

# **FY05 TARGETED TECHNOLOGY TRANSFER TO US INDEPENDENTS**

## **ANNUAL REPORT**

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## ABSTRACT

Petroleum Technology Transfer Council (PTTC) was established by domestic crude oil and natural gas producers in 1994 as a national not-for-profit organization to address the increasingly urgent need to improve the technology-transfer process in the U.S. upstream petroleum industry. PTTC's technology-transfer programs enhance U.S. national security. PTTC administers the only nation-wide, comprehensive program dedicated to maximizing America's supplies of domestic oil and gas. PTTC conducts grassroots programs through 10 Regional Lead Organizations (RLOs) and two satellite offices, leveraging their pre-existing connections with industry. This organizational structure helps bring researchers and academia to the table. Nationally and regionally, volunteers within a National Board and Regional Producer Advisory Groups guide efforts. The National Board meets three times per year, an important function being approving the annual plans and budgets developed by the regions and Headquarters (HQ). Between Board meetings, an active Management and Budget Committee guide HQ activity. PTTC itself undergoes a thorough financial audit each year.

The PTTC's HQ staff plans and manages all aspects of the PTTC program, conducts nation-wide technology-transfer activities, and implements a comprehensive communications program. Networking, involvement in technical activities, and an active exhibit schedule are increasing PTTC's sphere of influence with both producers and the oilfield service sector. Circulation for *PTTC Network News*, the quarterly newsletter, has risen to nearly 17,500. About 7,500 people receive an email Technology Alert on an approximate three-week frequency. Case studies in the *Petroleum Technology Digest in World Oil* appear monthly, as do "Tech Connections" columns in *The American Oil and Gas Reporter*.

As part of its oversight responsibility for the regions, the PTTC from the start has captured and reported data that document the myriad ways its programs impact industry. Of 119 workshops in FY05 where repeat attendance was reported, 59 percent of attendees on average had attended a PTTC event previously, indicating that a majority felt they were receiving enough value to come back. It also is encouraging that, after 11 years, PTTC events continue to attract new people. The form used at workshops to get participants' feedback asks for a "yes" or "no" response to the question: "Have you used any new technologies based on knowledge gained through PTTC?" With data now available from 611 workshops, 41 percent of respondents said, "yes," confirming that people are applying the information they receive at PTTC workshops.

**PTTC in FY04 asked RLO directors, oilfield service companies and producers in 11 areas with significant technological barriers to adding new reserves to estimate the "PTTC Impact Factor"—that is, the percentage of the total reserves added in their areas that logically could be attributed to PTTC's efforts. Of the estimated 1,266 million barrels of oil equivalent (BOE) added in the 11 areas, participants estimated that roughly 88 million BOE had been added as a result of PTTC's technology-transfer efforts.**

PTTC's 10 regions are the primary delivery mechanism for technology transfer. Attendance at PTTC regional activities set a record in FY05, with 8,900 individuals attending 154 workshops, lunch-and-learn events, or student training and internships. When appropriate, regional workshops incorporate R&D findings from DOE-funded projects. This year HQ began a "Microhole Technology Integration" Initiative with DOE to more clearly present their microhole program to producers. Often events are held cooperatively with other national organizations, regional producer associations and professional society groups. This practice leverages outreach and engenders future cooperation. Of the more than 61,000 individuals PTTC has attracted to its events since its inception, more than 15,000 have attended in the past two years. Eighty-eight percent of PTTC event attendees during FY05 were from industry. The number of contacts and inquiries received by PTTC HQ and regional offices from individuals outside the PTTC network were up 19 percent, reaching a new high in FY05 of more than 30,000 for the first time.

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## EXECUTIVE SUMMARY

The Petroleum Technology Transfer Council (PTTC) was established by domestic crude oil and natural gas producers in 1994 as a national not-for-profit organization to address the increasingly urgent need to improve the technology-transfer process in the U.S. upstream petroleum industry.

The importance of PTTC's mission—to help U.S. independent oil and gas producers learn about and apply the most effective technology available to find and develop more domestic oil and gas supplies—was never illustrated more clearly than during the second half of 2005 when hurricanes Katrina and Rita interrupted oil and gas production offshore in the Gulf of Mexico and onshore in Louisiana and Mississippi, triggering price shocks across U.S. energy markets from which the domestic economy still was recovering as this annual report went to press.

Sustaining domestic oil and gas supplies is fundamental to protecting U.S. energy security, which is a key element of U.S. national security. Independent producers play key roles in sustaining domestic oil and gas supplies because they collectively drill 90 percent of all U.S. oil and gas wells each year and account for 80 percent of domestic natural gas production and 65 percent of domestic crude oil output. Independent production companies need technology-transfer support because they generally are relatively small companies that lack the internal research, development, and demonstration (RD&D) programs funded by large integrated energy firms and large oilfield service companies, colleges and universities, and joint industry projects.

Many of the technically advanced capabilities that the PTTC seeks to transfer to independents enable recovery of oil and gas from unconventional reservoirs. This, too, is important to sustaining domestic oil and gas supplies because unconventional oil and gas already account for growing proportions of domestic supplies and will contribute a disproportionately large share of domestic supplies in the future.

PTTC's technology-transfer programs also enhance U.S. national security because domestically produced oil and gas supplies are more valuable to the U.S. economy than imported supplies. Beyond the value generated by sales at the well head, domestic production boosts local, state and national economies by creating good jobs and by paying taxes and royalties to many individual investors and to governmental entities at many levels. In contrast, oil and gas imports saps the U.S. economy by contributing to the national debt and driving up negative trade balances. The economy suffers not only from direct payments for imports but from the reinvestment in foreign countries by multinational, integrated energy conglomerates of revenue earned in the U.S. by producing domestic oil and gas. More money is siphoned from the U.S. economy when the U.S. government is forced to spend tax dollars defending the security of supplies from unstable, volatile countries and propping up disruptive rogue regimes.

*PTTC is vital to U.S. energy security because it administers the only nation-wide, comprehensive program dedicated to maximizing America's supplies of domestic oil and gas by optimizing the exploration, drilling and production capabilities of home-grown independent producers living and working all over the country.*

### Organizational Overview

PTTC provided invaluable support to U.S. energy security during Fiscal Year 2005 (FY05) through active grassroots programs organized and administered by PTTC's 10 Regional Lead Organizations (RLOs) and 2 satellite offices. This organizational structure helps bring researchers and academia to the table through cooperative relationships with geological surveys and engineering-education departments.

PTTC Regional Directors interact with independent oil and gas producers through technology workshops, resource centers, websites, newsletters, technical publications and other cooperative outreach efforts. PTTC's Headquarters (HQ) staff receives direction from a National Board of Directors predominantly comprised of American natural gas and crude oil producers to plan and manage the overall technology transfer program. PTTC HQ implements a comprehensive communications program by interconnecting the talents of the National

Board, 10 Regional Producer Advisory Groups (PAGs) and the RLOs with domestic independent producers across the U.S. Regional PAGs work closely with RLO Directors to guide their respective regional programs. PAGs in each region must approve that region's annual plan before submittal to PTTC and also provide critical connections to the diverse groups present within each region.

PTTC supplements funding provided each year by the federal government through the Strategic Center for Natural Gas and Oil in the Office of Fossil Energy of the Department of Energy (DOE) with contributions from states and industry partners to help independent producers acquire new upstream technologies as efficiently as possible and to apply new wellsite capabilities as effectively as possible. This integrated funding base—combined with industry volunteers guiding PTTC's activities and the dedication of national and regional staffers—provides a technology-transfer framework that each year contributes more meaningfully to sustaining U.S. domestic oil and gas production.

A key to PTTC's success is its ability to directly connect independent producers with members of the oil and gas RD&D community to create collaborative studies and demonstration projects in the field that show how emerging upstream technologies can be applied broadly and rapidly at the well site. Increasingly, domestic independent producers are recognizing PTTC as a crucially important source of information about and access to technologies that can ensure a safe, secure and reliable energy supply for American consumers.

*This executive summary spotlights some of PTTC's accomplishments during FY05.*

## **National-Level Program**

The PTTC's HQ staff plans and manages all aspects of the PTTC program, conducts nation-wide technology-transfer activities, and implements a comprehensive communications program. Networking, involvement in technical activities, and an active exhibit schedule are increasing PTTC's sphere of influence with both producers and the oilfield service sector.

PTTC's technology-transfer activities remained at high levels during FY05, as members of its National Board and national and regional staffs worked to define more opportunities to expand outreach to America's independent oil and gas producers. PTTC's reputation for unbiased bottom-line information has stimulated cooperative ventures with other organizations, while its growing database of contacts has provided a steadily expanding audience for PTTC communications tools, such as Technology Alert broadcast email service, summaries of regional workshops on the PTTC website ([www.pttc.org](http://www.pttc.org)), *PTTC Network News* quarterly newsletter, Board and RLO communications, and PTTC monthly "Tech Connections" columns for a leading industry trade periodical.

*At the end of FY05 circulation of PTTC Network News had risen to nearly 17,500, 60 percent of whom are from the domestic oil and gas exploration and production industry.*

PTTC established high visibility during FY05 by participating with an exhibit booth in the exhibitions of selected national and regional petroleum-industry conferences, including Society of Petroleum Engineers (SPE) annual meeting, North American Prospect Expo (NAPE), Summer NAPE, American Association of Petroleum Geologists annual meeting, Gulf Coast Prospect Expo, SPE Coiled Tubing Conference, East Texas Geological Society Prospect Expo, Texas Alliance of Energy Producers annual meeting, Midcontinent Coalbed Methane Symposium, and Society of Exploration Geophysicists (SEG) annual meeting.

PTTC's Board of Directors met three times during FY05 to conduct required business, brainstorm about how to further PTTC, and hear industry presentations about new technologies or companies taking new approaches.

In October 2004, the Board reviewed and approved FY05 plans and budgets, adopted a Fraud Prevention and Detection Policy, and agreed to allow the Rocky Mountain Region to develop a GIS-based, online Core Locator system for earth scientists to find where cores in a given geographic area are physically located.

In March 2005, the Board elected new officers, ratified new Board members, and approved the formal auditor's report, which identified no significant issues or recommendations. RLO representatives and PAG chairmen provided brief highlights of recent successes or concerns within their regions, and a representative of Halliburton delivered a presentation about technology funding, product development, and technology uptake or adoption. The Board also formed a Permanence Committee, charged with addressing PTTC's long-term funding options; with concurrence from the Management & Budget (M&B) Committee, the new committee authorized preparation of an unsolicited multi-component proposal to the Department of Labor (DOL) to conduct oilfield training. The proposal was submitted in June 2005, and PTTC is still awaiting a response from DOL.

At its July 2005 meeting, the Board approved a proposal for PTTC to provide funding to the Texas Bureau of Economic Geology (BEG) to upgrade meeting room capabilities at BEG's Houston Research Center. (Schedule permitting, BEG makes the facility available to PTTC at no charge.) The Board also discussed funding for the regions, the annual planning process, status of the DOL training proposal, and a DOE purchase order for microhole technology integration. The Board also formed a Communications/Broadcast Committee to review the options available for placing technical presentations and workshops online and to determine the approach that will best serve PTTC's audience, given budgetary and human resource constraints.

PTTC's M&B Committee provides guidance to the HQ staff between Board meetings and assumes a major role in planning Board meeting agendas. During FY05, the Committee played a lead role in PTTC's effort to communicate the value of DOE's R&D program—and PTTC, specifically—to industry and Congress.

As part of its oversight responsibility for the regions, the PTTC from the start has captured and reported data that document the myriad ways its programs impact the U.S. upstream oil and gas industry.

*Of 119 workshops in FY05 where repeat attendance was reported, 59 percent of attendees on average had attended a PTTC event previously, indicating that a majority felt they were receiving enough value to come back. It also is encouraging that, after 11 years, PTTC events continue to attract new people.*

The form used at workshops to get participants' feedback asks for a "yes" or "no" response to the question: "Have you used any new technologies based on knowledge gained through PTTC?"

*With data now available from 611 workshops, 41 percent of respondents said, "yes," confirming that independent producers are applying the information they receive at PTTC workshops.*

To ascertain the economic impact of PTTC's technology-transfer programs on independent producers' technology decisions, PTTC in FY04 asked RLO directors, oilfield service companies and producers in 11 domestic oil- and gas-producing areas with significant technological barriers to adding new reserves to estimate the "PTTC Impact Factor"—that is, the percentage of the total reserves added in their areas that logically could be attributed to PTTC's efforts.

*Of the estimated 1,266 million barrels of oil equivalent (BOE) added in the 11 areas, participants estimated that roughly 88 million BOE had been added as a result of PTTC's tech-transfer efforts.*



## National Tech-Transfer Highlights

Although most of PTTC's technology transfer activities occur in the regions, the HQ staff also has significant responsibility in this area.

For example, HQ staffers proactively search trade journals, professional society literature, association newsletters, and the Internet, as well as significant developments within the PTTC system or DOE's R&D program, looking for technology advances of use to independent producers for newsletter articles, Email Technology Alerts, case studies, columns and workshop summaries.

*During FY05, HQ responded to almost 2,900 inquiries from outside the PTTC system—more than 10 per working day, on average—connecting the searcher with the best possible technology sources among industry, PTTC regional officials, governmental agencies, or academia to answer his or her question.*

If a technology is supported by field data and perceived to be of interest to independent producers, HQ staffers develop an alert, an article, or a case study, or make referrals to other individuals or organizations that offer potential for further developing and/or commercializing the technology.

PTTC during FY05 published a dozen case studies authored by both independent producers and/or technology providers in the *Petroleum Technology Digest*, which appears each month in *World Oil* magazine, where they reach more than 35,000 readers worldwide.

*Through the end of FY05, PTTC had published 76 case studies in the Digest. PTTC works to have a few case studies ready for publication at any time.*

PTTC since August 1999 has been posting workshop summaries with key technology insights and speaker contact information on the national website as *Solutions From the Field*. PTTC also presents highlights of summaries posted each quarter in *PTTC Network News* quarterly newsletter.

*With the 11 summaries posted during FY05, a total of 116 technical workshop summaries are now available online.*

From inception, PTTC has worked cooperatively with a long list of national, state, and regional associations of independent oil and gas producers; federal and state governmental agencies; petroleum industry professional societies; colleges and universities; and national organizations, to encourage the exchange of information about new upstream oil and gas technology.

*PTTC is more than a technology-transfer clearinghouse, where domestic producers, government, academia, and petroleum-industry professional organizations can both learn about and inform others of tools and equipment for finding and producing oil and gas.*

*It also supports producer technical decision processes – from early awareness of problems and opportunities to the point that the customer selects the right solution provider*

During FY05, PTTC's Eastern Gulf region, Midwest region, North Midcontinent region, South Midcontinent region, Southwest region, Texas region, and West Coast region incorporated R&D findings from DOE-funded projects into regional workshops. HQ staff began a "Microhole Technology Integration Initiative" with DOE during the summer to more clearly present the agency's microhole program to producers. And three of the case studies published in *Petroleum Technology Digest* during FY05 built upon work accomplished in DOE-supported projects.

Also during FY05, PTTC regional organizations helped support, cooperated on or co-hosted workshops or other tech-transfer events or activities with:

\*\* Independent producer trade groups, including the Independent Petroleum Association of America; Stripper Well Consortium; Great Bend (Ks.) Chapter of the American Petroleum Institute; U.S. Oil and Gas Association; Oklahoma Independent Petroleum Association; Independent Oil Producers Association, Tri-State; Illinois Oil and Gas Association; Kansas Independent Oil & Gas Association; Eastern Kansas Oil & Gas Association; Oklahoma Marginal Well Commission; Permian Basin Petroleum Association; and Texas Alliance of Energy Producers.

