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*There's oil in them
thar... runways?*

Petro-Canada USA commenced with drilling operations for oil and gas on the property of the Greeley-Weld County Airport on Friday, September 19th. The 134 foot tall drilling rig was on site in the morning, and had been fully erected before the end of the day. The rig will spend the next six weeks in its current location drilling a total of five wells, one vertically, and four more directionally, underneath the airport.

Because of the location and height of the rig, the Colorado Oil and Gas Conservation Commission requirements for safety setback from public roadways could not be met in relation to Airport Road, the main entrance to the airport. The location of the wells themselves was fixed, given the proximity to buildings, overhead power lines, and Sand Creek, which runs nearby. The only option was the present closure of a portion of Airport Road, which will not re-open until the rig is removed from the site. All vehicular traffic is presently being detoured to the Crosier Ave. entrance, which provides full access to all hangar and gate locations on the airport.

Over the past few weeks, a tank battery has been constructed across the street from the airport's main entrance, which will collect and store the oil and gas extracted from these wells. The tank battery location, as well as its layout, was designed intentionally to help screen the automotive junkyard which is located south of SH 263, and which is very visible from the main entry of the airport.

Upon completion of drilling in the current location, the oil rig will relocate to the east end of the airport, south of the approach end of Runway 27. From this location, four more wells will be drilled over several weeks. While at this

location, temporary increases to certain instrument approach minimums will be in effect. Lastly, once drilling on the second location is complete, the rig will move once again to an area north of the approach end of Runway 9, where the final five wells will be drilled. This location will also increase certain minimums. Additional drilling will also take place from off airport property by this and other nearby rigs which may also affect approach minimums for temporary periods. Please check NOTAMS for the most up to date information and temporary approach minimum changes.



Other Oil Well Benefits... Trees!

One of the benefits of the oil and gas well operations near the airport entrance will allow the airport to continue with the next phase of its entryway landscape project. Late in 2007, 34 new trees were planted along Airport Road as part of the airport beautification project. These trees were paid for and planted under a federal grant project, at no cost to the airport. They replaced several other diseased trees which had to be removed because they were threatening the flow of Sand Creek. Earlier this summer, the second phase of the landscape entryway project was completed, with modifications to the airport entrance sign, and the planting of dozens of shrubs, trees and flowers around the sign, as well as in front of the Civil Air Patrol building. All of the work and materials for that project were donated to the airport, and again, other than some manpower and volunteer help, it was all accomplished with no cost to the airport.

As part of the oil and gas well drilling operation, several large trees were removed by a contractor in order to allow for the operational area needed for the drilling rig. These were old trees which were difficult for the airport to maintain, and nearing the end of their lives. In return for allowing the removal of these trees, Petro-Canada USA will actually pay the airport to replace them. A total of 67 new trees are scheduled to be planted before the end of the year, and located around the perimeter of the pond area, from the Crosier Ave. entrance, all the way to where we left off last year.

While the airport will incur some minor costs associated with planting these trees, they will all be acquired at no cost to the airport.

Project Update

Two airport improvement projects planned by the Greeley-Weld County Airport have either been completed or are underway. The first, a fog seal coating and re-striping project on Runway 9/27 and Taxiway A, was carried out in late July. The project, which was originally planned for up to ten days in length, was completed ahead of schedule in only 5 days. Although the Runway 9/27 pavement is only three years old, this is considered by engineers to be the ideal time to seal newer asphalt. This helps to protect it from deterioration resulting from UV rays, and small cracks that begin to develop, which then allow moisture penetration, which then leads to greater pavement deterioration.

The second project is the replacement of approximately 25,000 linear feet of fence line mainly surrounding Runway 16/34. The airport continues to have problems with coyotes and other animals that cross the airport in these areas, and which pose a hazard to aircraft operations. Additionally, the vandalism incident which occurred earlier this year, also demonstrated the need for upgrading the existing 4 foot tall barbed wire fence in these areas. The new fence is an 8 foot tall high tensil woven wire game fence, which is designed to keep animals of all sizes off the airfield.

This project is currently underway, and has no impact whatsoever on aircraft operations. Once complete, only a small section of fence along the airports eastern boundary with Weld County Road 47 will be left to be upgraded. That portion of fence line is scheduled to be replaced during the summer of 2009.

Airport Passes Latest FAA Inspection

The Federal Aviation Administration recently conducted its annual safety compliance inspection of the Greeley-Weld County Airport. The inspection includes on-site investigation into the manner in which the Greeley-Weld County Airport Authority maintains and operates the airfield portions of the airport. This includes pavement markings, visual nav aids such as Precision Approach Path Indicators, runway and taxiway safety areas, airfield lighting systems, maintenance, operations, and other areas.

Once again, the airport passed this inspection with zero deficiencies noted by the FAA inspector. This marks the fourth year in a row in which this annual safety compliance inspection has resulted in a perfect grade for the Greeley-Weld County Airport.

