b> 41:6</p> <p><b>major (4)</b> 9:6;10:16;20:8; 30:16</p> <p><b>majority (2)</b> 30:15;57:12</p> <p><b>makers (1)</b> 58:18</p> <p><b>makes (3)</b> 30:25;50:22;55:20</p> <p><b>making (1)</b> 7:19</p> <p><b>Malcolm (2)</b> 31:11,13</p> <p><b>M-a-l-c-o-l-m (1)</b> 31:11</p> <p><b>MALCOM (1)</b> 31:11</p> <p><b>mammals (1)</b> 40:7</p> <p><b>Man (6)</b> 3:3,4,6;27:12; 31:21;63:1</p> <p><b>manage (2)</b> 37:15,16</p> <p><b>managed (1)</b> 21:25</p> <p><b>management (4)</b> 22:2;39:10;40:10; 42:3</p> <p><b>Manokotak (1)</b> 5:22</p> <p><b>many (13)</b> 10:13;11:10;14:9,9; 21:6;22:4;25:8;27:15;</p>	

30:2;34:9;38:12; 46:23;62:19 <b>mapped (3)</b> 36:11,12,21 <b>MARIE (3)</b> 5:19,19,20 <b>M-a-r-i-e (1)</b> 5:19 <b>market (2)</b> 26:14;59:5 <b>marketability (1)</b> 29:14 <b>marketing (2)</b> 26:17;38:15 <b>markets (2)</b> 29:1,5 <b>married (2)</b> 26:1;31:23 <b>Mars (1)</b> 32:19 <b>mate (1)</b> 67:17 <b>material (2)</b> 20:12;59:7 <b>materials (1)</b> 20:22 <b>may (6)</b> 3:13;13:15;14:14; 36:12;37:8;42:22 <b>maybe (7)</b> 24:19;36:21;37:3; 38:20,20;41:20;60:3 <b>mean (1)</b> 41:13 <b>meaning (1)</b> 41:10 <b>means (1)</b> 42:15 <b>measured (2)</b> 27:16,17 <b>meat (2)</b> 4:19;6:20 <b>medivac (1)</b> 31:14 <b>medivacs (1)</b> 32:3 <b>meet (3)</b> 2:20;7:23;53:6 <b>meeting (5)</b> 24:19;53:7,8,24; 56:6 <b>meetings (3)</b> 24:3;53:5,16 <b>megabytes (1)</b> 39:3 <b>megawatts (1)</b> 39:4 <b>melting (1)</b> 34:20 <b>member (2)</b> 22:23,24 <b>members (2)</b> 8:24;10:13	<b>memories (1)</b> 2:12 <b>memory (1)</b> 23:10 <b>mention (3)</b> 59:12;60:13;66:16 <b>mentioned (4)</b> 20:6;59:18;62:7; 68:22 <b>mess (2)</b> 27:22;33:10 <b>met (1)</b> 53:8 <b>metabolites (1)</b> 21:8 <b>metal (2)</b> 6:24;21:23 <b>Metallic (1)</b> 11:14 <b>metalloids (1)</b> 19:20 <b>metals (5)</b> 20:22,24;21:11,15; 22:8 <b>methods (2)</b> 22:3,9 <b>Mexico (1)</b> 19:23 <b>mic (2)</b> 24:4,11 <b>Michigan (1)</b> 65:6 <b>Microbes (3)</b> 21:14,20,24 <b>microbial (2)</b> 21:18;22:6 <b>microorganisms (2)</b> 2:15;22:11 <b>mid (1)</b> 21:2 <b>middle (1)</b> 45:12 <b>might (10)</b> 4:18;17:20;37:21; 39:2,6;40:5,19;41:13, 25;42:2 <b>migrate (6)</b> 18:14;52:8,13; 67:13,18,18 <b>migrated (2)</b> 51:24;68:4 <b>migrating (2)</b> 47:7;52:7 <b>migration (1)</b> 4:19 <b>migratory (2)</b> 40:8;41:18 <b>mile (1)</b> 47:9 <b>miles (8)</b> 7:7;19:22,24;31:21; 46:9,9;65:13,16 <b>millennia (2)</b>	18:24;27:16 <b>million (2)</b> 18:5;51:12 <b>millions (2)</b> 29:10;57:3 <b>mind (4)</b> 25:21;41:11,20; 56:15 <b>Mine (95)</b> 3:16,18,19,25;4:5; 5:18;6:22;8:21,21,25; 9:1,3;10:1,3;11:11, 25;13:5;14:11;15:13, 18,21;16:8,18;18:16, 20;19:17,23;20:2,9, 14,15,16;21:15,24; 22:8,17,19;24:24; 25:11,12;26:11;27:5, 10,11,16,23;28:14,18, 22,23;29:8;30:5,11, 25;32:8,9,12,14,17, 22,24;34:1,2,7,24; 35:14,16,19;36:2,7, 14,25,25;39:4,12; 41:4;44:20;45:11; 46:22;52:1,1;53:8,21; 55:16;56:10,15,17,19; 60:4,4,5,6;61:14; 62:6;68:20 <b>mineral (1)</b> 22:10 <b>mineralogy (1)</b> 32:10 <b>mines (16)</b> 9:2;13:14;21:25; 27:20;30:2,14;34:11; 35:18,19,22;36:15; 38:12;60:1,2,3;61:12 <b>Mine's (2)</b> 29:2;33:3 <b>minimum (1)</b> 55:24 <b>mining (27)</b> 11:14,22;13:22; 18:20,25;19:2,2,5,6, 11,12,18;21:6,6;22:3; 27:19;30:17;34:4,7, 19;53:9;55:22;56:1,5, 9;62:5,11 <b>minute (2)</b> 29:8;57:4 <b>minutes (2)</b> 24:10;28:21 <b>Misinformation (1)</b> 17:17 <b>miss (1)</b> 4:18 <b>mistake (1)</b> 45:15 <b>mitigated (1)</b> 33:5 <b>mitigation (1)</b> 34:15	<b>models (1)</b> 21:9 <b>modern (1)</b> 58:3 <b>molybdenum (2)</b> 54:16;55:10 <b>moment (1)</b> 41:20 <b>money (3)</b> 26:23;42:22;53:10 <b>monitored (1)</b> 14:8 <b>monitoring (1)</b> 47:20 <b>Montana (1)</b> 38:16 <b>months (1)</b> 6:8 <b>moose (6)</b> 15:9,15;48:18,21; 62:10;68:15 <b>more (31)</b> 3:5;14:21,22;16:10; 17:24;18:7;19:2,24; 20:7;26:5;27:6;30:4; 32:14;33:2;34:9,9; 35:18,19,22;36:22; 38:17,24;41:11,25; 43:24;44:8;45:1,2; 49:11,25;62:16 <b>most (12)</b> 4:9;6:13,19;9:5; 10:4,5,6;11:22;21:17; 34:10;61:1;62:1 <b>mostly (2)</b> 6:2;64:18 <b>Mother (6)</b> 3:6,9,15;5:23;7:6; 9:7 <b>Mount (3)</b> 17:21;20:15;61:18 <b>Mountain (9)</b> 40:12;57:3;60:24; 61:18,23;65:14,14,22, 22 <b>mountains (2)</b> 52:20;60:25 <b>move (5)</b> 10:9;12:20;47:22; 64:7;67:14 <b>moved (2)</b> 53:18;64:13 <b>movement (1)</b> 36:10 <b>moving (3)</b> 28:22;61:4,9 <b>much (18)</b> 3:4;5:12;9:2;16:5; 18:6;19:2;22:15;38:6, 7;39:12;42:10;43:4; 44:13;47:18;50:18; 64:2;65:1;69:4 <b>mud (1)</b>	23:6 <b>Mulchatna (1)</b> 23:24 <b>multi-billion (1)</b> 33:19 <b>multi-national (1)</b> 33:19 <b>multiple (2)</b> 10:11;35:22 <b>must (2)</b> 29:12;44:23 <b>myself (1)</b> 25:25
<b>N</b>				
<b>N&amp;N (1)</b> 59:5 <b>name (23)</b> 3:17;4:8;5:3,19;7:4, 4;10:22,25;15:4; 16:25;17:1;22:21; 24:12;25:23;27:25; 28:2;31:13;45:18,20, 23;49:15;50:10,11 <b>nation's (2)</b> 33:16;34:17 <b>Native (9)</b> 2:3;8:19;9:15,21; 10:13;15:9;22:24; 42:14;68:23 <b>natural (8)</b> 2:18;13:3,9;33:7; 38:19,22;39:14;55:22 <b>naturally (1)</b> 21:17 <b>nature (1)</b> 43:1 <b>near (5)</b> 32:9;40:12;44:21; 48:13,13 <b>nearby (4)</b> 19:19;20:1;38:5; 44:6 <b>nearly (1)</b> 34:4 <b>necessary (2)</b> 14:5;17:16 <b>necessities (1)</b> 6:17 <b>need (15)</b> 5:10;9:24;12:3,9, 13;15:25;16:4;17:15, 24;18:7;36:12,22; 37:22;55:24;68:25 <b>needed (1)</b> 3:5 <b>needs (5)</b> 9:14;12:11;17:17; 18:9;42:17 <b>negative (2)</b> 29:4;62:7 <b>NELSON (4)</b>				



<p>2:2,2,3;68:4  <b>NEPA (2)</b>                  14:6,6  <b>net (4)</b>                  23:4,5,6,6  <b>nets (2)</b>                  46:10,13  <b>Nevada (1)</b>                  54:21  <b>new (7)</b>                  17:13;19:23;22:25;                  25:6;30:10;57:23;                  64:12  <b>Newhalen (5)</b>                  22:25;50:3;53:5;                  62:9;63:7  <b>news (1)</b>                  38:21  <b>next (8)</b>                  4:2;5:4;23:5;38:19;                  39:16;42:5,23;48:10  <b>niece (1)</b>                  11:18  <b>noise (2)</b>                  13:20;62:14  <b>no-mine (3)</b>                  18:1;23:16;25:12  <b>Nondalton (1)</b>                  22:25  <b>normal (3)</b>                  41:18;44:18,19  <b>north (9)</b>                  23:22;25:1;30:14;                  41:23;54:9,10;64:10;                  65:23;67:14  <b>note (1)</b>                  27:18  <b>notes (3)</b>                  23:2;62:17;63:2  <b>notice (3)</b>                  51:1;53:4;62:8  <b>notoriously (1)</b>                  43:15  <b>number (1)</b>                  42:7  <b>numbers (4)</b>                  39:6,7;51:7,9  <b>nursery (1)</b>                  29:22  <b>Nushagak (20)</b>                  2:10;23:15,17,24;                  28:12;31:19;32:11;                  34:21;45:20;47:1;                  49:25;50:17;53:20;                  57:11,12;58:12;                  59:19;66:22,23;67:12  <b>nutritious (1)</b>                  