\*\* In addition to DOE, other federal and state governmental agencies, including the U.S. Geological Survey; Environmental Protection Agency; Louisiana Geological Survey; Alabama State O&G Board; Michigan Geological Society; Mississippi State Board of Registered Professional Geologists; Kansas Geological Survey; Southeast Kansas Economic Development Commission; and Oklahoma Geological Survey.

\*\* Petroleum-industry professional societies including the SPE, Northern Michigan Section; AAPG, Eastern Section; SPE, Gulf Coast Section; AAPG, Division of Professional Affairs; Pittsburgh Association of Petroleum Geologists; Black Warrior Association of Landmen; Rocky Mountain Association of Geologists; SPE, Casper (Wy.) Section; SPE, Salt Lake City Section; SPE, Midcontinent Section; AAPG, Rocky Mountain Section; SPE, Fort Smith (Ark.) Section; and SPE, Los Angeles Basin Section.

\*\* Energy programs, and departments of petroleum engineering and geology at colleges and universities, including Louisiana State University's Center for Energy Studies; the University of Louisiana-Lafayette; the 2005 International Coalbed Methane Symposium at the University of Alabama; Tertiary Oil Recovery Project at the University of Kansas; AAPG/SEG Spring Student Expo at the University of Oklahoma; and Bureau of Economic Geology at the University of Texas.

\*\* National organizations and petroleum-technology consortia, including the Drilling Engineering Association and Interstate Oil and Gas Compact Commission.

*The ways in which PTTC interacts with stakeholders  
to ensure cutting edge upstream oil and gas technological capabilities  
get into the hands of domestic independent producers at the well site quickly and efficiently  
weaves together like a fabric of energy security that would not exist  
without PTTC's tech-transfer advocacy.*

## Regional-Program Highlights

PTTC's 10 regions are the primary delivery mechanism for technology transfer, for it is in the regions where PTTC connects most directly with independents—through workshops, resource centers, websites, newsletters, personal contacts, and other information sources.

*Attendance at PTTC regional activities set a record in FY05, with 8,900 individuals attending 154 workshops, lunch-and-learn events, or student training and internships.*

*Eight-eight percent of PTTC event attendees during FY05 were members of the domestic oil and gas exploration and production industry.*

The number of events during FY05 was topped only by the 169 PTTC events that attracted 8,616 participants in FY03, second-highest attendance in PTTC history. PTTC regions were planning to conduct 120 to 130 events during FY06 when this report went to press in late fourth quarter 2005; however, as the year progresses the PTTC regions typically organize more activities than are planned before the fiscal year begins.

Regional activity is summarized in both tabular (**Table 1**) and graphical (**Figure 1**) form.

**Table 1—Measures of PTTC's Regional Activities**

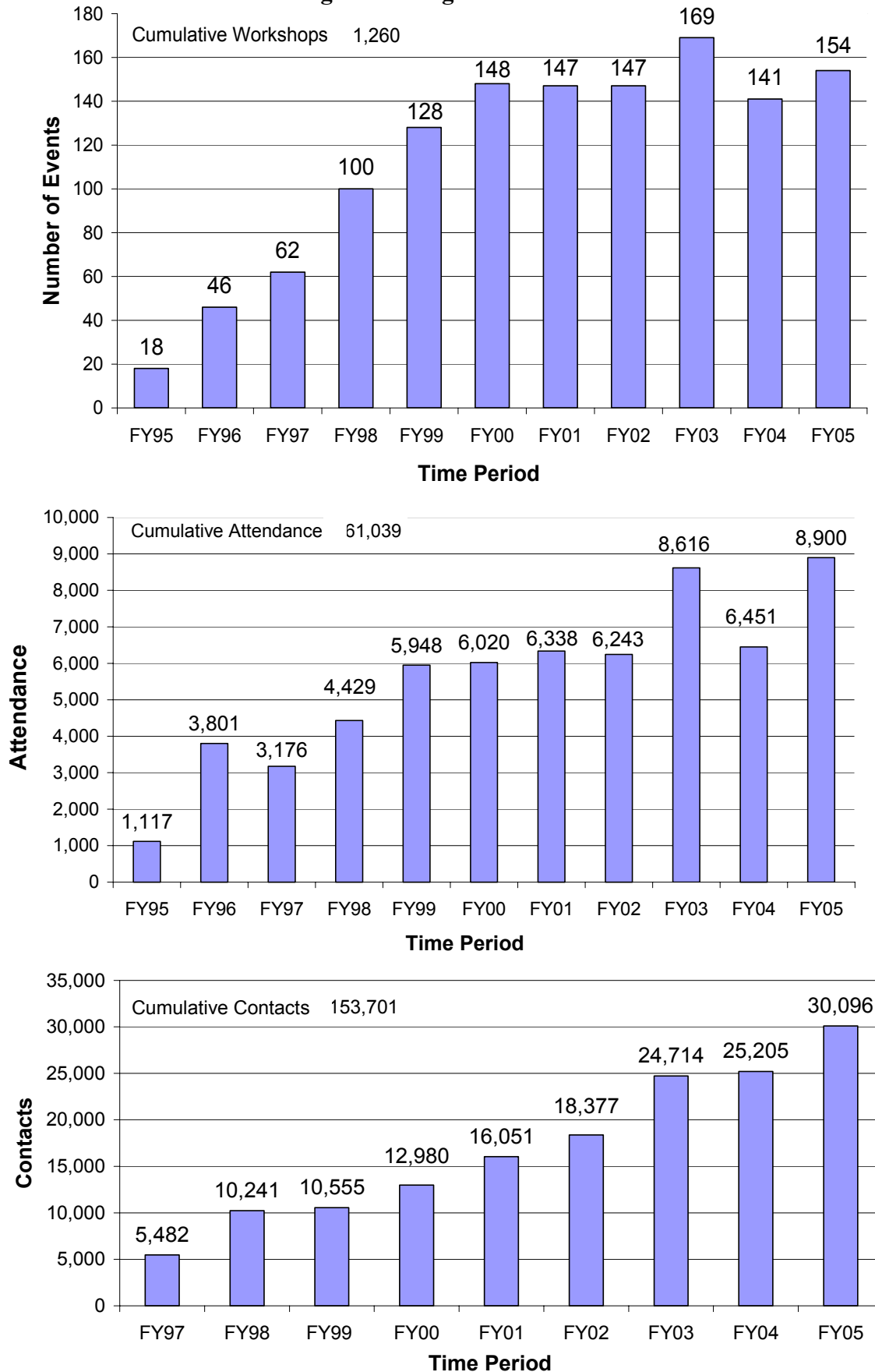
Time Period	Activities		Attendance		From E&P Industry		Outreach Contacts	
	Annual	Cumulative	Annual	Cumulative	Attendance	%	Annual	Cumulative
<b>FY95</b>	18	18	1,117	1,117				
<b>FY96</b>	46	64	3,801	4,918		83		
<b>FY97</b>	62	126	3,176	8,094		85	5,482	5,482
<b>FY98</b>	100	226	4,429	12,523	3,235	73	10,241	15,723
<b>FY99</b>	128	354	5,948	18,471	4,935	83	10,555	26,278
<b>FY00</b>	148	502	6,020	24,491	4,923	82	12,980	39,258
<b>FY01</b>	147	649	6,338	30,829	5,227	82	16,051	55,309
<b>FY02</b>	147	796	6,243	37,072	5,177	83	18,377	73,686
<b>FY03</b>	169	965	8,616	45,688	7,335	85	24,714	98,400
<b>FY04</b>	141	1,106	6,451	52,139	5,486	85	25,205	123,605
<b>FY05</b>	<b>154</b>	<b>1,260</b>	<b>8,900</b>	<b>61,039</b>	<b>7,848</b>	<b>88</b>	<b>30,096</b>	<b>153,701</b>
<b>Averaging 58 attendees per activity</b>					<b>Exceeds 10 contacts per day/region</b>			

Despite the high levels of drilling and development activity spurred by high oil and gas prices, the average attendance at a PTTC event industry during FY05 was 58, 26 percent more than in FY04.

*Of the 61,039 individuals PTTC has attracted to its events since its inception, more than 15,000 have attended in the past two years.*

The number of contacts and inquiries received by PTTC HQ and regional offices from individuals outside the PTTC network were up 19 percent to reach a new high in FY05, topping 30,000 for the first time. Contact activity—which exceeded 10/day/region—increased by nearly 20 percent.

**Figure 1—Regional Outreach Statistics**



## I. INTRODUCTION

From the outset, PTTC has engaged in strategic planning. Strategic planning conducted during 2003 in preparation for a new five-year contract drives PTTC's current direction. Of necessity, much of the strategic planning effort during FY05 focused on communicating the impact and value of DOE's overall Oil and Gas R&D program—and specifically PTTC—to those in industry and to Congress.

Federal funds partially supporting PTTC's operation come through a five-year grant awarded by DOE's Office of Fossil Energy, National Energy Technology Laboratory.

This report covers PTTC's technical progress during FY05, the second year in the five-year grant.

Although a national organization, PTTC is regionally focused. Therefore, this report is divided into two primary sections:

- **Section II** addresses PTTC's progress at the national level.
- **Section III** reports progress at the regional level and, for the most part, aggregates information for the 10 regions so that common trends and results can be identified. This section is organized according to the core technology transfer functions that guide the RLOs.

**Appendix A** presents national organizational milestones. **Appendix B** presents detailed information by region of FY05 regional accomplishments. Remaining appendices, which include Board and RLO Director rosters among others, provide background information.

## II. RESULTS AT THE NATIONAL LEVEL

### A. Planning and Managing the PTTC Program

The PTTC functions as a cohesive national organization that implements industry's directives through both national and regional programs.

There are many aspects of planning and managing the overall program. The financial aspects are documented in a separate Financial Report to DOE, which is submitted quarterly. This Technical Progress Report will focus on several other key areas – those involving human resources, strategic planning, and oversight of the regional programs.

#### 1. Human Resources

Responsibilities in human resources require that there are experienced and knowledgeable staff members and contractors available to fulfill the requirements of PTTC's commitment to DOE and to perform the valuable technology transfer activities. It also involves working with industry to ensure that PTTC's Board and regional PAGs are filled with active volunteers.

##### a. *Headquarters Staff*

The HQ staff, which continued to work as a team in FY05 to accomplish many goals, includes:

—Donald F. Duttlinger, Executive Director and a Registered Professional Engineer (PE), continues to provide overall leadership to staff and the RLOs in executing the Board's direction. This year there was a strong focus on communicating the value of DOE's R&D program to industry and Congress, as well as a continued effort in strengthening the volunteer corps in PTTC's Board and regional PAGs. Duttlinger also coordinated the "Large Operator" and "Service Company" subcommittees of the Board and continued to take the lead in networking with other industry organizations, especially those in the Houston area. With increasing contacts and networking, PTTC is reaching more people than ever. Work continues to develop improved ways to capture program metrics and communicate results of the organization's collective efforts.

—Lance Cole, National Project Manager and a PE, Sand Springs, Oklahoma, continues to serve under contract overseeing all of the RLO activities for compliance with PAG direction and national policies, as well as coordinating inter-regional efforts. Cole also pulls together technical reporting, supports national communications efforts, serves as technical adviser, and assists in strategic planning. He maintains consistent contact with industry and RLO staff, thus serving as a focal point for significant communication flow.

—Kathy Chapman, Director of Business Affairs—who has been with PTTC from its beginning—works remotely from the Washington area, where she is responsible for all contractual matters with DOE, the RLOs, and other contractors. Chapman also serves as a liaison to DOE Headquarters and other groups located in the nation's capital. In addition, she manages the financial and accounting systems and coordinates with Duttlinger and Cole on strategic issues.

—Norma Gutierrez, Office Manager, continues to provide records management, meeting planning, and exhibiting support services, plus all headquarter scheduling. Gutierrez has assumed greater responsibility with the contact database, newsletter, and coordination of temporary staff. She provides a critical communications link between HQ and the Board, RLOs and industry.

—Kristi Lovendahl, Tulsa, Oklahoma, serves PTTC on a contract basis providing: desktop publishing services for the national newsletter, *PTTC Network News*; website maintenance and design services; database support; Email Tech Alert support; and other publications- or report-oriented

projects. This occasionally includes providing administrative support for Cole. Outsourcing of these vital services has proven cost-effective for PTTC.

—Late in FY05, Frank Valenzuela, Houston, began serving PTTC on a contract basis, providing computer-, website- and online-training support. Valenzuela also has supported exhibit booth activities. Prior to his recent move to Houston, Valenzuela supported the West Coast Region where he became skilled in preparing presentations for online presentation.

—Late in FY05, Dwight Rychel, PE, began serving PTTC on a part-time contract basis, providing support for PTTC's microhole technology integration effort (a purchase order with DOE), case study recruiting, and some communications tasks. Rychel's many years of experience in industry and, most recently, contract support for DOE's oil program represent a valuable addition to PTTC's capabilities.

For selected technology-oriented tasks—such as the *Petroleum Technology Digest*, workshop summaries, and *PTTC Network News*—HQ retains consultants on an as-needed basis to perform specific tasks. Being of a technical nature, their efforts are mostly coordinated by Cole, as is Rychel's work.

#### **b. Board of Directors**

Twenty-one industry volunteers serve on PTTC's Board of Directors. Their time and commitment to the mission of transferring technology to American producers ensured the program is properly guided. Board members include independent oil and gas producers representing the 10 regions, in addition to the Board Officer positions of Chairman, Vice Chairman and Immediate Past Chairman. Other Board members include representatives from national industry organizations, large operators, oilfield service companies, and major professional societies. Brian Sims, an independent producer based in Madison, Mississippi, and Gene Ames III, of The Nordan Trust in San Antonio, Texas, were elected as Board Chairman and Vice Chairman, respectively. Changes occurred in eight other Board positions.

- Service Companies - Mo Cordes, Schlumberger Oilfield Services
- Independent Petroleum Association of America - Alan Frizzell, Enrich Oil Corporation
- Appalachian Region PAG Chairman - Rick Goings, Dominion E&P, Inc.
- Eastern Gulf Region PAG Chairman - Karl Kaufmann, Valioso Petroleum Company
- South Midcontinent PAG Chairman - Fletcher Lewis, Fletcher Lewis Engineering
- Texas PAG Chairman - Allen Gilmer, Vecta Exploration, Ltd.
- West Coast PAG Chairman - Chris Hall, Drilling and Production Company
- Regional Lead Organizations - Doug Patchen, NRCCE-West Virginia University

A Nominating Committee composed of three members, including the Chairman, Immediate Past Chairman, and a regional PAG Chairman, coordinates nominations for leadership changes and some committees, while the Chairman appoints other committees.

During FY05 PTTC's Board met three times: (1) on October 27, 2004, in Austin, Texas, in conjunction with IPAA's annual meeting; (2) on March 13-14, 2005, in Washington, D.C., as a joint meeting of the Board and RLOs and for visits to Capitol Hill; and (3) on July 18, 2005, in Nashville, Tennessee.

In October 2004, the Board reviewed and approved regional plans and budgets for FY05 activities. Staff provided updated financial and technical reports and Committee and association reports were made. The Board also adopted a Fraud Prevention and Detection Policy—implementing the auditor's recommendation—and reviewed and approved a special project proposed by the Rocky Mountain Region to develop a GIS-based, online Core Locator system to help users to find where cores in a given geographic area are physically located.

