

**ALASKA STATE LEGISLATURE
HOUSE RESOURCES STANDING COMMITTEE**

February 4, 2015

1:04 p.m.

MEMBERS PRESENT

Representative Benjamin Nageak, Co-Chair
Representative David Talerico, Co-Chair
Representative Mike Hawker, Vice Chair
Representative Bob Herron
Representative Kurt Olson
Representative Paul Seaton
Representative Andy Josephson
Representative Geran Tarr

MEMBERS ABSENT

Representative Craig Johnson

COMMITTEE CALENDAR

OVERVIEW(S):

DEPARTMENT OF NATURAL RESOURCES, DIVISION OF MINING, LAND AND WATER

- HEARD

DEPARTMENT OF NATURAL RESOURCES, DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

BRENT GOODRUM, Director
Division of Mining, Land and Water (DMLW)
Department of Natural Resources (DNR)
Anchorage, Alaska

POSITION STATEMENT: Provided a PowerPoint overview of the Division of Mining, Land and Water.

EDMUND FOGELS, Deputy Commissioner
Office of the Commissioner
Department of Natural Resources (DNR)
Anchorage, Alaska

POSITION STATEMENT: Answered questions during the PowerPoint overview of the Division of Mining, Land and Water.

STEVEN MASTERMAN CPG, State Geologist, Director
Division of Geological & Geophysical Surveys (DGGS)
Department of Natural Resources (DNR)
Fairbanks, Alaska

POSITION STATEMENT: Provided a PowerPoint overview of the Division of Geological & Geophysical Surveys.

MARK MYERS, Commissioner
Department of Natural Resources (DNR)
Anchorage, Alaska

POSITION STATEMENT: Answered questions during the PowerPoint overview of the Division of Geological & Geophysical Surveys.

EDMUND FOGELS, Deputy Commissioner
Office of the Commissioner
Department of Natural Resources (DNR)
Anchorage, Alaska

POSITION STATEMENT: Answered questions during the PowerPoint overview of the Division of Geological & Geophysical Surveys.

ACTION NARRATIVE

[1:04:04 PM](#)

CO-CHAIR DAVID TALERICO called the House Resources Standing Committee meeting to order at 1:04 p.m. Representatives Olson, Seaton, Josephson, Hawker, Nageak, and Talerico were present at the call to order. Representatives Herron and Tarr arrived as the meeting was in progress.

OVERVIEW(S):

Department of Natural Resources, Division of Mining, Land and Water

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CO-CHAIR TALERICO announced that the first order of business is an overview of the Department of Natural Resources, Division of Mining, Land and Water.

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BRENT GOODRUM, Director, Division of Mining, Land and Water (DMLW), Department of Natural Resources (DNR), began his PowerPoint overview of his division by noting that he has been the division director since May 2011. Prior to that he served 20 years in the U.S. Marine Corps and received a Bachelor of Science degree from the Naval Academy and a Master's degree in Operations Research from the Naval Postgraduate School.

CO-CHAIR TALERICO offered his appreciation for Mr. Goodrum's military service.

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MR. GOODRUM said the division's mission [slide 2] is to provide for the appropriate use and management of Alaska's state-owned land and water, aiming toward maximum use consistent with the public interest. He said DNR is principally about land management and land stewardship, and managing the state's resources is not just for this generation but all future generations. A transparent process and public participation are needed and the statutes and regulations reflect that. Moving forward the division will continue to emphasize the need and requirement for good science and good data to make good decisions because, ultimately, those are the decisions that are upheld over time. He noted that [DNR] manages approximately 100 million acres of uplands and about 60 million acres of shore lands, tidelands, and submerged lands. Alaska has 40,000 miles of coastline, more than the rest of the U.S. combined, and more than 3 million lakes. The skill sets and expertise within the division are diverse, which is important for solving complex land management issues.

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MR. GOODRUM highlighted the division's core services [slide 3]. Addressing the core service of acquiring land, he said the state has to date received about 100 million acres of the over 105 million acres to which it is entitled. The division must make good decisions with the remaining lands it brings into state ownership, he noted. Sometimes land is gifted to the state and sometimes land conservation easements come in through the Exxon Valdez oil spill (EVOS). The Realty Services Section holds title to all of that land for the state and manages those easements as well. It is important that the division defend and

assert state ownership issues. When the state owns land, both surface and subsurface rights are associated with those lands and it is the division's responsibility to do a good job managing those. Through its Public Access Assertion and Defense Unit the division defends access to state land and waters. The division closely tracks historic trails, known as R.S. 2477s, as they are legal access throughout the state. Under 17(b) of the Alaska Native Claims Settlement Act, easements go across private lands to ensure access to other state lands; it is a federal government responsibility and the division ensures that the federal government appropriately annotates those. The division also closely follows public trust doctrine and equal footing issues. Under AS 38.04.065, the division creates area plans to direct management of state lands. These are high level plans that encompass generally millions of acres at a time. The plans look at management intent, the resources available in that area, and make 20-year forecasts for what the state foresees could take place in an area. The principles of multiple-use and sustained yield are used and observed in that planning process.

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MR. GOODRUM continued highlighting the division's core services, pointing out that the division sells and transfers land into private ownership and completes municipal entitlement. When formed, municipalities are entitled to a certain amount of land based upon a calculation. Through an iterative process those entities request certain lands and then the division evaluates those and transfers those lands to the municipalities for their ownership and economic benefit. The division issues short-term and long-term authorizations for the use of state land. This is critical and is the bread and butter of what the division does. The division provides regulatory oversight for a number of different functions, including water use throughout the state and dam safety. However, when there is some type of power generation involved with a dam, the federal government generally has jurisdiction through the Federal Energy Regulatory Commission (FERC). The division also does the platting for the unorganized boroughs throughout the state, and it oversees the state's program for coal exploration and development and is responsible for mine reclamation. Additionally, the division collects revenues for the use and disposal of state land. The Lands Sales and Contract Administration Section collects about \$5 million annually from sales, which then goes back into the land disposal income fund which pays for that ability. Alaska's constitution provides that land shall be made available for settlement and development. The Mining Section oversees the 3.7

million acres of mining claims within the state. About 21,000 acres are in lease and there are about 26,000 acres of offshore lease. The majority of offshore lease, about 23,500 acres, occurred in 2011 near Nome. About 42,000 state mining claims exist within the state. Through various royalties and taxes in 2013 the state received over \$94 million from the mining industry. Lastly, the division provides active stewardship of state land and water, which is the division's biggest responsibility and something that it takes very seriously. Mr. Goodrum noted that the division's mission results, listed on slide 4, flow from its core services. He said he will not be discussing these results today because they can be found on the Office of Management & Budget (OMG) web page.

