

## MONTHLY STAFF REPORT

### July 12, 2004

#### I. STATISTICS

Our monthly statistics report is attached ([page 1](#), [page 2](#), [page 3](#)). Based on approvals to date, the approved Applications for Permits-to-Drill ("APD's") for calendar year 2004 are projected at an annual total of 2700.

#### II. NORTHWEST COLORADO

Attached are newspaper articles of local interest. (["10,000 wells..."](#), ["Annual Gas Revenues..."](#), ["Drilling Efficiency..."](#), ["EnCana steps up..."](#), ["Energy-Hungry..."](#), ["Gas Consumption..."](#), ["New directions..."](#), ["Nuclear blast site..."](#), ["On bucolic mesas..."](#), ["Residents Object..."](#))

#### ® Northwest Colorado Oil and Gas Forum – *Important Notice of Time Change*

The last meeting of the Northwest Colorado Oil and Gas Forum was held on May 27, 2004 at the Battlement Mesa Activity Center. The meeting was well attended by approximately 130 citizens, industry representatives, and state, federal, and local government representatives. Commissioner John Ashby also attended the meeting. Agenda items for the meeting included:

- A West Divide Creek gas seep update by EnCana representatives and Colorado Oil and Gas Conservation Commission ("COGCC") staff.
- A discussion of natural gas development project plans in the area near the former Project Rulison site by Presco, Inc. representatives.
- A Project Rulison monitoring and study update by U.S. Department of Energy staff.
- An update on Northwest Colorado oil and gas activity by COGCC staff, Bureau of Land Management ("BLM") staff, and industry representatives.
- An update on the BLM Roan Plateau planning process by BLM staff.
- A Garfield County oil and gas update and Garfield County Energy Advisory Board report by Garfield County staff.
- A report on recent COGCC rulemaking by COGCC staff.

Each presentation included a question and answer period, and a general open public comment and question and answer period was also conducted.

The next meeting of the Northwest Colorado Oil and Gas Forum will be held from **10:00 a.m. until 2:00 p.m. on Thursday, August 26, 2004 at a location to be determined.**

The Forum, which is co-chaired by COGCC Acting Director Brian Macke and Garfield County Commissioner Larry McCown, consists of representatives from federal, state and local government, the oil and gas industry and all interested citizens. The meetings are currently being held four times during the year. The meeting frequency may be adjusted if changing circumstances create a need to do so.

**All parties wishing to be placed on the agenda for presentations need to contact Brian Macke at 303-894-2100 x122 or [brian.macke@state.co.us](mailto:brian.macke@state.co.us).**

® Mamm Creek Gas Field - West Divide Creek Gas Seep

COGCC and EnCana's investigations of the gas seep in West Divide Creek continue. Since remedial cementing of the Schwartz 2-15B Well on April 7, 2004, water sampling of the West Divide Creek seep has shown a dramatic decrease in benzene concentrations from the maximum concentration of 99 micrograms per liter (µg/l), which was detected on April 2, 2004, to non-detect on April 26, 2004. BTEX has not been detected in any of the creek samples since late April 2004.

Previous observations by COGCC staff of the diminished aerial extent, volume, and activity of the seep continues to be confirmed by ongoing inspections of the seep area by representatives of the COGCC, Garfield County, and EnCana.

BTEX has not been detected in any of the water samples collected by either EnCana or by the COGCC from approximately 50 water wells, springs, and ponds that are used for drinking or stock watering. Methane gas has been detected in many of these, but this is not unusual or unexpected because the water wells are completed in and the springs issue from the Wasatch Formation, which is known to contain gas bearing rocks. Samples have been collected from the water wells with greater than 2 mg/l methane for isotopic and compositional analysis of the gas. The results of the isotopic analyses indicated that the gas is not from the Williams Fork Formation and its presence appears to be unrelated to the gas that was released from the Schwartz 2-15B Well. Water sampling is now conducted monthly except for three domestic water wells where high concentrations of methane have been observed. These three wells are being sampled on a weekly basis. EnCana continues to supply water to area residences, as requested.

On April 19, 2004, the COGCC staff sampled a small spring discharge located in the eastern bank of West Divide Creek adjacent to the main gas seep. Laboratory analyses showed a concentration of benzene at 199 µg/l, and minor amounts of toluene, ethylbenzene, and xylenes. EnCana immediately reinstated weekly creek water sampling (sample frequency had been reduced from weekly to a monthly sample frequency).

From June 7 through June 14, 2004 EnCana conducted a soil-gas resurvey of the main seep area. EnCana is evaluating the results and preparing maps, which will be submitted to the COGCC soon.

During the weeks of June 28, 2004 through July 9, 2004 EnCana will be undertaking a ground water investigation at the main seep area with the installation of monitoring wells and the use of an "on-site" laboratory. The on-site laboratory will provide rapid analytical testing of ground water samples and help focus monitoring well placement.

On June 29, 2004 and June 30, 2004, COGCC staff conducted additional water and gas sampling from wells and surface water ponds in support of the continuing West Divide Creek seep investigation.

EnCana has contracted with Colorado Mountain College's ("CMC") natural resources staff to conduct a biological study to monitor aquatic life in the West Divide Creek and to measure impacts, if any, to aquatic life from the gas seep. Data collection began on May

10, 2004 and will continue monthly through August 2004. A second round of aquatic study samples were collected on May 31 and June 1, 2004. Several residents in the vicinity of the seep are providing input to the CMC study.

The COGCC has noticed a Hearing on the Alleged Violations of COGCC rules by EnCana with regards to the West Divide Creek Gas seep and the Schwartz 2-15B Well. The Hearing will be held at the Ramada Inn in Glenwood Springs, Colorado on Monday, August 16, 2004. The hearing notice has been provided to the interested parties.

The COGCC staff continues to provide updates regarding the West Divide Creek seep investigation to the Water Quality Control Division ("WQCD") of the Colorado Department of Public Health and Environment ("CDPHE") pursuant to our existing Memorandum of Agreement ("MOA").

EnCana continues to comply with the moratorium on drilling and fracing activities within a 2-mile radius of the seep until COGCC approves resumption of these activities.

A recent update on the chronology of investigation and remediation actions (June 25, 2004) was added to the COGCC webpage (Library – Piceance Basin Studies - Mamm Creek Gas Field - West Divide Creek Gas Seep Updates).

### III. SOUTHWEST COLORADO

#### ® Order Nos. 112-156 and 112-157 - Ground Water Quality Evaluation

Since COGCC Order Nos. 112-156 and 112-157 were approved on July 11, 2000, operators in the Ignacio-Blanco Field of the San Juan Basin have been sampling at least two water wells prior to and after the drilling of optional additional coalbed methane ("CBM") wells in the Fruitland Formation. An evaluation of the data submitted by operators over the past four years has been made by Dr. Anthony Gorody, Universal Geoscience Consulting, Inc., Cindy Scott, Consulting Hydrologist and COGCC staff.

The objective of the evaluation was to determine whether drilling optional additional wells has had an impact on ground water resources. In particular, has the concentration of methane in ground water increased? Field data and the results from major ion analyses, gas chromatography, and stable isotope analyses of water, dissolved and produced carbon dioxide, and dissolved and produced methane have been compiled in a COGCC database for all samples collected since 1990. Results show that to date the drilling of optional additional CBM wells has had no detectable impact on the dissolved methane concentrations found in ground water throughout the Colorado portion of the San Juan Basin.

Dr. Gorody and COGCC staff will be presenting the results of their investigation on July 12, 2004 during the COGCC hearing. This presentation will also be made at the next GORT meeting in Durango, which will be scheduled sometime in late summer 2004. In addition, the presentation is available on the COGCC website library.

### IV. ORGANIZATION

#### ® Staff Organization

Our current organization chart is [attached](#).

Director Richard Griebeling retired on June 30, 2004. Brian Macke has been appointed as Acting Director by Department of Natural Resources Executive Director Russell George. The Department will be initiating a competitive process to fill the vacant Director position in the near future.

Also retiring on June 30, 2004 was Paula Neal, Fiscal Manager.

The Fiscal Manager position has been filled by Wendy Schultz, who began June 22, 2004.

Both Permitting Technician positions have been filled; Elaine Winick began June 15, 2004 and Dennis Ahlstrand began July 1, 2004.

We would like to welcome these new employees and look forward to working with them.

## **V. PLANNING/ADMINISTRATION/OTHER**

### **® 2003 Outstanding Oil & Gas Operations Awards**

COGCC staff has received several nominations for the 2003 Outstanding Oil & Gas Operations Awards. These nominations have been reviewed and forwarded to you with staff recommendations. Award presentation will take place at the Colorado Oil and Gas Association's ("COGA") Rocky Mountain Natural Gas Strategy Conference and Investment Forum. This will be the 8<sup>th</sup> year of this very successful program that recognizes extraordinary efforts of oil and gas operators in a variety of categories.

### **® Public Outreach Opportunities**

Deputy Director Brian Macke provided a presentation on the status of oil and gas development in Colorado on June 10, 2004 at the annual meeting of the Independent Petroleum Association of Mountain States ("IPAMS") in Vail, Colorado. The presentation was part of a panel discussion by the Rocky Mountain States Oil and Gas regulatory agency directors as part of the Western States Policy Update portion of the meeting.

### **® Interstate Oil and Gas Compact Commission ("IOGCC") Appointments**

The Governor's Office has appointed COGCC Chair Peter Mueller as the new Colorado alternate representative to the IOGCC, and COGCC Acting Director Brian Macke has been appointed to serve as the new official IOGCC representative.

### **® U.S. Environmental Protection Agency ("EPA") Releases Hydraulic Fracturing Study Final Report**

The EPA has published a final report summarizing a study to evaluate the potential threat to underground sources of drinking water from the injection of hydraulic fracturing fluids into coalbed methane production wells. The report concluded that "...the injection of hydraulic fracturing fluids into CBM wells poses little or no threat to USDWs..." and the agency finds no reason for further study of the issue.

This completed study, which was released last month, culminates at least four years of efforts by the EPA to evaluate the fracturing process and its effect on groundwater



sources. "The EPA also reviewed incidents of drinking water well contamination believed to be associated with hydraulic fracturing and found no confirmed cases that are linked to fracturing fluid injection into CBM wells or subsequent underground movement of fracturing fluids," the report states. Attached ([page 1](#), [page 2](#)) is an EPA fact sheet on the final report.

The web site address for the entire study is <http://www.epa.gov/safewater/uic/cbmstudy.html>. COGCC staff was part of the peer review team.

® Yuma County Comments on Our Website

On July 12, 2004, former COGCC Director Rich Griebing received a complimentary letter from Yuma County Assessor Diana Nyhoff regarding the use of our website information for production verification and other applications.

® Coordination with the Southern Ute Indian Tribe and Red Willow Regarding the Regulation of Oil & Gas Operations

The memo (previously mailed) from Rich Griebing to you of June 25, 2004 on the referenced topic is attached ([page 1](#), [page 2](#)) and posted on our website.

® Penalties Status

[Attached](#) is a revised table showing the status of penalties paid and penalties pending collection.

® August Hearing Docket

A preliminary docket for the August 16 & 17, 2004 hearing has been [provided](#). Hearing dockets are available on the COGCC website by clicking on "Hearings". Links to the hearing applications and notices are available from the Docket by clicking on the Applicant and the Docket Number, respectively.

To sign up for e-mail notification of hearing notices and applications please see the announcement and instructions on our main web page.

