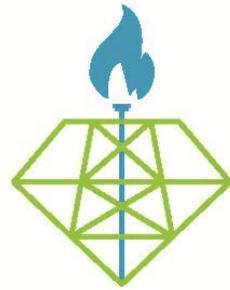




Happy Spring!



# IDAHO OIL & GAS CONSERVATION COMMISSION

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## Dawson Geophysical– Mike H. McMennamy, Alta Mesa



Dawson Geophysical continues the acquisition of a 200 square mile 3D seismic survey in Payette and Gem County. The Survey, which began in October 2014, is being conducted with vibroseis trucks. The vibroseis truck allows high frequency, low energy pulses to be put into the ground via a metal plate that is lowered from beneath the truck. This metal plate vibrates sending energy into the ground. This energy is then reflected back to the surface and recorded by geophones on the ground at predetermined points. The data collected allows geoscientists to create an image of the subsurface which is used to explore for hydrocarbons in a more effective and efficient manner. The vibroseis trucks allow Dawson to acquire high-quality data, while having the smallest impact possible in the survey area.

### Inside this issue:

Dawson Geophysical	1
Idaho's O&G Abbreviations	2
Meet the IOGCC- Vice Chairman Chipman	2
Seismic Update	3
Sage Grouse and Conservation Efforts	3
Farewell to Bobby Johnson	4
RBDMS Data Mining	4
Common O&G Term	4
Production Market	5



Dawson, in a further effort to minimize their impact on the survey area and surrounding community, has utilized helicopters, track vehicles, and mules to move equipment to and from the field. The mules, from a local ranch in Cascade, in coordination with the track vehicles and helicopter are tasked in helping move recording equipment to specific points in the field. Using the mules and track vehicles allows Dawson to access more rugged and sensitive areas while only minimally affecting the surrounding area.



Dawson continues to acquire data in Payette and Gem County and plans to complete the survey in the early spring.

## A deeper look into Idaho's O&G Abbreviations from Rule 20.07.02

**API.** American Petroleum Institute - oil and gas industry's trade organization. API's research and engineering work provides a basis for establishing operating and safety standard issues and specifications for the manufacturing of oil field equipment and furnishes statistical and other information to related agencies.

**ASTM.** American Society for Testing and Materials - provides a global forum for the development and publication of international voluntary consensus standards for materials, products, systems and services. ASTM standards are used in research and development, product testing and quality systems.

**BBL.** Oilfield Barrel - Forty-two (42) U. S. gallons at sixty (60) Degrees F at atmospheric pressure.

**BOP.** Blowout Preventer - high pressure wellhead valves, designed to shut off the uncontrolled flow of hydrocarbons.

**CAS.** Chemical Abstracts Service - is a division of the American Chemical Society which is the world's authority for chemical information whose objective is to find, collect and organize all publicly disclosed chemical substance information.

**EPA.** Environmental Protection Agency - this federal government agency regulates air and water quality setting standards communities across the country are required to meet.

**F.** Fahrenheit - scale of temperature.

**GPS.** Global Positioning System - is a space-based satellite navigation system. The system was developed by the US military and is maintained by the United States government and is freely accessible to anyone with a GPS receiver.

**HDPE.** High Density Polyethylene - a polyethylene thermoplastic made from petroleum.

**IDAPA.** Idaho Administrative Procedure Act - Administrative Rules that have the force and effect of law and as such are subject to a comprehensive process that includes review and approval by the Idaho Legislature in order to become final and enforceable.

**IDEQ.** Idaho Department of Environmental Quality - is a state department created by the Idaho Environmental Protection and Health Act to ensure clean air, water, and land in the state and protect Idaho citizens from the adverse health impacts of pollution.

**IDWR.** Idaho Department of Water Resources - is a state department created to make sure water is conserved and available to sustain Idaho's economy, ecosystem and the resulting quality of life.

**MCF.** One thousand cubic foot - Volume of Natural Gas.

**MSDS.** Material Safety Data Sheet - information intended to provide workers and emergency personnel with procedures for handling or working with substances in a safe manner, and includes information such as physical data, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill-handling procedures.

**OSHA.** Occupational Safety & Health Administration - a division of the United States Department of Labor established to assure safe and healthful working conditions by setting and enforcing standards and rules to protect workers from hazards.