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MR. GOODRUM outlined the anatomy of a large scale development project. Drawing attention to slide 5, he said the picture is of Golden Valley Electric Association's Eva Creek Wind Project north of Healy. The division's northern region in Fairbanks oversaw the permitting of this project and is continuing with the follow-up. He described the five types of authorization that all large projects require: leases, easements, permits, material sales, and water authorizations. Generally, all large projects require a long-term lease in order to get the financial backing for the project. Many times easements are needed to get access to those lands. Permits are often needed for short-term authorizations to make things happen in a timely manner. Material sales, such as sand and gravel, are critical to any project. Also, some sort of water authorization is necessary, such as a temporary water use for a short time period or a water right for the continued use of water for the project.

MR. GOODRUM turned to slides 6-7, pointing out that between 2006 and 2011 the number of [requests] for these five types of authorizations was ever increasing. The administration and administration recognized that this issue needed to be resolved and took action. This ever-increasing permit backlog introduced uncertainty and had a chilling effect on investment within the state, so a number of things were done. In 2011 the department put together a comprehensive multi-faceted plan for how to address the permit backlog and make Alaska a better investment location with certainty, timeliness, and effectiveness in its permitting process. The focus was primarily on people, process, and statutory and regulatory packages. When he came onboard at the end of fiscal year (FY) 2011, the division was required to keep 26 positions vacant due to lack of funding. The effort

added some staff and increased some of the general fund that was necessary to start moving this permit situation in a more proper direction. The process was looked at for how to make it better and a number of statutory and regulatory efforts are underway. Changes affecting leasing and material sales have significantly made these processes go more smoothly and timely for applicants. Displaying slide 8, Mr. Goodrum noted that on December 31, 2014, the backlog stood at 1,035 authorizations. Since the start of FY 2012 the backlog has been reduced by 1,623, a reduction of 61.1 percent. The division continues to make strong process to reach where it wants to be. He stressed it is important to be able to attract the right people, train them, and retain them so that the division has people with the right skill sets for making those challenging decisions and, he added, the chart on slide 8 is indicative of their great work.

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MR. GOODRUM moved to slide 9, stating that process is the other thing besides people, and the primary tool in improving the division's process is the Unified Permit Program. This program is an umbrella of various different capabilities that increase or create permit efficiencies. The division began with IBM's business process management system, which moved the division to an electronic case-file system. Prior to this system, only the person holding the physical hard copy of a particular case could adjudicate it, or see where something was at, or update the information. The division is also using a Continuous Process Improvement Model to look at how to make things effective and more efficient. This is really helping shape the culture of the division for how to be more innovative and to better meet the needs of constituents and applicants. Through the Content Management System the division has been able to scan various documents and have things more available electronically, as well as more available to the public. Geographic information system (GIS) improvements and information technology (IT) improvements have also been critical in improving this system and moving the division forward. Thus far the division has built out the land use permit system and phase I of water rights. The intent is to aggressively finish aspects of the division's water rights program and then move into easements and material sales.

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MR. GOODRUM said the primary goals of the Unified Permit Program [slide 10] are to shorten and make more consistent the times and process for authorizations. The division is building internal

systems that support and improve its productivity. The division is looking at how to have better transparency internally as well as externally for applicants and the public. The goal is that ultimately an applicant will have the ability to see and understand where an application is at and what the final hurdles are for getting a decision. Turning to slide 11, he spoke to the guiding principles of the Unified Permit Program, saying the first principle is to meet statutory and regulatory frameworks or requirements. The system needs to be agile and able to adopt changes made in statute or regulation, and the product selected by the division allows that to be done. It takes a significant amount of work to put this together, but the division is confident there will be even greater returns as this effort is advanced forward. He said a number of supporting sections within the division work closely together on the things that go into decisions. Whether it is easements, leases, disposals of land, or something else, all those parts must work together. He expressed his confidence in where things are headed and said progress is being made in the right direction.

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CO-CHAIR TALERICO inquired whether 17(b) easements directly deal only with the Bureau of Land Management (BLM).

MR. GOODRUM confirmed it is exclusively a BLM-managed program. The BLM is the agency that initially indicates where a 17(b) access would cross private lands to ensure access for the state to other lands or to navigable waters.

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MR. GOODRUM turned to slide 12 and provided a disclaimer prior to his update on where the state is at regarding the Arctic National Wildlife Refuge (ANWR) boundary dispute. The onshore boundary dispute involves land selections in an administrative process, he explained. There are some legal questions about the Alaska National Interest Lands Conservation Act (ANILCA) and the Statehood Compact. The issue is being handled by the Department of Law, Natural Resources Section. The Division of Mining, Land and Water manages the onshore selections process and is advancing that. By advancing, he means that in October [2014] the division sent a letter to BLM asking for priority conveyance of the approximately 20,000 acres that lie between the Staines and Canning rivers. The BLM has requested some files that have been archived somewhere that would give more information. The offshore piece involves some different legal claims and is being

handled by the Department of Law and the Division of Oil & Gas. The Division of Oil & Gas manages those offshore leases and offshore leases were issued this year that abut the Arctic National Wildlife Refuge boundary.

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MR. GOODRUM explained that in 2011 the Division of Oil & Gas held an offshore lease in the area adjacent to the Arctic National Wildlife Refuge and there was a successful bidder on some of those leases. The Division of Mining, Land and Water's Survey Section works closely with other divisions within the department. The Survey Section was asked to work closely with the Division of Oil & Gas in defining where is this legal boundary in which this lease is going to be issued. The Survey Section chief brought this particular topic to his attention. Mr. Gerald Jennings was in the Survey Section in 2003 when this similar issue appeared between the state, the Fish and Wildlife Service, and BLM. Correspondence indicates that the uncertainty about this boundary issue was quite well known between the state and these other federal agencies. The Fish and Wildlife Service recommended a joint inspection of the area in 2003 and Mr. Jennings participated in that. There were two separate inspections. The first inspection was led by the Department of Interior (DOI) who had a BLM riparian specialist as well as the chief of survey from the Fish and Wildlife Service, and the State of Alaska's Survey Section chief. Immediately after that the state led a three-day inspection of the area in which Mr. Jennings participated, along with an expert contracted by the state, and the Fish and Wildlife Service's chief of survey.