In March 2005, the Board elected new officers, ratified new Board members, and approved the formal auditor's report, which identified no significant issues or recommendations. RLO representatives, supported by their respective PAG Chairmen, provided brief highlights of recent successes or concerns within their regions. Separate analyses by Texas PAG Chairman Allen Gilmer and Lance Cole of HQ of the impact of several recent Texas workshops were reported. Other Committee and association reports were heard. Glenda Wylie, Halliburton, also delivered an invited presentation about technology funding, product development, and technology uptake/adoption from Halliburton's perspective.

Also during the March meeting, the Board formed a Permanence Committee, which was charged with addressing PTTC's long-term funding options. Led by Brook Phiher, Past Board Chairman, the five-member Committee worked with HQ staff through June to explore funding options. One result, with concurrence from the Management & Budget (M&B) Committee, was preparation of an unsolicited proposal to the Department of Labor (DOL) to conduct oilfield training. Elements of this multi-component proposal included: tailoring of some current workshop activities; broadening of student training/internships and pumper training; initial development of technician training; and recruiting workshops to draw new people into the E&P industry. This proposal was submitted in June 2005.

In July 2005, the Board focused on: (1) funding allocation for the regions and the annual planning process, (2) status of the DOL proposal and other Permanence Committee findings, (3) DOE's purchase order with PTTC for microhole technology integration, and (4) routine Committee and association reports. The Board also reviewed and approved a special project proposal for PTTC to provide funding to Texas Bureau of Economic Geology (BEG) to upgrade meeting room capabilities at its Houston Research Center. Schedule permitting, BEG makes the facility available to PTTC at no charge.

**c. *Management & Budget Committee***

PTTC's Management & Budget (M&B) Committee, chaired by Vice Chairman Gene Ames III, provides guidance to the HQ staff between Board meetings. This includes regular monitoring of financial data and progress by other Board Committees. The group meets monthly, or as needed, by conference call with the Executive Director and other key staff. During FY05, the Committee played a lead role in PTTC's effort to communicate the value of DOE's R&D program—and PTTC, specifically—to industry and Congress. As needed, they supported Permanence Committee activities. The M&B Committee assumes a major role in planning Board meeting agendas. Typically, future leadership comes from those within the M&B Committee. In addition to Ames, current members include Board Chairman Brian Sims, Immediate Past Board Chairman Brook Phiher, Rocky Mountain PAG Chairman Bob McDougall and Central Gulf PAG Chairman Joe Jacobs.

**d. *Communications/Broadcasting Committee***

During the July 2005 Board meeting, the Board formed a Communications/Broadcast Committee chaired by Bob McDougall of the Rocky Mountain Region. The committee's purpose is to review the options available for placing technical presentations/workshops online and to determine the approach that will best serve PTTC's audience and be achievable within national and regional budgetary and human resource constraints. HQ staff and the two regions currently placing presentations online, Texas and West Coast, are providing technical support for the committee.

**e. *Producer Advisory Groups***

Each region has a group of voluntary industry representatives serving as a local advisory group for the program. These PAGs work very closely with their corresponding RLO Director and are responsible for guiding the regional program. Their participation is especially critical during the annual planning process, as the PAGs must approve a region's annual plan before submittal to PTTC. They also provide critical connections to the diverse groups present within each region. Following up on internal goals, the PAGs, RLO Directors and HQ staff worked together to add or change PAG members in several regions.



Recognizing the energy provided by new volunteers, PTTC will continue its strategic emphasis on refreshing the PAGs.

## 2. Oversight of Regional Programs

HQ has oversight responsibility for the regions, an important aspect being the annual planning and budgeting process. RLO commitments, generally far above minimum levels, enable regional activity to remain at consistently high levels. Activity statistics include co-sponsored events, which are an important strategy for connecting with industry.

The Regional Directors met jointly with the Board in Washington in March 2005; there were also a couple of brief conference calls during the year. HQ staff and webmasters met in Houston in January 2005 to discuss web issues and opportunities for capturing technical presentations/workshops online. This meeting ultimately led the Board to form the Communications/Broadcasting Committee referenced above.

HQ staff participated in the vast majority of PAG meetings, either in person or via conference call. Duttlinger and Cole also attend selected workshops, scattered among the regions, to demonstrate support, gather insights about PTTC's primary "workshop" product, expand connections with industry, and learn about new technologies. Serving as the primary HQ contact with the RLOs, Cole works with RLO Directors and staff on developing and implementing the annual plans, inter-regional technology transfer opportunities, and regional input for national communications.

From the start, PTTC has captured and reported data that demonstrate its impact on the U.S. upstream oil and gas industry. Most data are activity-oriented statistics (number of workshops, attendance, resource center contacts, website usage, etc.). Since FY00, PTTC has been capturing and reporting the percentage of industry attendees at a workshop who are repeat attendees. Of 119 workshops in FY05 where repeat attendance was reported, it averaged 59%, which is within the range experienced in recent years. The high percentage of repeat attendees indicates that a majority of individuals who attend PTTC workshops see enough value to consider coming back. Still, it is encouraging that, after 11 years, there is a significant percentage of new people coming to PTTC activities. Repeat attendees are defined as those individuals who have previously attended a workshop in the region since PTTC's beginning.

Some examples of producers taking action and realizing production/profit increases are available at both the regional and national levels (see **Table 3, Sec. III**). Other examples have been documented in prior years.

PTTC recognizes that producers consider information from many sources—for example, PTTC, professional societies, DOE, technology providers, employment experience--when they make technology decisions. During FY04, HQ staff and RLO Directors worked together to estimate the economic impacts to producers and the vendor community in just **eleven areas** where PTTC transfers technology. Individuals in industry knowledgeable of the topics reviewed the analysis for reasonableness and, from their knowledge of PTTC's activity, estimated a "PTTC Impact Factor." That is, of the total benefit to industry, what percentage could logically be attributed to PTTC's efforts considering timing and quantity of activities, industry participation and direct industry feedback. The overall analysis was reviewed by the National Board.

Areas where estimates were made include:

- Trenton-Black River in Appalachia
- Illinois Aux Vases (Mill Shoals Field)
- Michigan Horizontal Well Completions
- Kansas Polymer Gel in Arbuckle
- Kansas Coalbed Methane
- Kansas GasGun<sup>TM</sup> Stimulations

- Rockies Powder River Basin Coalbed Methane
- Rockies Software Training
- Oklahoma Hunton Play
- Oklahoma Coalbed Methane
- Permian Basin Wellbore Management

The combined industry reserves added in these eleven areas are estimated to be 1,266 million barrels of oil equivalent (BOE), with roughly 88 million BOE--or seven percent--resulting from PTTC's tech transfer effort calculated using industry-reviewed impact factors. Significant new reserves were developed and measurable operating cost reductions were realized. PTTC impact factors for the different areas varied from 5 percent to 25 percent. Additional value to producers from software training and wellbore management--expressed in dollars rather than reserves--increased PTTC's impact yet another third. The service provider community so vital to health of the domestic producing industry also realizes significant value from the industry activity, and this is only part of PTTC's total effort.

PTTC leadership subsequently reviewed this analysis with IPAA, DOE Headquarters, and the Office of Management and Budget. Responses were favorable, and PTTC used these findings in its information campaign with Congress. Although similar efforts are anticipated in the future, no detailed analyses were performed in FY05.

PTTC maintains a section in its website (<http://www.pttc.org/impact.htm>) that documents feedback on the myriad ways that PTTC activities benefit industry. Current content was primarily developed during FY04; additional effort is planned early in FY06 to document additional examples.

**One standard question on the feedback form used at workshops asks respondents for a "Yes/No" answer to the question: *Have you used any new technologies based on knowledge gained through PTTC?* With data now available from 611 workshops, 41% of those who responded said, "Yes." More than one third of those who responded "Yes" provided cryptic details of the technology applied, but none provided sufficient detail for metrics without extensive follow-up. Resource limitations preclude extensive follow-up, but HQ staff are striving to incorporate some follow-up calling within their work routine.**

## **B. Conducting National Technology Transfer Activities**

Although most of PTTC's technology transfer activities occur in the regions, the HQ staff also has significant responsibility in this area. There are many mechanisms for this function, through: (1) Email Tech Alerts and a national newsletter, *PTTC Network News*; (2) responding to inquiries received through the national office; (3) surveying producers' needs on a national level; (4) developing case study-oriented products, such as the *Petroleum Technology Digest*; (5) capturing the highlights of regional workshops in summaries posted on PTTC's website; (6) providing technical support for IPAA meetings; and (7) coordinating PTTC activities with DOE's oil and gas R&D programs and those of other national organizations.

### **1. Newsletter Articles and Alerts**

Technology information is received from multiple sources for *PTTC Network News*. Staffers proactively search trade journals, professional society literature, association newsletters, and the Internet looking for technology advances perceived to be of interest to independent producers. Significant developments within the PTTC system or DOE's R&D program are also presented. State-of-the art summaries are focused on timely topics. Information is highlighted from Email Tech Alerts, case studies, columns, and workshop summaries.

### **2. Answering National Inquiries**

During FY05, HQ external contacts (from those outside the PTTC system) approached 2,900, averaging more than 10 per working day. Several inquiries each week are for technical information. Some come from industry directly, while others are forwarded by regional staff. Wherever the source, the HQ staff does its best to make the right connection to industry, PTTC regional officials, governmental agencies, or academia. Many of

the inquiries come from small technology developers. If a technology is supported by field data and perceived to be of interest to independent producers, HQ staff develops an alert or article to be published in *PTTC Network News* or encourages a case study for *Petroleum Technology Digest*. In many cases, PTTC staff makes referrals to other individuals or organizations that offer potential for further developing and/or commercializing the technology.

### **3. Problem Identification/Needs Assessment**

PTTC last assessed technology needs on a national basis through a survey in August 1999. Although recognized as a need, PTTC has not yet implemented another national needs assessment exercise. The regions perform ongoing needs assessment through feedback from workshop participants, contacts, PAG input, participation in local trade meetings, and other sources. HQ also obtains input on needs through contacts at trade shows.

### **4. Petroleum Technology Digest**

The *Petroleum Technology Digest*, begun in the fall of 1999, is a joint effort of PTTC and Gulf Publishing. PTTC solicits and compiles the case studies, and Gulf Publishing prints the *Digest* within its *World Oil* magazine. Case studies, which are authored by both producers and the appropriate technology providers, are brief—just 1,200 words or less—but they are written in the bottom-line format that producers desire. For producers the case studies represent an opportunity to learn about technologies that may not be widely used in their area. For technology providers the exposure provides access to geographical areas of the U.S. where they may not have a marketing presence.

Initially developed as supplements, then as quarterlies within *World Oil*, and now published as a monthly magazine feature, the case studies reach more than 35,000 readers worldwide. Through the end of FY05, PTTC had published 76 case studies in the *Digest*. Industry response has been highly favorable and there are numerous reports from involved technology providers that producers are taking action with information received. Just a few of these success stories have been captured on the national website within the impact/feedback section ([www.pttc.org/impact/impact\\_connecting.htm](http://www.pttc.org/impact/impact_connecting.htm)).

Case studies published during FY05 include:

- *September 2005*—No contribution for this issue
- *August 2005*—Using the online world to become informed on hydraulic fracturing
- *July 2005*—Pulsation prevents annular flow after cementing offshore
- *June 2005*—Solid expandable casing liner salvages inland water completion
- *May 2005*—MPD well taps light oil in deep Monterey Shale
- *April 2005*—Permian basin operators refine horizontal drilling techniques
- *March 2005*—Microturbine application reduces sour gas flaring, provides partial power
- *February 2005*—Internet access to well information
- *January 2005*—Volumetric balancing locates recoverable hydrocarbons
- *December 2004*—Surface geochemical results complement conventional development approaches
- *November 2004*—Ejector vapor recovery unit reliably and economically recovers vent and flash gas
- *October 2004*—Coiled composite line pipe: an attractive injection system replacement

With industry's current high activity level, PTTC is finding it increasingly difficult to nurture producers/service companies to take their time to work with PTTC in developing the above case studies. Nevertheless, PTTC continues to work towards having a few case studies ready for publication at any time.

### **5. Solutions From the Field**

PTTC began summarizing content of its regional workshops in 1997 so a larger audience could have access. Since August 1999, PTTC has been posting workshop summaries with key technology insights and speaker contact information on the national website as *Solutions From the Field*. Eleven summaries were

posted online during FY05; not counting pre-1997 summaries, a total of 116 summaries are now posted online. Highlights from summaries posted during a quarter are also presented in *PTTC Network News*.

## **6. Technical Support for IPAA Meetings**

From inception PTTC has worked cooperatively with IPAA to add a technology element to their meetings. In 1997 and 1998, Emerging Technologies Energy Conferences were held surrounding IPAA's annual meetings. PTTC hosted a short tech session at IPAA's annual meeting in New Orleans in October 2003 and co-hosted a technical session on unconventional gas as part of a full-day Emerging Technologies Conference at IPAA's October 2004 annual meeting. IPAA did not plan a technical event for its 2005 meeting.

## **7. Coordinating with DOE and Other Groups**

Where appropriate, PTTC incorporates R&D findings from DOE-funded projects into regional workshops. Regional activities during FY05 that included DOE-funded results were:

- *Eastern Gulf Region*—Annual and technical reports from DOE-supported R&D projects performed by University of Alabama (and partners) are placed online. Many of these projects have a field demo component of value to regional producers.
- *Midwest Region*—Staff maintains the popular ILoil “Internet Mapping Service” developed by ISGS with funding support from DOE’s PUMP II program. ILoil is one of the most frequently accessed portions of the website. Texas’s Bob Kiker made an invited presentation to the Independent Producers Tri-State on “Produced Water/Wellbore Management.” This leveraged past DOE support for PTTC’s PUMP I project.
- *North Midcontinent Region*—The region co-hosted KU’s Tertiary Oil Recovery Project’s biannual conference in March. Several presentations in that conference reported on progress in DOE-supported projects, one of the more significant being the CO<sub>2</sub> pilot in Kansas. In conjunction with KIOGA’s summer meeting, the region hosted a mini-workshop on the CO<sub>2</sub> pilot and field trip. The workshop on “Candidate Selection for Horizontal Drilling with Case Studies in Pennsylvanian Sandstones” on 9/15/05 evolved from a DOE-supported project with Grand Resources, Tulsa. Newsletter articles provide frequent coverage of DOE-supported R&D in Kansas.
- *South Midcontinent Region*—Two workshops presenting results of DOE-supported R&D projects (“Deep Gas Well Stimulation” and “Horizontal Drilling with Case Studies in Osage County”) were extremely well attended, together drawing 229 attendees.
- *Southwest Region*—The “Devonian FEE Tool,” which was an outgrowth of a DOE-supported project by New Mexico Tech’s PRRC group, was featured in a training workshop. Results within a DOE-supported Grand Resources project were part of the “Horizontal Drilling” workshop hosted by the Southwest and Texas regions in May 2005. The regional website prominently highlights “NM Water Database” developed within a DOE-supported project. Links to technical work/results in the DOE-supported “Nash Draw” project are also prominent.
- *Texas Region*—Bob Kiker’s involvement in a Tyler workshop (Produced Water Seminar, 11/4/04) and presentations at the Southwest Petroleum Short Course (April 2005) leveraged his involvement in PTTC’s DOE-supported PUMP project. The region also hosted the “Deep Gas Well Stimulation” workshop (see South Midcontinent above), drawing 82 people. A workshop on 7/18/04 on “Produced Water and Associated Issues” in Tyler leveraged PTTC’s DOE-supported PUMP project, and a workshop on 8/25/04 on “Polymer and Polymer-Gel Water Shut-off Treatments; What It Takes To Be Successful and Field Applications” highlighted DOE-supported research by New Mexico Tech’s PRRC group.
- *West Coast Region*—Chandra Nautiyal with DOE NETL Tulsa participated in the workshop on “Coiled Tubing Application and Operations” on 10/21/04; a workshop on “Water Control for Southern California Oil Wells” on 6/10/05 was an outgrowth of PTTC’s DOE-supported PUMP project; the COMET student training/internship program has, through the years, received financial support from DOE and different professional societies.