® Joint COGA – CCI Gathering Line Regulation Work Group

A workgroup consisting of representatives from COGA and local governments working through Colorado Counties, Inc. ("CCI") was convened late in 2003 to jointly develop proposed COGCC regulations for gathering lines. The workgroup, which included representatives from Weld, Garfield, Mesa, Gunnison, La Plata, Delta, Rio Blanco, Las Animas, San Miguel, and Delta counties as well as industry representatives, met several times to discuss gathering line issues and develop a rulemaking proposal to jointly bring to the COGCC. COGCC Deputy Director Brian Macke was included in the meetings to serve solely as a resource and to answer questions about COGCC regulation that arose in the discussions. There was initially considerable progress made with the development of an industry proposed working draft that was an expansion of the existing COGCC flowline rules to include gathering lines. After concern arose by the county representatives that the draft rules did not address a number of their concerns, the meetings became less frequent, with the last meeting occurring on February 5, 2004. There has been no notification of any future meetings, and it appears that the effort to craft rules jointly by the industry and the

local governments has ceased.

® Draft Budget Requests

The following COGCC budget requests have been approved by the General Assembly and have been included in the FY 04-05 Long Bill appropriations.

- The entire \$96,995 change request for FY 04-05 for the completion of the document imaging indexing project.
- A supplemental budget request for FY 04-05 to address increased drilling permit activity and active well workload which includes:
  - \$89,487 in Personal Services including 1.0 FTE for a Permit Technician and \$30,000 in temporary services funding for document processing.
  - \$1,759 in operating funds.
  - 1 additional leased vehicle from Fleet Management.

In addition, the General Assembly took these other actions related to the COGCC:

- \$500,000 was taken from the Environmental Response Fund balance to replace Severance Tax funding for COGCC programs.
- \$400,000 will be used from the Environmental Response Fund ("ERF") balance to fund the COGCC ERF projects lines.

The above two actions are not projected to result in the Environmental Response Fund balance being below its desired \$1 million level.

® COGCC Leased Space Status

The COGCC's current office space lease in the Chancery Building will expire on August 31, 2004. The Office of State Planning and Budgeting ("OSPB") has given its approval to State Buildings to begin the process of negotiating a new office space lease. The Department of Personnel and Administration has engaged Corporate Planners and Coordinators, Inc. ("CPC") to perform the following functions on behalf of the COGCC:

- Space needs assessment
- Marketplace search
- Lease negotiation

In its approval of the COGCC request to the OSPB for an exemption to a state Executive Order regarding new office space leases, State Buildings Real Estate Programs made a recommendation that the COGCC utilize the services of CPC to compile competitive lease rate information for a short term lease (not to exceed two years), including a financial analysis of options that considers both re-leasing the current space at the Chancery Building and moving to another facility. COGCC staff is working closely with CPC on a very tight timeline for a solution on a new office space lease.

CPC has received a competitive offer by the Chancery Building for the COGCC to re-lease the current office space for a two year term for the same lease rate as is currently being

assessed. The two year term could be extended for an additional year for one dollar per square foot more with a ninety day notice by the COGCC. No build-out allowance would be available under these terms; however, the building management would perform some minor repair as well as carpet cleaning. The COGCC has instructed CPC to recommend to the OSPB that this offer be accepted. CPC has forwarded an information analysis and summary related to marketplace alternatives, which includes the Chancery Building re-lease recommendation, to State Buildings Real Estate Programs for their review and recommendations to OSPB. The COGCC is currently awaiting a response to the recommendation.

® Colorado Oil and Gas Information System ("COGIS")

The COGCC information system, COGIS, is made up of many different components that are used by the Commission, staff, industry, government agencies and many others.

· Internet

The COGCC determined it was most cost effective to develop applications and information in an Internet available format. This allows for the same tools to be utilized in different environments, thus eliminating the re-creation of applications. The Internet connection was moved to a new network structure which provides a much more secure environment. The following are tabs on the Internet menu bar.

○ General

- This page has links to basic information concerning the Commission, its function, and oil and gas development in Colorado. The annual statistics and the weekly/monthly statistics are available here.

○ Contacts

- This page has links to people and agencies that are involved with oil and gas regulation and related issues in the state. The page also contains phone lists and geographic areas of responsibility for staff.

○ Library

- § This page contains links to documents resulting from Commission studies, activity reports, and statistical downloads.

○ Hearings

- § This page has links to the current and previous hearing schedules, which allow for review of the dockets, agendas, applications and their outcome. It also has information that is useful when considering an application for hearing or finding information about Commissioners.

○ Rules

- § This page contains links to the Commission statute, Rules and Regulations, and policies.

○ Orders

- § This application provides searchable capability to the Commission's orders. The search by location is still under construction as we create the map layer for all spacing orders.

○ Forms

- § These are Adobe Acrobat documents that can be downloaded, completed, printed and mailed. Some example and instruction documents are viewable. Eventually, online forms will be available here, but the exact time frame is unknown.

○ Staff Report

- § Current and previous staff reports, with attachments, are viewable here.

- Permits
  - § This application shows the last 12 months of approved permits and current pending permits; it may be filtered by county.
- Database
  - § This application enables users to query well, production and operator information. These queried databases contain the most current set of data and are updated throughout the day.
- Local Gov
  - § This application provides database searches for local government contact information and oil and gas activity within a selected area.
- Images
  - § This application is an interface to the COGCC's historical paper files. All well files, logs and hearing files have been scanned. This application is not user friendly and the preferred method is to use the database queries and click on the "docs" icon for wells and other facilities, or to use the Orders application.
- Maps
  - § This interactive map application allows the user to zoom, pan and select types of information to display. This application will also display the database information for wells by selection tools or double clicking on a single item. There are also tools to allow annotations and to save reusable map files.
  - § The spacing orders are being evaluated and posted on the maps, with approximately seventy five percent (75%) of the state having been reviewed.
- Reports
  - § This area is still in development; the application malfunctions. The goal is to have selectable data sets and statistical queries.

#### Local Area Network

The COGCC staff is connected to services by a Local Area Network ("LAN") connection which provides e-mail and data sharing capabilities. The LAN is connected to the Centennial Building at 1313 Sherman Street by a wireless interface; this connection provides access to the Internet and other state services. COGCC staff utilizes the same applications in its work as Internet users, in addition to others outlined below.

- Database
  - § The COGCC maintains a comprehensive database of regulated facilities (wells, pits, injection sites), incidents (inspections, complaints, spills), and affiliations (companies, contacts, staff).
  - § The database cleanup project has been halted, with almost 35,000 historic well records updated. The project was stopped due to funding availability. There are a little less than 28,000 well records that have not been updated.
- Imaging
  - § This application provides the capability to convert the paper documents received by the Commission to electronically available documents.
  - § A new index cleanup project is being started to cleanup and input the document name in the index information in the hearing document images. This project should be completed in a six month period.
- Form Processor
  - § This set of applications allows users to input, route, edit, and update regulatory reports submitted by oil and gas operators.
- Geographic Information Systems ("GIS")
  - § These applications provide the capability to create custom maps, convert survey calls to geographic coordinates, and convert and utilize geographic

positioning system ("GPS") data.

- § The GIS Administrator creates daily updates for the Internet map application.
- COGIS Tools
  - § This set of applications allows staff to correct data in the database in addition to performing specialized workflow administration.

#### Remote Users

This is the final component of the COGIS system. The deployment of this system was delayed due to database synchronization problems; three laptops have been deployed to field inspectors. While the application is still buggy, the feedback is that having information available in the field is a tremendous asset. This laptop system consists of Internet applications, form processor and other specific tools necessary for field staff to automate data collection and provide information.

#### Electronic Business

- A new application to allow for the filing of digital logs on the Internet is being developed to facilitate the collection of these large files. This application is expected to be available in August.
- There are approximately 175 operators reporting production electronically.
- An Internet available production report application that uses an XML data transfer mechanism is being tested by staff and will soon be available to industry. The XML file structure is the same as that in use by Montana, Utah, Nebraska, New York and Pennsylvania. This application was funded by the Ground Water Protection Council using a Department of Energy grant.
- COGCC, GWPC, BLM, MMS, API and agencies from several other states have been working together to establish an XML file format for permitting wells and reporting their completions. The group has completed a business case for this project and a DOE grant request has been submitted to fund the development.

#### Problems

- The report server has been unavailable due to configuration issues with the new security systems. These issues will be resolved and the system will be more functional in the near future.

## VI. VARIANCES

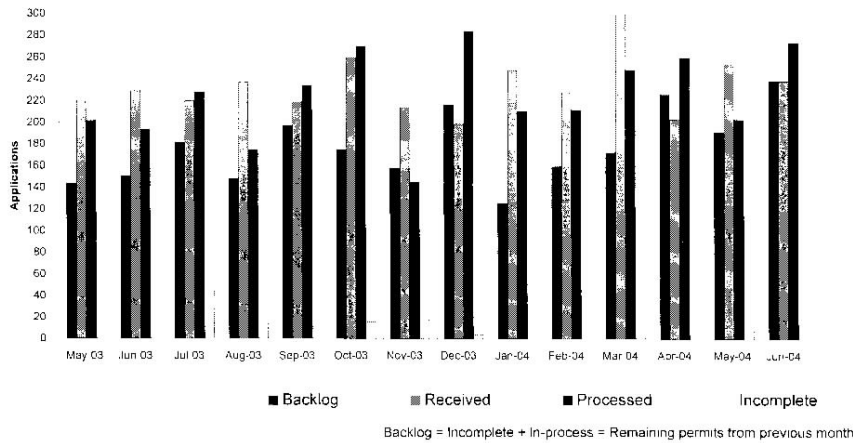
There were no variances this month.

## Colorado Oil & Gas Conservation Commission

### Monthly Breakout of Drilling and Recompletion Permits

	Backlog	Received	Processed	Withdrawn	Rejected	Incomplete	In-Process	Remaining
<b>Drilling</b>								
May-03	139	198	184	12	0	48	93	141
Jun-03	141	190	170	1	0	40	120	160
Jul-03	160	200	201	12	0	49	98	147
Aug-03	147	226	166	14	0	18	175	193
Sep-03	193	188	209	6	0	12	154	166
Oct-03	166	228	244	6	0	16	128	144
Nov-03	144	204	142	5	0	18	183	201
Dec-03	201	183	259	5	0	4	116	120
Jan-04	120	240	200	2	0	2	156	158
Feb-04	158	217	206	4	0	5	160	165
Mar-04	165	302	243	5	0	4	215	219
Apr-04	219	195	254	5	0	4	151	155
May-04	182	239	196	4	0	9	212	221
Jun-04	223	228	259	9	0	10	173	183
<b>Recompletion</b>								
May-03	5	23	18	0	0	0	10	10
Jun-03	10	40	24	4	0	0	22	22
Jul-03	22	21	28	13	0	0	2	2
Aug-03	2	12	9	0	0	0	5	5
Sep-03	5	32	26	1	0	0	10	10
Oct-03	10	33	28	0	0	0	15	15
Nov-03	15	11	4	5	0	0	17	17
Dec-03	17	17	27	0	0	0	7	7
Jan-04	7	10	12	2	0	0	3	3
Feb-04	3	13	7	0	0	0	9	9
Mar-04	9	25	8	17	0	0	9	9
Apr-04	9	10	8	0	0	0	11	11
May-04	11	17	9	1	0	0	18	18
Jun-04	18	13	18	3	0	4	6	10
<b>Total</b>								
May-03	144	221	202	12	0	48	103	151
Jun-03	151	230	194	5	0	40	142	182
Jul-03	182	221	229	25	0	49	100	149
Aug-03	149	238	175	14	0	18	180	198
Sep-03	198	220	235	7	0	12	164	176
Oct-03	176	261	272	6	0	16	143	159
Nov-03	159	215	146	10	0	18	200	218
Dec-03	218	200	286	5	0	4	123	127
Jan-04	127	250	212	4	0	2	159	161
Feb-04	161	230	213	4	0	5	169	174
Mar-04	174	327	251	22	0	4	224	228
Apr-04	228	205	262	5	0	4	162	166
May-04	193	256	205	5	0	9	230	239
Jun-04	241	241	277	12	0	14	179	193

Incomplete are permits that have missing or inaccurate data and cannot be approved.