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MR. GOODRUM said the state generated a report, known as the Simpson Report, on its findings within the boundary issue, which was provided to both BLM and the Fish and Wildlife Service. Neither federal agency generated any report back to the state. The state corresponded with those federal agencies asking for copies of their report, but nothing was ever generated and the issue essentially went cold. After the lease sale in 2011 the division looked more closely at this issue with the Department of Law and the Division of Oil & Gas. In July 2014 the state went back out to reconfirm its findings of 2003 and what it had independently submitted. Through the Department of Law a couple of experts were contracted, including Mr. Jennings. Mr. Goodrum said he also personally participated. That effort led the division to firmly believe that the state's findings in 2003

were correct. The division has had exchanges with both of the federal agencies and is looking for resolution.

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MR. GOODRUM said slide 13 depicts the original 1957 application for the proposed Arctic Wildlife Range. This is important, he explained, because the [No.] 84 original decision by the U.S. Supreme Court in United States v. Alaska ruled that public land order (PLO) 2214, the application for the range, controlled where the boundary was and this is the map that accompanied the PLO 2214 application. The Fish and Wildlife Service created a new map in 1980, slide 14, which maybe had a slightly different boundary. He compared the two maps by drawing attention to slide 15, noting that the map from the 1957 original application is on the right and the 1980 map from the Fish and Wildlife Service is on the right. He pointed out that on the 1957 application map the line bends to the right just as the Canning River does, and the Staines River is indicated further to the west; on the Fish and Wildlife Service map the assertion is the Staines River. He said a map in the briefing packet [also seen on slide 16] delineates in yellow the area of disagreement on whether those uplands were ever intended to actually be included within the Arctic National Wildlife Refuge boundary. In an article written after release of the [October 2014] briefing packet, the Fish and Wildlife Service indicated it didn't have any comment. But, he argued, it did make a comment - saying its position is that the boundary of the refuge has been consistent since the Arctic Wildlife Range was formed in the 1950s. The differences in the maps, he continued, indicate that perhaps there has been a change.

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MR. GOODRUM, responding to Co-Chair Nageak, confirmed the yellow area [in slide 16] is the uplands currently in disagreement. He said the state has asked for conveyance to bring this federal land into state ownership. The state is working with the BLM through an administrative process in which the state is asserting there is nothing between its top filed selection that hovers over that land in any sort of a withdrawal that would prevent it from attaching and the state then having a legitimate claim to bring that land into ownership.

CO-CHAIR NAGEAK asked whether the legislature can assist in the process or whether things must first be done administratively.

MR. GOODRUM replied he doesn't know that administratively anything can currently be done by the legislature that would hasten BLM to decide to convey land to the state that the state has a legitimate right to. He said he will get back to the committee if he finds otherwise, but right now it is the administrative process that is before the state, consistent with how the state brings other lands into ownership. The importance of these lands is clearly understood by the division, as with all of the state's land selections.

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MR. GOODRUM, responding to Co-Chair Talerico, confirmed that the land being discussed is approximately 20,000 acres of uplands, and approximately 3,000 acres offshore are affected by where this boundary ultimately is.

MR. GOODRUM concluded his presentation by noting that the state has yet to receive any official response from either federal agency on this particular issue, not even a counter claim that says the state is wrong in its assertion. There is not a single Alaskan in this room, he said, that doesn't believe the state is entitled to its full entitlement. Well-defined, recognizable borders are critical to having good neighbors. This particular boundary issue has been around for a while. He added that he thinks all parties realize it isn't fully resolved and said the division intends to work closely with the other federal agencies to bring some closure to this very important issue to the state.

CO-CHAIR TALERICO concurred, saying it is more than a minor inconvenience because of the land's location. He offered his appreciation for the effort that has been put forward to get this issue resolved.

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REPRESENTATIVE JOSEPHSON inquired as to how much of the [100] million acres of state-held land has yet to be classified; for example, classified as habitat or mining. He further inquired whether there are circumstances where the need to do that is delayed because the land is so removed, or there is no interest in development, or no nearby communities.

MR. GOODRUM answered he will get back to the committee with an exact number, but said the majority of state-owned lands are within some sort of classification or area plan. There are remote parts of Alaska for which there are not yet area plans.

The division is currently working on a North Slope Management Plan, which is a bit of a hybrid between an area plan and a step-down management plan, and includes areas that have not previously had a plan in place. The division is well aware that it needs to get a plan in place for those areas.

[1:41:14 PM](#)

REPRESENTATIVE SEATON brought attention to slide 3 and the core service of creating plans to direct management of state land and water. He offered his belief that those plans are separate from the plans for legislatively designated special areas being worked on by the Division of Habitat. He asked whether DNR has provided or will be providing input into those plans and whether there is much cooperation in the development of those plans.

MR. GOODRUM replied that the division works closely with the Alaska Department of Fish & Game (ADF&G) on plans, particularly critical habitat areas. He said DNR manages the land and [ADF&G] manages the habitat and creatures, and the division has a good working relationship with ADF&G. Over the last year, he related, there was concern about the process, particularly with the critical habitat areas, but he thinks some of that will change in this current administration as far as how that process will continue to evolve. He added that DNR will continue to work closely with ADF&G on those plans in probably a much more open and transparent process.

REPRESENTATIVE SEATON remarked that Mr. Goodrum is getting to the crux of the idea and that he heard what he was hoping to hear. He said he wants to ensure that DNR is going to have input into those plans and that it will be an open process involving the people of the local area.

MR. GOODRUM responded that DNR will absolutely be at the table and wants to be involved in an open public process for the management of state lands and resources, and is looking to make good decisions for the long term.

[1:44:21 PM](#)

REPRESENTATIVE JOSEPHSON posed a scenario in which the division, in conjunction with ADF&G, finds a thriving fishery. But, in that same location there is potential for a great and profitable mine that would help communities. He asked how DNR would resolve that kind of decision. He further asked whether there

is a statute that dictates that. He noted that this issue has come up and is an issue that will keep coming up.

MR. GOODRUM answered that those are some of the tough decisions as various equities are balanced. It also gets to the nexus of inter-departmental coordination, he said, which gets a bit over his head. A couple of his bosses, present in the audience, can speak to the spirit and intent and how that actually will function going forward. Those processes obviously need to be a public process. A good decision cannot be made without public involvement and good scientific data. The department works closely with ADF&G and others to have the best data to make the best decisions to go forward in a public environment that allows for participation. Those are all critical elements with what DNR is tasked to do and that is why it is important for the department to retain good quality employees within the state.

[1:46:41 PM](#)

REPRESENTATIVE SEATON recalled that one of the elements within the ADF&G transition plans was to request or implement automatic water reservations for fisheries. He inquired how that idea works into the planning process; for example, whether DNR feels that is already there because of constitutional mandates or whether there is a planning process with ADF&G.