**PSI.** Pounds per Square Inch - unit of pressure.

**PVC.** Polyvinyl Chloride - a tough, chemically resistant synthetic resin made by polymerizing vinyl chloride and used for a wide variety of products including pipes, flooring, and sheeting.

*Those highlighted in red are waiting for Final Approval.*

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## Meet the Idaho Oil & Gas Conservation Commission—Vice Chairman Margaret Chipman



Margaret (Marg) Chipman was appointed to a three-year term representing landowners with mineral rights and serves as the Vice Chairman of the IOGCC. Born and raised in Moscow, she has always considered herself a Vandal by birth. She graduated from the University of Idaho in 1967 with a bachelor's degree in Business and moved to southern Idaho after her marriage to Gary Chipman, settling in Weiser in 1971. She and her late husband Gary spent 45 years in the cattle feeding and ranching business. She has a son and daughter-in-law, two grandchildren and a great-grandson, all living in southern Idaho and enjoys many family gatherings and time spent with them and her mother-in-

law. Marg is currently serving in her 22nd year on her local school board, and was recently elected as Vice President of the Idaho School Boards' Association. She is a retired LPN and Pharmacy Tech and enjoys gardening and hanging around the Capitol during the legislative session.



## Seismic Update– AJ Mondor

Dawson Geophysical’s 200 square mile, 3D seismic survey in Payette and Gem Counties has been active for four months. The project is just now making its way out of the northern hills and into more populated areas. Dense fog and frequent inversions have been the biggest challenges.

Idaho Department of Lands (IDL) received one complaint regarding the 3D survey and sent inspectors to the site within 24 hours to investigate. The inspectors found no problems with the processes or procedures and in discussion with the property owner verified no problems on their behalf. IDL’s quick response to a complaint shows its level of commitment.

The 3D seismic survey is expected to be completed spring of 2015.



A Tracked Truck brought in to move geophone around without tearing up property due to saturated ground and the lack of freezing temperatures this year.

## Update on Sage Grouse and Conservation Efforts— Bobby Johnson

In 2010 the U. S. Fish and Wildlife Service (FWS) classified the Greater Sage-grouse (GRSG) as warranted but precluded, listing the following threats to sage-grouse: rural and agricultural expansion, wildfire, infrastructure (wind development, power lines, fencing etc.), lack of regulatory oversight, and invasive species. The warranted but precluded designation under the Endangered Species Act, acknowledges the Greater Sage-grouse is a candidate for listing, but other species have a greater need. Several environmental groups filed suit in Federal Court to force FWS to address the 150 species on the 2010 list, specifically the Greater Sage-grouse and other sub-species of grouse to include the Gunnison Sage-grouse found in parts of Utah and Colorado.

A 2012 court ordered settlement agreement sets a deadline for the FWS to make a decision on whether to list the sage-grouse as threatened or endangered by September 30, 2015, the end of the Federal fiscal year. In response to the listing date, which affects 11 western states, the Secretary of the Department of the Interior invited all 11 western states to create conservation measures to preclude the Greater Sage-grouse from being listed by the FWS in September of 2015.

Also in response to the candidate listing, the Bureau of Land Management (BLM) initiated work on a Land Use Plan Amendment for sage-grouse draft Environmental Impact Statement (EIS) in line with the National Environmental Policy Act (NEPA) for southern Montana and Idaho. In 2012, Governor Otter’s Sage-grouse Taskforce created an alternative for consideration and analysis in the draft BLM EIS. The Governor’s Plan was incorporated in the November 2103 BLM Draft Idaho and Southwest Montana Sub-Regional Sage-grouse Land Use Man-

agement Plan Amendment (LUPA) and Environmental Impact Statement (EIS), where it was presented as a “co-preferred alternative”.

As the premier land management agency in Idaho, Director Tom Schultz, enlisted all of the program managers to create conservation measures (CMs) and voluntary best management practices (BMPs) for guidance on management of endowment and regulated lands. The draft Idaho Department of Lands Proposed Greater Sage-grouse Conservation Plan is the result of this combined effort. The plan details general conservation measures and voluntary BMPs for the regulatory programs. These measures were presented to select trade industry officials on February 13th as a Tier I meeting. IDL has presented the draft plans to the Land Board and to the Oil and Gas Conservation Commission. The Department began Tier II meetings for all interested specific industry representatives as a stakeholder outreach the week of February 16th.