Colorado Oil Gas Conservation Commission  
Monthly Statistics

YEAR	MO	Baker - Hughes rig count	Drilling				Recompletion				Permits				Injection				Pits				Active Wells	Unedited Historic Records	Public Visits				Well Oper Change
			Apvd	Rcvd	Apvd	Rcvd	Apvd	Rcvd	Apvd	Rcvd	Apvd	Rcvd	Apvd	Rcvd	Apvd	Rcvd	Apvd	Rcvd	Data	Office	Internet								
2001	Total		2271	2301	164	152	4	4	2	2	22	22	235	246	73	95	1306	104824	6413										
2002	JAN	25	162	178	4	4	2	2	0	0	43	27	22873	73	95	11673	1000												
	FEB	27	164	210	9	7	2	1	9	25	22911	76	68	13679	209														
	MAR	25	194	173	8	12	2	3	31	11	22930	58	55	13184	183														
	APR	28	175	177	11	12	3	4	2	26	23040	65	67	12935	737														
	MAY	33	173	202	15	26	6	7	41	10	23098	64	90	14492	207														
	JUN	34	183	124	27	19	0	1	1	5	23156	57	69	13747	499														
	JUL	31	140	171	20	16	2	1	7	30	23242	51	105	14801	199														
	AUG	30	177	167	3	8	1	1	36	14	23273	50	71	15554	209														
	SEP	24	117	170	7	17	2	3	13	37	23352	65	46	15810	184														
	OCT	25	209	188	25	14	5	4	12	11	23488	45	59	18423	539														
	NOV	24	170	148	37	36	3	0	8	31	23608	63	68	15932	348														
	DEC	27	144	143	8	6	2	0	49	2	23711	51	81	15460	241														
2002	Total		2008	2051	174	177	30	25	252	229	718	874	175690	4555															
2003	JAN	31	177	183	8	11	2	2	3	15	23963	82	88	16623	506														
	FEB	32	158	163	21	18	1	0	1	3	24118	62	77	19140	191														
	MAR	30	167	180	5	4	1	2	15	9	24212	51	55	18922	177														
	APR	35	172	179	4	7	2	7	5	24	24363	63	123	21679	198														
	MAY	37	184	198	18	23	5	0	29	132	24445	52	99	22307	477														
	JUN	37	170	190	24	40	0	0	32	21	24489	59	65	20883	339														
	JUL	40	201	200	28	21	0	4	136	17	24589	50	48	22779	415														
	AUG	43	166	226	9	12	0	2	2	32	24655	53	43	17900	245														
	SEP	48	209	188	26	32	2	2	13	30	24808	41	31	22718	234														
	OCT	46	244	228	28	33	2	2	5	54	24901	41	38	29413	391														
	NOV	44	142	204	4	11	1	0	6	13	24911	22	38	27961	208														
	DEC	44	259	183	27	17	2	1	115	31	25042	34	50	21631	254														
2003	Total		2249	2322	202	229	18	22	362	381	610	755	261956	3635															
2004	JAN	45	240	200	12	2	0	1	35	7	25283	37	49	31236	355														
	FEB	46	217	206	7	0	4	0	1	0	25423	44	30	31292	236														
	MAR	50	302	243	8	17	2	3	1	6	25661	51	70	32931	283														
	APR	51	195	254	8	0	5	2	34	35	25666	58	64	33241	202														
	MAY	52	239	196	9	1	0	2	3	4	25732	41	56	32273	240														
	JUN	51	228	259	18	3	0	2	4	0	25870	38	46	32273	82														
2004	Total		1421	1358	62	23	11	10	78	52	269	315	193246	1398															

Apvd = Approved Rcvd = Received Ind = Individual Bktl = Blanket Appt = Application for Hearing NOAV = Notice of Alleged Violation ADC = Administrative Order of Consent, QFV = Order Finding Violation, Cmpl = Compliant Comp = Completed



Colorado Oil Gas Conservation Commission  
Monthly Statistics

YEAR	MO	Bonds										Violations										Remediation Projects							
		New		Operators		Release		Ind.		Claim		Hearings		NOAV		AOC		OFV		Cmplt		Spills		Rcvd		Comp		Field Insp	
2001	Total	77	57	33	28	104	2	1	53	40	259	9	2	217	202	97	98	7240											
2002	JAN	7	9	3	3	6	0	0	6	7	19	1	2	16	20	17	0	415											
	FEB	10	4	1	0	5	0	0	6	4	34	0	1	11	29	6	6	449											
	MAR	6	8	3	3	10	0	0	3	2	19	0	2	5	32	8	5	572											
	APR	7	10	8	3	10	1	0	5	4	28	0	0	10	11	9	10	353											
	MAY	5	11	6	14	6	0	0	NA	NA	29	NA	NA	16	19	4	7	805											
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	AUG	6	11	6	5	8	0	0	5	4	72	1	1	17	14	2	2	654											
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	OCT	3	12	8	6	5	0	0	3	2	10	0	0	17	10	7	7	346											
	NOV	5	3	3	0	15	0	0	NA	NA	1	NA	NA	15	12	4	3	377											
	DEC	3	6	11	4	5	0	0	6	4	5	1	0	14	12	3	5	366											
2002	Total	63	97	62	58	98	2	1	63	52	280	5	21	176	206	80	58	6499											
2003	JAN	8	6	8	3	5	0	0	3	4	30	1	0	5	20	6	1	522											
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	MAR	6	8	5	4	13	0	0	7	3	8	1	0	13	17	4	1	655											
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	MAY	12	3	0	0	10	0	0	8	7	23	2	0	10	19	5	8	610											
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2004	Total	45	38	24	22	54	0	2	44	38	133	22	0	87	115	23	29	3642											

Accrd = Approved Rcvd = Received Insp = Individual Bkmt = Blanket Apps = Application for Hearing NOAV = Notice of Alleged Violation AOC = Administrative Order of Consent OFV = Order Finding Violation Cmplt = Compliant Concy = Completed

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GLENNWOOD SPRINGS  
POST-INDEPENDENT 6/15/04

# Drilling future: 10,000 wells in 10 years?

Gas industry big, getting bigger in Garfield County

BY DENNIS WEBB  
CSPI News Editor

Most people look at the amount of drilling in Garfield County and think it's in the middle of a natural gas boom.

Those closer to the industry see it differently: The boom has just begun.

"It is very, very early," said Randy Udall, chief executive director of the Aspen-based

Office for Resource Efficiency, an Aspen-based nonprofit office that promotes renewable energy and energy efficiency.

Over the last 10 years, for all the drilling that has occurred in the county in the past decade, the county had 1,669 active wells as of January, according to the Colorado Oil and Gas Commission. In the next 10 years, 5,000 to 10,000 new wells could be drilled here.

"That's possible, very possible that that could happen," said Steve Soyechak, district manager in Parachute for Williams Production, one of the leading



Post Independent file photo/JIM NOLKER. Flight Courtesy of Boebling

Natural gas wells, already not the western Garfield landscape, as shown in this aerial view west of Rifle, at the foot of the Roan Cliffs. Now industry observers are saying another 5,000 to 10,000 wells may be drilled in the county over the next decade.

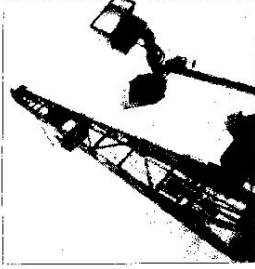
"As long as the prices stay high like they are now, I would see that happening," Doug Denison, Garfield County's oil and gas auditor, agreed.

Brian Macke, deputy director of the Colorado Oil and Gas Conservation Commission, said 5,000 to 10,000 new wells in the

next decade is a "pretty safe guessimate." If current demand and price levels hold up, and local drilling continues to prove successful, there's good reason to think the current pace of drilling will stay steady, or even pick up, he said.

Udall points out that gas fields in western Garfield County

## Hitting a gusher



## Drillers striking it rich in Garfield County

Editor's note: With gas drilling having become big in Garfield County, the Post Independent set out to find out just how big. The resulting four-part series looks at the local industry by the numbers, why the boom has occurred, what the future holds, and how the public may respond.

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DRILLING: see page 2



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The *Post Independent* strives for accuracy, but we occasionally make mistakes. Please call the editor if you spot a factual error: 945-8515, ext. 517, or send an e-mail to [news@postindependent.com](mailto:news@postindependent.com). When corrections or clarifications are necessary, they will appear in this location.

**Rosi's ownership:** John Pataky is the owner of Rosi's Little Bavarian Restaurant, 141 W. 6th St., Glenwood Springs. A story Monday incorrectly reported who the owner of the restaurant is.

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# Annual gas revenues near \$1 billion

BY DENNIS WEBB  
GSPI News Editor

Oil and gas development in Garfield County still may be in its infancy. But judging by the numbers, it's already going gangbusters.

In terms of annual production value, at nearly \$1 billion, it's already nearly half the size of the entire Colorado ski industry, and two-thirds the size of the state's hunting and fishing industry.

About half of the nearly 70 drill rigs in the state are drilling here.

Last year, 566 permits were issued for new wells in the county. This year, more than 600 permits could be issued, said Brian Macke, deputy director of the Colorado Oil and Gas Conservation Commission.

As of mid-April, 204 already had been issued, he said. At that pace, the annual total could reach 700.

"I'd say at least 650," Macke said.

"That's a lot, isn't it?" he added.

The amount compares to 362 permits issued in 2002, 353 in 2001 and 213 in 2000. A total of 1,372 permits were issued in the county from 1991 to 2001.

Garfield County oil and gas auditor Doug Dennison agrees this year's permits could reach 700. That compares to just more than 20,000 gas wells drilled nationwide in 2001.

The county trend is in keeping with statewide permit numbers. Last year, 2,245 oil and gas well permits were issued in Colorado, probably about 85 percent for gas, Macke said. This year, the number could hit 2,600.

COGCC records since 1964 show the previous modern-day high was back during



A crew works a drilling rig in Garfield County, where the value of gas production is nearing \$1 billion per year.

another energy boom, in 1981, when 2,378 permits were issued.

"We fully anticipate that it will break that record" this year, Macke said.

Garfield County accounted for a full quarter of all permits issued in the state last year. Weld County, which includes Greeley, led the state, with about a third of all permits — 756.

Garfield County is beginning to rival Weld County in drilling activity. As of early April, 68 rigs were drilling statewide, 33 of them in Garfield County. Only half as many were active in Weld County.

Almost as many rigs are drilling in Garfield County now as were drilling in the entire state as of early 2003.

The results of all that drilling are speaking for themselves. In the year after the county hired Dennison to fill his newly created position, gas production in the county almost doubled, from 280 million cubic feet to about 500 million cubic feet per day, he said.

worth \$5 billion, "which is twice the size of the entire ski industry," Wonstolen said.