MR. GOODRUM replied that the concept of whether the state could look at some sort of automatic reservation of water has come up a number of times. He offered his belief that, to date, there has generally been more obstacles or more concerns about how those decisions would be based because water rights are an actual right. He said he has not had the opportunity to talk to Commissioner Myers about the issue, but that it will obviously be part of a discussion going forward as to what are the pros and cons and how to base that on good science; for example, what sort of data can those decisions be made on. The nexus between ADF&G and DNR for the management of those resources and how to come to good decisions are worthy discussions that need to be had. Given it was one of the transition team's recommendations, he said he anticipates that this administration will look at its feasibility and whether it is a good idea.

[1:48:59 PM](#)

REPRESENTATIVE SEATON appreciated Mr. Goodrum's response and said he hopes it is done with public involvement. He noted that coordination is also needed on aquatic invasive species plans.

Given the current budget constraints, he asked whether Mr. Goodrum sees that this coordination and preplanning can still go forward in order to protect the state's resources.

MR. GOODRUM deferred to Deputy Commissioner Ed Fogels.

EDMUND FOGELS, Deputy Commissioner, Office of the Commissioner, Department of Natural Resources (DNR), responded that the responsibility for invasive species falls under the purview of the Division of Agriculture, which still has an invasive species program. People in that division are developing invasive species strategic plans for the state. Under a memorandum of understanding (MOU) developed with ADF&G, marine aquatic invasives will be coordinated by ADF&G, and freshwater aquatic invasives will be coordinated by DNR. The main focus of late has been on *Elodea* and figuring out how to get a handle on that particular invasive. Last year the Division of Agriculture director issued a quarantine so pet shops cannot sell *Elodea*. Last summer herbicides were tried in Kenai Peninsula lakes and it appears they worked quite well. It is now a matter of deciding whether to use those herbicides in other lakes that are infested. It is going to be an issue of resources and funding because it costs a lot of money to treat a lake. The department has a plan, so if the money is there it can go in; but more important is the buy-in from homeowners in a residential development around a lake.

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REPRESENTATIVE SEATON understood that through the MOU there is preplanning, permit availabilities, and streamlining so that when there is an incipient population, DNR, ADF&G, and DEC are not waiting on backlogs for permits.

MR. FOGELS corrected his earlier statement, saying that the MOU is between DNR, ADF&G, and DEC; DEC is part of the MOU so DNR can work with them. Now that these herbicides have been tested in lakes on the Kenai Peninsula, they are permitted there by DEC, and DNR is looking for ways to ensure that permitting for herbicide use can go quickly. He said he thinks it will be driven by the public and homeowner buy-in to the idea of having that treatment done to their lake. He said DNR wants to ensure this can be done quickly so that when an infestation is found DEC can rapidly outreach to the community and, if the homeowners are comfortable, the permits can be issued and - if there is funding - treatment can be done as soon as possible to prevent further spread.

REPRESENTATIVE OLSON thanked Mr. Fogels for DNR's work last year on *Elodea*. He recalled that there was an outbreak on the Kenai Peninsula and a bill was dropped in. Within three days Mr. Fogels came to the legislature saying that he could do it by regulation. An executive order (EO) was issued, shutting down the immediate sources of the outbreak, which was pet shops. The legislature could not have done it that fast.

The committee took an at-ease from 1:54 p.m. to 2:03 p.m.

Department of Natural Resources, Division of Geological & Geophysical Surveys

[2:03:11 PM](#)

CO-CHAIR TALERICO announced that the next order of business is an overview by the Department of Natural Resources, Division of Geological & Geophysical Surveys.

[2:03:26 PM](#)

STEVEN MASTERMAN CPG, State Geologist, Director, Division of Geological & Geophysical Surveys (DGGS), Department of Natural Resources (DNR), began his PowerPoint overview of the Division of Geological & Geophysical Surveys (DGGS) by turning to slide 2 and noting that the division's mission is to evaluate state lands for their potential to host energy, resources, and mineral resources primarily; to look at location and supplies of groundwater and construction materials; and to evaluate geological hazards around the state. To do this, the division has divided its staff into sections.

MR. MASTERMAN explained how the division views this mission [slide 3]. He said the division views its role as providing geoscience information to foster mineral and energy development around the state. This is critical because it produces many rural jobs as well as revenue to the state. The division provides information that helps to reduce the cost of construction around the state, especially in rural communities. The division provides information to reduce the risk from the state's many geologic hazards, such as volcanoes, earthquakes, permafrost, flooding, and landslides. The division provides information to help businesses, communities, and Alaskans build and accommodate those features in their designs. Another role is to make the public aware of all the geologic information that is available, most all of which is available on the division's

web site. The division manages the state's collection of geologic materials [through its Geologic Materials Center, currently housed in Eagle River but soon to be relocated to Anchorage. He said this collection is incredibly valuable for the potential for future explorers to find energy and mineral resources based on the samples held in that repository.

[2:05:49 PM](#)

MR. MASTERMAN outlined the division's six sections [slide 4], noting the division has 42 permanent staff. He said the Energy Resources Section evaluates state lands for energy resources. The Mineral Resources Section evaluates state lands for mineral resources. The Engineering Geology Section deals with engineering geology, geological hazards, fault-related hazards, tsunamis, landslide, and permafrost-related issues. The Volcanology Section cooperates with the U.S. Geological Survey (USGS) and the Geophysical Institute [at the University of Alaska Fairbanks] to form the Alaska Volcano Observatory. The observatory's mission is to monitor and report on volcanic activity around the state. The Geologic Communications Section manages all of the division's data, publishes all of the division's reports, and makes all of that information available to the public via the division's web site. The last section is the [aforementioned] Geologic Materials Center.

MR. MASTERMAN said the Energy Section's full-time staff of seven people are focused primarily on the major energy basins on the North Slope and in Cook Inlet [slide 5]. He explained that the green boxes on the map of Alaska are called the "frontier basins" and the red ovals are the Susitna and Nenana basins where work is also being conducted. He pointed out that, based on the section's work, the discovery of a single 100 million barrel field would return about \$3.5 billion in revenue to the state over the life of the field at a price of \$100 per barrel.