- *Headquarters*—Staff worked with organizers of the referenced Midland CO<sub>2</sub> conference to arrange opportunities for DOE to highlight their relevant R&D projects. In the summer of 2005 under a separate purchase order agreement with DOE, HQ began a “Microhole Technology Integration Initiative” with DOE. This effort includes developing and hosting periodic informational meetings for industry and building a website to more clearly present DOE’s microhole program to industry.

PTTC makes a special effort to acquaint independents with opportunities within DOE solicitations and the annual Stripper Well Consortium (SWC) competition. Coverage of solicitations and awards is provided in *PTTC Network News* and the Email Tech Alert. HQ staff monitors awards and progress within SWC projects, looking for technologies that are nearing the commercial stage where technology transfer would be appropriate. Three of the case studies published in *World Oil’s Petroleum Technology Digest* during FY05 build upon work accomplished in DOE-supported projects.

PTTC actively coordinates with the major professional societies and producer associations. For the most part, cooperative opportunities are pursued at the regional level. Efforts during the year included:

- *Appalachian Region*—supported a workshop on “Introduction to Carbonate Reservoirs” with the Pittsburgh Association of Petroleum Geologists during March 2005; multiple technical efforts associated with AAPG’s Eastern Section meeting in Morgantown during September 2005, including hosting a short course on “Well Log Analysis.”
- *Central Gulf Region*—supported a workshop developed by LSU’s Center for Energy Studies on “Energy Summit 2004” on 10/21-22/04; a workshop with University of Louisiana-Lafayette on “Reservoir Engineering Symposium” on 12/2/04; a workshop on “Louisiana Coalbed Methane” with Univ. of Louisiana Lafayette’s Energy Institute and Louisiana Geological Survey on 3/17/05.
- *Eastern Gulf Region*—developed a tech session (10/6/04) for U.S. Oil and Gas Association; participated in the Alabama O&G Seminar with Black Warrior Association of Landmen, Alabama State O&G Board, and the O&G section of State Bar; a workshop with the Mississippi State Board of Registered Professional Geologists and AAPG Division of Professional Affairs on “The New Phase I ESA” on 4/7/05 (second cooperative workshop with this group on “An Integrated Coalbed Methane Exploration Model” was canceled due to Hurricane Katrina); co-sponsored the 2005 International Coalbed Methane Symposium at the University of Alabama (5/16-20/05).
- *Midwest Region*—workshops with Independent Producers Tri-State on 3/2/05 on “SPCC Compliance” and “Geochemical Exploration;” a presentation by Texas’s Bob Kiker at Independent Producers Tri-State meeting on 3/2/05; three “Pumpers” workshops with Illinois Oil and Gas Association (10/12/04, 5/20/05, 9/30/05); a workshop on “Michigan Field Experiences, Focus on the Antrim” with the Michigan Geological Society and SPE Northern Michigan.
- *North Midcontinent Region*—with South Midcontinent Region, supported the “1<sup>st</sup> Midcontinent Coalbed Methane Symposium” with Oklahoma Independent Petroleum Association on 11/7-9/04; a technical presentation before the Kansas Geological Society on “Stimulating Arbuckle Production” on 1/12/05; a technical presentation on “Coalbed Methane Production in Eastern Kansas” before the Southeast Kansas Economic Development Commission on 2/18/05; a workshop and field trip on “CO<sub>2</sub> Flooding” with KIOGA on 4/21/05; co-hosted the University of Kansas Tertiary Oil Recovery Project’s biannual “Oil Recovery Conference” on 4/6-7/05; a technical presentations at KIOGA (8/22/05) and EKOGA (9/16/05) annual meetings; a workshop on “Maintaining and Repairing Casing Integrity” with API’s Great Bend chapter on 9/13/05.
- *Rocky Mountain Region*—conference on “Hydrothermal Dolomite” with Rocky Mountain Association of Geologists (RMAG) on 11/15/04; a workshop on “Electric Submersible Pumps, Well Stimulation and Corrosion Control” with SPE Casper on 2/17/05; a core workshop on “Valley Fill Sandstones” with USGS on 2/24/05; with several sponsors, supported the “2005 Gas Well Deliquification Conference” on 2/28 3/2/05; a core workshop on “Geology of Horizontal Reservoirs” with RMAG and USGS on 5/13/05; a workshop on “Gas and Oil Developments in Utah: 2005” with SPE Salt Lake City on 5/20/05; “Futures in Energy” student training/internship

programs in Golden and Pinedale, WY with several sponsors; symposiums with RMAG on “Coalbed Methane” (6/30/05) and “Gas in Low Permeability Reservoirs” (8/29/05); two short courses (“Bakken Play Essentials” and “Internet/Free GIS Data”) with AAPG’s Rocky Mountain Section meeting on 9/24/05.

- *South Midcontinent Region*—supported luncheon meetings of SPE Fort Smith, AR; with North Midcontinent Region, supported the “1<sup>st</sup> Midcontinent Coalbed Methane Symposium” with Oklahoma Independent Petroleum Association on 11/7-9/04; supported the “Oklahoma Aggregates Association” annual meeting/field trip on 2/8-9/05; supported Oklahoma Geological Survey’s “Morrow/Springer Conference” on 5/10/05; partial support for three topics/nine workshops with Oklahoma’s Marginal Well Commission.; supported the AAPG/SEG Spring Student Expo at Univ. of Oklahoma with Oklahoma Geological Survey.
- *Southwest Region*—with several sponsors, including PTTC’s Texas Region, supported the “2004 CO<sub>2</sub> Conference” in Midland in December 2004.
- *Texas Region*—supported tech sessions at the Permian Basin Oil Show (10/19-20/04) and Permian Basin Petroleum Association annual meeting (10/28/04); with Southwest Region and others, co-sponsored “2004 CO<sub>2</sub> Conference” in December 2004; conducted a “Produced Water Seminar” at Texas Alliance of Energy Producer’s annual meeting (11/4/04); supported Texas BEG’s Permian Basin Initiative work group meetings (November and December 2004); cooperative workshops with Ellison Miles Geotechnology Institute (“Rocks, Pores and Capillary Pressure” on 3/3-4/05; “Petroleum Geoscience, Basics of Petroleum Generation, Migration, Trapping” on 5/3-4/05; “Barnett Shale III Symposium” on 6/8-9/05; “Geological, Petrophysical and Engineering Aspects of Reserves Writedowns” on 9/20-22/05); a workshop on “Stranded Gas” with Texas Alliance of Energy Producers on 9/20/05; a technical presentation at Digital Energy Conference on 3/23/05; a workshop on “EPA’s Natural Gas STAR and Vapor Recovery/Wellhead Compression” on 6/16/05;
- *West Coast Region*—technical presentations to SPE Los Angeles Basin on “Tunnel Vision Management of Mature Oilfields” on 11/16/04 and “Metamorphoses of Oilfield Technologies” on 3/9/05; organized Independents’ Day session at SPE Western Region meeting on 3/31/05; several sponsors for COMET student training/internship program in June 2005; roundtable on “Water Control for Southern California Oil Producers” with Global Energy Partners on 6/10/05.
- *Headquarters*—Beginning in the fall 2005, Executive Director Don Duttlinger began chairing the SPE Gulf Coast section’s technology transfer committee. This key committee for one of the largest SPE sections in the world provides PTTC great networking opportunities. Lance Cole is also serving on the planning committee for the SPE Midcontinent Section’s “Improved Oil Recovery” conference upcoming in April 2006.

HQ staff also coordinates with other national organizations, including the Drilling Engineering Association, Interstate Oil and Gas Compact Commission, and technology Consortia (such as the University of Tulsa Separation Technology Consortium). Where topics are perceived to be of direct interest to PTTC’s audience, PTTC may interact with private conference development firms, giving them suggestions regarding topics and speakers and, if invited, even speak.

## **8. Networking with Large Independents and The Service Sector**

Beyond many one-on-one interactions that occur, Executive Director Don Duttlinger coordinates activity of PTTC’s “Large Operator/Field Trial” and “Service Company” subcommittees. Created during FY04, these subcommittees meet intermittently. Their functions are somewhat interrelated. The Service Company Subcommittee provides the technology-provider sector more organized opportunities to contribute to PTTC events. The Large Operator/Field Trial Subcommittee helps technology information and results flow from majors (when allowed) and—for developing technologies—may lead to field test opportunities with the larger operators.

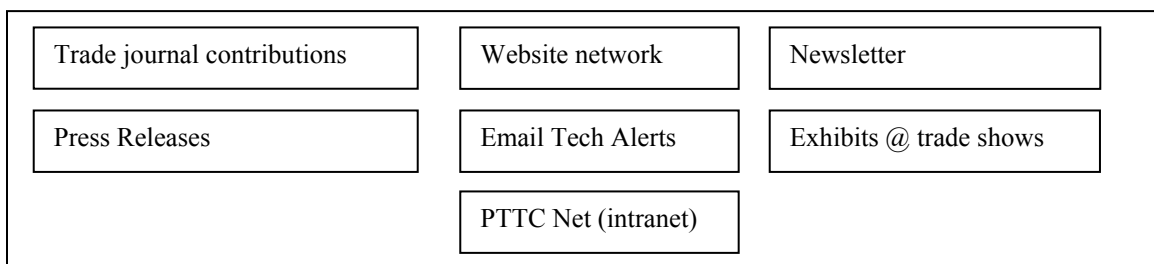
PTTC began separately reporting “lunch and learn” meetings during FY04. Included within this definition are invited technical presentations delivered by regional staff, luncheon sessions sponsored by

commercial technology providers, regular users group meetings, etc. The Simulation Users Group meetings in the Rocky Mountain Region continue to be held, and the South Midcontinent Region continues to support SPE's new section in Fort Smith, Arkansas. Staff from several regions gave invited technical presentations at events held in and outside their region.

### C. Implementing a Comprehensive Communications Program

An effective national communications program is essential for increasing name awareness and impact. There are several facets to PTTC's national communications program, as shown in **Figure 2**.

**Figure 2—PTTC's Multi-Faceted Communications Program**



#### 1. Booth/Display

PTTC maintains an active exhibit schedule, participating in 12 events during FY05, to establish and maintain a presence at national and strategic regional events. Costs are minimized where possible through negotiated agreements. PTTC participates in several smaller meetings in Texas where fees are nominal and travel costs can be minimized.

- *August 2005*—Summer NAPE (Houston)
- *July 2005*—Gulf Coast Prospect Expo (Lafayette)
- *June 2005*—AAPG annual meeting, Calgary, Alberta, Canada
- *April 2005*—SPE Coiled Tubing Conference (Houston); E. Texas Geological Society's Prospect Expo (Tyler); Texas Alliance's annual meeting (Wichita Falls)
- *January 2005*—NAPE (Houston)
- *November 2004*—Midcontinent Coalbed Methane Symposium (Tulsa)
- *October 2004*—SPE annual meeting (Houston); SEG annual meeting (Denver)

#### 2. Newsletter

PTTC's 16-page national newsletter, *PTTC Network News*, has been published quarterly since 1995. It incorporates feature articles, R&D and technology alerts, field results, and information from DOE's oil and natural gas programs as well as other technology providers. State-of-the-art articles begun during FY00 continue with 23 now having been issued. Some of these articles are developed internally by PTTC while guest authors develop others. Making periodic changes, a prime example being adding interviews with key individuals, in content and layout keeps the newsletter refreshed. Whatever changes are made, it's strong focus on technology-related information remains.

At FY05 yearend circulation had risen to nearly 17,500. Seven percent of subscriptions are for "electronic only." **Nearly 70 percent of those subscribing have indicated their employment category. As shown in Figure 3, 60 percent are from the E&P industry; among those, 59 percent represent the independent sector. Consultants and service/supply sector represent the next largest sectors. Within the other distribution, the largest group are "miscellaneous unspecified."**

#### 3. Technology Alert (Broadcast Email Service)

Since April 2002, PTTC has been issuing Email Tech Alerts on an approximately 3-week frequency (16 during FY05). These alerts provide highlights from DOE, PTTC, and industry and calendar information

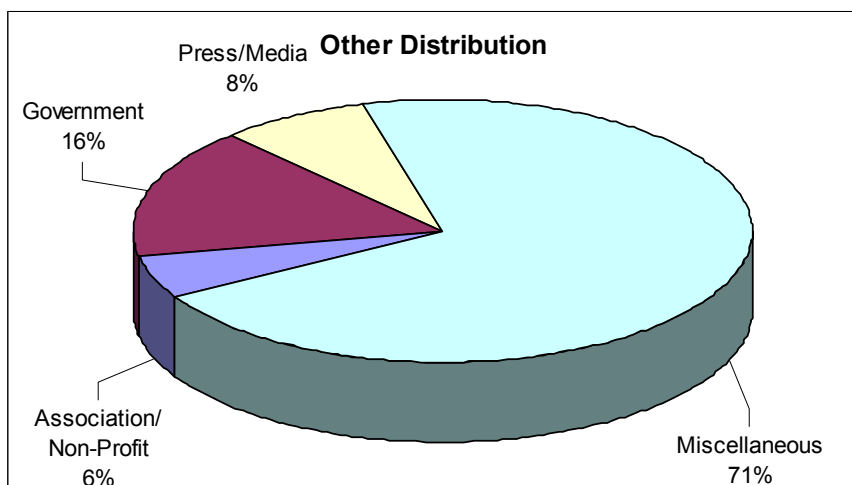
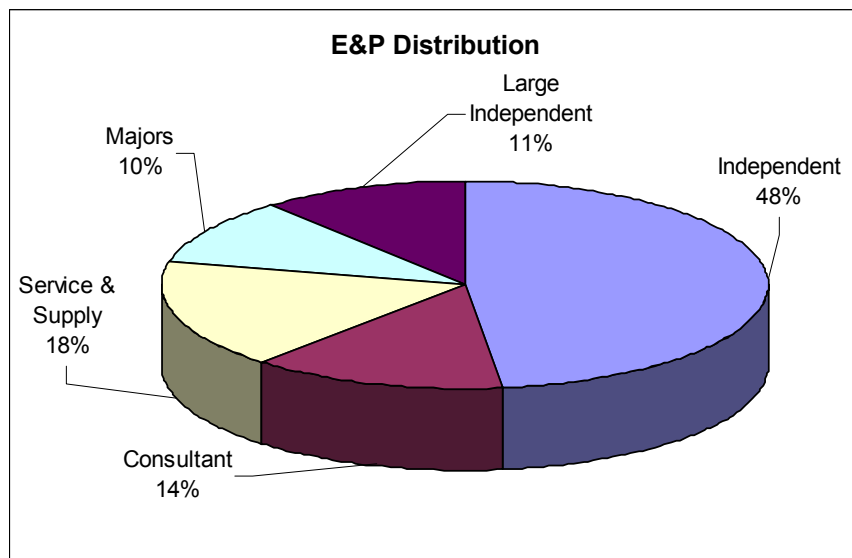
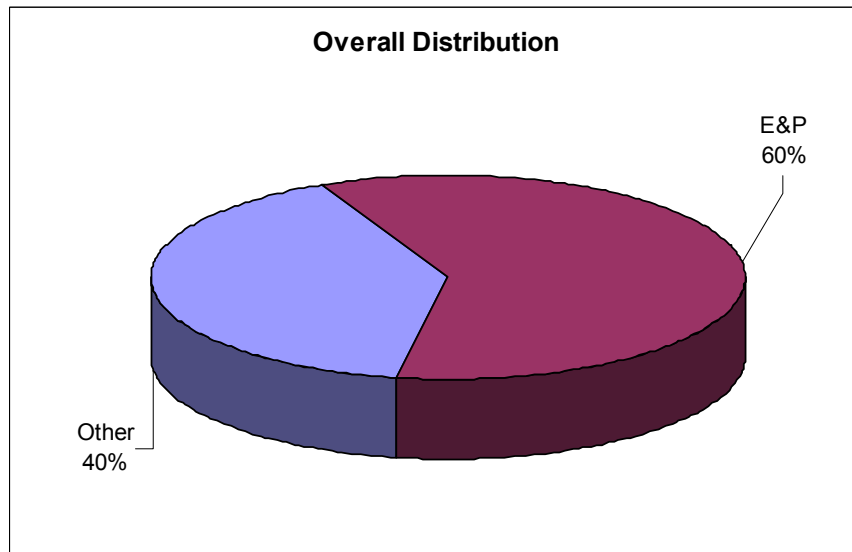
about upcoming PTTC and industry events. Past alerts are archived on the website, plus those sent during a quarter are listed in *PTTC Network News*. Those currently on the distribution list are urged to forward to others they think may be interested. People can subscribe through the website or by contacting PTTC. The distribution list is now stabilizing in the range of 7,200 people. Feedback regarding the Tech Alert has been very positive. It has proven to be a very effective tool for reminding PTTC's audience of events to be held soon.