The Department received comments through March 2<sup>nd</sup>, and will continue to incorporate comments and revise the draft plan. The draft plan and other related information can be found online at <http://www.idl.idaho.gov/sage-grouse/index.html>.

### Estimated Timeline

**-May 19, 2015** - Land Board to vote on IDL Sage-grouse Management Plan.

**-May 21, 2015** - Oil & Gas Conservation Commission to vote on oil and gas regulatory components of IDL Sage-grouse Management Plan.



## Farewell to Oil and Gas Program Manager Bobby Johnson

After two years of working as the Oil and Gas Program Manager for Idaho Department of Lands, Bobby Johnson has accepted a new career opportunity. His last day at IDL is Friday, March 6, 2015.

Bobby's next adventure takes him back to Wyoming where he will be working for the Department of Defense. One of his responsibilities will be the underground petroleum storage tanks on the F.E. Warren Air Force Base.

IDL's wishes Bobby the best of luck in his future endeavors.

Resource Protection and Assistance Bureau Chief Brandon Lamb will be overseeing the Oil and Gas Program until a new Manager is hired. The Oil and Gas Program Manager position will be posted on the State of Idaho Human Resources website on Monday, March 9, 2015.



## Risk Based Data Management Solutions (RBDMS) Data Miner– Elton Kelly

IDL is implementing the RBDMS Data Miner, a web application for public and private entities to search Idaho's Oil & Gas Program data. The Data Miner will provide transparency, circumventing the need for entities to submit requests for Public Records or Information. IDL is using RBDMS (Risk Based Data Management Solutions), an application developed by GWPC (Groundwater Protection Council), for documenting its

Oil & Gas Program. The Data Miner, a separate application accessing the non-confidential data in RBDMS, allows full text search with results displayed in a tabular format, in addition to a map-based interface. Data considered proprietary or confidential (such as production records) would not be available for data mining. Idaho is one of ten states that already have, or are in the process of implementing the Data Mining applica-

tion for RBDMS. IDL customizations are mostly developed. The first round User Acceptance Testing was completed the last week of January. IDL subject matter experts review the application during User Acceptance Testing to verify it meets our business needs. Testers will perform a second round of testing in early March in order to meet the scheduled release to the public by the end of March.

## Common Oil and Gas Term– Lease Automatic Custody Transfer (LACT) Unit

“LACT” is an acronym for Lease Automatic Custody Transfer which is the point where the custody of oil is transferred from the producer to the pipeline, or any other transportation means. A LACT unit is a piece of equipment which measures the volume and quality of a petroleum product as it is transferred from the production site to trucks, pipelines, barges, tankers or storage tanks. LACT units are usually installed in remote locations and they are almost always unmanned.

A LACT unit:

- transfers oil from the production site to trucks, pipelines, barges, tankers or storage tanks;
- monitors and samples the amount of sediment and water in the oil;
- eliminates air or gas from the liquid as long as it is not entrained or trapped in the liquid;
- pulls a representative sample of the liquid;
- measures the volume of liquid flowing through;
- maintains constant back pressure and flow rate; and
- operates automatically or semi-automatically.

Advantages of a LACT unit:

- It reduces the manpower requirements
- Reduces the tankage requirement over conventional hand gauging
- Offers flexibility for 24-hour operation
- Reduces human error, if properly maintained
- Eliminates measurement error due to tank bottom buildup on tank walls
- Allows for complete, remote operational capabilities by dispatcher, etc.

Further reading:

- [http://www.afms.org/Docs/liquids/LACT\\_Witnessing.pdf](http://www.afms.org/Docs/liquids/LACT_Witnessing.pdf)
- <http://info.smithmeter.com/literature/docs/tp0a016.pdf>
- <http://setxind.com/modular-process-skids/lact-units/>



A LACT Unit



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## Oil & Gas Marketing Explained-Commissioner Ken Smith

Oil and gas marketing like other commodities has two areas of activity; hedging (financial contracts) and physical sales contracts. The marketing of oil and gas production has similar characteristics to other commodities. Agricultural products are actively traded on the commodity exchange. The prices determined on the exchanges form the basis for the price of the commodity, which is typically adjusted for location and quality variations. Each commodity, including oil and gas, has its own set of adjustments. The quality and location adjustments will affect the price received for the actual sale of the oil or natural gas. These adjustments to actual price received for the oil or gas at the well will be discussed later in the article.