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MR. MASTERMAN reviewed Alaska's hydrocarbon resources [slide 6], relating that according to USGS estimates the North Slope has about 40 billion barrels of undiscovered technically recoverable conventional oil resources. To date about 17 billion barrels of oil have been produced. The USGS further estimates that the North Slope has over 200 trillion cubic feet of undiscovered natural gas in conventional reservoirs. There are also tens of billions of barrels of oil in unconventional and in heavy oil, as well as hundreds of trillions of cubic feet of natural gas in

unconventional types of formations like shale gas, tight gas, gas hydrates, and coalbed methane. The amount of hydrocarbons on the North Slope is therefore staggering with a lot yet to be discovered. Likewise, he continued, in Cook Inlet the USGS estimates that there is 19 trillion cubic feet of undiscovered technically recoverable natural gas. To date about 8 trillion cubic feet have been produced. He further noted that Alaska is quite underexplored in relation to the Lower 48 states. For example, the North Slope has 600 exploration wells as compared to 19,000 in Wyoming, and the North Slope and Wyoming are close to the same size. He said he thinks that if the North Slope was to get to Wyoming's level of drilling a lot of these resources would be discovered and produced.

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MR. MASTERMAN discussed the division's North Slope objectives [slide 7], saying one objective is to stimulate exploration because discoveries will help to fill the Trans-Alaska Pipeline System and drive state revenues. Therefore the division is completing geologic mapping on the North Slope and doing work on conventional and unconventional plays. Detailed stratigraphic work is being done to try to understand how the formations were laid down and how they have evolved over time - understanding the geology is what leads to discovery. By providing this publically available geological information to everybody the division hopes to be able to drive that discovery. Right now the focus is on oil on the North Slope because, until there is a gasline and gas reserves are looking in short supply, there is not much reason for the division to spend much time working on gas on the North Slope.

MR. MASTERMAN described recent North Slope projects [slide 8]. One project, he said, was the publishing of some geologic maps and cross sections around the North Slope. The division is currently working on producing a couple more North Slope geologic maps. The division is also working in conjunction with the university on a project for shale oil in the Shublik Formation and in the Hue Shale. Planned work on the North Slope includes the Stimulating Exploration initiative. A very successful lease sale was held by the Division of Oil & Gas last fall. It was the third best lease sale in the history of the North Slope, indicating there is still a lot of interest in the North Slope and the state has an opportunity right now to stimulate exploration up there and bring more players in and help them be more successful. The division is also working to complete geologic mapping in the Foothills area and looking at

less conventional resources like tight formations and heavier oils. Mr. Masterman displayed slide 9, saying that these are the areas on the North Slope that his division would like to map. The area yet to map on the North Slope is huge and it will take roughly 12 years to complete the mapping.

[2:13:31 PM](#)

MR. MASTERMAN drew attention to slide 10, stating the division's focus in Cook Inlet is to ensure a stable gas supply. A few years ago, he recalled, the conversation was about how Cook Inlet was running out of gas, there were going to be brownouts, and utilities were concerned there would not be enough gas for electrical generation of home heating. Through a variety of initiatives, one which was the publishing and making available of additional geological information, DNR was able to encourage exploration and development in the Cook Inlet. Now there is a pretty stable gas supply, so the initiative was very successful. ConocoPhillips recently restarted its liquefied natural gas (LNG) plant and Agrium is looking at restarting its fertilizer plant. Now that there is more gas known in Cook Inlet and more reserves, industry is responding by looking at utilizing that gas. The Donlin Mine is looking at constructing a gasline from Cook Inlet to its project on the Kuskokwim River, which would consume a substantial amount of gas. There is also the possibility that Cook Inlet gas would be brought up to Fairbanks instead of bringing it down from the North Slope. These things will place increased demand on the Cook Inlet Basin, so it will be important for the division to maintain the supply of information to the explorers so that they can continue to be successful and keep that gas. Until there is a gasline from the North Slope, pretty much "all the gas eggs will be in one basket". Regarding oil in the Cook Inlet, said the division is looking at the potential for alternative types of plays and unconventional plays. In the basin there is the possibility for some structural plays. The division is also looking at the timing of oil formation in the basin and seeing how that relates to the consolidation of the rocks because that will tell a lot about where, or where not, to expect to have oil accumulations. There is some industry interest in that work, especially in the structural play. Hilcorp is looking at that itself on the west side of Cook Inlet.

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MR. MASTERMAN turned to slide 11, reporting that the division recently completed a draft geological map on the west side of

the Iniskin Peninsula. In that work the division discovered two new oil-stained outcrops, sparking some exploration interest on that side of the Cook Inlet Basin. The division is currently finishing that map and finishing the Tyonek map, a previous project. In summer 2015 the division will again be mapping on the west side of Cook Inlet between Tuxedni Bay and Chinitna Bay, the area that has the best exposure of the oil source rocks for the Cook Inlet. Those units will be looked at closely to try to understand how the basin evolved and how the oil formed and migrated out of those rocks. The division would like to continue its work on the west side of Cook Inlet and migrate further south going down to the northern Alaska Peninsula. Once the surface mapping is complete, information needs to be taken from the subsurface. The surface mapping, the bore holes, and the seismic data will be combined to start generating a three-dimensional (3-D) view of the basin so people can understand more completely its evolution and where the traps may be and where the source rocks are. He reiterated that the division is focused on providing information to industry to help industry with its exploration. He said slide 12 depicts some of the areas that the division is looking at and mapping in Cook Inlet. It will take 15 or more years to complete this mapping, and that is on top of the time in the North Slope.

[2:18:25 PM](#)

MR. MASTERMAN brought attention to slide 13, noting the Susitna Basin can be looked at in some ways as an extension of Cook Inlet. There is a lot of gas in the Susitna Basin, he said, and the division is looking at the potential of the coal seams there to host gas in terms of coalbed methane. Those coal seams are thick and have been the source of most of the gas in the Cook Inlet Basin, so there is a good chance that the Susitna coal seams could host coalbed methane resources.

MR. MASTERMAN said Nenana Basin (slide 14) is more challenging because it doesn't have a lot of outcrop and is basically a swamp. The division is therefore looking at the rocks in the margins and working as closely as possible with Doyon, Limited. The division is currently funding a graduate student through the university who has set out a series of seismic stations in the basin to look at the seismicity. From that the division hopes to understand the structural evolution of the Nenana Basin and get a better understanding of where some of the traps might be for the oil and gas accumulations in that basin.

MR. MASTERMAN addressed local energy use [slide 15], relating that a couple of years ago the division put out a report [entitled, "FOSSIL FUEL AND GEOTHERMAL ENERGY SOURCES FOR LOCAL USE IN ALASKA: Summary of Available Information"]. He explained that the report breaks the state into a variety of areas and looks at the potential local energy sources in each of those areas. He said slide 16 synthesizes the local energy sources in the report and this synthesis is basically a guidebook of where to go and what to look for by area throughout the state. A red box on the chart means it is an identified resource at, or close to, one or more of the communities. A green box indicates that further work is warranted because there may be a potential for resources, and a blue box indicates the division's view that no further work is warranted at this time.