10:18</p>	<p><b>occur (4)</b>                  12:24;13:10;19:15;                  42:11  <b>occurred (1)</b>                  20:14  <b>occurring (1)</b>                  21:17  <b>occurs (2)</b>                  18:25;19:14  <b>ocean (4)</b>                  12:1;17:4;43:13;                  44:17  <b>oceans (1)</b>                  12:8  <b>off (34)</b>                  3:24;4:1,4;6:4,8,11;                  7:24;8:1;11:3;13:15,                  16;14:15;15:8;16:19,                  21;17:4;28:17;46:20;                  47:22;48:6,8,11,16;                  50:13;51:24;52:12;                  53:14;63:25;65:11,                  13,16,21;66:8;69:5  <b>offer (2)</b>                  6:7;20:19  <b>offering (1)</b>                  6:7  <b>office (2)</b>                  42:8;45:23  <b>Ohgsenakale (2)</b>                  45:20,24  <b>O-h-g-s-e-n-a-k-a-l-e (1)</b>                  45:24  <b>oil (7)</b>                  6:18;15:16;16:18;                  21:15;26:18;29:9;                  39:9  <b>oiled (1)</b>                  29:10  <b>oils (1)</b>                  21:11  <b>old (7)</b>                  3:20;45:6;47:15,16;                  57:23;62:21;65:14  <b>once (5)</b>                  5:13;34:5;35:25;                  64:9,9  <b>one (50)</b>                  6:16;11:22;13:14;                  14:5;18:5,10,20;                  19:18;20:3,4,8,19;                  21:4;29:22,25;30:11;                  31:7;32:16;34:2;                  35:12;36:2;37:17;                  38:4,11;39:20;41:19;                  46:6,21,21;47:3;                  50:17;51:2;52:8;53:5,                  16;59:19;60:8,9;61:1;                  62:16,24;63:6,7,23;                  67:1,1,2,7,8,23  <b>ones (4)</b>                  9:10;16:5,13;51:17  <b>only (16)</b></p>	<p>3:12;6:16;16:3,13;                  20:4;21:7;23:14;                  29:23,25;36:2;49:1,                  10;53:8;65:23;67:2,6  <b>onto (2)</b>                  6:12;63:12  <b>open (4)</b>                  32:12;43:13;49:10,                  11  <b>opened (1)</b>                  47:4  <b>open-ore (1)</b>                  44:10  <b>open-pit (4)</b>                  11:11;18:19;19:6;                  20:14  <b>operate (1)</b>                  14:11  <b>operation (1)</b>                  19:6  <b>operations (1)</b>                  21:17  <b>oppose (1)</b>                  3:18  <b>opposed (2)</b>                  18:21;53:21  <b>opposing (1)</b>                  8:22  <b>order (2)</b>                  55:25;56:10  <b>ore (6)</b>                  33:21;34:19;38:18;                  44:9,9;65:5  <b>ores (2)</b>                  20:22;22:15  <b>organic (2)</b>                  20:24;22:6  <b>organisms (2)</b>                  20:23;21:18  <b>organizations (1)</b>                  33:24  <b>original (1)</b>                  9:20  <b>Orthodox (2)</b>                  57:13,20  <b>others (3)</b>                  32:23;33:10;37:23  <b>otherwise (1)</b>                  22:9  <b>otter (1)</b>                  25:11  <b>ourselves (1)</b>                  26:10  <b>out (36)</b>                  6:1;14:13,20;15:1;                  23:4,8;25:5,13,20;                  28:7;36:11,12,21;                  37:7,17;38:2,8;42:7;                  43:7;46:10;47:20,22;                  48:1;49:23;51:9;54:4;                  57:1,3,3;59:6,11,21;                  60:7;61:20;63:17;                  68:18</p>	<p><b>outside (2)</b>                  23:25;65:6  <b>outspend (1)</b>                  33:24  <b>over (28)</b>                  3:7,8;5:17;6:2;                  7:10;18:4,5;22:17;                  26:5;28:17,17;40:13;                  43:5;48:4;50:15,20;                  53:20;54:23;55:18,                  18;58:16,21;62:2,3;                  63:11;65:15;66:19,24  <b>overall (1)</b>                  33:15  <b>overcome (1)</b>                  66:4  <b>overflowing (1)</b>                  31:20  <b>overnight (1)</b>                  68:18  <b>overwhelming (1)</b>                  57:12  <b>own (4)</b>                  2:24;6:7;7:17;8:4  <b>owners (2)</b>                  33:3;34:12</p>	<p><b>path (2)</b>                  30:3;31:4  <b>paths (1)</b>                  41:18  <b>patients (1)</b>                  32:4  <b>Patricia (2)</b>                  25:23,23  <b>P-a-t-r-i-c-i-a (1)</b>                  25:24  <b>Paul (4)</b>                  5:19,19,20,22  <b>P-a-u-l (1)</b>                  5:20  <b>Pavian (1)</b>                  5:22  <b>PAVIAN-LOCKUK (3)</b>                  7:3,4,5  <b>P-a-v-i-a-n-L-o-c-k-u-k (1)</b>                  7:4  <b>pay (4)</b>                  6:17;14:25;29:6;                  42:22  <b>Pebble (50)</b>                  3:16,18,21,22,25;                  4:5;8:21;10:1,3;                  13:25;15:13,18,21;                  16:16,18;17:13;                  18:20;19:25;20:9,16;                  23:12;25:15,17;                  26:11;27:5,11;28:14,                  23;29:2;31:10,17;                  33:23,25;34:3,6,8,24;                  52:1,1;53:5;54:23,24;                  55:12;59:25,25;                  60:17,17;61:12,14;                  63:16  <b>Pebble's (1)</b>                  36:8  <b>Pedro (1)</b>                  65:11  <b>Peninsula (5)</b>                  23:19,20;24:1;42:4;                  66:6  <b>penny (1)</b>                  40:25  <b>people (54)</b>                  2:17,18;3:19;4:3;                  5:5;13:12;14:14;                  16:23;17:4,5,9,22;                  18:4,5,7,24;24:4,8,15,                  17,18,19;25:8;26:20;                  30:10;33:17;34:14,                  16;35:1;40:7;42:22;                  45:8,22;46:16,23;                  48:11;49:7,23;52:12,                  12;53:4,4;57:11,11,                  19,19,21;62:8,11;                  65:25,25;66:10;                  68:19,25  <b>percent (3)</b>                  18:25;20:1;58:21  <b>perception (1)</b></p>
<b>P</b>				
<p><b>Pacific (5)</b>                  45:13;59:13;60:24;                  61:21,25  <b>PAG (1)</b>                  23:21  <b>page (1)</b>                  52:1  <b>Pan (2)</b>                  57:2,2  <b>papers (1)</b>                  65:18  <b>parents (2)</b>                  6:1;8:9  <b>part (10)</b>                  3:21;6:3;23:18;                  30:23;32:5;59:15;                  60:12;61:20,21;66:7  <b>particular (1)</b>                  43:13  <b>particularly (2)</b>                  45:4;49:25  <b>partnership (3)</b>                  19:25;25:15,17  <b>Pass (2)</b>                  52:11,13  <b>passage (1)</b>                  41:12  <b>passionate (1)</b>                  28:8  <b>past (4)</b>                  8:19;11:9;28:13;                  34:17  <b>patches (1)</b>                  48:8</p>				
<b>O</b>				
<p><b>occupied (1)</b>                  8:14</p>				

