Cathy Foerster, Engineering Commissioner and Chair, Alaska Oil & Gas Conservation Commission

Chairman Bingaman, Ranking Member Murkowski, and members of the committee. From 1944 to 1981, the Federal Government drilled 136 wells in the western half of northern Alaska, in an area comparable to ANWR – in plants, animals and geography as well as in oil and gas resource potential.

The Bureau of Land Management (BLM) within the Department of the Interior operates these wells for the Federal Government. Every one of the wells has been out of compliance with Alaska regulations at one time or another, and most still are.

I am here representing the Governor of Alaska. He has asked me to tell you that we expect the Federal Government to obey Federal and State Laws by cleaning up every one of these wells, promptly.

Total well count is 136. Of the 136, only 16 are properly plugged and abandoned. Of those 16, 7 were plugged by a local Alaska government body.

Five more wells have been considered plugged and abandoned by the BLM, but not by the AOGCC because they do not meet our safety and environmental requirements.

Twenty-nine wells are holes in the ground. They never had any casing placed in them. BLM does not consider these wells to be a concern, but they have yet to convince the AOGCC of this. The downhole conditions of these wells are unknown and some of the wells still have surface remediation issues.

Seventeen of the wells are allegedly being used for temperature monitoring by the United States Geological Service (USGS). However, USGS has provided no evidence to the AOGCC that (1) they are truly using the wells and (2) the wells are in a safe condition, even though Alaska law requires that they do so.

Seventeen of the wells have been transferred to Alaska native ownership and are no longer a concern to the BLM. But they are still a concern to Alaskans.

Two of the wells are leaking greenhouse gases.

The remaining wells are also out of compliance but just don't fit nicely into another category.

AOGCC is working to get from BLM accurate data on the condition of the wells, but we don't yet have accurate downhole data on 75 of the wells nor do we have surface data on 81 of the wells; so I will limit my descriptions to the specific problems that we know we have with the 61 for which we have good downhole data and the 55 for which we have good surface data. However, we have no reason to believe the remaiining wells do not have similar problems.

At least 26 wells are open to the atmosphere and were left filled with drilling fluids. There has likely already been significant contamination of the surrounding tundra by these fluids swapping out after years of snow and snow melt. Further, several of the wells encountered oil or gas, and there is no way to guarantee that those fluids are escape.

Wood, metal, plastic, glass, and concrete debris litter at least 44 of the sites. It's embarrassing, no it's pathetic, that the Federal Government will give the BLM enough money to rent a helicopter, fly people up to the North Slope, and take pictures of these messes, but not enough to clean them up.

At least 17 are filled with diesel. They are an environmental eyesore at best and a source of contamination at worst.

At least three can no longer be found. One is under a landslide at the edge of the Colville River and two are in lakes. Since they can no longer be found, we have no way to confirm their surface or downhole conditions, essentially making them underwater mines and possible drinking water contaminators.

At least two leak greenhouse gases. The leaks are at very low rates but have been allowed to continue for well over thirty years, thus having a substantial cumulative impact.

Twenty-nine are partially re-vegetated at surface but have unknown downhole conditions, making them landmines. And some of them still have surface remediation issues.

At least 49 have metal piping sticking out of the ground, which creates a hazard for local travelers (and not just of the human variety), especially in winter with snow cover. Ten have open cellars, which create a trip-and-fall hazard for human and animal travelers.

The State of Alaska requires proper plugging and abandonment of wells to protect public safety, sources of drinking water, and the environment.

A properly plugged and abandoned well has sufficient cement and other plugs placed in the hole to ensure that underground fluids cannot migrate. Only 16 of the 136 wells meet this requirement.

A properly plugged and abandoned well has the casing and all other protrusions cut off at least 3 feet below ground level so that they cannot create a hazard or become a problem during subsidence or other normal earth movement. Only 16 of the 136 wells meet this requirement.

A properly plugged and abandoned well has sufficient surface remediation that the site blends in with the natural vegetation. Within a few summers, there should be no surface indication of the well's location. All but two of the wellsites for which we have data have some unaddressed man-made blemish marring the surface.

The pictures you've seen so far have demonstrated the problems at the surface, but now let's turn our attention to the downhole problems. The next two sets of sketches are for actual legacy wells. I've chosen these two wells because they show real problems that exist in many of the wells. For each pair of well sketches, the sketch on the left shows the well's existing condition and the sketch on the right shows what it would look like if it were plugged properly.

The first well is the East Simpson Test Well #2. At least 18 wells are in similar condition. The sketch on the left shows the existing situation, a well that was drilled to about 7500 feet, was cased to a little below 6400 feet, and has a series of cement plugs staged with drilling mud. Above the last plug, at about 2100 feet, the well is filled with diesel (the fluid that EPA has prohibited

operators from pumping into wells). Actually it is more accurate to say that the top 2100' held diesel in 1980. There is no guarantee that the diesel is all still there after 32 years of neglect.

The sketch on the right shows what the well would look like if plugged properly. The diesel would be safely removed and replaced with a water-based drilling fluid. Then a 150-foot cement plug would be set at the surface, and the pipe cut off at least three feet below ground level with a marker plate identifying it in case of future excavations. This work should cost less than $500,000 per well.