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MR. MASTERMAN moved to slide 17, noting the division does some work on geothermal energy, as well as coal resources, around the state. This year the division begins work on an energy database in which all of the analytical data will be put together for oil and gas wells for the quality of the reservoirs: porosity, permeability, thermal evolution, organic content. This will allow people to readily retrieve any of that information about any area, which will be a great help to the explorers.

MR. MASTERMAN discussed the question of where the division is going in a broad sense [slide 18]. He said the division is: looking at increasing the availability of public geologic data; focusing on oil on the North Slope and gas in Cook Inlet; completing mapping of the North Slope and Cook Inlet basins - a long term goal that will take about 30 years; and integrating the surface and subsurface data to provide a comprehensive view of how these basins currently sit.

MR. MASTERMAN turned to slide 19, reiterating that the discovery of a single 100 million barrel field will return a substantial amount of funding to the state. He said it will take over 30 years to complete the current projects. Sharing his personal view, he stressed that this is critical work for the state to do because oil must be kept flowing through the pipeline in order to keep state revenues. In his mind, this work is arguably more critical than the many other things the state does, he said.

[2:23:23 PM](#)

MR. MASTERMAN said slide 20 lays out the rationale in regard to the questions of why the state needs to provide public data and why does the state not save money by letting industry generate this data. Right now, he pointed out, large companies are selling assets to smaller companies and smaller companies do not have the same deep bench of geologists, geophysicists, and technical staff found in companies like Shell, ConocoPhillips, and BP. So, these smaller companies place a greater reliance on publically available information. Once the state makes this information public it is public for everybody, and people coming into the state do not have to spend the money to re-generate this information for themselves, basically reducing the cost of exploration and helping remove barriers to exploration. This is stimulative, he said, and helps bring explorers to the state.

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REPRESENTATIVE OLSON inquired whether Alaska is competing against Newfoundland and Nova Scotia, which have produced 3-D analyses for their provinces and made it available for free to any qualified bidder.

MARK MYERS, Commissioner, Department of Natural Resources (DNR), confirmed that other parts of the world produce explorer and license packages. They have this ability because either the government has paid for the seismic or they have a regulatory structure that allows the seismic data to be released. Under Alaska statute, seismic data cannot be released publically - it must be voluntarily released or shot with public money. The USGS has shot seismic data, a crude grid, and some of that USGS data is releasable. Occasionally the industry allows the release of a line or two. The Division of Oil & Gas has access to that data. The Division of Geological & Geophysical Survey can only have access under special conditions where there is an agreement, but the data cannot be released confidentially. So, [DNR] is really limited in its ability to produce those high quality products. However, in the last decade the Division of Geological & Geophysical Survey has made significant advances of bringing in people that have qualified capacity to look at seismic data, have worked in the industry, or have worked in other agencies that are using this high quality data, which has improved the ability to link the subsurface and the surface geology. While they are doing it, the dataset they have is limited and therefore nice 3-D maps cannot be produced like those that the Division of Oil & Gas produces on a regular basis and which have to stay confidential.

REPRESENTATIVE OLSON concurred that Nova Scotia is paying for [the analyses], and said that the cost is built back into the packets that are purchased so that Nova Scotia recoups the cost.

[2:27:09 PM](#)

REPRESENTATIVE JOSEPHSON observed on slide 11 that the geology of the Bruin Bay fault zone is a current project. He further observed that Bruin Bay is identified on the map on slide 12. He said he was in Bruin Bay last August and it looks like the bay is near McNeil [River State Game Sanctuary and Refuge], which relates to what he was asking of Mr. Goodrum. He surmised the mapping is being done to look for potential for oil and gas or mineral development. He asked whether [the mapping of Bruin Bay] is so that if there is a find in that area, a debate can be had with as many facts as possible. He said he is curious about this issue of competing land uses - the McNeil Sanctuary and how DNR deals with those things - and inquired as to what is the plan given this massive sanctuary to the north of Kamishak Bay.

MR. MASTERMAN answered that mapping is being done in these areas because they are the only areas where the rocks can be seen. Since the inlet is underwater and surface exposure cannot be seen, mapping must be done where the rocks can be seen. Mapping is intended to educate the division and everybody else about the geology of the petroleum system and of the basin. To get that understanding the division must look wherever the rocks can be seen. Most of the area being mapped this coming summer is inside [Katmai National Park and Preserve]. While the division is obviously not looking at doing any development there, that information helps to understand the overall petroleum system.

REPRESENTATIVE OLSON asked whether this includes the area around Fossil Point, which is behind Chisik Island and inside the park.

MR. MASTERMAN replied that he believes Fossil Point is inside, or close to, the area the division is mapping.

REPRESENTATIVE OLSON said he is asking because fossils are falling off those cliffs, so there is some real history there.

MR. MASTERMAN said the division has a good working relationship with the National Park Service, which has been very cooperative and easy to work with.

[2:30:31 PM](#)

CO-CHAIR NAGEAK inquired whether this is mostly proprietary information or public information. He further asked whether it could become proprietary information if someone paid for it.

MR. MASTERMAN responded that most of the division's information is publically available - all of the division's reports are made public. Occasionally the division uses proprietary information; in that circumstance the division uses the information to help generate its final product, but doesn't release that proprietary information when it makes its final product public. In further response, he said he doesn't believe that the division has any state proprietary information. It would only be information that was provided to the division by industry that the division would require to keep confidential for a period of time or for perpetuity. He further confirmed that most of the information is publically available.

[2:31:43 PM](#)

MR. MASTERMAN brought attention to slide 21, noting that the Mineral Resources Section, with its permanent staff of six, is tasked with evaluating state land for the production of metals and minerals. Over the past 20 years, this section has been flying airborne geophysical surveys nearly every year. It does geochemical surveys, which is the sampling of streams and rocks, and that information is released to the public. This section does detailed geological mapping, usually in the areas where the geophysical surveys have been flown. This section also does mineral deposit investigations and provides this information through the division's web site. [The Geologic Materials Center is also under this section.]

MR. MASTERMAN turned to slide 22, stating Alaska is a storehouse of minerals. He said Alaska has 5 percent of the nation's mineral production, but 20 percent of its landmass, which indicates that Alaska should have four times as much mineral production than it does. The 600 mining companies surveyed for the 2013 Frasier Institute Survey ranked Alaska first in mineral potential of the 112 jurisdictions that were ranked. Alaska has 17 percent of the world's coal, 4 percent of the world's copper, 3 percent of the world's lead, [and 8 percent of the world's gold, 5 percent of the world's zinc, and 2 percent of the world's silver]. Alaska is currently the nation's largest producer of zinc and silver and the second largest producer of lead and gold. Despite having 4 percent of the world's copper, Alaska currently really doesn't produce any copper. He maintained that Alaska has a bright future in copper production,

with the Pebble deposit alone having billions of pounds of copper. He displayed a map of Alaska superimposed over a map of the Lower 48 (slide 23), reporting that according to the latest USGS statistics, Alaska is first in per capita mineral production, but forty-third in per area production. He said Alaska should have, and will have, a lot more large mines than it currently does.