<p>26:23  <b>period (3)</b>  18:6;38:12;40:15  <b>permanently (2)</b>  28:15;30:8  <b>permit (5)</b>  27:19;31:9;55:25;  56:10,20  <b>permits (2)</b>  4:24;55:23  <b>permitted (3)</b>  28:24;30:14,18  <b>permitters (1)</b>  30:9  <b>permitting (4)</b>  23:19,25;30:2;31:3  <b>perpetually (1)</b>  27:14  <b>perpetuity (1)</b>  38:13  <b>person (1)</b>  68:11  <b>personal (2)</b>  28:6,9  <b>phase (2)</b>  24:23,25  <b>phenomena (1)</b>  26:24  <b>phone (1)</b>  6:18  <b>photographs (1)</b>  52:4  <b>physical (2)</b>  27:7;29:2  <b>pick (7)</b>  23:6,8;48:9;49:17;  50:6,8,13  <b>pickers (1)</b>  50:4  <b>pictures (1)</b>  52:7  <b>piece (1)</b>  61:1  <b>pike (3)</b>  16:1;46:24;51:15  <b>piled (1)</b>  43:17  <b>pilot (3)</b>  48:5;63:22;65:12  <b>pinks (1)</b>  6:12  <b>pipeline (2)</b>  43:2;66:12  <b>Pipiaq (1)</b>  5:21  <b>pit (8)</b>  11:25;32:16;36:13;  37:6,14,18;38:16;  57:6  <b>pits (3)</b>  19:11;32:12;34:19  <b>place (15)</b>  5:18;13:12;16:2,3;</p>	<p>27:24;32:9;35:25;  40:20,24;42:16;  44:18;50:22;58:1;  67:19;68:21  <b>placeholder (1)</b>  35:14  <b>places (3)</b>  36:19;38:3;67:7  <b>plan (9)</b>  14:23,25;28:18,22;  33:9;34:1;35:14;  39:14;44:20  <b>plane (1)</b>  56:11  <b>planning (2)</b>  38:2;39:15  <b>plans (4)</b>  20:1,7,9;44:12  <b>plant (4)</b>  26:6;49:8,15;50:5  <b>plants (6)</b>  2:9;6:20;49:18;  50:2;63:19;68:16  <b>plastic (1)</b>  14:20  <b>plate (2)</b>  60:24,24  <b>plateau (2)</b>  54:5;61:12  <b>play (1)</b>  5:13  <b>playing (2)</b>  37:7;51:11  <b>please (7)</b>  3:15,16;4:5;27:14,  18;28:25;29:17  <b>pod (3)</b>  66:19,21,22  <b>pods (2)</b>  66:19,23  <b>point (10)</b>  4:9;10:25;15:6,7;  30:16;32:22;37:7;  39:25;47:23;59:11  <b>points (1)</b>  19:13  <b>poisoned (1)</b>  34:24  <b>poisonous (1)</b>  33:14  <b>Polley (4)</b>  17:21;20:15;60:5,6  <b>pollutants (2)</b>  21:6;22:4  <b>pollute (2)</b>  11:25;12:6  <b>polluted (5)</b>  19:5,21;32:23;  37:10,13  <b>polluting (2)</b>  30:15;40:22  <b>pollution (4)</b>  11:17,24;39:11;</p>	<p>65:1  <b>pond (3)</b>  15:16;32:13;33:3  <b>ponds (1)</b>  34:13  <b>poor (3)</b>  12:3;33:23;39:21  <b>popular (1)</b>  42:21  <b>population (2)</b>  7:10;13:21  <b>populations (2)</b>  31:5;42:19  <b>port (10)</b>  25:10;42:6,19,19,  23;43:3,12,12,19;66:6  <b>Portage (2)</b>  45:21;47:9  <b>portfolio (1)</b>  29:19  <b>portion (1)</b>  54:8  <b>pose (1)</b>  19:11  <b>poses (1)</b>  33:23  <b>position (1)</b>  43:6  <b>possibilities (1)</b>  42:1  <b>possibility (2)</b>  35:21;41:22  <b>possibly (4)</b>  21:3;35:16,17;  36:18  <b>post (1)</b>  45:23  <b>postscript (1)</b>  27:18  <b>potential (5)</b>  11:14;20:11,18;  30:19;42:18  <b>potentially (3)</b>  20:3;23:21;37:10  <b>pour (1)</b>  12:6  <b>poured (1)</b>  55:7  <b>pouring (1)</b>  57:3  <b>power (4)</b>  3:9;26:6,7;63:9  <b>powerful (2)</b>  3:6;12:11  <b>practical (2)</b>  20:20;22:19  <b>practice (1)</b>  21:2  <b>practices (1)</b>  18:22  <b>precedent (1)</b>  27:2  <b>precious (1)</b></p>	<p>6:24  <b>precipitate (1)</b>  35:18  <b>predators (1)</b>  51:18  <b>predict (1)</b>  64:21  <b>predominantly (1)</b>  64:5  <b>premium (1)</b>  29:6  <b>preparation (1)</b>  6:8  <b>prepare (1)</b>  14:6  <b>prepared (1)</b>  23:2  <b>pre-production (1)</b>  24:23  <b>present (2)</b>  43:18,19  <b>presented (1)</b>  12:19  <b>preserve (1)</b>  8:4  <b>pressure (1)</b>  60:9  <b>pressures (1)</b>  64:18  <b>pretend (1)</b>  32:19  <b>pretty (5)</b>  16:5;45:13;52:4,4;  69:4  <b>prevailing (1)</b>  13:17  <b>prevails (1)</b>  6:15  <b>price (3)</b>  26:19;27:5,7  <b>prices (2)</b>  26:13;29:10  <b>primarily (1)</b>  18:21  <b>prior (2)</b>  57:22,22  <b>pristine (5)</b>  4:22;8:2;10:10,17;  26:15  <b>pro (4)</b>  44:22;53:9;56:19;  69:2  <b>probably (3)</b>  16:9;55:13,14  <b>proceed (1)</b>  34:6  <b>Proceedings (1)</b>  69:6  <b>process (11)</b>  11:8;19:5;23:17,19,  25;24:2,13,24;25:3;  28:18;31:3  <b>processed (1)</b></p>	<p>14:2  <b>processing (1)</b>  22:10  <b>processors (1)</b>  58:17  <b>produce (1)</b>  22:4  <b>produced (1)</b>  32:1  <b>produces (2)</b>  22:5;39:2  <b>product (4)</b>  26:5;58:13,16,21  <b>production (2)</b>  26:7;37:25  <b>productive (1)</b>  59:22  <b>profile (1)</b>  27:5  <b>profitable (1)</b>  34:11  <b>profits (1)</b>  33:10  <b>program (1)</b>  5:11  <b>project (7)</b>  4:10,11;17:13,20;  23:12;24:22;27:14  <b>prokaryotes (1)</b>  20:23  <b>proper (4)</b>  22:2;41:6,10;44:22  <b>property (1)</b>  32:21  <b>proportional (1)</b>  37:3  <b>proposed (10)</b>  6:22;9:4,11,13;  10:2;18:20;19:18;  22:19;53:13,13  <b>proposing (3)</b>  34:3;59:4;66:13  <b>prospect (1)</b>  31:17  <b>protect (4)</b>  12:10;16:17;43:11;  69:1  <b>protected (5)</b>  9:14;13:23;16:4;  18:9;43:24  <b>protecting (3)</b>  13:3;18:22;33:25  <b>protection (1)</b>  13:12  <b>protocols (1)</b>  22:2  <b>proud (2)</b>  52:4,4  <b>prove (1)</b>  3:3  <b>proved (1)</b>  3:4  <b>proven (1)</b></p>
---	---	---	---	---

<p>3:7  <b>provide (6)</b>                  2:9,24;3:11;10:7,                  18;58:21  <b>provided (1)</b>                  6:21  <b>provides (2)</b>                  2:17;58:16  <b>providing (1)</b>                  14:22  <b>pu (1)</b>                  37:17  <b>public (2)</b>                  26:23;53:16  <b>pump (1)</b>                  37:17  <b>pure (1)</b>                  7:1  <b>purify (1)</b>                  21:16  <b>purpose (1)</b>                  2:10  <b>purposes (1)</b>                  7:12  <b>push (1)</b>                  33:9  <b>put (13)</b>                  9:22;18:16;23:4;                  25:17;27:15;28:5;                  43:2,3;53:15;57:17;                  60:10;63:8;67:22  <b>puts (2)</b>                  26:6;38:4  <b>putting (4)</b>                  3:1;44:4;59:8;66:6</p>	<p><b>raises (1)</b>                  39:9  <b>ran (1)</b>                  48:1  <b>range (3)</b>                  60:24;61:18,24  <b>rate (1)</b>                  36:15  <b>raw (1)</b>                  49:18  <b>re (1)</b>                  41:20  <b>reach (1)</b>                  2:18  <b>reaching (1)</b>                  31:3  <b>read (2)</b>                  14:23;35:9  <b>real (4)</b>                  20:17;27:2;35:21;                  39:22  <b>realistic (1)</b>                  39:14  <b>realistically (1)</b>                  36:17  <b>realized (1)</b>                  54:11  <b>really (28)</b>                  3:18,23;5:15;14:7,                  24;16:4;28:8;32:19;                  40:9;41:24;42:9;                  43:25;47:3;48:25;                  54:14,25;55:1,1,20;                  56:23,23,24,25;58:23,                  23;59:22;63:23;66:14  <b>rear (1)</b>                  39:24  <b>rearing (1)</b>                  12:5  <b>reason (5)</b>                  7:15;8:10,11;18:22;                  61:7  <b>reasons (1)</b>                  36:13  <b>Rebels (1)</b>                  3:21  <b>recall (1)</b>                  23:3  <b>received (1)</b>                  26:25  <b>recent (1)</b>                  33:2  <b>recently (1)</b>                  42:21  <b>recognition (1)</b>                  27:2  <b>recognize (3)</b>                  13:10;35:13,16  <b>recognized (2)</b>                  26:24;35:20  <b>record (2)</b>                  35:10;69:5  <b>recorder (1)</b></p>	<p>24:3  <b>recover (2)</b>                  19:10;20:7  <b>Red (1)</b>                  19:24  <b>redirect (1)</b>                  36:14  <b>reds (1)</b>                  6:12  <b>reeked (1)</b>                  32:18  <b>Reference (2)</b>                  18:1,2  <b>referred (1)</b>                  45:22  <b>referring (1)</b>                  54:18  <b>reflects (1)</b>                  28:23  <b>reg (1)</b>                  33:6  <b>regime (3)</b>                  36:19;38:9;40:6  <b>region (11)</b>                  7:9;8:23;9:3,11;                  10:2,6,18;18:16;                  24:15;28:15;30:3  <b>regions (1)</b>                  29:23  <b>region's (1)</b>                  31:7  <b>regulation (1)</b>                  34:12  <b>regulations (2)</b>                  9:17;33:12  <b>regulatory (1)</b>                  33:6  <b>reimbursed (1)</b>                  29:14  <b>related (4)</b>                  21:22;25:7;39:17;                  54:12  <b>relatively (1)</b>                  21:21  <b>release (4)</b>                  20:24;21:19;37:1,                  18  <b>released (1)</b>                  21:7  <b>releases (2)</b>                  19:20;21:6  <b>releasing (1)</b>                  37:3  <b>relies (1)</b>                  10:19  <b>remain (3)</b>                  6:25;7:16,16  <b>remained (2)</b>                  32:15;33:1  <b>remaining (2)</b>                  30:2;37:11  <b>remarkable (1)</b>                  34:25</p>	<p><b>remember (2)</b>                  41:21;49:15  <b>renewable (1)</b>                  31:8  <b>replanting (1)</b>                  19:9  <b>report (3)</b>                  53:25;54:1,2  <b>reporter (3)</b>                  29:15;35:4,9  <b>reputations (1)</b>                  29:11  <b>requesting (1)</b>                  27:19  <b>require (3)</b>                  22:3;30:23;38:13  <b>reside (3)</b>                  7:14;10:25;15:2  <b>resident (6)</b>                  5:24;7:6;25:24;                  35:5;40:6;45:18  <b>residents (7)</b>                  7:14;10:14;13:5,8;                  15:2;20:8;34:5  <b>residing (1)</b>                  8:20  <b>resist (1)</b>                  36:1  <b>resource (4)</b>                  9:5;10:5;14:15;                  18:10  <b>resources (20)</b>                  2:18;11:15,19;12:3,                  10;13:4,16;15:15;                  16:15;17:5,20;19:22;                  31:5;33:8,25;34:5;                  55:22;68:9;69:1,3  <b>respect (2)</b>                  3:9;12:13  <b>respected (1)</b>                  12:11  <b>responsibility (1)</b>                  33:8  <b>responsible (1)</b>                  29:19  <b>rest (1)</b>                  38:9  <b>restore (1)</b>                  29:11  <b>restoring (1)</b>                  19:9  <b>restraint (1)</b>                  33:8  <b>restricted (1)</b>                  33:20  <b>retired (1)</b>                  35:6  <b>retreating (1)</b>                  27:21  <b>return (1)</b>                  33:12  <b>returns (1)</b>                  39:21</p>	<p><b>reverse (1)</b>                  37:9  <b>revisions (1)</b>                  20:2  <b>revisit (1)</b>                  40:4  <b>rich (6)</b>                  21:23;68:7,7,10,11,                  12  <b>Richter (1)</b>                  12:16  <b>ride (1)</b>                  56:12  <b>right (22)</b>                  2:24,25;4:14;9:4;                  10:3;17:1;23:24;30:7;                  35:4;37:13;38:3;39:7;                  43:24;45:7;48:9;                  51:25,25,25;56:3;                  58:5;67:2;68:1  <b>Ring (4)</b>                  59:13,15,16,20  <b>risk (10)</b>                  5:7,10;6:23,23;                  21:19,25;26:20;                  27:15;43:11;48:5  <b>risks (3)</b>                  19:11;21:22;44:18  <b>River (57)</b>                  2:10,14,24;14:15;                  15:20;17:23;19:24;                  23:18,23,23;25:3,6,6;                  32:5,11,24,24,25,25;                  34:3;40:20;45:20;                  46:12,21,25;47:1;                  50:1,15,17,17;51:3,5,                  7,9;53:20;54:4,8;                  57:3,11,12;58:5,5,6,                  12,12;59:18,19,21;                  61:25;62:1;63:12;                  66:21,22,23;67:10,17;                  68:5  <b>rivers (5)</b>                  12:7,7;33:13,22;                  41:16  <b>ro (1)</b>                  39:24  <b>road (9)</b>                  12:25;25:20;39:5;                  41:3,4,23,23;42:1;                  65:2  <b>roads (4)</b>                  41:4,5,15,17  <b>rock (5)</b>                  19:15,19;37:11;                  44:24;59:8  <b>rock-fill (1)</b>                  43:4  <b>role (1)</b>                  30:9  <b>rolled (2)</b>                  64:1,1  <b>rolling (6)</b></p>
<b>Q</b>				
<p><b>quality (1)</b>                  18:23  <b>Questa (1)</b>                  19:23  <b>quit (2)</b>                  53:7,8  <b>quite (3)</b>                  12:15,15;37:24  <b>quote (2)</b>                  33:20;34:1  <b>Quyana (1)</b>                  10:21</p>				
<b>R</b>				
<p><b>racism (1)</b>                  24:6  <b>radioactive (1)</b>                  21:16  <b>rain (1)</b>                  33:21  <b>raised (12)</b>                  7:5,20,20,22;11:1;                  15:7,8,10;16:20;28:2,                  3;31:23</p>				

<p>60:15,15;61:3,4,6,6  <b>root (1)</b>                  19:23  <b>rooted (1)</b>                  2:4  <b>roots (1)</b>                  48:23  <b>route (3)</b>                  25:19;41:25;53:2  <b>routes (1)</b>                  52:15  <b>ruin (1)</b>                  53:17  <b>rules (1)</b>                  9:17  <b>run (9)</b>                  15:20;18:9;27:15,                  15;33:9;44:6;47:3,3;                  51:12  <b>running (3)</b>                  28:13;37:6;43:21  <b>runoff (5)</b>                  32:23;33:4;41:8,15,                  15  <b>runs (3)</b>                  29:20;46:7;51:4  <b>Russia (1)</b>                  67:8  <b>Russian (1)</b>                  57:13  <b>rust-colored (1)</b>                  32:15</p>	<p>32:1  <b>salmons (5)</b>                  7:8;9:6,6;10:5;                  15:20  <b>salt (1)</b>                  41:2  <b>saltwater (3)</b>                  40:1;41:3,4  <b>same (10)</b>                  17:12;21:9;26:22;                  30:3;32:10;47:7,7;                  52:14;59:7;61:9  <b>samples (3)</b>                  17:10,11,12  <b>sanctuary (1)</b>                  57:25  <b>saving (1)</b>                  15:1  <b>saw (3)</b>                  36:4;45:7;52:21  <b>scale (3)</b>                  12:16,16;38:7  <b>scaled (1)</b>                  20:1  <b>scene (1)</b>                  12:21  <b>school (3)</b>                  3:21;65:18;67:23  <b>schools (2)</b>                  62:19,21  <b>scientifically (1)</b>                  60:7  <b>scientists (1)</b>                  11:10  <b>scooping (2)</b>                  47:14,17  <b>scoping (1)</b>                  14:23  <b>scrapped (1)</b>                  20:7  <b>sea (2)</b>                  18:12;25:11  <b>Seafood (1)</b>                  29:10  <b>seal (9)</b>                  47:19;67:5,6,6,7,10,                  16,16;68:15  <b>sealing (1)</b>                  22:2  <b>seals (7)</b>                  16:4;18:13;67:11,                  11,13,15,18  <b>seas (1)</b>                  46:7  <b>season (7)</b>                  2:6,8;6:6,11,14,15;                  8:3  <b>seasonal (1)</b>                  10:4  <b>seasons (2)</b>                  3:25;7:11  <b>second (1)</b>                  36:3</p>	<p><b>secrete (2)</b>                  20:23;21:8  <b>section (1)</b>                  17:13  <b>secure (1)</b>                  14:1  <b>secured (1)</b>                  13:12  <b>security (2)</b>                  14:1;17:6  <b>seem (2)</b>                  36:23;50:18  <b>seems (1)</b>                  45:4  <b>seiner (1)</b>                  46:4  <b>seis (1)</b>                  44:22  <b>seismic (5)</b>                  43:1,1;44:22;55:16,                  17  <b>seismically-safe (1)</b>                  44:17  <b>send (2)</b>                  13:17;30:3  <b>Senior (1)</b>                  15:6  <b>sens (1)</b>                  59:9  <b>sensitive (1)</b>                  59:9  <b>serious (4)</b>                  11:16;19:17;39:22;                  43:19  <b>serves (1)</b>                  26:4  <b>services (1)</b>                  26:7  <b>session (1)</b>                  56:11  <b>set (4)</b>                  23:2;27:3;46:13;                  51:14  <b>settled (2)</b>                  31:22;55:9  <b>settlement (1)</b>                  26:25  <b>seven (3)</b>                  11:2;28:13;67:24  <b>several (3)</b>                  8:19;22:11;30:5  <b>severe (1)</b>                  12:24  <b>severely (2)</b>                  33:1;34:3  <b>shallowness (1)</b>                  43:20  <b>share (3)</b>                  8:4,4;17:5  <b>shared (2)</b>                  53:22;54:2  <b>sharing (1)</b>                  29:23</p>	<p><b>Sharon (3)</b>                  10:22,22,25  <b>S-h-a-r-o-n (1)</b>                  10:23  <b>Shelikof (2)</b>                  66:7,9  <b>shift (4)</b>                  55:6,14,17;64:9  <b>shifts (2)</b>                  62:2,2  <b>ship (1)</b>                  65:5  <b>shipping (2)</b>                  44:11,15  <b>ships (2)</b>                  43:6,20  <b>shoals (1)</b>                  47:22  <b>Shoot (2)</b>                  41:19;52:9  <b>shopping (2)</b>                  59:5,5  <b>Shore (1)</b>                  40:14  <b>shores (1)</b>                  29:24  <b>short (2)</b>                  6:14;12:9  <b>shorter (1)</b>                  40:15  <b>Shortly (1)</b>                  6:11  <b>short-term (1)</b>                  27:8  <b>showed (3)</b>                  20:15;53:22;54:3  <b>showing (1)</b>                  24:17  <b>shy (1)</b>                  30:20  <b>side (17)</b>                  17:15;41:23;42:4;                  52:20,20;53:11;                  54:23;59:16;61:21,                  22,25;65:20;66:5,5,                  16,20,25  <b>significant (1)</b>                  42:14  <b>silt (2)</b>                  41:15;44:6  <b>silvers (1)</b>                  6:12  <b>similar (1)</b>                  21:24  <b>similarity (1)</b>                  67:9  <b>simple (1)</b>                  22:7  <b>single (2)</b>                  35:19;57:14  <b>sit (3)</b>                  24:11;68:22,23  <b>site (12)</b></p>	<p>9:11,13,14;10:10;                  19:8,9;20:8;25:7;                  36:25;43:12;45:11;                  48:13  <b>sites (4)</b>                  17:8,9,12;43:10  <b>sits (1)</b>                  3:13  <b>sitting (2)</b>                  61:12;65:17  <b>situation (1)</b>                  54:22  <b>situations (1)</b>                  35:23  <b>six (1)</b>                  42:7  <b>size (4)</b>                  7:10;10:11,16;                  43:20  <b>skies (1)</b>                  33:13  <b>skills (1)</b>                  62:22  <b>skip (1)</b>                  30:23  <b>skipped (1)</b>                  63:3  <b>slamming (1)</b>                  65:19  <b>slides (2)</b>                  19:15,15  <b>slim (1)</b>                  41:24  <b>slipped (1)</b>                  41:20  <b>slippery (2)</b>                  60:9,10  <b>slope (1)</b>                  19:12  <b>slow (1)</b>                  29:15  <b>slurry (1)</b>                  45:5  <b>small (9)</b>                  21:21;32:9;34:1,2,                  7,45;19,25;55:1;60:9  <b>smaller (3)</b>                  34:2;35:13;51:17  <b>smelt (1)</b>                  47:17  <b>smelts (3)</b>                  47:8,8,22  <b>smokehouse (1)</b>                  23:9  <b>smolt (2)</b>                  39:24;40:2  <b>smolts (1)</b>                  39:25  <b>snow (4)</b>                  31:18;33:22;34:20;                  42:3  <b>social (1)</b>                  35:23</p>
<b>S</b>				
<p><b>saddens (1)</b>                  3:19  <b>safe (4)</b>                  33:15;41:12;66:3,3  <b>safety (1)</b>                  62:19  <b>Safeway (1)</b>                  49:20  <b>sailing (1)</b>                  40:23  <b>salmon (55)</b>                  4:23;6:11;10:6;                  11:13,15,16,23;12:2;                  13:19;15:9,11,14,25;                  17:4,6,23;18:9;20:4,5,                  17;23:5,13,14,15;                  26:1;28:10;29:1,2,7,                  17,19,20,22,23;30:1,                  5,7;34:21;39:24;40:8;                  41:1;46:5;47:6,21;                  50:24;51:19;58:11,                  15,19,20,22;59:14,23;                  66:24;68:2  <b>salmonberries (1)</b>                  48:15  <b>salmonberry (3)</b>                  50:9,10,12  <b>salmon-fed (1)</b></p>				

<b>sockeye (5)</b> 20:4,5;23:7,9,14	<b>speak (6)</b> 7:13;18:11,12;24:4, 9;42:6	45:2	<b>storm (1)</b> 40:11	7:18,25;8:7,13;11:2,5, 18;15:8,12;17:16;
<b>Soil (3)</b> 17:10,11,12	<b>speaking (1)</b> 8:20	<b>staff (1)</b> 26:6	<b>storms (5)</b> 40:14;42:5;43:18; 44:7;64:23	18:22;26:3;28:4; 35:23;46:3;47:12; 56:24
<b>solid (4)</b> 20:22;40:13;41:25; 61:1	<b>Speaks (4)</b> 10:19,21;17:2; 49:16	<b>stage (2)</b> 52:22;62:6	<b>story (3)</b> 28:6;51:8;55:13	<b>subsisting (1)</b> 7:25