"That's huge, that's big," Colorado's ski industry generates revenues of about \$2 billion a year, according to Colorado Ski Country USA. The state Division of Wildlife estimates that hunting, fishing and wildlife-watching generates \$1.5 billion in direct and indirect revenues each year.

Colorado's gas production is the sixth-highest in the country. Garfield County is playing a large part in the state's natural gas boom. Its production value is now pushing close to \$1 billion a year, said Randy Udall of Carbonate, director of the Community Office for Resource Efficiency, an Aspen-based non-profit office that promotes renewable energy and energy efficiency.

That's bigger than had been forecast for the oil shale industry during its boom, he said. That industry had been expected to produce \$550 million in oil per year, said Udall.

He cites an Oil & Gas Journal article that indicates the richest parts of the Rubicon gas field, part of the Piceance Basin, may yield \$500 million per square mile, or almost a million dollars per acre.

In terms of production, Udall said, the Piceance Basin gas field is now about the 10th largest in the entire nation.

Over the next half century, Udall estimates, gas companies are likely to produce \$50 billion worth of gas in Garfield County.

That would be 100 times what it cost, in early 1990s dollars, to build the Glenwood Canyon Interstate 70 project.

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## Piceance Basin gas field becoming industry giant

DRILLING: from page 1

The Colorado Geological Survey has estimated as much as 20 trillion cubic feet — or a little more than the nation's total annual natural gas production in recent years, and close to its annual gas consumption — eventually could be recovered from these fields.

"There's some people that say it could be as much as 100 trillion" cubic feet of recoverable reserves in the Piceance Basin, Soychak said.

In fact, the industry estimates of total reserves for the Piceance Basin run as high as 300 tcf, although Soychak still considers 100 tcf a good upper limit in discussions about how much might be recovered.

"There's probably some undiscovered

areas out here between northwest Colorado and northeast Utah," Soychak said.

"I think there will be more areas discovered in Garfield County that will be developed."

Just developing existing reserves could take five to seven years, Soychak said.

"But I'm sure there's probably another 7-10 years beyond that," he said.

And a typical well will continue to produce for 20 or 30 years, Macke said.

Meanwhile, the issue of the Roan Plateau continues to loom over discussions of the future of drilling in the Piceance Basin. The plateau is home to an estimated 5 trillion cubic feet of reserves. That could be worth \$25 billion, based on recent prices.

The Bureau of Land Management is working on a management plan that will dictate how much drilling occurs in and around the plateau in coming decades. Environmentalists and local communities have called for no drilling to be allowed on top of the plateau.

By most any measure, the Piceance Basin gas field is becoming an industry giant. The story of why is multifaceted, having to do with soaring natural gas prices due to increased demand, and the application of improved technology to what was once a difficult field to develop.

Over coming days, the *Post Independent* will further explore these aspects of the natural gas boom, and its implications for a county already feeling the impacts of drilling and natural gas production.

## Glenwood residents react to arrest of rape suspect

## Drilling efficiency increases with technological advances

BY DENNIS WEBB  
GSPi News Editor

Even critics of the natural gas industry in Garfield County seem willing to concede the point.

However, one feels about drilling, energy developers are doing a remarkable job of tapping the vast gas resource lying beneath us.

Developers are incorporating a variety of technological advances to produce gas locally.

"It's a pretty adept process, getting gas out of the ground," said Randy Udall. A Carbondale resident and director of the Community Office for Resource Efficiency, an Aspen-based nonprofit office that promotes renewable energy and energy efficiency, Udall has been a vocal critic of the industry in other regards.

Brian Macke, deputy director of the Colorado Oil and Gas Conservation Commission, credits strong natural gas prices and improved technology as the factors behind the county's gas boom.

"Those two conditions combined have very much increased the level of activity out in Garfield County," he said.

In everything from directional drilling to drill bits, the industry has been taking advantage of technological advances to improve local drilling performance.

These advances have been important because the Piceance Basin is a nontraditional, unconventional gas field. Early attempts to produce gas locally, back in the 1950s, weren't productive. The gas is trapped in what are called tight sands — essentially, sandstone, with gas trapped between individual grains of sand.

The Williams Fork/Mesaverde geological formation that contains this sandstone is visible aboveground in places

such as Cameo near Grand Junction, and the Grand Hogback in Garfield County. But elsewhere in the county, the sandstone is thousands of feet deep, the overlying earth having trapped the gas until drills have brought it to the surface.

But the sandstone doesn't give up the gas easily, and this is where technology has come into play, aided by gas prices high enough to make it worth the investment.

Much of the technology that has unlocked local gas reserves was described in December in an Oil & Gas Journal article by Vello Kuuskraa, president of Advanced Resources International — a gas and oil consulting firm that has worked in Garfield County — and Gregory Bank, a geologist with ARI.

Among the factors they outlined were:

- Improving exploration technology to identify more highly permeable sandstones with natural fractures that allow gas to flow.
- Working to drive down well-drilling and completion costs.

- Applying intensive resource development, through such means as "fracing," or using fracturing techniques, and drilling more wells per acre.

### Rulison R&D paid off

ARI was involved in some of the early research and development in the Piceance Basin that produced results being put to use there. So was the U.S. Department of Energy, along with Barrett, which was later acquired by Williams Production, a leading gas producer in the county today.

The R&D focused on wells in the Rulison area, in the late 1980s and early 1990s. One effort made use of basin analysis, three-dimensional seismic testing and other means to identify clusters of natural fractures underground — permeability "sweet spots," as ARI refers to them.

Seismic testing involves creating vibrations in the earth through use of dynamite, so-called "thumper trucks" or other means, then taking seismic readings.

Wells drilled in these sweet spots were found to yield two or more times as much gas as nearby wells.

Macke said the DOE's testing in Rulison also proved fruitful in advancing fracturing technology aimed at opening up more passages for natural gas flow. Experiments were conducted on different hydraulic fracturing techniques, and the tests showed that local gas fields could be developed far more productively and efficiently than had been thought.

Fracturing involves injecting fluids and sands down the drill hole to prop open formations so gas can be released. Fracing technology continues to improve, as do the fluids used in the process.

Today's fluids cause less damage to the formations being drilled and do a better job of increasing gas production.

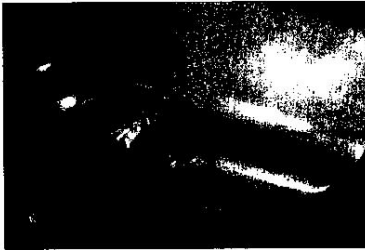
Improved fracturing and other technological advances have vastly improved gas recovery per well.

Steve Soychak, district manager in Parachute for Williams Production, said one well advancement has involved installing



Steve Soychak, district manager of Williams Production, points out natural gas wells near Parachute last winter. Soychak is among those who cite technological advances as a contributor to the drilling boom in Garfield County.

Drilling is being improved by the advent of diamond-based drilling bits. Most local drilling rigs are using these bits, and wells that used to take 30 days to drill now take half the time.



Post Independent Photo/JIM NOELKER

This is a close-up view of the teeth on a diamond-based drill bit being used on a rig in the Mammi Creek area south of Rifle. These can cost \$40,000 to \$45,000 each, but drill faster than bits made of carbon steel.

solar-powered, radio-based remote controls that let the company track production, and any abnormal trends, from the office.

ARI found that area wells were averaging 0.79 billion cubic feet in estimated ultimate production before 1995, while average production is now about 2 bcf per well.

"At the same time, the dry hole rate has declined from 9 percent for the pre-1995 wells to essentially zero," ARI's Kuuskraa and Bank wrote in their Oil & Gas Journal article.

### The denser, the better?

Macke said energy developers also discovered during the 1990s the value of increasing drilling density to tap reserves more fully. Soychak said the DOE experiments contributed to Williams' decision to drill more densely.

The gas-producing sandstone bodies being drilled are often described as lenticular, or lens-like, because of their shape. They are stacked vertically for hundreds of feet, but don't extend very far horizontally, and don't connect with other sandstones.

As a result, drilling density was increased to access these individual lenses better.

"I think it's being shown that there's a lot of places where 10-acre density is necessary," said Macke.

One well per 10 acres is the densest drilling in the world, but the math has borne it out. Producers have found that as they increase density, successive wells are about as productive as the early ones.

For example, said Macke, in the Parachute field, one well every 160 acres was found to drain about 5 percent of the gas in place. One every 80 acres recovers 10 percent; one every 40 acres, 20 percent; one every 20 acres, 40 percent; and one every 10 acres, 80 percent.

Forty-acre spacing results in 16 wells per square mile; 20-acre spacing, 32 wells; and 10-acre spacing, 64 wells.

Any denser, said Macke, and wells start to "communicate with each other." That means they're draining the same sand lenses — which makes additional drilling unnecessary.

But Udall, of CORE, said he's being told by the industry that communication isn't necessarily occurring between wells drilled at 10-acre density, "which suggests to me that 5-acre spacing may not be out of the question."

Ken Wanstolen of the Colorado Oil & Gas Association said it wouldn't surprise him if 5-acre spacing is eventually pursued. Some sandstone lenses are perhaps the size of a football field, or about one acre, so they can be missed with 10-acre drilling, he said.

### Diamonds a driller's best friend

Drilling also is being improved by the advent of dia-

mond-based drilling bits, said Soychak. These can cost \$40,000 to \$45,000 each, but drill faster than bits made of carbon steel.

They also do better at boring through the abrasive sands encountered by local drilling operators.

Most local drilling rigs are using the diamond-based drill bits, and wells that used to take 30 days to drill now take half the time, said Soychak.

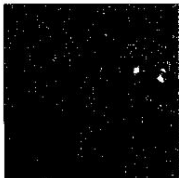
That's important, with only 1,350 drilling rigs available to search for gas in North America. Soychak said there's a shortage of not just rigs but manpower — the dozens of people needed to haul water, oversee directional drilling, handle the drill bits, run the mud systems involved in drilling, serve as consultants, and otherwise service a rig.

Typically it can cost \$1 million to \$1.5 million to drill a well. Soychak said increasing steel prices are adding to the cost of well casing, and energy producers also are facing rising costs for the specialized sand used in the fracturing process.

But the payoff is a well that over its lifetime could produce gas worth \$10 million.

Contact Dennis Webb: 945-8515, ext. 516  
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## Hitting a gusher



### Drillers striking it rich in Garfield County

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- Friday: As drilling further threatens quality of life, the outcry by residents is likely to intensify.

JUNE 17, 2004

RIFLE, CO  
THE CITIZEN TELEGRAM

## EnCana steps up with \$10,000 for water pipeline for Tepee Bible Camp

**By Ryan Graff**

Telegram Staff Writer

Tepee Bible Camp was looking for \$10,000 when it walked up to their door.

The camp, located on West Mamm Creek Road about seven miles south of Garfield County Airport, was looking for ways to pay for 800 feet of water pipe and labor to connect to a new water source.

"Our project was supposed to cost \$10,000," said Tepee's co-director Marie Stover. But last month an EnCana Oil and Gas Co. employee who worked at a gas well across the street stopped by to offer wire for an intercom system.

The camp doesn't use or want an intercom system, Stover told the employee, who requested that Stover not reveal his name.

"If there's anything you ever need," responded the employee, "let me know."

Stover told the employee that the camp needed 800 feet of 4-inch water line, and a track hoe and operator to dig the ditch.

On June 1, the pipe was delivered, and on June, 5 a track hoe and operator from Flint Energy showed up.

"It was a real blessing," said Stover.