#### **4. Press Releases**

In its early years PTTC placed a higher priority on press releases, releasing six or more per year. As PTTC has matured, PTTC is focusing more on expanding its newsletter and email distribution, exhibit schedule, and columns, case studies and articles to promote name recognition. No press releases were issued during FY05.



**Figure 3—Newsletter Distribution**



## 5. Contributions to Trade Publications

PTTC strives to leverage its outreach through the primary trade publications for independents—*Hart's E&P*, *World Oil*, and *The American Oil & Gas Reporter*. PTTC has contributed a monthly Tech Connections column to *The American Oil and Gas Reporter* since 2001. The column generally focuses on technical insights from recent regional activities. Topics covered during FY05 were:

September 2005	Vapor Recovery Gleans Additional Profit From Oil Tanks
August 2005	Upper Devonian and Trenton-Black River Create Excitement
July 2005	Workshops Provide Insights on Horizontals
June 2005	TORP Conference Features Ideas At Work in Kansas Fields
May 2005	Opportunity Exists in Michigan's Mature Antrim Black Shale
April 2005	Operators Share Their Secrets To Keeping Wells Unloaded
March 2005	PTTC's Online Information Resources Still Expanding
February 2005	Conference Reflects Operators' Strong Interest in CO <sub>2</sub> Flooding
January 2005	Unconventional Gas Demands Learning What Practices Work Best
December 2004	Illinois Workshop Focuses on Field, Pumpers Who Make It Happen
November 2004	Workshop Examines O&G Potential Remaining in Michigan
October 2004	Polymer-Gel WSO Proves Effective At Reducing Water Production

When invited, PTTC also contributes other columns or articles to trade journals.

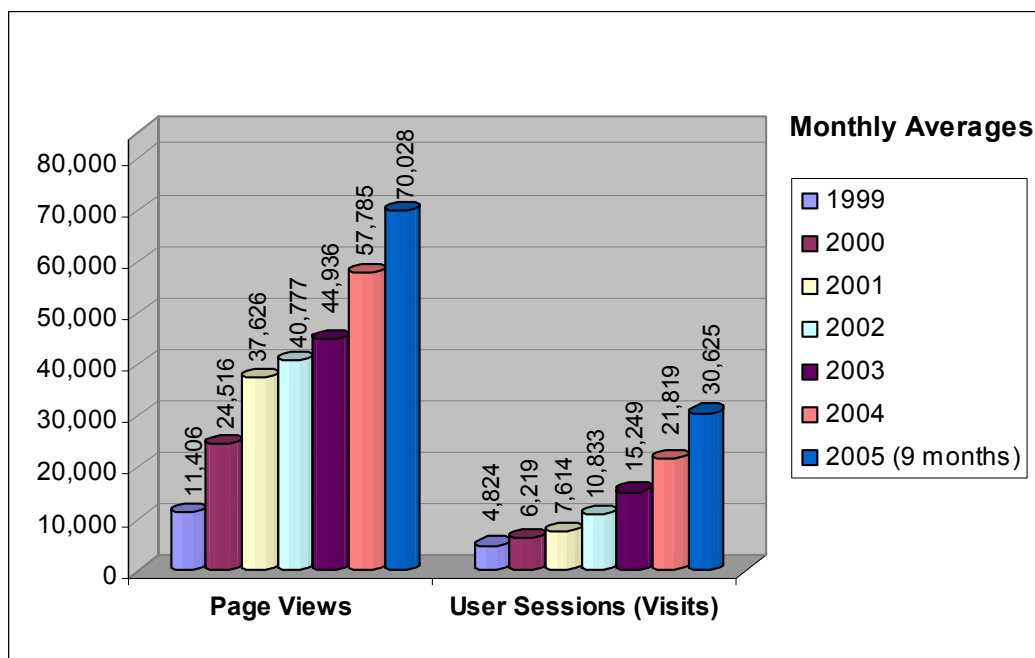
## 6. Website

Launched in 1995, PTTC's national website ([www.pttc.org](http://www.pttc.org)) provides key content of national interest and links the network of 10 regional and two satellite websites. It contains organizational information, a calendar of PTTC events, technical summaries, publications, press releases, selected links with descriptions of producer associations, and more. By serving as the gateway to the regional websites where extensive data, case studies and other technical information is contained, the website provides a valuable service to independents. It also provides a venue for special announcements, promotion of new products, and posting surveys.

PTTC continued to place workshop summaries (*Solutions From the Field*), newsletters, links to *Digest* case studies, Email alerts and other technical articles on the website. There is also a strong focus on maintaining a current calendar of PTTC and other industry events with links to detailed information on the Internet.

Trends, not absolute measures, are the important factor in measuring website traffic. Statistics (generally measured using WebTrends™ software) indicate the regions are now experiencing about 110,000 user sessions per month (see **Table 2**). Although there are seasonal fluctuations, growth has been consistent. Major increases are often noted when regions make new data available online. **Figure 4** illustrates monthly averages for the national website ([www.pttc.org](http://www.pttc.org)). As with the regions, a consistent growth trend is evident. Traffic is now about 30,000 user sessions per month.

**Figure 4—Usage Trends for National Website (www.pttc.org)**



## 7. Board and RLO Communications—PTTC Net

PTTC's intranet site, PTTC Net, continues to make Board and RLO information available in a timely fashion. It is accessible by both Board members and RLO staff by user name and password. It provides ready access to roster and contact information, quarterly and annual reports, and policies and guidelines. This provides an important filing function for all.

For RLO staff it serves administrative functions, such as deliverables, reporting forms, and annual planning information. When staff changes occur this represents a ready reference point to familiarize them with the internal workings of PTTC.

### III. RESULTS AT THE REGIONAL LEVEL

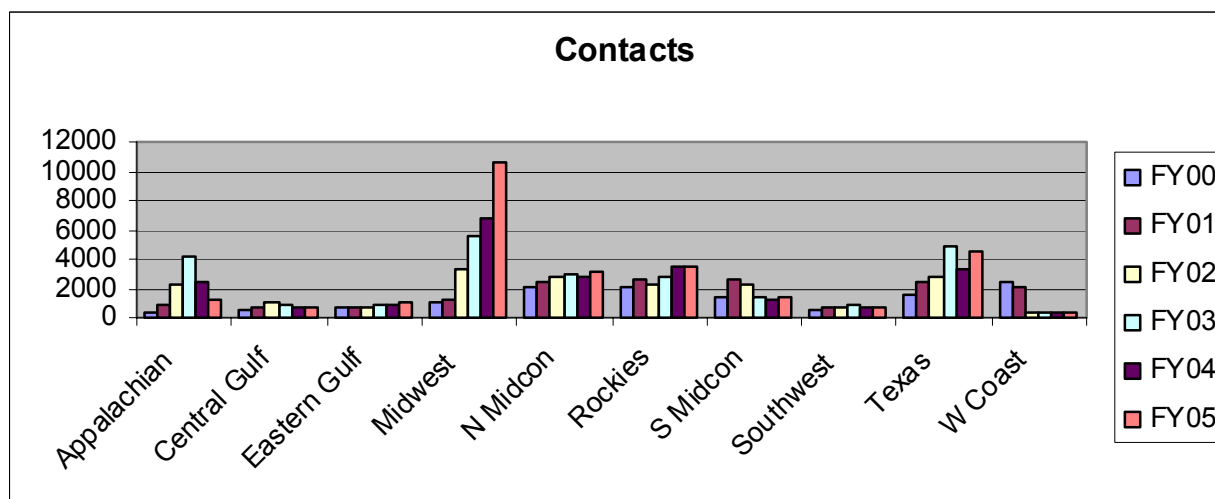
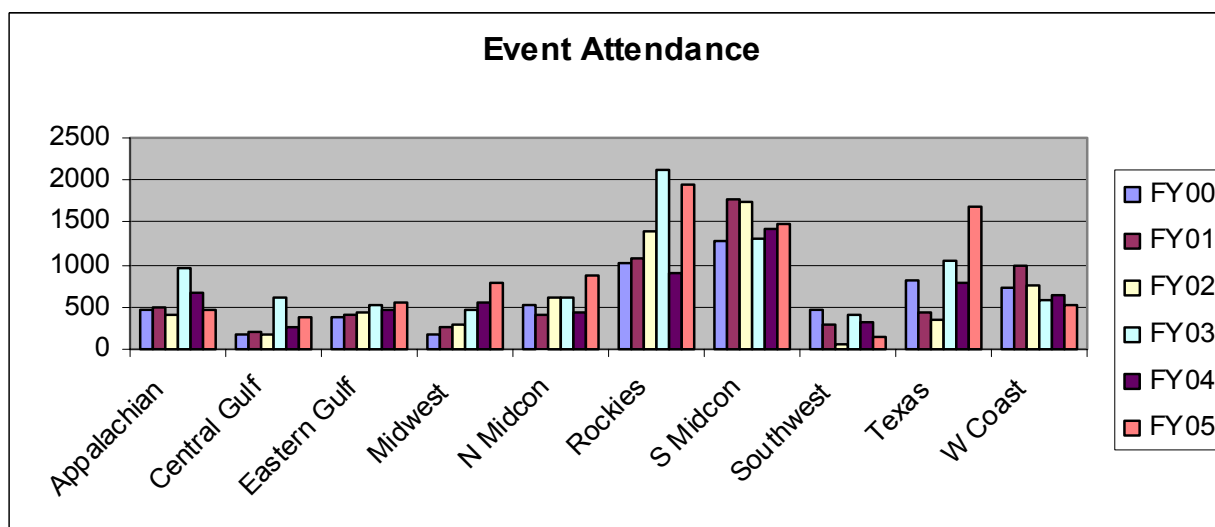
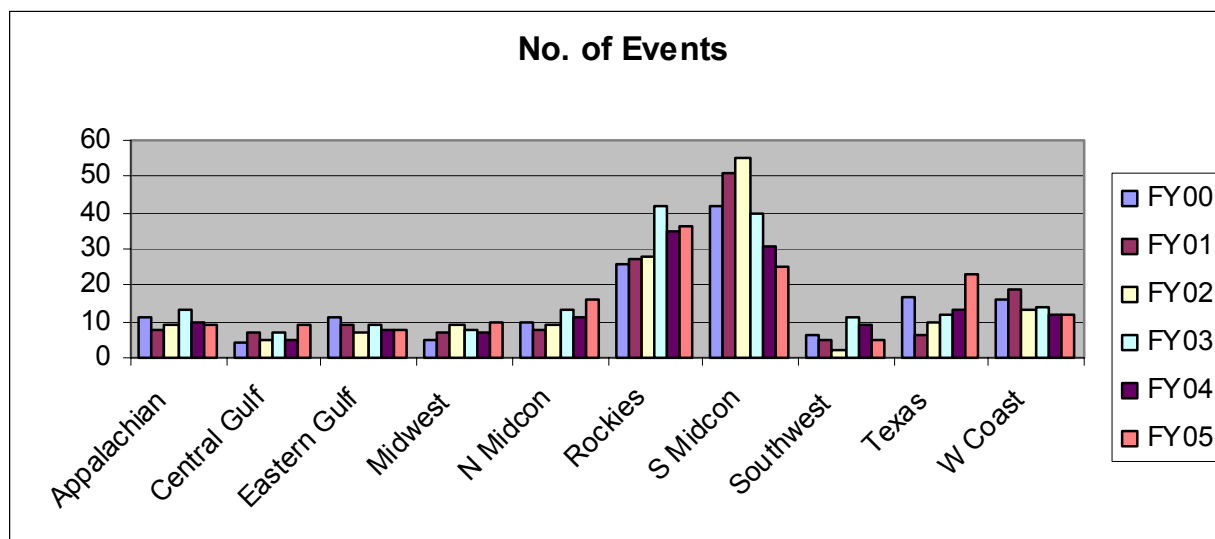
PTTC's ten regions are the primary delivery mechanism for technology transfer. It is in the regions where PTTC connects most directly with independents—through workshops, resource centers, websites, newsletters, personal contacts, and other information sources.

**Table 2** documents FY05 activity by region. Strict regional comparisons are discouraged because differences among regions are influenced by a variety of factors, including: (1) differing guidance from regional Producer Advisory Groups (PAGs), (2) single- versus multi-state regions, (3) differing industry demographics, and (4) differing RLO Director philosophies. Notwithstanding, it is apparent that activity levels in some regions are significantly higher than in others. **Figure 5** presents regional activity for recent years, allowing one to see trends within and among regions. Compared to FY04, the number of events in FY05 increased 9% with a 38% increase in attendance. Contacts increased 19%. The three most active regions were Rocky Mountain, South Midcontinent and Texas. It is significant though that six of 10 regions conducted more than 10 workshops in FY05. Contact levels vary widely among the regions, reflecting different activity levels and the difficulty in consistent reporting of contact statistics. Website usage varies significantly among the regions, reflecting: (1) size of the industry audience, (2) regional emphasis on the website, and (3) website content, particularly O&G data. Comparing 1<sup>st</sup> and 4<sup>th</sup> Quarter user sessions, overall usage remained about the same. Quarterly fluctuations in usage do occur.