<b>solutions (1)</b> 21:23	<b>special (1)</b> 40:24	<b>stages (1)</b> 8:22	<b>stove (1)</b> 6:17	<b>substantially (1)</b> 33:4
<b>solve (1)</b> 3:2	<b>species (8)</b> 2:8;17:16;20:5; 23:14,15;40:6,8; 66:17	<b>stake (1)</b> 30:19	<b>Strait (2)</b> 66:8,9	<b>subsurface (7)</b> 36:8,9;37:10,11,14; 38:1,8
<b>Somebody (2)</b> 55:18,19	<b>specifics (1)</b> 45:14	<b>stand (3)</b> 20:11;24:9;69:4	<b>streams (15)</b> 9:8;11:25;12:1,7,7; 13:18,24;14:7,9,19; 15:17;19:20;25:2; 31:18;41:9	<b>successful (1)</b> 29:19
<b>someone (2)</b> 27:4;56:19	<b>specious (1)</b> 36:1	<b>standards (1)</b> 30:20	<b>strict (1)</b> 19:3	<b>suck (1)</b> 48:23
<b>sometimes (1)</b> 32:8	<b>speculation (2)</b> 39:20,23	<b>stands (1)</b> 22:19	<b>strip (2)</b> 18:19;19:18	<b>suckers (2)</b> 46:24;51:16
<b>somewhat (1)</b> 42:21	<b>speed (1)</b> 29:15	<b>start (4)</b> 48:24,24;49:12; 51:6	<b>strip-mining (1)</b> 19:9	<b>sucking (1)</b> 48:24
<b>somewhere (1)</b> 65:7	<b>spelling (1)</b> 35:4	<b>started (3)</b> 51:10;53:24;54:20	<b>stripped (1)</b> 19:7	<b>sudden (3)</b> 55:12;62:10,13
<b>sons (1)</b> 31:24	<b>spend (1)</b> 37:22	<b>starts (4)</b> 6:8,11;48:22;61:6	<b>strong (3)</b> 47:3;61:25;62:1	<b>sufficient (3)</b> 12:23;14:12;38:25
<b>soon (1)</b> 48:23	<b>spent (3)</b> 29:11;40:12,23	<b>state (8)</b> 8:16;9:18;10:19; 13:7,9;17:15;28:16; 55:21	<b>stronghold (1)</b> 30:7	<b>suggest (1)</b> 36:23
<b>sooner (1)</b> 43:21	<b>spill (5)</b> 15:16;26:18;27:4; 34:23;40:10	<b>statement (4)</b> 5:17;14:7;20:5; 35:9	<b>structural (1)</b> 19:13	<b>sulfide (2)</b> 11:14;32:10
<b>sorry (4)</b> 17:22;32:25;34:10; 62:23	<b>spills (3)</b> 21:16;29:9;39:10	<b>statements (1)</b> 13:11	<b>structure (1)</b> 10:16	<b>sulfides (1)</b> 19:19
<b>sort (5)</b> 32:10;39:9;41:17; 45:5;49:22	<b>spoils (2)</b> 44:4,5	<b>state's (1)</b> 31:8	<b>structures (1)</b> 27:10	<b>sulfite (1)</b> 34:2
<b>sorts (1)</b> 41:17	<b>spoke (1)</b> 8:15	<b>stating (2)</b> 15:13;16:7	<b>struggled (1)</b> 28:5	<b>sulfur (1)</b> 32:18
<b>sound (1)</b> 13:20	<b>spoken (2)</b> 8:12;42:9	<b>status (1)</b> 2:22	<b>Stu (1)</b> 57:23	<b>sulfurous (1)</b> 33:21
<b>sounds (1)</b> 44:1	<b>spook (1)</b> 52:15	<b>stay (1)</b> 13:12	<b>students (1)</b> 62:21	<b>sulphuric (1)</b> 19:19
<b>sour (1)</b> 49:3	<b>sport (2)</b> 11:23;42:21	<b>steadily (1)</b> 34:23	<b>studied (1)</b> 25:16	<b>summer (6)</b> 2:7;4:21;6:7;7:11; 46:11,12
<b>source (6)</b> 8:3;10:4,7,16;22:8; 57:4	<b>spot (2)</b> 60:9,10	<b>steep (1)</b> 19:12	<b>studies (8)</b> 25:18;47:20;53:22; 55:15;56:3;63:16; 64:25;67:6	<b>summer/spring (1)</b> 49:13
<b>sources (2)</b> 8:1;31:8	<b>spread (1)</b> 54:4	<b>sterile (2)</b> 32:24;34:4	<b>study (7)</b> 4:25;20:17;56:21, 22;58:24;67:15;68:24	<b>summertime (1)</b> 47:21
<b>South (5)</b> 22:12;25:1;42:3; 54:9;68:5	<b>spring (8)</b> 2:7;4:21;6:8;7:11; 26:7;48:10,12;49:15	<b>still (15)</b> 3:19;4:2;6:3,19; 7:15,22;8:5,11;9:24; 38:18;50:22;51:2,18; 59:17;67:3	<b>stuff (2)</b> 44:5;45:5	<b>supermarket (1)</b> 4:21
<b>southeast (5)</b> 43:14;54:8;58:19; 65:12,24	<b>springtime (1)</b> 50:14	<b>stirring (1)</b> 63:20	<b>Stuyahok (3)</b> 23:1;25:6,6	<b>supplements (1)</b> 14:3
<b>southern (1)</b> 25:19	<b>sprouting (1)</b> 6:9	<b>stood (1)</b> 24:9	<b>style (1)</b> 6:6	<b>supply (3)</b> 38:19,22,25
<b>southwest (2)</b> 31:22;57:1	<b>SR (2)</b> 15:4,5	<b>stop (4)</b> 3:19,22;4:5;57:5	<b>su (1)</b> 17:22	<b>support (4)</b> 12:10;26:7;27:11; 31:24
<b>span (1)</b> 27:16	<b>St (1)</b> 42:24	<b>stopped (1)</b> 47:11	<b>Subdivision (1)</b> 45:6	<b>supported (1)</b> 25:25
<b>spawn (5)</b> 11:13;13:19;15:20; 16:1;41:1	<b>stability (2)</b> 19:13;20:13	<b>storage (9)</b> 3:3,7;20:10;39:11; 44:13,24,25;45:2,3	<b>subsist (1)</b> 3:24	<b>supporting (1)</b> 13:4
<b>spawning (3)</b> 9:6,7;12:5	<b>stabilize (1)</b> 19:14	<b>stores (4)</b> 26:5;49:21,22,24	<b>subsistence (22)</b> 4:11;5:25;6:1,6,19;	<b>supports (1)</b> 27:15
	<b>stable (1)</b>			<b>supposed (2)</b> 24:23,24
				<b>suppressing (1)</b>

<p>24:7  <b>sure (4)</b>          6:4;10:16;44:5;          67:1  <b>surface (8)</b>          18:25;19:2,4,7,8,          15;36:19;41:7  <b>surrounded (1)</b>          9:8  <b>surrounding (5)</b>          8:23;9:8;14:16;          31:20;32:17  <b>survival (5)</b>          6:20;11:16;42:16;          62:20,21  <b>survive (3)</b>          51:20;59:23;62:5  <b>survived (1)</b>          48:7  <b>sustain (1)</b>          60:21  <b>sustainability (1)</b>          26:14  <b>sustainable (6)</b>          7:25;9:5;10:18;          29:7,20;30:1  <b>sustained (3)</b>          11:7;17:22;60:19  <b>sustains (1)</b>          6:13  <b>swam (1)</b>          67:16  <b>Swan (1)</b>          58:4  <b>sweet (1)</b>          48:25  <b>system (10)</b>          34:23;35:1;39:2,5,          21;40:1;46:21;51:10;          61:10;65:7  <b>systems (7)</b>          12:25;14:15;32:5,          11;51:8;54:4;59:22</p>	<p>11:10;43:7;56:6;          58:10;62:17  <b>talked (2)</b>          54:13;57:23  <b>talking (10)</b>          11:11;24:2,5;35:7;          38:18;39:3;43:21;          54:21;63:4,18  <b>tangled (1)</b>          46:10  <b>target (1)</b>          28:22  <b>task (1)</b>          24:21  <b>taught (8)</b>          4:5;6:4;7:20,20;          8:6;62:19,20,22  <b>taxpayer (2)</b>          27:22;33:5  <b>taxpayers (1)</b>          34:17  <b>teach (1)</b>          65:18  <b>teacher (1)</b>          48:2  <b>teachers (1)</b>          62:20  <b>teaching (1)</b>          62:25  <b>teachings (1)</b>          7:17  <b>team (1)</b>          50:21  <b>technique (2)</b>          20:21;21:5  <b>technology (1)</b>          30:10  <b>telling (1)</b>          55:2  <b>tells (5)</b>          51:8;55:24;56:13;          60:14;64:2  <b>tend (1)</b>          45:8  <b>tenders (1)</b>          58:17  <b>terms (1)</b>          37:13  <b>terrain (1)</b>          60:22  <b>terrific (1)</b>          63:13  <b>terrified (1)</b>          31:2  <b>test (1)</b>          20:11  <b>testified (1)</b>          24:20  <b>testify (1)</b>          24:18  <b>testimony (3)</b>          14:22;28:5;31:13  <b>thanks (1)</b></p>	<p>36:8  <b>that's (9)</b>          15:21;16:6;45:14;          49:6;51:4;55:25;          59:17;64:12,16  <b>thawing (2)</b>          31:18;48:24  <b>There's (2)</b>          40:9;66:19  <b>therefore (1)</b>          12:1  <b>they're (1)</b>          66:25  <b>thicker (1)</b>          59:6  <b>thin (1)</b>          34:24  <b>thinking (3)</b>          2:6;17:8;68:10  <b>third (1)</b>          17:19  <b>third-world (1)</b>          2:22  <b>Thomas (3)</b>          45:17,17,18  <b>thoroughly (4)</b>          36:11,12;37:5;          46:22  <b>though (4)</b>          9:12;26:18;40:16;          50:22  <b>thought (5)</b>          24:16;32:18;35:20;          47:5;63:1  <b>thousand (1)</b>          30:5  <b>thousands (4)</b>          2:17,17;11:7;17:10  <b>threatens (1)</b>          26:17  <b>threats (2)</b>          43:1,19  <b>three (7)</b>          3:23;11:1;17:11;          28:21;40:13;49:21;          60:3  <b>thrive (1)</b>          35:1  <b>throughout (5)</b>          4:20;17:5;32:15;          62:18;67:18  <b>tidal (1)</b>          47:8  <b>tides (1)</b>          47:10  <b>Tilden (3)</b>          45:17,17,18  <b>T-i-l-d-e-n (1)</b>          45:17  <b>till (1)</b>          54:20  <b>times (2)</b>          33:18;44:19</p>	<p><b>tired (3)</b>          13:7;28:7;59:3  <b>today (15)</b>          4:18;7:13,20;8:6,          11,13;9:2;17:2;23:1,          12;28:5;29:22;39:2;          58:3;69:4  <b>today's (1)</b>          17:17  <b>toe-in-the-door (1)</b>          35:15  <b>together (2)</b>          25:17;28:5  <b>Togiak (8)</b>          4:9;5:21,24;6:2;7:5,          7,8;67:13  <b>told (9)</b>          33:4;54:14,15,21;          56:8,8;57:24;68:6,6  <b>Tom (1)</b>          56:14  <b>tonight (2)</b>          24:7;50:25  <b>tons (2)</b>          59:7,7  <b>took (5)</b>          49:4;52:5;59:25,25;          65:16  <b>tool (1)</b>          26:17  <b>top (4)</b>          2:16;63:24,25;          67:24  <b>topic (1)</b>          38:19  <b>totally (4)</b>          36:16;56:17;61:10;          66:3  <b>touched (2)</b>          3:15;43:10  <b>toward (1)</b>          31:19  <b>towards (1)</b>          12:1  <b>town (1)</b>          26:8  <b>toxic (7)</b>          21:11,12;33:4;          34:19;37:20;38:16;          63:21  <b>toxins (1)</b>          11:17  <b>trade (3)</b>          18:10;31:7;58:15  <b>tradeoff (1)</b>          29:13  <b>tradeoffs (1)</b>          45:1  <b>trading (1)</b>          30:5  <b>traditional (5)</b>          9:16,20;17:8;22:3,9  <b>traffic (2)</b></p>	<p>39:18;41:16  <b>trail (1)</b>          63:25  <b>train (1)</b>          63:1  <b>transportation (3)</b>          25:9,16,19  <b>travel (2)</b>          50:15;63:5  <b>traveled (1)</b>          62:18  <b>traversed (1)</b>          66:11  <b>treat (1)</b>          37:18  <b>treated (3)</b>          12:17;36:22,25  <b>treating (1)</b>          24:14  <b>treatment (5)</b>          12:18;21:23;24:20;          38:12,13  <b>tremendous (2)</b>          44:1;54:24  <b>Treydte (2)</b>          25:23,23  <b>T-r-e-y-d-t-e (1)</b>          25:24  <b>Tribe (1)</b>          22:23  <b>tributaries (2)</b>          31:20;47:1  <b>trickled (1)</b>          32:22  <b>tried (1)</b>          28:5  <b>trout (3)</b>          16:1;46:24;53:17  <b>trucks (2)</b>          34:20;44:10  <b>truly (2)</b>          30:24;60:2  <b>try (2)</b>          3:22;45:15  <b>trying (5)</b>          43:2,3,7;50:9;51:11  <b>TSF (1)</b>          20:10  <b>tsunami (1)</b>          44:18  <b>tundras (1)</b>          14:16  <b>tunnels (1)</b>          32:12  <b>turbulence (1)</b>          65:21  <b>turn (1)</b>          13:2  <b>Turnagain (1)</b>          45:6  <b>turned (1)</b>          45:5  <b>turning (1)</b></p>
<b>T</b>				
<p><b>table (3)</b>          3:12,13;57:16  <b>tagged (1)</b>          67:15  <b>tailing (2)</b>          15:16;34:23  <b>tailings (13)</b>          20:9,10,10;22:8,17;          23:20,22;27:10;          32:13;33:3;34:13;          44:24;53:15  <b>tainted (1)</b>          26:20  <b>Talarik (7)</b>          25:2;51:4;52:3;          53:14,18;54:7;62:9  <b>talk (5)</b></p>	<p><b>terms (1)</b>          37:13  <b>terrain (1)</b>          60:22  <b>terrific (1)</b>          63:13  <b>terrified (1)</b>          31:2  <b>test (1)</b>          20:11  <b>testified (1)</b>          24:20  <b>testify (1)</b>          24:18  <b>testimony (3)</b>          14:22;28:5;31:13  <b>thanks (1)</b></p>	<p><b>thrive (1)</b>          35:1  <b>throughout (5)</b>          4:20;17:5;32:15;          62:18;67:18  <b>tidal (1)</b>          47:8  <b>tides (1)</b>          47:10  <b>Tilden (3)</b>          45:17,17,18  <b>T-i-l-d-e-n (1)</b>          45:17  <b>till (1)</b>          54:20  <b>times (2)</b>          33:18;44:19</p>	<p><b>tired (3)</b>          13:7;28:7;59:3  <b>today (15)</b>          4:18;7:13,20;8:6,          11,13;9:2;17:2;23:1,          12;28:5;29:22;39:2;          58:3;69:4  <b>today's (1)</b>          17:17  <b>toe-in-the-door (1)</b>          35:15  <b>together (2)</b>          25:17;28:5  <b>Togiak (8)</b>          4:9;5:21,24;6:2;7:5,          7,8;67:13  <b>told (9)</b>          33:4;54:14,15,21;          56:8,8;57:24;68:6,6  <b>Tom (1)</b>          56:14  <b>tonight (2)</b>          24:7;50:25  <b>tons (2)</b>          59:7,7  <b>took (5)</b>          49:4;52:5;59:25,25;          65:16  <b>tool (1)</b>          26:17  <b>top (4)</b>          2:16;63:24,25;          67:24  <b>topic (1)</b>          38:19  <b>totally (4)</b>          36:16;56:17;61:10;          66:3  <b>touched (2)</b>          3:15;43:10  <b>toward (1)</b>          31:19  <b>towards (1)</b>          12:1  <b>town (1)</b>          26:8  <b>toxic (7)</b>          21:11,12;33:4;          34:19;37:20;38:16;          63:21  <b>toxins (1)</b>          11:17  <b>trade (3)</b>          18:10;31:7;58:15  <b>tradeoff (1)</b>          29:13  <b>tradeoffs (1)</b>          45:1  <b>trading (1)</b>          30:5  <b>traditional (5)</b>          9:16,20;17:8;22:3,9  <b>traffic (2)</b></p>	<p><b>tributaries (2)</b>          31:20;47:1  <b>trickled (1)</b>          32:22  <b>tried (1)</b>          28:5  <b>trout (3)</b>          16:1;46:24;53:17  <b>trucks (2)</b>          34:20;44:10  <b>truly (2)</b>          30:24;60:2  <b>try (2)</b>          3:22;45:15  <b>trying (5)</b>          43:2,3,7;50:9;51:11  <b>TSF (1)</b>          20:10  <b>tsunami (1)</b>          44:18  <b>tundras (1)</b>          14:16  <b>tunnels (1)</b>          32:12  <b>turbulence (1)</b>          65:21  <b>turn (1)</b>          13:2  <b>Turnagain (1)</b>          45:6  <b>turned (1)</b>          45:5  <b>turning (1)</b></p>