"I think they've gotten a bad rep," she said of EnCana. "They've just been very, very good to us."

EnCana and Flint's donations didn't pay for the whole project but they certainly made a considerable dent.

"I think we're going to end up paying about \$1,000, maybe \$1,500, out of \$10,000," said Stover.

Tepee is a bible camp for lower income kids, and charges \$70 a week per child.

All of their funding comes through donations.

"They have been so good," Stover said of EnCana. "EnCana's helped us help those kids."

Contact Ryan Graff: 625-3245, [rgraff@citizen-telegram.com](mailto:rgraff@citizen-telegram.com).



Photo courtesy Tepee Bible Camp

Workers install a new waterline at Tepee Bible Camp in Rifle. EnCana stepped up with a \$10,000 donation.

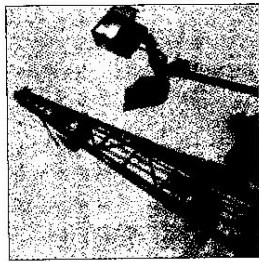
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DROUGHT: see page A2

GLENHOD SPRINGS POST / INDEPENDENT JUNE 16, 2004

# Energy-hungry nation behind boom

## Hitting a gusher



### Drillers striking it rich in Garfield County

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## Soaring natural gas consumption driving Garfield County drilling

BY DENNIS WEBB  
GSPF News Editor

The Piceance Basin is turning into a giant of a natural gas field in the United States.

But it's still a mere pipsqueak of a supplier to a country with an insatiable demand for gas.

Skyrocketing consumption contributes in large part to the county's gas drilling boom. Demand increases gas prices and makes investment in local gas production worthwhile where it once wasn't.

Put another way, if you're looking for a reason why drilling rigs dot Garfield County's landscape, look in the mirror.

"Clearly it's consumer demand that's driving natural gas production," said Pete Kolbenschiag, Western Slope field coordinator for the Colorado Environmental Coalition.

Even Americans whose homes natural gas doesn't supply still may contribute to the demand. People who turn on a swamp cooler or a computer rely on electrical power that's increasingly being generated by natural gas.

"Most everybody uses natural gas. It is

**"At two bucks (per thousand cubic feet) these gas guys never made much money. Now they are coming in bullion."**

Randy Udall  
Community Office for Resource Efficiency

a clean-burning fuel," said Steve Soychak, district manager in Parachute for Williams Production, one of the leading gas developers in the county.

"I think if you look at 20 years ago, there was a move away from coal and nuclear power and more of an emphasis on natural gas because of the cleanliness and the abundance."

But natural gas isn't as abundant as it once was. Randy Udall of Carbundale, director of the Community Office for Resource Efficiency, an Aspen-based nonprofit office that promotes renewable energy and energy efficiency, said some estimates hold that over half the gas that ever will be produced in this country already has been burned.

Much of that half was the easiest gas to produce. Now energy companies are turning their attention to more technically challenging gas fields such as the Piceance basin.

When natural gas was yielding only around \$2 per thousand cubic feet (mcf) until about the end of the past decade, it wasn't worth it for energy developers to do much drilling in Garfield County. But as those who heat their home with natural gas know, prices have risen substantially. Today, gas costs as much as \$5/mcf.

"At two bucks these gas guys never

**BOOM: see page A2**

### SPORTS

## TITLE FOR PISTONS, MVP FOR BILLUPS



The Detroit Pistons humiliated the Los Angeles Lakers 100-87 Tuesday night in Game 5 of the NBA Finals for their first title in 14 years.  
**PAGE A21**

## BREAKFAST SERIAL BACK

Ever since Nick got ahold of The Guinness Book of Records, he's been obsessed with notions of being the best at something. That's why he and his friend, Clay, concoct a scheme to establish a record of their own. Check out the Breakfast Serial "The Best in the World."  
**PAGE A11**

## TODAY'S FORECAST 76°/46°

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## Gas consumption grows; production doesn't

BOOM: from page A1

made much money. Now they are coin-  
ing in bullion," Udall said.

Putting it in slightly different terms,  
Brian Macke, deputy director of the Col-  
orado Oil and Gas Conservation Com-  
mission, said higher gas prices have  
"made projects for getting gas in the  
Piceance Basin very economically attrac-  
tive."

#### 'Extravagant appetite'

The outlook for continued high gas  
prices, and a continued local drilling  
boom, is the result of a trend toward  
increased demand and decreased supply  
that shows no sign of reversing.

The demand reflects a nation with a  
growing population, and an economy  
that is making increased use of comput-  
ers and other electronic equipment, and  
generating more gas use in the commer-  
cial sector. Americans also are doing  
more cooling of houses in the summer-  
time, particularly in Sun Belt states.

As a result, a fuel that used to see  
mostly winter demand for home heat-  
ing is now consumed heavily all year  
round.

"The nation has an extravagant  
appetite for natural gas," said Udall.

"Each year, 280 million Americans use  
as much natural gas as 3 billion people in  
Europe and Asia," he wrote in "Methane  
Madness: A Natural Gas Primer," a CORE  
publication prepared with the assistance  
of Denver energy analyst Steve Andrews.

Natural gas consumption in the Uni-  
ted States has increased 36 percent since  
1986.

The United States consumes more  
than a quarter of the gas being produced  
around the world. But unlike the situa-  
tion with oil, it has not had to rely heav-  
ily on imports to meet supply. Rather, it  
produces 85 percent of the gas it needs,  
and imports most of the rest from Cana-  
da, according to CORE.

But domestic production has "flat-  
lined" for 15 years, Udall said. Produc-  
tion is actually down almost 5 percent so  
far this year, despite heavy drilling activ-  
ity being encouraged by the Bush admin-

Brian Macke, deputy director  
of the Colorado Oil and Gas  
Conservation Commission, said  
higher gas prices have "made  
projects for getting gas in the  
Piceance Basin very  
economically attractive."



Post Independent File Photo

Randy Udall of Carbondale is director of the Community Office for Resource Effi-  
ciency, an Aspen-based nonprofit office that promotes renewable energy and  
energy efficiency. He has penned a CORE publication, "Methane Madness: A Nat-  
ural Gas Primer," which details how the nation's natural gas demand has sky-  
rocketed even as gas has become harder for the industry to produce.

istration's pro-energy policies.

Meanwhile, Canada is losing its  
enthusiasm for exporting gas to the Uni-  
ted States. After all, Canadians are also  
paying more for gas, the country is deal-  
ing with the impacts of its own drilling  
boom, and it is facing its own prospects  
for production declines.

Yet Udall notes that the U.S. Energy  
Information Administration forecasts  
that the United States' gas demand could  
increase 50 percent by 2015.

These reasons combined put an  
increased focus on boosting domestic  
production in places like Garfield Coun-  
ty, and create an expectation for a con-  
tinued drilling boom here.

The county alone probably produces  
about enough gas to heat every home in  
Colorado, Udall said. Colorado, which  
ranks sixth nationally in gas production,  
exports more gas than it consumes.  
Those exports have increased 20-fold in  
the last 15 years, said Udall.

On a national scale, though, the  
Piceance Basin produces only about 1  
percent of the approximately 60 billion

cubic feet per day being consumed in the  
United States.

Yet the area has much potential. Some  
parts of the Piceance Basin are estimated  
to contain 60 billion cubic feet per square  
mile — enough to meet a day's domestic  
demand. Some industry experts say  
reserves could run as high as 100 bcf per  
square mile in the so-called "sweet spots"  
of local gas fields.

That, according to Ken Wonstolen of  
the Colorado Oil & Gas Association, is  
why the basin is considered "one of the  
crown jewels on the whole continent."

If the state Geological Survey is correct  
in estimating that 20 trillion cubic feet  
could be recovered from Garfield County  
gas fields, that would be worth \$100 bil-  
lion, Udall notes.

If it turns out that 100 tcf is recovered,  
as some in the industry say is possible?

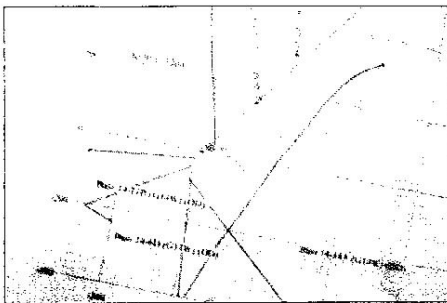
Well, as Udall has been wont to say in  
reference to energy producers' local gas  
bonanza, "You do the math."

Contact Dennis Webb: 945-8515, ext. 516  
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## Much of region in moderate state of drought



## GLENWOOD SPRINGS Thursday, June 17, 2004 "POST INDEPENDENT"



Post Independent Photo/JIM NOELKER

A map charts directional drilling at a drilling site south of Rifle. Technological advances have improved the ability to measure and pinpoint drilling direction from the surface.

# New directions in drilling

BY DENNIS WEBB  
GSPJ News Editor

Although the density of wells has increased immensely in Garfield County, underground drilling density is not always equivalent to surface density.

No 10-acre surface drilling density has been approved in the county, notes Brian Macke of the Colorado Oil and Gas Conservation Commission. Rather, companies are using directional drilling from existing pads to tap gas reserves more fully.

EnCana, for example, is drilling from surface wells of one per 160 acres to obtain 10-acre downhole density south of Silt.

"The directional technology has helped a lot. ... It's much more successful than it used to be," said Steve Soychak of Williams Production, another big energy producer in the county.

The technology has been around since the 1920s, with some of its first applications taking place off the California coast, said Charles Brister, a directional drilling specialist who has worked in Garfield County's gas fields.

Nudging the drill bit in different directions from above is no great challenge — it's as easy as inserting a wedge down the drill hole so the bit is diverted at an angle. But the challenge is determining where the drill is heading.

"Directional drilling is without doubt the future of oil and gas development for the foreseeable future."

Charles Brister  
directional drilling specialist

Brister said directional drillers originally made use of bubble levels and a time-operated camera to record the angle of the well bore. Then Elmer Sperry, who developed the navigational gyroscope for airplanes and ships, used gyro technology for taking drilling measurements in the late 1920s.

In the late 1970s, directional drillers began to use mud pulse telemetry. Vibrations of mud in the drill hole correlate to drilling direction, and a computer decodes measures of mud pulses at the surface.

This is still the primary technology used, but another one has shown to be successful in the Piceance Basin. Brister said a method making use of electromagnetic tools first was developed for directional boring, to run fiber-optic cables beneath rivers. But it proved to be useful in oil and gas development.

"These tools essentially transmit the data using radio waves similar to the wireless networking systems, except that the transmission is through the earth," Brister said.

The method can be limited by depth and by absorption by rock formations, Brister said. But it has proven useful in local drilling because of a tendency of conventional mud-based surveying systems to plug up in geological formations here.

Brister said drilling a directional well may be more expensive, but the overall cost of the well can end up being the same.

"This is because of the reduction of infrastructure cost, such as location building, roads, pipelines, etc., that are reduced by having multiple wells per pad," he said.

The primary reason for directional drilling is to cut down on surface impacts, and it's the responsible approach, Brister believes.

"This will become increasingly important for all U.S. land drilling. Directional drilling is without doubt the future of oil and gas development for the foreseeable future."

Soychak considers the technology "phenomenal," in that measuring techniques are enabling drillers to drill a mile deep and hit a target perhaps 25 feet wide.