**Table 2—FY05 Regional Activity**

Region	Activities					Contacts	Website User Sessions	Newsletter
	# of events	Total Attend.	Avg. Attend.	% from Industry	% Repeat Attend.		1 <sup>st</sup> Qtr / 4 <sup>th</sup> Qtr	
Appalachian	9	469	52	78	48	1,303	7,295 / 8,177	Online newsletter
Central Gulf	9	389	43	80	53	654	7,001 / 8,165	Info/columns In Assoc. NL
Eastern Gulf	8	545	68	84	57	1,094	5,263 / 4,304	560 (Semi)
Midwest	10	775	78	86	56	10,588	13,043 / 14,035	3,200 (Semi)
N. Midcontinent	16	879	55	88	59	3,208	27,697 / 18,447	5,200 (Semi)
Rocky Mountain	36	1,936	54	89	84	3,534	6,160 / 7,424	3,081 (Qtrly)
S. Midcontinent	25	1,481	59	91	73	1,331	276 / 826	5,839 (Qtrly)
Southwest	5	157	31	93	50	661	26,327 / 34,090	3,200 (Semi)
Texas	23	1,674	73	96	30	4,527 + TIPRO	10,719 / 9,286 + TIPRO	Online + Assoc.
West Coast	12	530	44	70	88	319	4,255 / 3,764	Info. In CIPA weekly
Headquarters	1	65	65	94		2,877		Quarterly
<b>All Regions</b>	<b>154</b>	<b>8,900</b>	<b>58</b>	<b>85</b>	<b>59 (calc.) 63 (avg.)</b>	<b>30,096</b>	107,760 / 110,410	

**Figure 5—RLO Historical Activity**



While recognizing that there are different tools and approaches to satisfy different needs throughout the country, each of PTTC's regions performs the following core technology-transfer functions as a minimum level of effort:

- *Technology workshops*—quarterly or more often (averaged monthly during FY05)
- *Problem identification*—now relying primarily on feedback from workshop attendees and contacts
- *Resource centers*—mostly virtual, responding to inquiries and developing products
- *Internet*—basic calendar and technical information, O&G data, emphasis varies by region
- *Newsletter*—regional newsletter or regular columns/announcements in association newsletters

#### **A. Technology Workshops**

Activity level, which includes workshops, lunch and learns/technical presentations and student training/interns, increased 9% versus FY04 levels. Attendance of 8,900, which equates to average attendance of 58 people per event, is the highest annual attendance yet achieved by PTTC. Considering all activities, total attendance increased by 38% compared to FY04; if only workshops are considered, there was still a 33% increase in attendance. The percentage of attendees from industry is high. Of 119 workshops in FY05 where repeat attendance was reported, it averaged 63% (59% overall calculated). High repeat attendance reflects customer satisfaction with attendees coming back, yet effective outreach is indicated because there is still a significant number of newcomers at PTTC events. Repeat attendance is measured as the percentage of industry attendees that had previously attended a workshop in that region.

#### **B. Problem Identification**

Primary sources for industry input regarding the topics of interest in each region are: (1) feedback from workshop participants, (2) trends apparent from inquiries and informal contacts at the resource center, and (3) insights from the PAG. Occasionally, the regions have used surveys. Several regions, including Central Gulf, Midwest, North Midcontinent and Southwest, proactively visit producers to learn their needs. In Texas's Permian Basin, Bob Kiker's presence and participation in numerous organizations provides key insights on engineering/operations needs. Needs in the Permian Basin are relevant across Texas and other mature domestic producing areas. RLO staff maintains close ties with producer associations and professional societies in most regions.

#### **C. Resource Centers**

Resource center operations are the hub from which PTTC generates most of its regional products and services, including: (1) access to information/data, (2) response to inquiries, (3) upstream software demo/training, (4) information products, (5) special purpose databases, and (6) other outreach efforts. Among the regions, two regions could be said to have satellite centers--Midwest with its Michigan outreach through Western Michigan University and Texas with Bob Kiker in the Permian Basin. Until recently, there had been a Mississippi satellite in the Eastern Gulf Region. Changes within Mississippi's state agencies led to PTTC support being discontinued in FY04. Conditions have changed yet again and support is planned during FY06.

##### **1. Access to Information/Data**

All resource centers provide access to basic information, data resources and libraries. Information resources are also available through the parent RLO organizations.

##### **2. Response to Inquiries**

Industry contacts (regions and HQ) average more than 10 per entity per working day. Contact levels vary widely among the regions, reflecting differences in the regional audiences, differing activity levels among the regions, and differing outreach philosophies among the RLOs. By far, the largest percentage of contacts is for calendar/event information, followed by basic oil and gas data/statistics. It is estimated that 10 percent to 20 percent of the inquiries are true technical inquiries that require some research to develop an appropriate response. For these, the time required varies from a couple hours to a couple days. Beyond that level, referrals are made to appropriate consultants. Many of the responses involve connections to other

individuals or organizations. HQ contacts are more apt to deal with new technologies or connections, as opposed to basic O&G data issues.

### **3. Upstream Software Demo/Training**

Nearly all regions conduct workshops dealing with various aspects of Internet/data resources. Additional support from other sources, and a well-earned reputation, enables the Rocky Mountain Region to deliver a very active software-training program. Of the 25 software training workshops held during FY05, 15 were in the Rocky Mountain Region. Other regions occasionally provide software training—Eastern Gulf (3), North Midcontinent (3), Southwest (2), Texas (2) and West Coast (1) during FY05. The Rocky Mountain Region also hosted six Simulation Users Group meetings and continued to maintain the “Low Cost Software and Data Fair” developed on their website during FY04. Workshops in several regions dealt with Internet data resources.

### **4. Information Products/Special Purpose Databases**

Data access has always been high priority for independent operators. Most regions work hard to provide electronic data access through regional websites. The North Midcontinent, Southwest and Midwest regions have a particularly strong digital data emphasis. In Kansas, the Kansas Geological Survey leads the database effort, though major case study postings resulting from the North Midcontinent Region’s PTTC case study effort are a valuable addition. In New Mexico, the Southwest Region developed a State Lands database/website, which is currently being maintained. A New Mexico water database developed in a research project performed by New Mexico Tech’s Petroleum Recovery Research Center is also prominently featured. Staff continues to work with New Mexico agencies to make basic oil and gas data available through the website in a user-friendly fashion. In Illinois, the Midwest Region has assumed responsibility for maintaining and updating the ILoil GIS system developed by the Illinois State Geological Survey in a DOE-supported PUMP project. Standard and customized mapping services are also provided. The Michigan satellite also makes abundant data available online.

The Appalachian Region maintains GIS-databases for horizontal, coalbed methane and Trenton-Black River activity. Data were updated this year. The region is also working toward making play data from the “Atlas of Major Appalachian Gas Plays” study, completed a few year ago, available online. Two members of the Appalachian Oil and Natural Gas Research Consortium were awarded a contract to scan all well logs and cores in five tight gas sandstone plays in the Appalachian Basin and to organize the digital files and other information in a public database. When this three-year project finishes, the information will be placed on the regional website and the region will organize workshops to alert industry to the data’s availability and how to use the system.

The Rocky Mountain Region began developing a Core Locator system during FY04. This system enables users to find what cores are available, where they are stored, and whom to contact for viewing/access. Developed as an online GIS system, users can simply draw a box noting the geographic area they wish to search. Since it is a national resource, special project funding was provided to the region from PTTC to develop the system and populate the database. Holdings from several states and organizations with core storage facilities are now in the system. A major promotional effort is planned early in FY06 to alert industry to the presence and status of the system.

In the Central Gulf Region, the Louisiana Parish Well Reference (LPWR) is the latest database project. Modeled after the Louisiana Desktop Well Reference developed a few years ago, LPWR is a GIS product focused on historical field and LUW production at the parish level. Separate products are now available for St. Bernard and Cameron parishes. Work in Rapides and Vernon parishes is in the initial stages. Production data prior to 1977, all the way back to discovery, is included and represents a valuable enhancement.

Specialized website information resources include a “Coalbed Methane Online Symposium” section developed by the Rocky Mountain Region and a “Barnett Shale Resources” section developed by the Texas Region. The CBM effort was spawned by recognizing that individuals unable to attend meetings or

conferences still need a way to stay current with recent CBM developments. In Texas, the effort focuses on capturing information in one of the hottest domestic U.S. plays.

## **5. Other Outreach Efforts**

Beyond responding to inquiries, selected regions implement proactive outreach programs. Several regions exhibit at oil and gas association meetings and staff attend these meetings with a focus on networking. Staffers in several regions—Central Gulf, Midwest, North Midcontinent and Southwest—make targeted visits to producers throughout their region. The Appalachian Region contacts PAG members and associations monthly. In the West Coast and Rocky Mountain regions, student training/internship programs (COMET in California and Futures In Energy in the Rockies) that receive PTTC support bring industry together, connecting students with independents. California's COMET program has existed for several years. In its third year, the Rockies "Futures" program expanded to two events, the original program in Golden, Colorado, and a second one in Pinedale, Wyoming. The Texas Region supports working groups in the BEG's Permian Basin Initiative. Texas also makes use of ListServ capabilities for broadcasting targeted emails to specific lists. Several other regions employ email alerts to promote workshops.

North Midcontinent staff continues to support the Kansas CO<sub>2</sub> initiative, working closely with TORP at the University of Kansas. The Central Gulf Region continues to provide modest support for LSU's Downhole Water Sink Consortium. South Midcontinent staff supports a portion of the Oklahoma Marginal Well Commission's workshop effort (three topics in FY05) and supports its annual Trade Fair. They also are heavily involved in an AAPG/SEG Student Expo every spring, plus they orchestrate field trips and provide support for other groups such as the Oklahoma Energy Resources Board and Oklahoma Aggregates Association. In the Permian Basin, Bob Kiker is extremely well-networked with professional societies, associations, the Permian Basin International Oil Show, Southwestern Petroleum Short Course, and the press. Often he organizes tech sessions for regional events.

Martha Cather, Coordinator for the Southwest Region, leverages her role in leading New Mexico Tech's Industry Service and Outreach Group for PTTC's benefit. Cather has been particularly active in a variety of efforts related to produced water issues in New Mexico. The State Lands database, a cooperative effort with the New Mexico State Land Office, was in direct response to a request from producers. Connections with the Oil Conservation Division periodically provide opportunities for a series of co-sponsored workshops.

PTTC staffers are involved in professional societies appropriate for their disciplines, several at the national/international level. Eastern Gulf Director Ernie Mancini, who now serves as AAPG's Editor and President of the American Geological Institute (AGI), is leveraging these positions for PTTC's benefit. Independents' Day sessions are now a regular feature at the SPE Improved Oil Recovery Symposium and in SPE's Western Region meetings. With a strong geological presence among regional directors, RLOs often play a major organizing role in AAPG section meetings. This often includes cosponsoring short courses. In FY05, Doug Patchen's involvement in the Eastern Section meeting and Sandra Mark's involvement in the Rocky Mountain Section meeting deserve special note.

## **D. Internet**

The regional websites are evolutionary products continually undergoing refinement and expansion. Traffic levels vary significantly by region, depending upon regional emphasis, data/content and demographics of the regional audience. Overall, current traffic is about 110,000 user sessions per month. This does not include usage of the Michigan satellite website where WebTrends™ software cannot be used, or the high traffic volume of Texas's TIPRO outreach (now more than 500,000 user sessions per month). Quarterly usage varies significantly. Comparing 1<sup>st</sup> to 4<sup>th</sup> Qtr FY05 usage, usage appears to have peaked overall. History indicates, though, that further growth spurts will occur when significant content additions are made. When RLO staff looks at web traffic detail, they are able to determine what users view, which influences decisions about where to allocate future website effort. It is significant that several of the regions with smaller audiences still experience significant usage.



Three regions draw significantly higher traffic—North Midcontinent, Southwest, and Texas, when one includes the technology-related Internet outreach by TIPRO—and usage is increasing rapidly in the Midwest in both Illinois and Michigan. A strong digital-data emphasis is the common denominator for the North Midcontinent, Southwest, and Midwest regions, while Texas statistics reflect the large audience interested in Texas information.

#### **E. Newsletters**

Despite the digital revolution, PTTC recognizes that a good portion of its audience relies on printed material, so a newsletter function is still considered a core technology transfer function that each region must fulfill, through either a regional newsletter or regular columns/announcements in association newsletters. Six of 10 regions have a printed newsletter, which are also placed online. The Appalachian and Texas Regions rely solely on a lengthy online newsletter. The Central Gulf and West Coast regions rely on announcements in association communications. Of the printed newsletters, three are quarterly (Rocky Mountain, South Midcontinent and Texas) and four are semi-annual (Eastern Gulf, Midwest, North Midcontinent and Southwest). Combined distribution of the regional newsletters is more than 23,000, although there might be some overlap. Several regions promote or advertise regional events in producer association or society newsletters. Funding realities dictate that PTTC tightly control newsletter expenses. Regions periodically review and pare down their mailing lists, and distribution via email is encouraged. It has been and continues to be a challenge building email databases.

#### **F. Regional Success Stories, Producers Taking Technology Action**

The most direct measure of regional success is the percent of respondents who answer “Yes” to the question: *Have you used technology you learned about through PTTC?* Overall, 39% of those who respond say “Yes” with a similar 40% providing at least cryptic details. Without extensive follow-up, comments are insufficient to quantitatively estimate impact. Percentages by region range from 25 to 47% range.

**Table 3** presents examples that PTTC became aware of during FY05 of industry taking action with information presented in regional activities. The examples illustrate the myriad ways that PTTC is impacting industry. PTTC well recognizes that information from other sources is also considered when individuals make technology decisions. Similar examples have been documented in earlier years. Although finding it difficult to develop the methodology to quantitatively document total impact, PTTC has confidence that industry is taking action and reaping economic benefits far outweighing the invested Federal, state and industry funds.