The second well is the Simpson Core Test #27. At least 28 other legacy wells are similar but 25 of them are worse because they have no wellhead. Thus the drilling fluids left in these wells have been open to the environment for between 30 and 68 years. It is likely that some or all of these fluids have escaped to and damaged the surrounding tundra.

The sketch on the left shows the existing situation, a 1500-foot deep open hole with about 100 feet of casing in the hole and sticking out at the surface. The hole was left filled with oil-based drilling fluids and no plug on top.

The sketch on the right shows what the same well would look like if it were properly plugged and abandoned. The oil-based drilling fluids would be safely removed, the open hole section filled with cement through all depths that showed oil or gas potential – to ensure no migration of reservoir fluids. (This is important, since the well encountered discreet oil sands between 278 and 380 feet.) The cement plug would be carried to the top of the casing and the casing would be cut off at least three feet below ground level with a marker plate identifying it in case of future excavations. Again, this work should cost less than $500,000 well.

You might ask why we're worried about old holes that have been open since 1951. Certainly you would expect that the hole has healed itself below the casing. Well, that's what the BLM expected when they plugged the Umiat #6 last year. However when they got about 200 feet below the end of the casing, they lost control of the well and it started to flow on them. Fortunately they were able to regain well control and avoid a blowout, but that's why we worry about these wells.

The third well is the Iko Bay #1, which is called the whistling well by the native residents of the area because its wellhead leaks hydrocarbon gas. I included this well as an example of a well that might be more expensive to clean up, since a rig would be required to pull existing tubing out of the well before it could be abandoned. However, a big part of the rig cost would be for mobilization and demobilization and that cost could be shared by other wells if this were cleaned up as part of a larger program.

The sketch on the left shows the existing situation, a 2700-foot open hole with casing set from 1200 feet to surface. There is no cement at the surface in several of the casing annuli; these annuli are supposed to have cement at the surface to prevent reservoir fluids from flowing and building up dangerous pressure at the surface. The open hole is plugged with cement from 2035 feet to 2200 feet. Above that, a slotted liner runs from within the casing down to about 1950 feet. A slotted liner is pipe with slots (holes) in it to allow fluids to flow through. No drilling fluids were left in the tubing or casing, which means the reservoir fluids from the open-hole section are in direct communication with the wellhead. And the open-hole section encountered several intervals with hydrocarbon gas potential. Thus, once the neglected wellhead developed a leak, this became the whistling well.

The sketch on the right shows what the well would look like if properly plugged and abandoned. The tubing would be removed from the well. The entire slotted liner section would be plugged with cement to prevent any further migration of reservoir fluids. A 150-foot plug of cement would be set at surface. The previously un-cemented annuli would be filled with cement. Again, all casing strings would be cut off at least three feet below the surface and a marker plate would be placed.

The last well is West Dease Test #1. I've included this well simply because it is representative of the 17 wells allegedly being used for temperature monitoring by USGS. I use the word "allegedly" because the USGS has not provided the required documentation to demonstrate that the wells are actually being used. They have also failed to provide the required information to demonstrate that the wells have mechanical integrity. For proper abandonment, these seventeen wells would simply need the diesel to be cleaned out of the hole (which should be done anyway), a 150-foot cement plug placed on top, the pipe cut off to at least three feet below ground level, and marker plates installed. All seventeen of these wells could be plugged for less than five million dollars.

Out of curiosity, I looked up the BLM requirements for proper plugging and abandonment. The BLM requires an operator to plug and abandon a well promptly and according to an approved plan, whatever that means. In other words there are no documented BLM standards for plugging and abandonment. (Interestingly the National Park Service has very specific guidelines for onshore wells within their jurisdiction, as does BSEE for offshore wells.) However, even if BLM has no specific plugging and abandonment requirements they are still obligated to follow the laws of the State of Alaska and follow our regulations.

Although BLM has no documented standards for plugging methods, they are very clear on time limits for plugging a well that is not in use. It must be plugged within ONE YEAR. Extensions can be granted for no more than one more year at a time, but the operator must demonstrate a good reason for the delay (And lack of budget or interest is not a good reason.) and must resubmit the request annually.

Allowing these unsafe and unsightly wells to litter Alaska's wilderness while threatening both human safety and the environment is unacceptable. Nonetheless, BLM has properly addressed only 9 of the 136 wells and well sites and Alaskans have taken care of another seven.

If an oil company operated these wells, the AOGCC along with several Federal agencies would force compliance with our regulations and impose fines for non-compliance. And if we didn't, the public outcry would be deafening.

When it comes to the Federal Government as operator, we can find them to be in violation of our regulations but, unfortunately, we have no legal authority to force them into compliance. And we shouldn't have to. Adequate funding should be specifically designated for the purpose of bringing these wells into compliance with Alaska's – Federal – regulations.

As a regulator I am aghast, along with my fellow Alaskans, that the BLM consistently fails to offer a plan to deal with these environmental ticking time bombs. It is long past time to take responsibility for and clean up these 120 messes. My agency has a thorough understanding of what is required to plug and abandon wells properly and in compliance with Alaska law. We want to work with the BLM to develop and implement a plan to accomplish this as soon as possible.