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DENVER POST  
6/4/04

# Nuclear blast site raising new fears

**Residents: Gas wells may become tainted**

*But government officials say there's no danger of contamination from the 1969 underground atomic blast set off in western Garfield County.*

By Nancy Lofholm  
Denver Post Staff Writer

A nuclear explosion deep under the scrubby expanses of western Garfield County 35 years ago is causing another kind of shock wave today. Residents are fearful that gas wells edging closer to the site could tap into radioactive contamination.

Officials with a number of government agencies that oversee drilling and monitor the former blast site 8 miles southeast of Parachute say the new wells in the vicinity of the explosion — called Project Rulison — will be safe.

They say the federal government's unsuccessful attempt to use a 40-kiloton nuclear device to free natural gas from the area's tight sandstone formations in 1969 should not result in contamination now outside a 40-acre off-limits zone around the blast site.

But some area residents who have been dealing with other unrelated gas-well problems, including a recent gas seep into a

> See **WELLS** on 4B

4B THE DENVER POST ★★

DENVER & THE WEST

FRIDAY, JUNE 4, 2004

## WELLS: Garfield residents fear contamination from 1969 atomic blast

< CONTINUED FROM 1B

creek, say assurances that the chance of contamination at Rulison is minuscule are not reassuring at all.

Not enough study has been done to dispel their fears about drilling near the site, and not enough monitoring is being planned to satisfy them, they said.

"We really don't understand what's underground out there," said Peggy Utesch, secretary of the grassroots Grand Valley Citizens Alliance. "And there is a high level of mistrust here."

Brian Macke, deputy director of the Colorado Oil and Gas Conservation Commission, said testing and monitoring of water and existing gas wells within miles of the site have not measured any contamination beyond naturally occurring levels.

The U.S. Department of Energy has prohibited excavation deeper than 6,000 feet in the 40 acres immediately

around the explosion site. That is too shallow for oil and gas wells. The commission has set a half-mile radius around the blast site where wells can't be drilled without a hearing before the commission. And drilling within a 3-mile radius triggers notification to the Energy Department.

Kevin Rohrer, spokesman for the Energy Department in the agency's Nevada office, said government regulators know where the core of radioactive contamination is contained and where groundwater is in the area. He acknowledged they do not know where every crack and fissure lie underground.

"We don't know in detail what is underneath there, but we do know in general," he said.

Rohrer said plans are being developed to conduct a thorough computer modeling study of the underground hydrology and geography of the area.

The area has been controversial

since the Department of Energy set off the explosion as part of the Plowshares program, designed to find peaceful uses for nuclear explosives.

The Rulison explosion triggered at about 8,400 feet below ground created a supersonic shock wave and vaporized, melted and cracked rock. But it didn't release enough gas to be economically feasible.

Nowadays, hydraulic fracturing of underground rock formations is allowing gas producers to access the natural gas that a nuclear device couldn't.

That is why gas and oil companies are seeking new permits to drill there. Nine wells have been drilled within a 3-mile radius of the project. The closest so far is within 1½ miles of the blast site.

Presco Inc. of The Woodlands, Texas, drilled that well last fall. The company set off the permit upset when it applied for a current place wells on every 40 acres rather than the 640-acre

limit that was on its land close to the project. That application was approved in February on Presco's mineral leases that encompass about 8,000 acres near Project Rulison.

Kim Bennetts, vice president for exploration and production at Presco, said his company has no plans to drill within a half-mile radius of the site. But that could change depending on how profitable the company's other wells are in the area.

"We're going to make sure to do everything to make sure citizens are safe and we're safe," Bennetts said. "We don't want anyone to be unsafe. The risk is infinitesimally small."

Sil-arca resident Oni Butterfly, who holds a master's degree in environmental science and once worked as a groundwater section chief for the Environmental Protection Agency, said there is no guarantee the risk is that low.

She said residents were assured by Staff writer Nancy Lofholm can be reached at 970-256-1957 or nlofholm@denverpost.com.

# On bucolic mesas, a bustling gas industry drills away

BY DONNA GRAY  
Rifle Correspondent

From the top of Grass Mesa it looks as if the whole world is spread out below. There's the Colorado River running like a ribbon through the valley. The Grand Hogback stretches its rocky spine towards Meeker and the bookcliffs soar skyward on the horizon.

But what is most arresting about this scene is the extent of EnCana's South Piceance natural gas field that covers Hunter and Grass mesas. Here are the skeletal drilling rigs, the huge metal boxes filled with fracturing fluid and the monstrous Schlumberger fracturing trucks on the completed wells and the odd assemblage of tanks and valves and holding ponds of the producing wells.

All told, there are about 900 natural gas wells in various stages of production in the South Piceance field.

Despite the almost anti-like activity in this field just south of

the river from Rifle, nature is at peace.

"There's upwards of 500 elk here," said EnCana Production coordinator Jim Martinez.

They aren't bothered with all the truck traffic and the drilling rigs. The only time they're agitated is during hunting season, he said.

While elk may be at home here, it's a struggle for some homeowners on the mesas who have to live cheek by jowl with all the activity. By law, drilling is allowed within 200 feet of a house.

On a recent media tour of the gas field, we saw a couple homes dwarfed by drilling rigs almost in their backyards that pounded away at the Mesa Verde sandstone, searching for natural gas.

EnCana has gone to great lengths to buffer those folks from the din of the drilling. It erects huge earthen berms between the homes and the rigs. The berms are also clothed in "blankets" of geotextile that retard dust.

"People get upset because they think the life of a field is 30 to 40 years, but there won't be this level of activity."

Sher Long  
EnCana spokesperson

Some rigs are now powered by quiet electrical generators rather than diesel fuel. At the electric rigs we saw, the lack of noise was almost deafening after the noise of the diesels.

EnCana bills itself as one of the world's largest independent oil and gas companies, and the largest independent natural gas producer in North America with the largest gas storage network.

The company, which is headquartered in Calgary, Alberta, was created a few years ago by the merger of two Canadian companies, Alberta Energy Co. and PanCanadian Energy.

It came into the Rifle area in

2001 when it acquired Ballard Petroleum, then one of the country's largest gas producers. Since then it has pushed its production with 300 wells drilled last year and is projecting to drill about 250 wells in 2004, Martinez said.

The South Piceance field is a rich resource.

"I've been here eight years and we've had only two dry holes," Martinez said. "That's pretty good."

It also takes a huge investment of money to move that much gas to consumers. EnCana estimates it pays out between \$1 million and \$1.5 million per well to bring it into production. That includes the drilling, completion and production, including trucks and the miles of roads, gas and water pipes it has to build.

Last year the company built a \$400,000, two-mile long, crowned road up the side of Grass Mesa to redirect truck traffic from county and private roads that serve 50 homes in the

area.

"Last year, one of our major complaints was traffic," said Sher Long. EnCana's industry and community liaison.

The investment of manpower is also huge. Martinez estimated the company has about 600 workers in the field in a given day, the vast majority of whom are private contractors.

"We only have about 11 EnCana employees; the rest are contract," he said.

EnCana's investment has paid off handsomely. Each of the 900 wells in the South Piceance field produces an average of 75 million cubic feet of natural gas a day.

But that output will not last forever, Martinez said. While the field itself is expected to have a life span of between 20 and 40 years, EnCana will pull out when production drops off, in three to five years.

"People get upset because they think the life of a field is 30 to 40 years, but there won't be this level of activity," Long said.

GRAND JUNCTION "DAILY SENTINEL" MAY 28, 2004

# Residents object to gas drilling plan near Project Rulison site

By MIKE MCKIBBIN  
The Daily Sentinel

BATTLEMENT MESA — A permit will be sought in the next few weeks to allow a Texas energy company to drill a natural-gas well in the vicinity of the 1969 Project Rulison underground nuclear explosion later this year.

Officials with Presco Inc. told a crowd of more than 100 people at Thursday's quarterly Northwest Colorado Oil and Gas Forum in Battlement Mesa that strict precautions and state restrictions will be followed.

Project Rulison was a 8,426-foot deep underground explosion of a 43-kiloton nuclear bomb meant to free gas reserves. It did not achieve that result.

The Department of Energy is notified and can impose conditions whenever a well is proposed within a three-mile radius of Project Rulison.

The explosion site has a half-mile-radius restricted area around "ground zero," and Presco Vice President of Exploration and Production Kim Bennetts said the proposed well would be up to 3,000 feet away from that radius.

Bennetts said Presco will work with the DOE, which is still studying the groundwater and gas at the site, located on private land about six miles southeast of Battlement Mesa and Parachute.

"They've found little or no dangerous radioactivity remaining since the 1971 burning of about 150 million cubic feet of gas" from the site, Bennetts said. "We feel that if there is any (radioactivity) still down there, it's in (different sandstone formations) and can't migrate more than a few hundred feet."

If tests show the gas is contaminated, Presco will permanently plug the well without removing any gas, he said.

DOE Project Manager Pete Sanders said only background radioactivity had been found during 30 years of testing surrounding water sources.

Residents were not convinced by the company and agency comments.

"If you accidentally drill into a crack that has some of that gas and it's released into the air, that would be hell for this whole valley," said Harold Graves of Battlement Mesa.

Sanders said if such a release occurred, it would be very small and "not a concern for the rest of the valley."

W. Michael Smith lives south of Silt, an area where a gas seep occurred in West Divide Creek last month; the seep is believed to have been caused by a nearby problem gas well.

"We were told that something like that could never happen," Smith said. "Now you want to drill around a nuclear site and you're telling us the same thing."

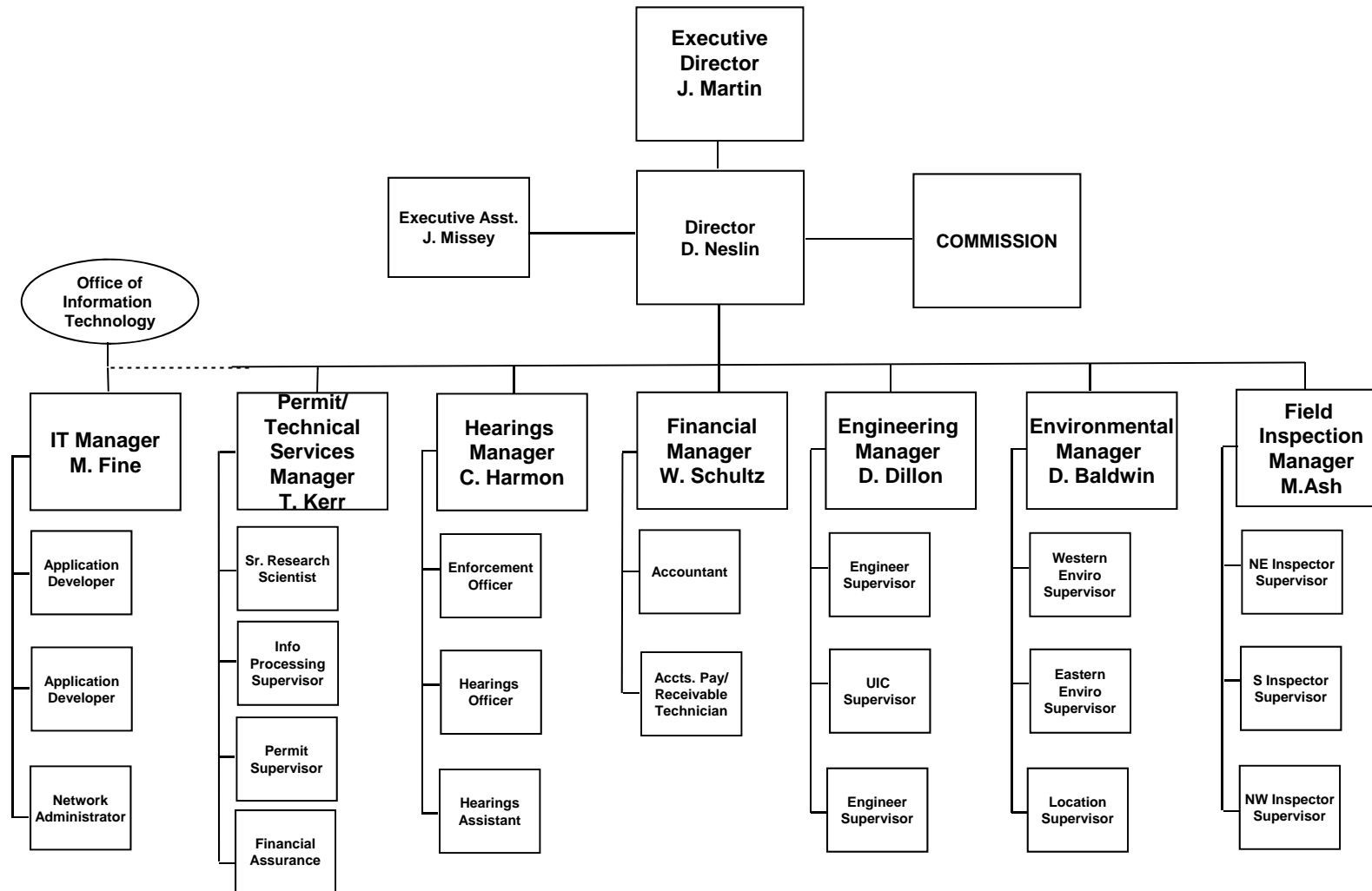
Presco President David Wheeler said his company realized its responsibility.