**Table 3—FY05 Success Stories, Producers Taking Technology Actions**

<b>PTTC Region (Subject area/benefit)</b>	<b>Bottom Line Description</b>
<b>Appalachian</b>	Proactive outreach resulted in an organization the region was unfamiliar with, the Southeast Ohio Oil and Gas Association, contacting the region about holding workshops in conjunction with their events. Director Doug Patchen's connections within the Potential Gas Committee and IOGCC resulted in his connecting two parties interested in applying a new technology to drill horizontals in thin coals. The parties are now exploring partnership opportunities. Topics where workshop attendees indicate they have taken action include: applying new methods for measuring porosity and water saturation in carbonates, using GIS in developing and in using geologic datasets, and information for the application of Paleozoic outcrops and modern analogs to subsurface reservoir modeling.
<b>Central Gulf</b>	Based on Dr. Wojtanowicz's workshops on "Stimulation of Watered-Out Inactive/Marginal Wells with Dual Completions," numerous domestic as well as international calls have been received. A recent publication by Don Goddard regarding Oligocene Frio reservoirs of abandoned mature fields in south Louisiana Parishes indicates that such fields still contain sufficient bypassed oil and gas reserves to make them economic at today's prices. Based on such studies, small- and medium-size independent operators are beginning to show interest in these and other similar areas in Louisiana. Such redevelopment projects using adequate drilling and production technologies have proven to be economically rewarding.
<b>Eastern Gulf</b>	The region has been assisting industry with the new stratigraphic trap oil play associated with the Upper Jurassic Smackover microbial reef trend in the Little Cedar Creek Field, in Conecuh County, southwest Alabama. This field is apparently the largest Smackover field discovered in the Eastern Gulf Region in the last three decades. The field is significant because the petroleum trap appears to be a stratigraphic trap near the updip limit of Smackover (70 to 100) feet deposition. The discovery well in 1994 tested 108 bopd. Development was slow, with the 2 <sup>nd</sup> and 3 <sup>rd</sup> wells not coming until 2000 and 2003. In 2004 13 additional wells were drilled and the field was unitized in 2004. To date in 2005, an additional six wells have been drilled. Cumulative production for the field through May 2005 was approaching one million bbls of oil. In a research project led by the University of Alabama, staff continued working with Pruett Production to drill two infill wells in the Womack Hill Field in Alabama. The Turner Land and Timber Co. 13-10#1 initially tested at 132 bopd and (at Sept. 30) with apparently stabilized production is still pumping 110 bopd, 51 Mcfd, and 88 bwpd. As predicted, the Smackover top is structurally higher than offsets and there is more pay. Attic reserves have been estimated at 175,000 bbl.
<b>Midwest</b>	Michigan small operators have further expanded the successful application of 3-D seismic and horizontal drilling to develop new Niagaran reserves. In Illinois the region now maintains and has expanded the ILoil interactive mapping website that many operators are using to obtain production and locate new prospects. Operators are using the Illinois oil and gas development quadrangle maps developed by the RLO for prospecting and field management by geo-referencing them and using them in their GIS mapping programs. Staff interactions were instrumental in helping to acquire a \$60,000 donation from the Illinois Petroleum Resource Board that will be used to fund the first year of a log- and data-scanning project
<b>North Midcontinent</b>	Building from past efforts, operators continue to perform polymer gel water shut-off treatments in Arbuckle wells. TORP also now has a project with the DOE-supported Stripper Well

	<p>Consortium exploring disproportionate permeability reduction. Operator interest in producing low BTU gas in southwestern Kansas is increasing, indicating impact from the FY05 workshop. Small scale 3-D seismic surveys have now been accepted to the point that few prospects in western Kansas are drilled without them. Rodney Reynolds and Bob Kiker have now delivered their “Produced Water/Wellbore Management” workshop 19 times, presenting it in multiple regions. Rodney Reynolds has been asked to contribute to an SPE monograph and Bob Kiker has delivered multiple presentations.</p>
<b>Rocky Mountain</b>	<p>In Richland County, Montana alone, there were nearly 250 horizontal completions in the Middle Bakken dolomite by mid-year 2005. There have been very few dry or unsuccessful wells. Prior regional technology transfer events (horizontal drilling by Bob Knoll, a core workshop for horizontal applications at USGS Denver, support of the North Dakota horizontal drilling conference) supported by the region are one of several factors responsible for the success rate. The AAPG Short Course on “Bakken Play Essentials” in September 2005 was standing room only.</p>
<b>South Midcontinent</b>	<p>Brian Cardot leads OGS’s technical effort supporting CBM and shale gas. There continue to be increasing contacts to him about CBM and shale gas, at least some of which can be attributed to the workshops/conferences that the region has co-sponsored with OGS during the years. In conversation with National Project Manager Lance Cole at SPE’s recent annual meeting, Bob Sydansk, one of the speakers in the recent Polymer Gel workshop, indicated that he was working with one operator to implement polymer gel treatments in Oklahoma. Data are early and results cannot be shared yet, but it is confirmation that producers take action with information presented.</p>
<b>Southwest</b>	<p>Partly as a consequence of several workshops concerning data access that the region presented, web activity has increased dramatically, and contacts via email and telephone are up as well. At the request of San Juan Basin producers, staff has begun to compile data regarding H<sub>2</sub>S occurrences in that basin. This has resulted in a cooperative effort with the Farmington’s BLM field office to document the spread of H<sub>2</sub>S problems. Discussions during an August 2005 PAG meeting about “pit issues” led New Mexico Tech’s PRRC group to commit some resources to further gathering historical data and technology information.</p>
<b>Texas</b>	<p>The region and PTTC HQ analyzed the impact of eight selected workshops conducted from October 2003 through December 2004. DrillingInfo.com volunteered to conduct an Internet survey. A random 25% of attendees were contacted, of which a 20% subset responded. Topics where respondents indicated that PTTC workshops were major decision drivers included: Pump Controls, Soil Remediation, Polymer Gel WSO Treatments, and Deep Gas Well Stimulation. Many respondents expressed that, with the way questions were asked, their responses would be conservative. Extrapolating to total attendance, the MINIMUM economic value was estimated at \$677 million. HQ’s analysis, which consisted of follow-up calls to 17 attendees who had indicated on their feedback forms that they had applied technologies learned about through PTTC, indicated a wide range of \$ impact, ranging from a few thousand to several millions. This analysis too yielded an attractive multiple of resources invested. In another indication of impact, the BEG “Permian Basin Initiative” where PTTC had co-sponsored informational meetings has attracted industry sponsors (5 sponsors totaling \$130,000).</p>
<b>West Coast</b>	<p>The region worked with Global Energy Partners in the California Public Utilities Commission program that offered rebates on purchase of equipment that would reduce power consumption. In one case, artificial lift systems were replaced with hydraulic pumping systems. A total of 43 wells in three fields were converted during seven months. Power consumption dropped more than 50%. Considering the rebates, simple payback will be 18 months. Numerous other examples with payouts ranging from less than a month to around two years were documented.</p>

Through the years each region has established a unique identity, which is influenced by its audience, its interests and capabilities, and historical activities. Comments concerning regional identities follow. Leveraging these regional identities for industry's collective good remains a high priority goal for PTTC.

*Appalachian*—The region is recognized as the technology transfer center for information about the high interest Trenton-Black River play. Director Doug Patchen networks effectively with associations and professional societies across the region. He effectively uses his personal, national network within AAPG to support regional workshops. An online newsletter and GIS-oriented databases of horizontal, coalbed methane and Trenton-Black River activity cost effectively reach a dispersed audience.

*Central Gulf*—Strong legislative connections provide regular state funding, meaning the region never has to struggle with cost share. Early data products, the Louisiana Desktop Well Reference CD and others, met producers' data needs, stimulated state agency efforts and spawned the latest product, the Louisiana Parish Well Reference products. Strong LIOGA connections supplement PAG input to keep activities focused on independents' needs. Coordinator Don Goddard effectively uses his extensive personal network to get very knowledgeable topical speakers in regional workshops.

*Eastern Gulf*—The geological community relies heavily on exploration-oriented workshops, many of which evolve from other DOE-supported projects at the Univ. of Alabama. Mississippi online O&G sources would not be there today without earlier regional support for a Mississippi satellite. Activities are often co-sponsored with the Central Gulf Region. Director Ernie Mancini leverages his national involvement in AAPG and AGI. Coordinator Bennett Bearden has been very effective in expanding connections with other groups/organizations in the region. As a result, record attendance was achieved in FY05.

*Midwest*—Workshops are effectively tailored to the technology needs of "very small" independents. Both geological and engineering workshops focus on new approaches for increasing production and recovery, which is sorely needed in this very mature producing area. Practical operations workshops help operators control costs. There has been strong interest in pumpers and well operations workshops. Website systems in both Illinois and Michigan facilitate industry access to low cost O&G data. The region's maintenance of the ILoil GIS system is particularly important to those operating in the Illinois Basin. Michigan's workshops, which recently have had a strong exploration or play focus, draw bumper crowds of attendees. Particularly in this region, PTTC events provide key networking opportunities for widely scattered producers to exchange technology ideas.

*North Midcontinent*—Activity caters to small operators in a very mature producing area, emphasizing engineering/operations issues and placing extensive O&G data online. Working together, TORP and PTTC have developed and placed extensive case study information online. Timely activities serve a growing coalbed methane industry. Opportunities to leverage Rodney Reynolds and Bob Kiker's past involvement in the "Produced Water Management" continue to occur.

*Rocky Mountain*—From inception there has been a strong focus on providing software training on popular geological packages to help industry realize expected productivity improvements. Regular support is also provided to a Simulation Users Group. Although many workshops are in Denver, events are also regularly held in outlying states. Staff is not afraid to experiment with GIS-oriented data initiatives, the most recent being the Core Locator system. Within the Rockies the region has earned a well-deserved reputation as a reliable partner for co-sponsored events.

*South Midcontinent*—The region leverages workshop effort by providing partial support for field-oriented workshops developed by Oklahoma's Marginal Well Commission (MWC) and supports MWC's Trade Fair. Workshop support is also provided for play-based studies completed by the Oklahoma Geological Survey. More workshops address geological, geophysical and engineering topics. Outreach is strengthened through connections with SPE sections and the Tulsa and Oklahoma City Geological Societies. In Arkansas the region supports a new SPE section's luncheon technical program. Each year a couple workshops are planned for both the Fort Smith (gas prone) and El Dorado (oil prone) areas.

*Southwest*—The regional effort is characterized by: (1) strong emphasis on online data/information (GO TECH was one of original industry Internet sites), (2) leveraging other activities within New Mexico Tech's PRRC group, (3) strong connections with several state agencies, and (4) proactive outreach through targeted visits with independents. A varied program serves vastly different needs in northwest and southeast New Mexico. Cooperative efforts with the Texas and Rocky Mountain regions are common.

*Texas*—The region effectively serves a large dispersed audience in a very large state by: (1) seizing cooperative opportunities, (2) leveraging Bob Kiker's knowledge and connections across Texas, (3) effectively using the digital world for communication and information transfer, and (4) leveraging Texas BEG's technical work and Houston core facility. Staff works well with adjacent Central Gulf and Southwest regions serving their often over-lapping audience. Internet outreach through TIPRO expands the audience served.

*West Coast*—Regional events are known for: (1) PAG involvement, (2) world class experts as speakers, (3) incorporating relevant results from DOE-supported R&D/demonstration projects, and (4) stretching the information delivery envelope (webcast, remote speakers, etc.). Director Ershaghi has been particularly resourceful in securing funding from other sources (the State of California in various ways, Global Energy Partners, etc.) to augment the program made possible with PTTC/USC funds. Through cooperative activities Alaska receives some support.

#### **G. Planning and Managing Each Regional Program**

PAGs provide key input and direction for regional programs. Within the constraints of maintaining the core technology transfer functions, considerable flexibility is allowed the PAGs/RLOs to accomplish the regional program. PAGs provide guidance on strategic redirections, if needed, to better serve the regional audience and they approve the general topics for most of the workshops planned during the coming year. They, along with the RLO Directors, determine relative emphasis of different elements of the PTTC program. HQ staff interacts extensively with both the PAGs and the RLO Directors during the annual planning process. During the year, HQ interactions are primarily with the RLO Directors. It is HQ's responsibility to see that regional activity during the year remains within the loosely defined boundaries of the annual plan. Regional PAGs typically meet three times per year with most meetings occurring via conference call. One of those meetings occurs in the August time frame when the PAGs guide and approve the region's annual plan and budget. PAG approval is subject to Board confirmation.

Staffing approaches vary by region. RLO Director roles vary from a managerial role to involvement in day-to-day details. Some regions spread the PTTC workload among several staff part-time, while others accomplish the work with only a few dedicated people. Both approaches have proven effective. Regional responsibilities include having to submit to HQ on a timely basis the required reports, invoices, workshop notebooks, and other information and deliverables. Financial management requires discipline. HQ is responsive to those regions that encounter unforeseen financial needs during the year. This flexibility has enabled PTTC to seize several opportunities.

## PTTC's National Organizational Milestones

### 1993

- November—PTTC incorporated as national, not-for-profit organization
  - November—Founding Board of Directors meets (New Orleans, LA). Jim Russell voted Chair, Gene Ames, Jr. as Vice Chair, and Deborah Rowell as Executive Director
  - December—Initial meetings of Producer Advisory Groups (PAGs)
- 

### 1994

- January—Phase I funding from DOE/BDM begins.
  - January—All ten PAGs formed, Chair and Vice Chair elected in each region
  - February—First meeting of Permanent Board of Directors (Washington, DC). Same officers elected as by Founding Board.
  - March—Headquarters staff make visits to potential Regional Lead Organizations (RLOs)
  - March—Board adopts bylaws, elects Nominating Committee and members of Management and Budget (M&B) Committee. First M&B meeting held. (Dallas, TX)
  - April—First meeting of RLO Directors (Tulsa, OK)
  - May—First PTTC technical session at IPAA meeting (San Francisco, CA).
  - May—Office space obtained for national PTTC Headquarters (HQ) – Separate from IPAA
  - June—HQ staff hired
  - July—HQ establishes accounting system and database separate from IPAA
  - August—PTTC participates for first time in DOE oil program contractors review
  - September—PTTC submits 5-year Master Plan to DOE as main Phase I deliverable
  - September—PTTC's first national exhibit at conference - SPE annual meeting
  - October—Tax-exempt status approved by IRS
  - November—Board conducts first (annual) strategic planning session (Phoenix, AZ)
  - November—Phase II funding from DOE/BDM begins
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### 1995

- January—First annual audit of HQ financial systems
  - February—First joint meeting of PTTC Board and RLO Directors (Norman, OK). Election of officers (Chris Hall voted Chair and Bob Nance as Vice Chair)
  - March—Contract signed with first RLO (North Midcontinent)
  - March—First issue of "PTTC Network News" published as national quarterly newsletter
  - April—PTTC participates for first time in DOE natural gas contractors review
  - May—PTTC Board meeting includes discussions with IPAA leaders about lack of industry support for DOE oil and gas technology programs
  - June—National website went online
  - July—One year funding begins from Gas Research Institute for HQ activities
  - July—PTTC Chair Chris Hall leads Washington meeting with DOE officials to confirm industry support for oil and gas technology programs
  - August—RLO staff meet to discuss coordinating PTTC websites (Albuquerque, NM)
  - December—HQ ended consulting contract with ICF Resources for technical assistance related to establishing new organization.
-

## 1996

- January—PTTC presents preliminary problem identification results to DOE meeting with National Petroleum Council R&D Task Force members (Washington, DC)
  - March—Election of officers (Bob Nance voted Chair and Leo Schrider as Vice Chair) (Tuscaloosa, AL)
  - March—Problem Identification Report published based on series of workshops
  - April—Executive Director begins monthly conference calls with M&B Committee
  - May—PTTC Chair Bob Nance added as member of IPAA Program Committee
  - June—Board meets in Washington and issues first long-run strategic plan. Conducts first group visits to Capitol Hill.
  - July—Contract signed with tenth/final RLO (West Coast)
  - July—RLO Directors and HQ staff meet with DOE officials in Morgantown, WV
  - October—HQ expands technical coverage in “PTTC Network News” (from 8 to 16 pages)
  - November—Board ratifies updated bylaws. Adds 3 representatives from professional societies
  - November—DOE announces that its new outreach areas will be same as PTTC’s 10 regions
  - December—Final regional resource center opened (West Coast)
  - December—PTTC wins Honorable Mention award in contest for Organizational Excellence by American Society of Association Executives (ASAE)
  - December—RLO Directors meet with DOE Outreach Team Leaders (Washington, DC)
- 

## 1997

- January—PTTC signs cooperative agreement with AAPG to conduct joint workshops
  - February—RLO staff meet to coordinate training on E&P software donated by industry (Golden, CO)
  - April—PTTC Chair Bob Nance gives presentation on industry needs at meeting of President’s Committee of Advisors on Science and Technology (Dallas)
  - May—PTTC releases “Best of PTTC Workshops” report
  - May—PTTC wins R&D award from National Energy Resources Organization
  - July—Board adopts new policies and procedures for HQ and regions
  - August—RLO Directors meet and ask HQ staff to convey their concerns to the M&B Committee about new policies and procedures (Dallas, TX)
  - September—PTTC hosts tour of Los Alamos National Lab for IPAA Governors
  - November—Board adopts “Producer Advisory Group Guidelines”
  - November—First national conference- ETEC ’97 with IPAA and Cambridge Energy Research Associates (Houston, TX)
  - December—PTTC national website named by ASAE as one of the nation’s Top 10 Information Clearinghouse websites
- 