Commodity price risks of oil and gas, like price risks for agricultural products, can be managed to a significant degree by hedging.

Hedging contracts used for oil and gas price risk management are usually made up of "puts" or "calls" or combinations of the two. A "put" is a contractual right to sell a commodity at a specified price and time. A "call" is the contractual right to purchase the commodity at a specified price and time. Each contract has a party and a counterparty, one betting prices will go down and the other betting prices will go up. A combination of "puts" and "calls" make up what are known as swaps and collars.

Oil and gas companies take on considerable risk when exploring for, developing, and then producing oil and gas. In this high risk environment many companies "lay off" some of the price risk by acquiring hedging contracts that transfer some of the risk to other parties. For example, when oil is selling for \$100 bbl. (a barrel of crude oil equals 42 gallons) the company may enter into swap contracts to hedge future prices. They may acquire a \$95 swap that protects 80% of next year's production. This is accomplished by "giving up" value above \$95 to protect against prices below \$95. When the price is above the swap price, the company pays the counterparty the difference. When prices are below the swap price then the counterparty pays the difference to the company. If the company is willing to accept more risk a collar may be used. A collar is a hedging contract that has a floor and a ceiling, the floor is lower than a swap (thus more risk) but the ceiling is higher allowing for more participation at higher prices. When prices are above the ceiling the company pays the difference to the counterparty, when below the floor the counterparty pays the difference to the company. If prices are between the floor and ceiling no payments are made.

The physical sale of the oil and gas can be through a marketing company or directly to a refinery or pipeline. Because oil and natural gas take different paths they will be discussed separately.

In the Uinta basin of Utah, most oil producers have direct sales contracts directly with one or more of the refineries in Utah. In the mid-continent oil producing states refineries sales are more typically through marketing companies that buy the oil and transport it to the various refiners.

The sales price of oil at the well is adjusted for quality and location. In general the further the well is from the refinery the lower the price. Quality adjustments are made for sulfur content and "gravity". Gravity is a measure of the density or the weight of a unit of oil. For example, if a gallon of oil weighs the same as a gallon of water then the oil has a gravity measure of 10. If the gravity of the oil is very much above or below 40 gravity then the oil may have a discount based on the amount of variation from 40 gravity. The reason for prices being adjusted for gravity is that the heavier and lighter crudes require more processing to yield the desired mix of refined products. High yields of gasoline and diesel generally generate the most revenue for the refinery.

Sulfur content of oil also affects price. High sulfur (sour crude) receives lower prices than sweet crudes (low sulfur). The sulfur content of gasoline and diesel is required by regulation to be very low. Because the cost of removing the sulfur is greater than the value of the sulfur recovered, the price of the sour oil is reduced to cover the higher refining costs.

Oil can generally be trucked, railed or pipelined to market with little field processing. This is not the case for natural gas. Natural gas is transported by pipelines and is required to meet quality specifications.

While oil is sold by volume, natural gas is sold based on heating value as expressed in British thermal units (Btu).

The type of pipeline determines the quality specifications. A local field gathering system can have lower quality requirements than interstate pipeline. In many fields the gas must be processed before it can be delivered to either an intrastate or interstate pipeline. Processing may be required to remove water, liquid hydrocarbons, non-hydrocarbon gases and sulfur. Depending on the amount of processing, costs can be very high. Substantial volumes of gas may need to be developed in an area to justify the capital and operating expense of a natural gas processing plant. This can have a significant economic impact on the development of new discoveries. Natural gas after processing can be delivered to a pipeline and sold to a marketing company or the pipeline company. As with other commodities, natural gas prices are based on exchange prices as reflected at specified delivery points. For example, a pipeline can post prices for delivery points along the pipeline. These posted prices, while reflecting the exchange prices, may vary significantly based on local demand and the cost or ability to transport the gas out of the area. For example in the spring with mild temperatures, demand in the area can be less than the supply. This requires the gas to be transported over longer distances and even other pipelines. When the "take away" capacity is less than the supply then local prices can be significantly lower.

Even though oil and natural gas prices are based on commodity exchange prices, the actual sales price at the well can vary significantly. All of these factors must be considered when expanding developed fields or developing new fields.