"If we don't do things the right way, you can make our lives miserable," he said.

Wheeler said the company would likely apply for a permit from the Colorado Oil and Gas Conservation Commission within a few weeks. If it is approved, he said the well could be drilled in late August or early September.

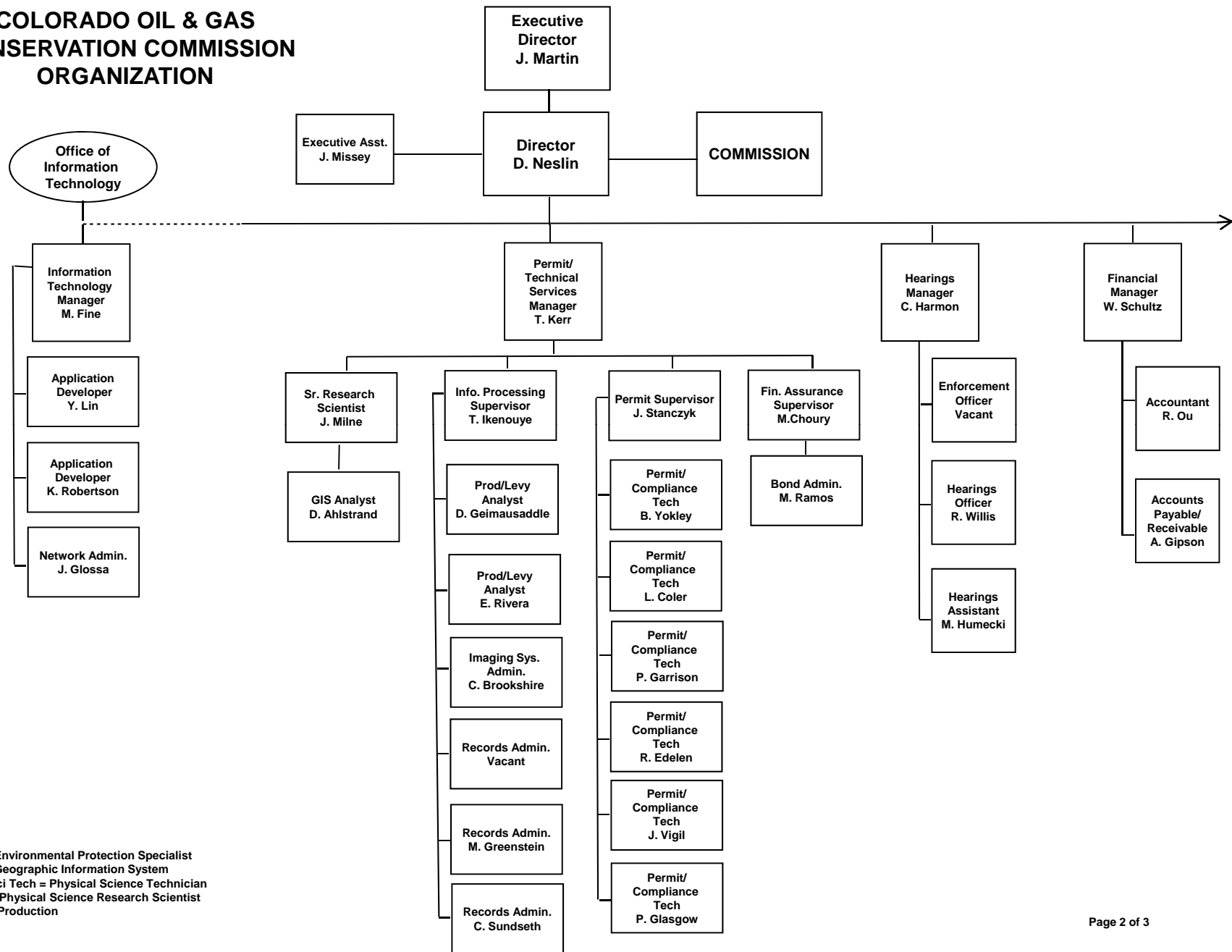
"We don't have billions of dollars to throw at this, so we're going to do it right," Wheeler said. "We're telling you what we're going to do; now we're going to do it right."

# COLORADO OIL & GAS CONSERVATION COMMISSION

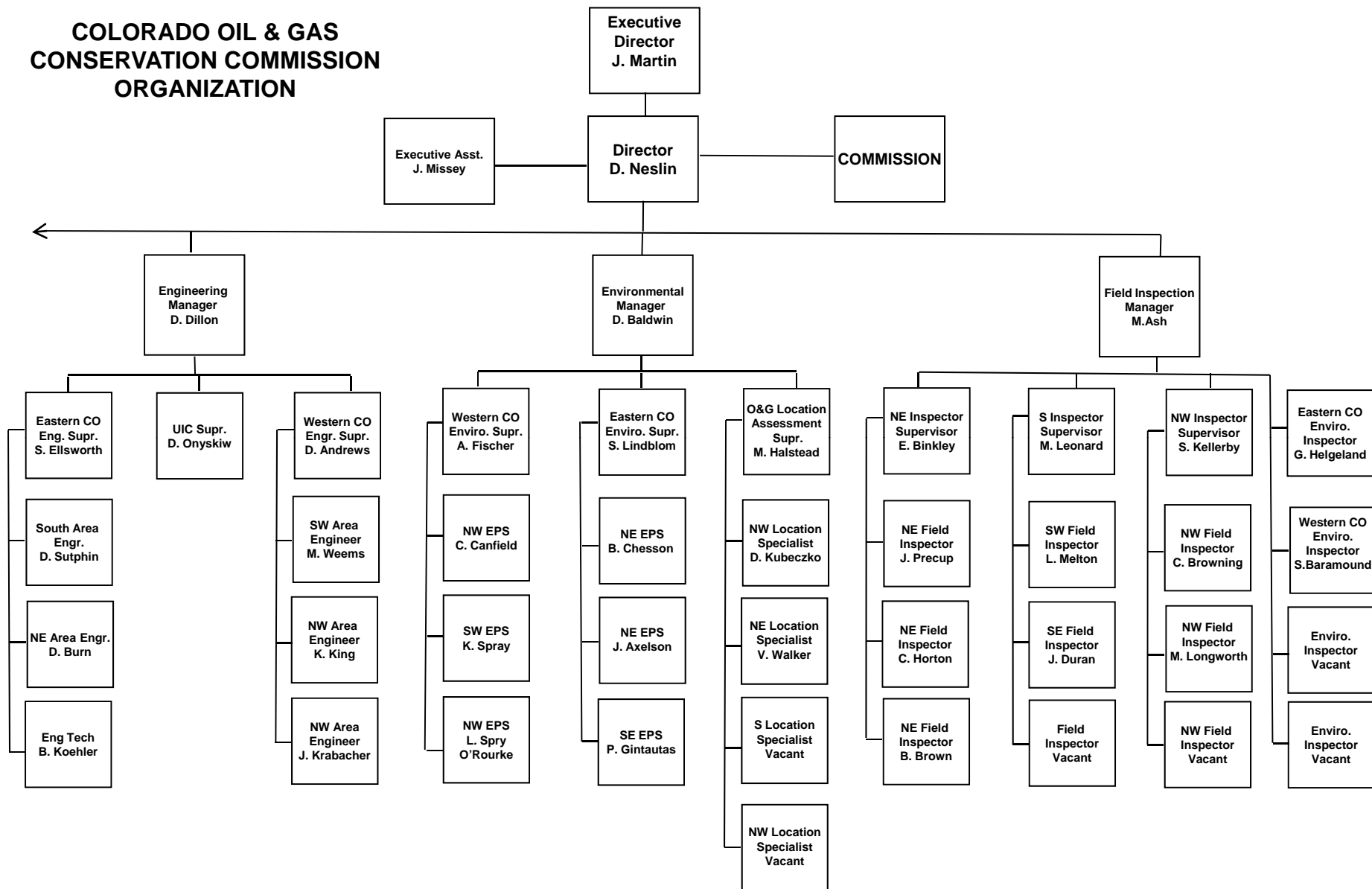


See the next two pages for details

# COLORADO OIL & GAS CONSERVATION COMMISSION ORGANIZATION



# COLORADO OIL & GAS CONSERVATION COMMISSION ORGANIZATION



EIT = Engineer in Training  
 EPS = Environmental Protection Specialist  
 OGLA = Oil & Gas Location Assessment  
 Phys Sci Tech = Physical Science Technician  
 UIC = Underground Injection Control





## Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs; National Study Final Report

### Summary

EPA has published a final report summarizing a study to evaluate the potential threat to underground sources of drinking water (USDWs) from the injection of hydraulic fracturing fluids into coalbed methane (CBM) production wells. As in its August 2002 draft report, EPA has concluded that additional or further study is not warranted at this time. In making this decision, EPA reviewed more than 200 peer-reviewed publications, other research, and public comments. The Agency has concluded that the injection of hydraulic fracturing fluids into CBM wells poses minimal threat to USDWs.

In its review of incidents of drinking water well contamination believed to be associated with hydraulic fracturing, EPA found no confirmed cases that are linked to fracturing fluid injection into CBM wells or subsequent underground movement of fracturing fluids. Further, although thousands of CBM wells are fractured annually, EPA did not find confirmed evidence that drinking water wells have been contaminated by hydraulic fracturing fluid injection into CBM wells. Where fluids are injected, EPA believes that groundwater production, combined with mitigating effects of dilution and dispersion, adsorption, and biodegradation, minimize the possibility that chemicals included in fracturing fluids would adversely affect USDWs.

In the course of conducting the study, EPA found that diesel fuel, which may pose some environmental concerns, was sometimes used in fluids for hydraulic fracturing within USDWs. To address any environmental concerns, EPA worked with the three service companies that perform 95% of the hydraulic fracturing projects in the U.S. to voluntarily remove diesel fuel from CBM fracturing fluids injected into USDWs. The three companies agreed and signed a Memorandum of Agreement (MOA) to that effect in December 2003.