Airport Maintenance Projects

With the end of the summer maintenance season rapidly approaching, airport maintenance personnel are working hard towards completing priority projects.

Pavement crack sealing was performed early in the summer, and is once again underway to complete areas left out of the earlier schedule. This project is one of the most important pavement maintenance projects undertaken each year, as the sealing of cracks prevents moisture from penetrating into and beneath the pavement surfaces, which then cause further deterioration. Since pavement is the airport's number one asset, much attention is dedicated to this effort each year in order to prolong the life of the pavements.

Once crack sealing is complete, the re-striping of many taxiway lines, hold bars, and other airport markings will take place, in order to keep these important visual cues as visible as possible.

Work on the Hangar 13 door retro-fit project was completed earlier this summer. Since that time, while the operation of the doors has dramatically improved, water is still finding its way into some of the hangar units from a few different locations. Additional sealing of the roof and around the base of the walls has already taken place. Presently, airport staff are looking at costs to replace and re-route the rain gutters on the building to keep more water away from the building exterior, as well as a way to better drain the water that sometimes collects in the new concrete door track channel.

Storage Units Available

The Greeley-Weld County Airport has T-Hangar end storage units available for rent on a month to month basis. These units provide plenty of space for storage, at a monthly cost which is less than a dedicated local storage business.

For more information, please contact Kevin Freiberg at (970) 336-3002.

NIFA Activities to Impact Airport Operations

The National Intercollegiate Flying Association (NIFA) will hold its annual precision flight competition at the Greeley-Weld County Airport, the week of October 13th through 18th, 2008, after a long absence. The competition, hosted by Aims Flight Training Center, will bring flight teams from several different collegiate programs to Greeley to participate in precision landing, navigation, and other flying competitions.

Many activities are ground based, and will not have any impact on aircraft operations at the airport. Some, however, will have operational impacts. Monday and Tuesday of this week will likely see practice sessions from competing teams, mainly on Runway 9. Wednesday through Thursday, most aircraft will be parked on the Terminal Building apron. The western half of the apron will be closed off to other than event aircraft. The eastern half of the Terminal apron will remain open however to normal aircraft activities. During these days, aircraft will launch and recover in groups of five throughout the day, and will mostly be conducting cross country activities, providing for minimal impacts to aircraft operations. Friday, October 18th however will see major operational impacts mainly on Runway 9/27. Various competitions will be held throughout the day using Runway 9/27, with at least five aircraft in the pattern simultaneously all day long.

During the event, temporary chalk markings will be placed on Runway 9/27 needed for certain events. Personnel and minor equipment may be located in the grass areas adjacent to the runways, and drop areas will also be located alongside the runway as well. The Airport Authority intends to NOTAM this runway closed except with PPR all day Friday. Pilots not participating in the event will be strongly encouraged to use Runway 16/34. Additionally, as non-participating aircraft conducting touch and go activities on Runway 16/34 will significantly interfere with event aircraft in the pattern for Runway 9/27, pilots will be asked for their cooperation to help minimize the impact.

In the event that weather, wind, or other conditions warrant the use of Runway 9/27 by other aircraft, the activities of the competition will be curtailed or modified to permit the use of the runway by non-participating aircraft.

Winter Operations... Already!

Well... it's October again. That means we are thinking more and more about the imminent arrival of winter. While it was sunny and in the 80's when we wrote this newsletter, we also know that the season's first snowfall could come as early as the next few weeks. The airport maintenance staff has already begun preparing the airport's snow removal equipment for the pending season, and while we hope that there is enough moisture this winter to satisfy the farmers in the area, we also hope we don't have to actually use the equipment all that much.

The Greeley-Weld County Airport Authority is completely independent of the City of Greeley and Weld County when it comes to snow removal. The Authority owns and operates five pieces of heavy snow removal equipment, and a number of pieces of smaller equipment. The main snow fighting tools the airport has in its inventory include the following list of equipment:

- One 12 ton dump truck w/12 ft. snow plow.
- Two 3 ton dump trucks w/10 ft. snow plows.
- One Caterpillar 966 wheel loader w/20 ft. snow plow, and alternate bucket.
- One Ford A-62 wheel loader w/14' boxed plow blade, 11' angled blade, and alternate bucket.
- One John Deere 6410 tractor with 8' snow blower on the front, and 8' drag blade on the rear.
- Vericom and Tapley decelerometers for braking action/friction testing.
- Other small equipment, including a snow blower, and some good old fashioned shovels.