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CO-CHAIR NAGEAK, regarding mineral production versus potential, surmised Alaska would overtake or become equal to areas in the Lower 48 if it were to begin mining.

MR. MASTERMAN answered correct, stating that Alaska ranks fifth in total mineral production in the nation in terms of dollars produced. Last year a little over \$3 billion in metals was produced. By having more large mines Alaska would move up and overtake some of the other states. In further response, he confirmed that Alaska clearly has this potential to overtake the other states.

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REPRESENTATIVE JOSEPHSON understood that the state's tax share of the \$3 billion in minerals produced was \$94 million.

MR. MASTERMAN replied he is unsure of the exact number, but explained that part of the issue with mineral production is where the mines are located. There are six large mines in the state, he said. Red Dog Mine is on NANA Regional Corporation land, so royalties from that mine go to NANA. Usibelli Coal Mine, Inc., Fort Knox, and Pogo are on state land, but Fort Knox is on Mental Health Trust land so those royalties go to the trust. Greens Creek and Kensington mines in Southeast Alaska are on federal land, so the state does not receive royalties from those. Thus, Usibelli and Pogo are the only large mines that are state land. The state owns 100 million acres, roughly one-fourth of the land surface in the state. So, all things being equal, one might think that one-fourth of the mines would fall on state land.

REPRESENTATIVE JOSEPHSON surmised there is no 90/10 split for minerals on federal land, like is done for oil and gas.

MR. MASTERMAN deferred to Mr. Fogels.

EDMUND FOGELS, Deputy Commissioner, Office of the Commissioner, Department of Natural Resources (DNR), confirmed the state does not receive royalties from the two Southeast Alaska mines on federal land. He said those mines are significant contributors to the local economy of the City and Borough of Juneau.

CO-CHAIR NAGEAK commented that federal mining laws must be honored.

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REPRESENTATIVE JOSEPHSON observed the statement on slide 23 that says, "Alaska should have many more large mines". He said he hopes the Alaska people get to make that decision. He expressed his concern about takings, saying that is why he asked about the classifications. He queried whether the state has opened itself up to takings arguments - where the state offers a lease that is accepted, which is a contract, and then the state changes that by adding new regulations, resulting in a legal claim that the state has interfered with the economic interest. He asked whether the cart is getting before the horse, the horse being the public and public buy-in. Clearly, he said, Alaska could have more mines, but they come when the people want them and he thinks that in Fort Knox and Pogo there has been that buy-in and for Red Dog there has definitely been that buy-in. He said he hopes that is what the department focuses on.

MR. MASTERMAN [deferred to Mr. Fogels].

MR. FOGELS responded that when the department gets state land, one of the first things done is to plan for it. An extensive public planning process is undergone with multiple public meetings. The other departments and divisions tell DNR what the resource values are on that state land. The public is then told what is available on that land and asked how the land should be classified. More often than not, there are multiple overlaying classifications - minerals, forestry, and wildlife habitat. Occasionally, DNR finds land so valuable for fisheries or wildlife habitat that it recommends the land be set aside legislatively and then suddenly the uses of that land get restricted. The rest of the state land is largely multiple-use land open to mineral entry, but just because it is multiple use and open to mineral entry does not necessarily mean that mining can happen there. An entirely separate process happens after that where DNR has environmental analysis and 40-50 different permits that all have their own public processes, so the public will always get to weigh in. The intent is that most of the

state lands are multiple use. The department's job is to figure out what should happen there and how to make each thing happen with minimal impact on the other resources.

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MR. MASTERMAN addressed slide 24, stating Alaska does not have as many mines as it could because there is not the information. Currently, only about 17 percent of Alaska's land surface has been geologically mapped at an adequate scale. At the present rate of progress it will take about 400 years to complete it. The unmapped area of Alaska is equal to the combined landmass of California, Nevada, Utah, and Arizona. Turning to slide 25 depicting the state's main mineral belts, he said the mines and most major projects are hosted within these belts. Northwest Alaska is extremely well-endowed with the base metals of lead, zinc, and copper. The Tintina Gold Belt is a world-class belt of gold deposits in which the surface has barely been scratched. It hosts Pogo at 10 million ounces, Fort Knox at 10 million ounces, Livengood at 20 million ounces, Donlin at 40 million ounces, and Golden Summit. The Alaska Range contains a series of lead/zinc deposits in the Delta district and north of Healy. The Alaska Porphyry Belt has a bright future and is where there will be copper mines. Southeast Alaska is well endowed with base metals: Greens Creek is the nation's largest silver producer, Palmer and Niblack are advanced projects, and there is the Kensington gold mine. Moving to slide 26, Mr. Masterman noted that Alaska's production is a lot less than its global share suggests. The commodities where Alaska could be producing more include coal, gold, and copper.

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MR. MASTERMAN said slide 27 is an example of the kind of data that the division produces. He noted that the [geochemistry] data on this slide was published last summer and is from the Wrangell Mountains and the Talkeetna Mountains. It shows rock samples and stream samples, and the elements that he chose to show on the slide are gold, arsenic, platinum, and palladium. He pointed out that mining companies can get this information.

MR. MASTERMAN turned to slide 28, noting airborne geophysics are key to understanding the geology. Moving to slide 31, he said there is not much rock exposure in the state. However, airborne geophysics sees through the soil and vegetation to tell what the magnetic and resistivity properties of the rocks are, which allows the division to make better geologic maps. He read the

statement on slide 31 by a gentleman from International Tower Hill Mines: "It was the combination of structural and stratigraphic ideas that came out of the state mapping program that first led to our exploration through the Cambrian thrust sheet and eventually the discovery of the main body of mineralization. There is no question that the data was instrumental to the discovery. The state geophysical data over Livengood continues to aid us in our evaluation of the mineral system." He said geophysics was instrumental in the division understanding the geology and when that information was made available to the mining companies they used it and succeeded in finding 20 million ounces of gold.

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MR. MASTERMAN reviewed the Engineering Geology Section (slide 36), pointing out that this diverse group works on geologic hazards around the state. He said the coastal areas of Western Alaska are currently being worked on. These areas are being hit hard by changes in climate - the sea ice doesn't form as early as it used to and fall storms are really damaging some of those local communities. The division is working collaboratively with the National Oceanic and Atmospheric Administration (NOAA), the National Weather Service, and the USGS on programs to help understand what is happening in those communities.