### Background

Coalbed methane is a gas contained in varying quantities within all coal. Hydraulic fracturing of production wells is technology that has been used for more than 50 years in conventional oil and gas production to enhance recovery by enlarging fractures through which oil and gas, including CBM, can be drawn to a well and pumped to the surface. Water-based fluids have become the predominant type of CBM fracturing fluids; although fluids can also be based on oil, methanol, or a combination of water and methanol. After fluids are injected to expand fractures within a coal seam, large quantities of ground water and some of the injecting fracturing fluids are pumped out of the well to facilitate the production of CBM. Additional technical information on the practice of hydraulic fracturing can be found in the final report.

In 1997, in *LEAF v. EPA*, the Eleventh Circuit Court ruled that, because hydraulic fracturing of coalbeds to produce methane gas is a form of underground injection, Alabama's EPA-approved underground injection control (UIC) program must effectively regulate this practice. In response to the Eleventh Circuit's decision, citizen complaints, and Congressional interest, EPA made the determination to investigate the potential for hydraulic fracturing of CBM wells to contaminate USDWs.

---

In addition to reviewing more than 200 peer-reviewed publications, EPA also interviewed 50 employees from state or local government agencies and communicated with approximately 40 citizens who were concerned that CBM production impacted their drinking water wells. EPA made a draft of the report available for a 60-day public comment period in August 2002. Comments received from more than 100 commentors, including private citizens, environmental and citizen groups, government agencies, oil and gas companies, and trade associations, have been summarized in a Response to Comments document that is available on the EPA website.

**For More Information**

The final report and a Response to Comments document can be found on the EPA website at <http://www.epa.gov/safewater/uic/cbmstudy.html>. The Memorandum of Agreement to remove diesel fuel from hydraulic fracturing fluids and general information about the UIC program are available at <http://www.epa.gov/safewater/uic.html>.

**Environmental and Public Health Benefits**

This notice does not impose any new regulations, information collection, or record-keeping burden on the public or other entities. The publication of the final report will not change the environmental or public health benefits of the UIC program.



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### MEMORANDUM

**TO:** COGCC Commissioners

**FROM:** Rich Griebling *Rich*

**DATE:** June 25, 2004

**SUBJECT:** Coordination with the Southern Ute Indian Tribe and Red Willow Regarding the Regulation of Oil and Gas Operations

The purpose of this memo is to summarize the coordination between the COGCC and the Southern Ute Indian Tribe (SUIT) and Red Willow with respect to the regulation of oil and gas operations in Colorado.

The SUIT status as a sovereign nation and the sometimes complex and often diverse ownership of surface and mineral property rights necessitate coordination in order to promote the responsible development of oil and gas resources within the exterior boundary of the Southern Ute Indian Reservation. When Red Willow acts as an operator outside of the Southern Ute Reservation (e.g. in Weld or Routt Counties) they function as other oil and gas operators with respect to COGCC regulation.

The annual value of Colorado oil and gas production is estimated to exceed \$5 Billion. Over 80% of that is from natural gas. About one half of the State's gas production comes from La Plata County.

As you know, the Southern Ute Indian Reservation is located in La Plata and Archuleta Counties and occupies most of the Colorado portion of the San Juan sedimentary basin that is being developed for natural gas production. Based on statistics for 2002 operated Colorado gas production, Red Willow ranked seventh. Data for non-operated production is not reported. A rough estimate is that if non-operated production were included, Red Willow would rank second.

The following provide examples of coordination with respect to oil and gas development on the Southern Ute Indian Reservation:

- **Regulation:** The Bureau of Land Management (BLM) generally regulates oil and gas operations on Tribal Lands and performs many of the functions that

DEPARTMENT OF NATURAL RESOURCES: Russell George, Executive Director  
 COGCC COMMISSION: John B. Ashby - Tom Ann Casey - Brian Cree - Michael Klish - Peter Mueller - J. Thomas Reagan - Lynn Shook  
 COGCC STAFF: Richard T. Griebling, Director - Brian J. Maske, Deputy Director - Morris Ball, Operations Manager  
 Patricia C. Beaver, Hearings Manager - Thomas J. Kerr, Information Manager

the COGCC does elsewhere. The BLM regulates oil and gas operations on the SUIT lands. The COGCC staff and the BLM staff communicate as appropriate.

- Access: When it is necessary to cross Tribal Lands in order to access oil and gas operations within our jurisdiction, the COGCC staff seeks permission from, and is benefiting from cooperation with, the SUIT.
- Spacing: Significant portions of the Southern Ute Indian Reservation lands have been spaced for gas development. As spacing has been established and modified, the SUIT has coordinated without jeopardizing its status as a sovereign nation. Red Willow has made significant contributions of its technical information and evaluation available for the spacing process.
- Data Reporting: Red Willow is cooperating in providing production data from operated wells on the Southern Ute Indian Reservation. Because of the significant portion of Colorado production operated by Red Willow, this data is essential to the State's records.
- Gas and Oil Regulatory Team (GORT): Several years ago the La Plata County Gas and Oil Regulatory Team was established including the COGCC, the SUIT, the BLM, La Plata County, and operator representation. The GORT has facilitated cooperation in addressing gas development issues in the Colorado portion of the San Juan sedimentary basin. The SUIT has actively participated in the GORT, and Red Willow voluntarily shares its considerable expertise with respect to many aspects of gas development.
- Fruitland Formation Outcrop Project ("3M Project"): COGCC has spent over \$1 million toward this Mapping, Modeling, and Monitoring of the Fruitland formation outcrop project. In many respects this project is unequalled in the world. A significant portion of the Fruitland formation outcrop falls within the Southern Ute Indian Reservation. The considerable technical expertise, other resources, and access provided by the SUIT and Red Willow have been critical to establishing this project and are essential to its ongoing implementation.
- Addressing the Impacts to Neighbors from Operations on Tribal Lands: Because of the complex mixture of property rights ownership within the exterior boundary of the Southern Ute Indian Reservation, gas development operations have the potential to impact diverse property owners. Red Willow is cooperating in addressing the impacts to neighbors from their operations on Tribal Lands.

The coordination summarized above that the SUIT and Red Willow are exercising furthers the promotion of responsible development in Colorado.

## PENALTY PAYMENT STATUS

07/06/04

## I. PENALTIES ASSESSED/PAID

Fiscal Year	# of Orders Issued	\$ Amount Assessed	# of Orders Paid \$ Amount Paid	# of Orders Waived	\$ Amount of Orders Waived	# of Orders Paid Through Collections	\$ Amount of Assessed Penalties Later Uncollectible
90-91	4	\$32,300	4	0	\$0	n/a	\$0
91-92	0	\$0	0	0	\$0	n/a	\$1,500
92-93	6	\$10,000	2	0	\$8,500	n/a	\$47,608
93-94	12	\$263,608	7	0	\$105,000	n/a	\$18,247
94-95	10	\$63,817	4	4	\$21,805	n/a	\$0
95-96	29	\$238,250	19	3	\$154,000	n/a	\$0
96-97	13	\$79,500	8	0	\$29,500	n/a	\$32,750
97-98	30	\$140,500	22	0	\$74,750	n/a	\$2,000
98-99	19	\$74,000	18	2	\$86,500	n/a	\$2,000
99-00	23	\$110,500	12	0	\$59,480	2	\$11,000
00-01	18	\$85,500	16	0	\$30,500	0	\$0
01-02	10	\$38,000	5	0	\$23,000	0	\$0
02-03	23	\$47,750	7	0	\$24,750	0	\$0
03-04	26	\$129,000	24	0	\$85,000	0	\$0
Totals	223	\$1,322,725	148	9	\$713,065	2	\$115,105

## II. DELINQUENT PENALTIES

Order Number	Date Issued	Violating Entity	Penalty Assessed	Violations	Status	Referred to Collections
1V-59	03/15/93	Gear Drilling Company	\$2,000	Rule 305, 319 a.(2)		Yes
1V-73	08/23/94	Western Oil Company	\$2,300	Rule 317 a.8	Work completed per order	Yes
1V-82	06/19/95	Joseph V. Dodge	\$14,000	Rules 210 b., 305, 307, 317 b.(3), 604 a.(4)	Bond forfeited 11/07/95	Yes
1V-83	11/21/95	Tippa Drilling Co.	\$60,000	Rules 604 a., 902 e.&f.	\$30,000 bond claimed	Yes
1V-110	05/21/96	Kana Resources, Inc.	\$3,500	Rules 303 a., 306, 317 b.1	AOC negotiated	Yes
1V-114	09/04/96	Mr. Jim Snyder	\$10,000	Rules 308, 317 a., APD	District Court decision entered/\$10,000 bond claimed	Yes
1V-124	07/01/97	Nerdline Company Inc.	\$9,000	Rules 326 b.1, 319 b., 210 b.		Yes
1V-132	11/24/97	Eros, Inc.	\$24,000	Rules 319 b., 326 b.	\$30,000 bond claimed 5/98	Yes
1V-157	01/05/98	Pacific Midland Production	\$1,000	Rule 326 b.	Bond claimed	Yes
1V-170	03/25/98	Allen Oil & Gas, LLC	\$12,000	Rules 904, 905, 603 g., 906, 909 b.(2) &(5), 910	Work to be completed by July 1, 1999	Yes
1V-175	08/19/99	McCormick Oil & Gas Co.	\$18,000	Rules 1004, 319 b.(3), 326 b., 206, 309	McCormick in bankruptcy-Bond claimed	Yes
1V-177	08/19/99	Faith Energy Exploration, Inc.	\$3,500	Rules 308A., 308B., 326 b.	Bond Claimed	Yes
1V-191	02/15/00	Cascade Oil	\$1,000	Rule 326 b.(1)	Bond claimed	Yes
1V-202	11/30/00	Robert Ziegler	\$2,000	Rule 326 b.	Bond claimed	Yes
1V-204	12/19/00	Allen Oil & Gas, LLC	\$60,000	Rule 326 b., 324A a., 905, 906 b.(1), 906	Bond claimed	Yes
1V-211	05/31/01	Sierra Production	\$500	Rule 302 a.		Yes
1V-272	05/31/01	Caprice Oil & Gas Co	\$500	Rule 302 a.		Yes
1V-218	01/11/02	Rocky Mtn. Operating Co.	\$2,000	Rule 326 b.(1)		Yes
1V-219	01/11/02	Rocky Mtn. Operating Co	\$1,000	Rule 326 b.(1)		Yes
1V-220	02/25/02	Woosley Oil Company	\$6,000	Rule 326 b.		Yes
1V-221	03/25/02	Domar Oil & Gas, Inc.	\$6,000	Rules 302, 304, 319 b., 709		Yes
1V-227 - 1V-236	09/21/02	DJ Production Svcs. Inc.	\$14,000	Rule 309, 310A., 319 b.(1), 319 b.(3), 326 b.		Yes
1V-237	09/21/02	DJ Production Svcs. Inc.	\$1,500	Rule 326 b.		Yes
1V-239	09/21/02	DJ Production Svcs. Inc.	\$500	Rule 309.		Yes
1V-240	09/21/02	DJ Production Svcs. Inc.	\$1,500	Rule 324A a., 907 a., 910 a.		Yes
1V-245	06/02/03	Fredrick Shaffer	\$4,000	Rule 326 b.		Yes
Total Penalties Pending Collection			\$255,800			

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