At the beginning of each snow season, we like to remind our tenants of a few things when it comes to winter operations and snow removal on the airport:

1. Airport staff will monitor weather conditions when snow is in the forecast, and will inspect and issue NOTAMS with field condition reports when snow contaminates the paved surfaces.
2. If you plan to fly when snow is in the forecast, or immediately after a snowfall, you should call the Airport Assistant Manager, or Airport Manager, and provide your departure or arrival schedule, to ensure that we are aware of your plans. This will allow us to better accommodate any snow removal that may be necessary for your flight operations. Generally, airport staff will try and accommodate snow removal needs in advance of any known or scheduled flight activity. However, it is ***your*** responsibility to contact us and let us know of your plans. If we have no known flight operations, snow removal will generally not begin until 8 A.M. on the morning after an overnight snowfall. Calling us the day before with your plans goes a long way towards keeping you on schedule.
3. If you would like to inspect the runway conditions prior to flying, call airport staff first. Do not just drive out onto the runway. In almost all cases, airport staff will accommodate your request to inspect the runway surface conditions if you request so. If you drive out onto the runway, you are likely to be struck by a snow plow, as visibility during plowing operations, and the ability to stop multi-ton trucks, is minimal under the circumstances.
4. During snow removal operations on the airfield, both runways will be NOTAMED as CLOSED, except with a 10-15 minute PPR. This means we need you to call us in advance either by phone or by radio over the Unicom frequency in advance of taxiing or landing. This will ensure that all snow removal equipment is clear of the needed runway, and we can provide you with the latest field condition information on that runway.

Braking action and friction reporting is provided in MU values only. Please see the explanation of how to interpret these on the next page. Our goal is to keep the Greeley-Weld County Airport as operational as possible through any snow event. Please call us at (970) 336-3000 with any questions.

To remove your name from our mailing list, [click here](#)

We want this newsletter to be of value and interest to our tenants and users. If you have an issue or idea you would like us to report on, email it to us at moliva@gxy.net. Also, if you would like to share your news with others, email that to us and we'll put it in the next issue of The GXY FLYER.

WHAT'S A MU?

Many pilots have recently encountered a new term when operating in winter conditions. Mu, or the Greek letter μ , is the symbol used in physics to stand for friction, and is becoming more and more common as a way of expressing the available traction on a runway.

Pilots who fly international routes are generally more familiar with this term because runway mu values have been reported to pilots in Europe and Canada for many years. Pilots in the United States are more used to hearing terms such as “good”, “fair”, “poor” and “nil” used to describe runway braking action, and while some pilots' groups have been able to get information out to their members, mu values may still be Greek to many general aviation pilots. Currently, general aviation associations are trying to disseminate this information to their members, since studies have shown that subjective descriptions of runway braking action are of limited usefulness.

Why is a more objective method of describing runway traction needed? Because subjective terms are by definition subject to interpretation. What pilot would accept the following communication from air traffic control: “Cleared to land Runway 1, moderate wind from the left?” Yet pilots are provided no better information when told that braking action is “fair”, based on an airport employee's judgment derived from locking the brakes on a pickup truck. Even pilot reports vary so widely as to be impossible to correlate with one another. With objective mu reporting however, a runway in Maine having an average mu value of 25 will present a pilot with the same braking capacity as a runway in Montana with the same average mu value.

What if you haven't had any exposure to mu values at all? A short explanation may help:

The mu scale runs from 0 to 100 (or 0 to 1.00). A clean, dry runway in good condition will have a mu value of very close to 100. A runway with a layer of water on top of a layer of ice will have a mu value of very close to 0. In between, a clean, wet runway may have a mu value of 80-90, a wet, rubber coated touchdown zone 50-80; and a snow covered runway, 10-30. Since approved friction testers provide the same values in the range of interest during winter operations (0-40), the pilot is not burdened with having to interpret data based on a particular device. When mu values rise above 40, no report is given, since available traction is not considered to be a concern. Simply put, pilots should remember that the lower the mu value, the less available traction and the greater the likelihood of directional control and stopping performance difficulties.

As mentioned earlier, subjective reports vary too widely to establish a conversion between them and mu values, but pilot reports are still considered to be of value.

These reports will continue to be relayed by air traffic control, and should help pilots with little experience with mu values, interpret this information.

Efforts are on-going to establish a better correlation between mu values and aircraft stopping performance. Until work is complete and more precise information becomes available, the important thing is that the pilot should be provided with consistent, reliable, objective data which he or she can use in conjunction with other data (runway condition description, wind speed and direction, etc.) as a basis for informed operational decisions. With a little experience, pilots should find that mu values are much more consistent than subjective braking action reports, and thus more valuable in predicting aircraft ground performance.

The Greeley-Weld County Airport owns and operates both a Vericom computerized Decelerometer, and a Tapley Decelerometer, which provide runway traction in mu values. The Vericom device is the primary means by which the airport reports its mu values. The Tapley device is a backup.

During winter operations, these mu values, if lower than 40 (in accordance with FAA criteria), are published through the Notice To Airmen (NOTAM) system for three portions of each runway, including the landing zone (first 1/3 of the runway) midfield (center 1/3 of the runway), and departure end (last 1/3 of the runway). Each set of mu values will be specific for the runway landing direction only, since mu values for opposite direction traffic on the same runway may be different due to varying factors.

For more information, contact the Greeley-Weld County Airport staff during normal business hours.