MR. MASTERMAN highlighted the Volcanology Section (slide 46), saying that in November [2014] the Alaska Volcano Observatory notified the Federal Aviation Administration (FAA), the U.S. military, and local communities about the eruption of the Pavlof volcano. This group ensures that the flying communities and the military don't repeat what almost happened with a KLM flight quite a few years ago. All 52 active volcanoes in the state are monitored and when one erupts in a sufficiently violent and vigorous manor the group notifies the FAA, military, and local communities to ensure people don't fly through the ash cloud.

MR. MASTERMAN drew attention to slide 52, stating that the geological communications group is the glue that sticks the division together and provides all of the information that is generated to the public. In the early 2000s the division transitioned from releasing the information as paper copies to releasing the information via the internet. The division used to distribute about 10,000 paper copies per year, now 400,000 maps and reports are distributed per year. The web site is getting increased use and is growing at roughly one million page views per year, reaching seven million views in 2014.

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CO-CHAIR NAGEAK said he wants a road to his house because of the potential for mineral activity in his area. Such a road would allow development of the resources just discussed.

MR. MASTERMAN responded that the USGS estimates there are eight billion barrels of recoverable oil in the 1002 area.

[2:53:34 PM](#)

MR. MASTERMAN, responding to Representative Josephson, explained that the term "recoverable oil" means the oil is technically recoverable. It means there are accumulations of oil estimated to be over a certain size threshold, he said, which he thinks is over 50 million barrels [on the North Slope] and the estimate is an average estimate. No economics are applied to that recovery. A study done by the USGS in approximately 2008 applied economics to that recovery and the USGS concluded that at \$16 per barrel there would be no economically recoverable oil in the 1002 area of the Arctic National Wildlife Refuge. If the price was \$17 per barrel there would be one billion barrels of economically recoverable oil. Obviously, as the price goes up the number of barrels that are economically recoverable increases.

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REPRESENTATIVE SEATON, referring to slide 9, inquired whether the division is doing geophysical work in the areas that are already leased or in areas that have not been leased.

MR. MASTERMAN replied that the division does not do any geophysical work for oil and gas exploration because it is so far beyond the division's budget. A 3-D seismic survey might cost \$10-\$20 million and the division's entire budget is \$5 million. The division looks at and tries to understand the geology, in this case the geology of the shale oils. The division tries to understand how they are formed, what their organic content is, what their thermal evolution has been, and where they are in the oil window to help companies find the sweet spot, which is where the shales have gone into the oil window but haven't been cooked too much and where they might be sufficiently hard to be hydraulically fractured. The division tries to provide information more on a basin-wide type of system than on a particular prospect for a particular company.

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REPRESENTATIVE SEATON drew attention to slide 16, observing that it only mentions potential local energy resources for oil and gas and does not include peat resources. He asked whether the division identifies the peat resources across the state.

MR. MASTERMAN responded that peat would be part of the work the division does on coal. In further response, he said he is unaware of the division publishing any maps on peat in the recent past.

REPRESENTATIVE SEATON said he is bringing up the topic of peat because it was identified as a local source of energy for communities. A law was passed to make it available, but there has not been much push on it and he is trying to assess whether DNR is moving forward on that as a local energy supply.

COMMISSIONER MYERS replied that there are a lot of other efforts going on in the state. Peat is really looking at vegetation and vegetation is a biomass issue. There are also wind energy, hydrokinetic, and regular hydro-type energy supplies. The Division of Geological & Geophysical Surveys really doesn't do much with those particular resources, but DNR is leading a mapping effort in the state. The statewide digital mapping effort is a first step of getting the elevation data to understand what the vegetation and soil types are. The university is working with hyperspectral surveys that can tell that information. Understanding habitat and identifying it is a critical piece with respect to biomass. So, DNR touches parts of those pieces but the coordinated state effort has really been through the Alaska Energy Authority (AEA) to identify in the broader base resources. Geologic surveys traditionally have not focused on living biomass, although peat is sometimes done. The soil science piece of this is a really important component and the Division of Agriculture does some work on that, but fundamentally a lot of work hasn't been done. There are some gaps there, he allowed, in terms of how the resources are being looked at holistically. He added that the Division of Forestry and the university are looking at biomass, not peat, because biomass is a critical component.

REPRESENTATIVE SEATON remarked that peat drops in the middle. It is not really biomass, it is not considered a forestry or coal product, and it is not oil or gas, but it is an energy resource that could be available to local communities. He said

there has not been the stimulation of peat which could provide local employment in the obtaining and utilizing of that.

3:01:53 PM

REPRESENTATIVE OLSON recalled that he recently read of someone finally producing hydrates in commercial quantities. He asked whether Commissioner Myers has heard anything about this.

COMMISSIONER MYERS answered he has not and is unaware of any commercial production. He said the state has continued to work on a North Slope test for a long-term production test and has withheld some acreage near Prudhoe Bay known to be hydrate rich but not currently leased. Two days ago he met with the deputy secretary of energy and some of the folks working on the hydrate program and it looks like there will be funding, mostly Japanese funding, to move forward if alignment can be made.

REPRESENTATIVE OLSON added that it was small amounts but it was being called commercial. He believed it was either the Far East or Siberia.

COMMISSIONER MYERS replied there has been gas production on the Siberian side that is combined. It is thought to be hydrate contribution to conventional gas, he said, and he thinks that production has occurred since the 1970s or so in the fields. They may well have deliberately gotten into a hydrate zone and separate production, but he is not aware of it. In his opinion, it is a very critical next step to get this long-term hydrate test done. There have been two short-term tests in Alaska, one injecting carbon dioxide in the North Slope recovery, which was quite successful. The second was a relatively short test where it is pressure. The other mechanism is thermal where energy is put in to release the hydrate. This next test is going to be designed to be longer term, he said, and he is optimistic that something will be seen. [The department] has been unable to get the U.S. interested, it is the Japanese that have shown the most interest because they have a significant amount of hydrates offshore of Japan. India is also very interested. The USGS estimates 54 trillion cubic feet of hydrates are in the identified area and a significant portion of that underlies Prudhoe Bay, Kuparuk, and Milne Point. So, it is a huge potential resource that in the long term is highly likely to be produced, but there probably won't be production in the short term until there is gas moving off the North Slope.

3:04:25 PM

ADJOURNMENT

There being no further business before the committee, the House Resources Standing Committee meeting was adjourned at 3:04 p.m.