22:13 <b>turns (3)</b> 9:17;36:20;49:2 <b>Tuyuryaq (1)</b> 5:21 <b>twists (1)</b> 9:17 <b>two (9)</b> 7:6;29:21;33:1,22; 34:9,10;49:21;61:18; 67:6 <b>two-thirds (1)</b> 39:1 <b>two-year (1)</b> 68:24 <b>type (3)</b> 16:17,23;38:13 <b>types (1)</b> 21:18 <b>typical (1)</b> 21:6 <b>typically (2)</b> 20:23;21:1	<b>unrealistic (1)</b> 36:2 <b>unscathed (1)</b> 29:22 <b>untouched (1)</b> 3:2 <b>up (84)</b> 2:22;5:25;7:20; 8:12,15,21;15:10,10, 20,21;16:1,2,9;20:19; 24:11,17;26:6,7; 27:22;28:4;30:15; 31:21;32:6;33:10; 38:5,19;40:5,19,23; 42:15;44:7;45:19; 46:1,2,16,21,25;47:1, 9,14,17;48:2,13,13, 13,14,23,24;49:10,10, 11;50:1,4,22;51:11, 18,25;52:19,23; 53:16;54:6;57:23,25; 58:4;59:1,25;61:6,13; 62:15;63:20,22;64:2, 4,10,10,24;65:11,18, 19;67:12,13,14;68:5, 10 <b>update (1)</b> 17:18 <b>updated (1)</b> 17:17 <b>Upper (1)</b> 25:2 <b>upside (1)</b> 48:3 <b>upstream (2)</b> 15:10;26:12 <b>urban (1)</b> 39:13 <b>use (12)</b> 9:25;20:7;21:16,17; 37:25,25;39:10,14,15; 57:16,17,18 <b>used (15)</b> 10:7;21:1,3,9; 32:19;42:7,8;45:21, 21;50:15;53:6;61:20, 21;67:2,2 <b>user (1)</b> 5:25 <b>uses (4)</b> 22:5,16;38:22; 39:12 <b>using (5)</b> 10:11;15:22;20:23; 22:9,10 <b>usually (2)</b> 38:14;42:15 <b>utilizes (1)</b> 22:16 <b>utterly (1)</b> 41:14	<b>V</b> <b>Valdez (2)</b> 26:18;29:8 <b>Valley (3)</b> 53:14;63:13,15 <b>valued (1)</b> 30:22 <b>variety (1)</b> 36:12 <b>various (2)</b> 11:9;37:14 <b>vast (1)</b> 8:1 <b>Vegetation (3)</b> 19:7,14;32:17 <b>vein (2)</b> 2:10,10 <b>verifiable (1)</b> 28:6 <b>verified (1)</b> 40:3 <b>Vermont (1)</b> 32:9 <b>vertical (1)</b> 19:12 <b>vessel (1)</b> 42:20 <b>viable (1)</b> 30:25 <b>vice-chairman (1)</b> 56:7 <b>vicinity (1)</b> 48:18 <b>vicious (1)</b> 40:15 <b>victim (1)</b> 33:23 <b>video (2)</b> 12:18;17:13 <b>view (1)</b> 31:16 <b>viewed (1)</b> 31:3 <b>viewing (1)</b> 17:14 <b>village (13)</b> 2:21,23;7:14;45:19, 25;46:16;48:2,17; 50:3;63:7,9,11;65:10 <b>villages (12)</b> 7:15,16;8:11,14,20, 23;49:24,24;53:6,9; 63:6,8 <b>violent (2)</b> 65:20;66:12 <b>virtually (1)</b> 19:6 <b>Vista (1)</b> 68:1 <b>voice (3)</b> 3:12;4:18;9:23	<b>voices (3)</b> 8:22,22;10:20 <b>vol (1)</b> 54:18 <b>volcano (9)</b> 5:14,15;42:24,25; 54:17,17,18;55:4,14 <b>volcanos (2)</b> 44:21;45:10 <b>volume (1)</b> 14:12 <b>volumes (1)</b> 24:18 <b>W</b> <b>wait (3)</b> 28:18,19,19 <b>waiting (2)</b> 24:18;44:15 <b>walk (1)</b> 55:23 <b>walls (2)</b> 19:12;65:20 <b>wants (1)</b> 55:22 <b>warmer (2)</b> 59:19,22 <b>warning (1)</b> 19:16 <b>wars (1)</b> 41:13 <b>wash (1)</b> 34:20 <b>Washington (3)</b> 15:1;29:18;59:2 <b>wasn't (1)</b> 55:13 <b>WASSILY (3)</b> 15:4,5,5 <b>W-a-s-s-i-l-y (1)</b> 15:5 <b>Wassily-Walker (1)</b> 10:24 <b>W-a-s-s-i-l-y-W-a-l-k-e-r (1)</b> 10:24 <b>waste (3)</b> 22:2;33:21;44:24 <b>wasteland (1)</b> 32:16 <b>watch (1)</b> 41:1 <b>water (89)</b> 5:3,6,7,10;6:5,21, 22,25;10:10;12:6,11, 13,17,19,20;14:10,19; 15:17,22,23,25;16:10, 10;18:12,23;19:21, 22;25:4;28:10;30:24; 32:22;36:4,6,10,14, 16,19,19,22,24;37:7, 8,9,13,17,18,19,24; 38:2,8,9,9,13;39:17;	40:25;41:7,12;47:8; 48:20,24;50:17;57:1, 1,2,4,5,5,7,10,13,14, 15,17,18,18,19,19,24; 58:8;59:21;60:16; 61:10,13,19,20,24; 62:2;65:9;66:12 <b>waters (10)</b> 2:9;8:2;9:25;10:17; 11:15,24;26:15; 29:10;36:8;58:22 <b>watershed (1)</b> 27:6 <b>watershed's (1)</b> 34:4 <b>waterway (2)</b> 20:4;41:10 <b>waterways (1)</b> 29:23 <b>waves (1)</b> 40:14 <b>way (26)</b> 2:25;3:1;9:12; 10:13,15;15:21; 17:19;20:3;28:11; 29:1;30:11,12,16; 41:1,23;42:2;44:10; 49:19;53:18;56:13; 58:4;64:13,14,16; 67:16;68:12 <b>ways (7)</b> 7:18,25;8:7;9:16, 20;13:18;41:9 <b>weather (6)</b> 43:15;44:19;64:6; 65:4;66:1,14 <b>web (2)</b> 46:10;52:1 <b>wedge (1)</b> 34:25 <b>weights (1)</b> 40:18 <b>welcome (2)</b> 31:13;35:9 <b>wells (2)</b> 37:24;38:1 <b>west (5)</b> 7:7;9:12;54:9,10; 64:6 <b>western (1)</b> 4:9 <b>wetland (1)</b> 61:15 <b>wetlands (2)</b> 60:16;61:14 <b>wetter (1)</b> 37:23 <b>whale (1)</b> 68:16 <b>What's (1)</b> 18:15 <b>what's (1)</b> 37:22
<b>U</b> <b>Uganda (2)</b> 22:14,16 <b>unacceptably (1)</b> 30:15 <b>Unalaska (1)</b> 43:24 <b>uncalled (1)</b> 24:21 <b>uncontaminated (1)</b> 5:5 <b>under (4)</b> 22:1;25:4;48:20; 52:2 <b>underground (2)</b> 19:2;25:5 <b>undersized (1)</b> 40:2 <b>undesirable (1)</b> 5:16 <b>unearthing (1)</b> 33:21 <b>uneconomical (1)</b> 22:9 <b>unfair (1)</b> 29:13 <b>unfairness (1)</b> 33:20 <b>Unfortunately (1)</b> 19:3 <b>unique (1)</b> 29:21 <b>United (1)</b> 58:14 <b>University (3)</b> 29:18;67:24,25 <b>unpredictable (1)</b> 64:20				

<b>whining (1)</b> 33:20	<b>woman (2)</b> 2:3;11:5	30:10;32:6;33:2,2; 35:6;37:23;47:15,15; 52:24;54:20;62:19, 22,22,23	20:15	47:4;51:20,21
<b>White (1)</b> 65:22	<b>wonder (5)</b> 2:5;36:17;40:4; 55:20;59:14	<b>yellow (1)</b> 33:13	<b>20s (1)</b> 47:16	<b>8</b>
<b>whitefish (3)</b> 46:24;47:3;51:15	<b>wondering (3)</b> 14:11;37:6;55:5	<b>York (1)</b> 64:12	<b>20-year (1)</b> 24:24	<b>8.9 (4)</b> 60:19,19,21;62:5
<b>whole (15)</b> 10:2;23:6;24:13; 25:16;28:12;36:19; 37:4;39:9,14;42:22; 44:20;45:11;52:20, 25;61:4	<b>work (5)</b> 6:14;32:2;36:9,22; 42:7	<b>you're (1)</b> 54:11	<b>230 (1)</b> 39:3	<b>800 (1)</b> 7:10
<b>whose (1)</b> 27:15	<b>worked (3)</b> 29:5;35:7;58:19	<b>young (7)</b> 23:3,8;31:21;48:22, 22;49:1;57:24	<b>25-fathom (1)</b> 23:4	<b>850 (1)</b> 12:19
<b>widely (2)</b> 10:7;21:3	<b>worker (1)</b> 68:2	<b>youth (1)</b> 32:15	<b>27 (1)</b> 3:20	<b>9</b>
<b>wife (1)</b> 5:22	<b>workers (1)</b> 58:17	<b>Yukon (1)</b> 68:5	<b>29 (1)</b> 35:5	<b>90s (1)</b> 38:20
<b>wild (6)</b> 2:18;10:4;12:4; 13:19;29:7;30:7	<b>working (1)</b> 13:8	<b>Yup'ik (10)</b> 10:19,21;17:2,3; 45:20;46:16;49:16; 57:11,11;62:21	<b>3</b>	
<b>wildlife (5)</b> 13:19;17:17;18:22; 35:1,24	<b>world (15)</b> 4:23;10:19;17:5; 18:8,8;32:6;38:3; 58:12,16,20,21,22; 60:2;61:2;67:7	<b>1</b>	<b>3,000 (1)</b> 31:21	
<b>WILLIAMS (3)</b> 22:21,22,22	<b>world's (1)</b> 18:8	<b>1 (1)</b> 33:25	<b>30 (2)</b> 40:25;67:3	
<b>W-i-l-l-i-a-m-s (1)</b> 22:22	<b>world-class (1)</b> 60:18	<b>10 (3)</b> 11:9;24:10;33:25	<b>30s (1)</b> 47:16	
<b>willing (1)</b> 29:6	<b>world's (2)</b> 11:22;31:5	<b>12 (1)</b> 62:22	<b>30-year (2)</b> 38:12,14	
<b>Willy (1)</b> 67:14	<b>Worldwide (2)</b> 18:25;38:13	<b>120-plus (1)</b> 63:17	<b>325 (1)</b> 39:4	
<b>wind (11)</b> 12:13;34:18;63:4,4, 5,13,16;64:2,3,21; 65:11	<b>worried (3)</b> 56:24,24,25	<b>14 (5)</b> 24:23,25;25:16; 62:22,23	<b>32-foot (1)</b> 28:13	
<b>windmill (3)</b> 63:8,8,11	<b>worries (1)</b> 37:19	<b>1700s (1)</b> 57:21	<b>35 (1)</b> 32:6	
<b>winds (9)</b> 13:17;63:17,20; 64:17,21,23;65:8,23; 66:9	<b>worry (3)</b> 11:16;12:17;40:4	<b>1900s (1)</b> 21:2	<b>4</b>	
<b>windstorm (1)</b> 63:10	<b>worth (1)</b> 6:23	<b>1924 (1)</b> 68:6	<b>40 (2)</b> 18:25;67:3	
<b>winter (6)</b> 2:7;4:21;6:8;40:6; 42:4;48:1	<b>wounds (1)</b> 57:17	<b>1960 (1)</b> 49:5	<b>404c (1)</b> 18:6	
<b>wintertime (2)</b> 46:24;64:5	<b>Wright (3)</b> 31:11,11,14	<b>1962 (1)</b> 47:25	<b>5</b>	
<b>wish (1)</b> 10:20	<b>W-r-i-g-h-t (1)</b> 31:12	<b>1964 (1)</b> 60:13	<b>50 (6)</b> 20:1;24:18,19; 51:11,11;58:21	
<b>wishes (1)</b> 10:20	<b>wrong (4)</b> 2:25;5:17;68:21,21	<b>Y</b>	<b>6</b>	
<b>within (5)</b> 13:11,16;14:5;47:9; 48:18	<b>year (6)</b> 4:20,20;34:18,20; 47:25;57:14	<b>2</b>	<b>60 (1)</b> 33:2	
<b>without (8)</b> 2:5,10,13;19:8,14, 15;30:12;33:8	<b>yearly (1)</b> 66:9	<b>2,300 (2)</b> 24:15,17	<b>60s (5)</b> 46:1,6;49:5;51:20, 21	
<b>withstand (1)</b> 3:7	<b>year-round (8)</b> 6:6;7:6,14,24;8:20; 10:8;39:18;41:12	<b>2:00 (1)</b> 59:2	<b>65 (1)</b> 7:7	
<b>witnessed (1)</b> 9:15	<b>years (28)</b> 3:20;8:16,19;9:15, 23;11:7,9;13:15; 17:10;24:23,25; 25:17;28:13;29:21;	<b>20 (1)</b> 13:15	<b>7</b>	
		<b>20,000 (2)</b> 58:16;68:19	<b>7.9 (1)</b> 45:12	
		<b>2000s (3)</b> 38:20,21;39:21	<b>70 (2)</b> 40:13,13	
		<b>2005 (1)</b> 17:18	<b>700-foot (1)</b> 52:3	
		<b>2014 (1)</b>	<b>70s (3)</b>	