## 1998

- January—HQ establishes RLO-NET to improve communication with RLOs via Internet
- February—First marketing brainstorming session with Board/RLO/HQ representatives (Golden, CO)
- May—DOE awards new grant to PTTC extending to April 2003 (replaces BDM contract)
- July—Board adopts new Business Plan with marketing focus
- August—RLO Directors and HQ staff visit Sandia National Labs
- September—HQ releases new logo and updated image for stationery, publications, etc.
- October—PTTC’s first webcast of a workshop (West Coast)
- November—PTTC holds second national conference ETEC ’98 with IPAA (New Orleans)
- November—HQ releases “E&P Software Sampler” on CD-ROM

- December—Board launches Industry Crisis Action Plan, ratifies new mission statement and adopts “Guidelines for Professional and Ethical Conduct”
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## 1999

- January—PTTC signs agreement with *World Oil* to publish case study digest
  - February—PTTC begins extending RLO subcontracts to April 2003
  - March—Board adopts “Conflict of Interest Policy” and elects officers (Leo Schrider elected as Chair and Clark Southmayd as Vice Chair)
  - June—PTTC Chair Leo Schrider speaks at first DOE Oil & Gas Conference (Dallas, TX)
  - July—Board meets in Washington, DC. Votes to add one RLO representative to Board
  - August—HQ releases “Solutions from the Field” report and starts adding workshop summaries to website.
  - September—Inaugural issue of “Petroleum Technology Digest” released as supplement of *World Oil*
  - November—Deborah Rowell, PTTC’s founding Executive Director, announces her intent to resign in June.
  - December—Executive Search Committee, chaired by Bob Nance, begins search for new Executive Director.
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## 2000

- January—PTTC signs agreement with Hart Publications to provide a state-of-the-art technology summary in each issue of *PTTC Network News*.
  - February—PTTC Chair Leo Schrider and HQ staff meet with DOE in Washington to discuss funding.
  - March—PTTC Board and RLO Directors meet jointly in Kansas City
  - April—West Coast region holds first PTTC event in Alaska.
  - May—Second issue of semi-annual publication, “Petroleum Technology Digest” released with *World Oil*
  - June—Don Duttlinger selected as next PTTC Executive Director (effective July 1, 2000)
  - November—Board approves strategic relocation of PTTC HQ to Houston after 7 years in Washington
  - December – Move of HQ Office to Houston completed within weeks
- 

## 2001

- January—PTTC begins monthly column “Tech Connections” with *The American Oil & Gas Reporter*
  - February—Begin implementing website enhancements focused on consistency and user friendliness
  - March—Clark Southmayd of Oneok Resources Company is elected new Chairman and Jim Bruning named Vice Chair of PTTC National Board during meeting in Washington
  - Summer/Fall—PTTC co-sponsors Maurer Technology’s “Optimized Horizontal Drilling” workshop series
  - October—DOE and PTTC begin an eight-workshop Traveling Workshop series with DOE
  - December – Move of HQ Office to Houston completed within weeks
- 

## 2002

- January—DOE white paper documenting impact and outlining long-term vision completed.
  - February—lessons learned from DOE/PTTC Traveling Workshop documented.
  - March—Time frame of joint Board/RLO meeting changed to increase impact of Hill visits
  - April—PTTC initiates Technology Alert service via broadcast Email
  - July—HQ expands mailing list and increases exhibit schedule
  - September—activity levels set new records
- 

## 2003



- March—Board elects new leadership: James Bruning, Bruning Resources, LLC, Arkansas as Chairman; Brook Phifer, Nico Resources, LLC, Colorado, Vice Chairman
  - March—Board Members/RLO Directors conduct Hill visits during critical decision-making period
  - April—PTTC receives contract extension through September 2003
  - July—Board completes strategic planning survey and defines further planning needs
  - September—PTTC completes current contract, exceeding prior records for activity by significant levels
- 

## 2004

- March—Board elects new leadership: Brook Phifer, Nico Resources, LLC, Colorado as Chairman; Brian Sims, Independent, Mississippi as Vice Chairman
  - March—Board Members/RLO Directors conduct Hill visits during critical decision-making period
  - June—PTTC presents “Impact/Metrics” analysis to Office of Management & Budget and DOE HQ
  - July—Chairman Brook Phifer presents testimony before House Subcommittee
  - September—Chairman Brook Phifer, Executive Director Don Duttlinger and selected RLO Directors meet with Office of Management & Budget and DOE HQ in Washington
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## 2005

- January—Webmasters meeting in Houston, Texas
  - March—Board elects new leadership: Brian Sims, Independent, Mississippi as Chairman; Gene Ames II, The Nordan Trust, Texas as Vice Chairman
  - March—Board Members/RLO Directors conduct Hill visits during critical decision-making period
  - June—PTTC submits “Oilfield Training” proposal to Department of Labor
  - July—Summer Board meeting in Nashville, Tennessee
  - September—Regions/PAGs plan FY06 activities
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## APPENDIX B

### Summary of PTTC 4<sup>th</sup> Qtr FY05 Regional Data and FY05 Overall Activity

Region	Workshops			Industry Contacts	Website (mo. avg.)		Communications
	No.	Attend.	From E&P (%)		User Sessions	Page Views	
<b>Appalachian</b>	3	91	69 (76%)	429	8,177	15,451	Online newsletter—July 2005
<b>Central Gulf</b>	Two events canceled due to hurricanes			163	8,165	13,133	LIOGA newsletters; circ. of 850
<b>Eastern Gulf</b>	One event canceled by hurricane			218	4,304	7,414	Semiannual newsletter—July 2005. Circ ~ 564
<b>Midwest</b>	1	46	44 (96%)	2,896	14,035	89,723 + Michigan	Semiannual—Feb. 2005; circ. 3,200; no 2 <sup>nd</sup> issue
<b>N. Midcontinent</b> <i>Lunch and Learn</i>	2 2	97 80	82 (85%) 80 (100%)	863	18,447	49,819	Semiannual—Mar 2005 circ. 5,200; no 2 <sup>nd</sup> issue
<b>Rocky Mountain</b>	4	477	449 (94%)	660	7,424	14,028	Qtrly newsletter – (8/05) circ. 3,081 (16% electr.)
<b>S. Midcontinent</b>	3	241	208 (86%)	399	2,718		Qtrly newsletter – Oct 2005; circ. 5,839; mailings
<b>Southwest</b>	1	23	22 (95%)	215	34,090	145,898	Semiannual PRRC; July 2005; circ. 3000
<b>Texas</b>	3	93	91 (98%)	1,002 (223 TIPRO)	9,286 (528,272 TIPRO)	28,920 (727,306 TIPRO)	Qtrly newsletter-(not this qtr.); circ. 1500; assoc., SPE, Midland paper (25,000)
<b>West Coast</b>	2	62	56 (90% est.)	70	3,764	13,064	Announcements in CIPA's weekly email; email alerts
<b>Regions—4th Qtr</b> <i>(Lunch and learn; Student internship)</i>	19 2	1,130 80	1,021 (90%) 80 (100%)	6,914	110,410	377,450	
<b>HQ—4th Qtr</b>	1	65	61 (94%)	708	31,293	77,580	Quarterly-July, Early October (circ. 17,477)
<b>Total 4th Qtr</b> <i>(Lunch and learn; Student Internship)</i>	20 2	1,195 80	1,082 (90%) 80 (100%)	7,623	141,703	455,030	
<b>FY05 9 Mos.</b> <i>(Lunch and Learn; Student Internship)</i>	112 17 3	6,802 778 45	5,981 (88%) 705 (91%)	22,473	<b>FY05 versus FY04</b>  <div style="display: flex; justify-content: space-around;"> <div> <b>Only wkshps</b>  <b># Activities</b> + 9%  <b>Attendance</b> + 33%   <b>Contacts</b> + 19%  <b>Plans: 35 events (1<sup>st</sup> Qtr FY06)</b> </div> <div> <b>All Events</b>  + 9%  + 38%   + 19% </div> </div>		
<b>FY05</b> <i>(Lunch and Learn; Student Internship)</i>	132 19 3	7,997 858 45	7,063 (88%) 785 (91%)	30,096			
<b>Total</b>	154	8,900	7,848 (88%)				
<b>FY04</b> <i>(Lunch and Learn)</i>	121 20	6,019 432	5,071 (84%) 415 (96%)	25,205			
<b>Total</b>	141	6,451	5,486 (85%)				

**Repeat Attendance at Workshops:** Of 119 events during FY05 where repeat attendance was reported, the calculated average was 59%. (Measured as % of industry attendees that had previously attended an event.)

## Highlights From The Regions

<b>Appalachian</b>	Activities included two regular workshops, plus a short course in conjunction with AAPG's Eastern Section meeting. Doug Patchen's heavy involvement in the AAPG meeting provided significant outreach. Significant progress was made in a core data and Appalachian Basin GIS projects. The online newsletter continues to be popular.
<b>Central Gulf</b>	In the latter part of the quarter, hurricanes Katrina and Rita had a major impact on Louisiana activities. Workshops were canceled and contact activity (to and from industry) dropped. Operations and activity are recovering in 1 <sup>st</sup> Qtr FY06.
<b>Eastern Gulf</b>	Hurricane Katrina also affected Mississippi, leading to cancellation of the one workshop scheduled this quarter. Despite this cancellation, FY05 attendance set a record of 545. New connections to other regional organizations are being built. Four activities are planned in the coming quarter.
<b>Midwest</b>	The third Pumpers workshop of FY05 continued to draw strong attendance. Industry usage of data resources in the ILoil system and Michigan's satellite continues to increase. Considerable staff time went towards developing events scheduled for 1 <sup>st</sup> Qtr FY-6 with one big event being the Michigan workshop on remaining reserves.
<b>N. Midcontinent</b>	Four events, all of them cooperative, drew 177 attendees. Regular workshops covered "Casing Integrity" and "Horizontal Drilling Candidate Selection." KGS presentations covered online data and information. In his TORP role, Rodney Reynolds continues involvement in the Lansing-Kansas City CO <sub>2</sub> pilot.
<b>Rocky Mountain</b>	Four events drew 477 attendees with the largest being the RMAG "Gas in Low Perm Reservoirs." The AAPG Rocky Mountain Section short courses were also well attended. More than 130,000 cores are now cataloged within the Core Locator system. Starting next year, Sandra Mark will only be available half time to PTTC.
<b>S. Midcontinent</b>	The region supported two workshops in Oklahoma (Horizontal Drilling and Well Log Interpretation) and one in southern Arkansas (SPCC Plans/Artificial Lift). Newsletter content has been expanded. Staff actively supported AAPG's Midcontinent Section meeting in Oklahoma City.
<b>Southwest</b>	Online data resources continue to be the lead draw. Martha Cather coordinated GIS software training workshops (Manifold) in Midland and Farmington. Website usage, which includes GO-TECH data, was the highest reported this year. PAG members are actively involved in shaping the upcoming "H <sub>2</sub> S Issues" workshop.
<b>Texas</b>	The region supported four events, all of which were cooperative efforts. Where speakers agree, regional practice is to place presentations online. A new emphasis is capturing audio and presenting alongside PowerPoint slides. Content of the Barnett Shale section of the website continually expands.
<b>West Coast</b>	Two events drew 70 people. Significant effort was spent working with the PAG and industry identifying topics and developing content for FY06 activities.

### Planned Regional Events – 1<sup>st</sup> Qtr FY06

<b>October 2005</b>	
10/6	North Midcontinent workshop: The Crash Course in Log Analysis, An Excel Spreadsheet Workshop – Lawrence, KS. Contact: 785-864-7398
10/7	North Midcontinent workshop: Old Electric Logs; An Interpretation and Analysis Workshop – Lawrence, KS. Contact: 785-864-7398
10/12	Eastern Gulf workshop: U.S. O&G Association Annual Meeting/workshop – Jackson, MS. Contact: 205-348-1880
10/13	Appalachian workshop: Filling Your Pipeline and Storage Tanks (Southern Ohio Oil and Gas Association) – Marietta, OH. Contact: 304-293-2867 ext 5446
10/18	Texas workshop: New Technology Enabling New Plays (SIPES, North Texas Energy Council) – Farmers Branch, TX. Contact: 214-534-6214
10/18	Appalachian workshop: Coalbed Methane Reservoir Engineering (WVU, GTI, Ticora) – Morgantown, WV. Contact: 304-293-7682 ext 3405
10/19-20	Central Gulf Conference: Energy Summit 2005; Louisiana's Integration with Global Energy Markets (Center for Energy Studies) – Baton Rouge, LA. Contact: 225-578-4538
10/20	Midwest workshop: U.S. Geological Survey Basin Assessment of Remaining O&G Reserves in the Michigan Basin (Michigan O&G Association, U.S. Geological Survey) – Mt. Pleasant, MI. Contact: 269-387-8633
10/20	Texas workshop: Tech Session @ Permian Basin Petroleum Association annual meeting – Midland, TX. Contact: 432-552-3432
10/20-21	Rocky Mountain workshop: Coalbed Methane Conference (South Dakota School of Mines and Technology) – Rapid City, SD. Contact: 303-273-3107
10/25	Appalachian workshop: Geochemical Exploration for Oil and Gas Success; Strategies for Success – Knoxville, TN. Contact: 304-293-2867 ext 5446
10/25-26	Eastern Gulf workshop: GeoPlus PETRA Intermediate Mapping Techniques – Raymond, MS. Contact: 205-348-1880
10/27	West Coast workshop: Oilfield Safety and Recommended Practices – Valencia, CA. Contact: 213-740-8076
10/28	Rocky Mountain workshop: Source Rocks 101; What the Exploration Geologist, Geophysicist, and Production Engineer Should Know About Petroleum Source Rocks – Golden, CO. Contact: 303-273-3107
<b>November 2005</b>	
11/1	Texas workshop: Symposium on Improved Profits Through Emissions Reductions for Best Management Practices (Texas A&M Corpus Christi) – Corpus Christi, TX. Contact: 361-825-5751
11/1	Texas workshop: Barnett Shale Symposium (Midland College, SPE Permian Basin) – Midland, TX. Contact: 432-697-5863
11/1-2	Texas workshop: Fundamentals of Seismic Interpretation (Ellison Miles Geotechnology Institute) – Farmers Branch, TX. Contact: 972-860-4630
11/3	Central Gulf workshop: Work Production Performance for Independents – Lafayette, LA. Contact: 225-578-4538
11/4	Rocky Mountain workshop: Successfully Awakening Mature Oil Fields: A Process for Reversing Field Production Decline – Golden, CO. Contact: 303-273-3107
11/8-9	Eastern Gulf workshop: GeoPlus PETRA Data Loading (Mississippi Geological Society) – Raymond, MS. Contact: 205-348-1880
11/15	Midwest workshop: Illinois Basin CO2 Operational Workshop (Midwest Geological Sequestration Consortium) – Evansville, IN. Contact: 217-244-9337
11/16	DOE/PTTC: Microhole Technology Integration Meeting – Houston, TX. Watch for further details ( <a href="http://www.microtech.thepttc.org/">www.microtech.thepttc.org/</a> ).
11/17	Rocky Mountain core workshop: Pore System Variations in Some Major Carbonate Reservoirs

	in the Rocky Mountains (USGS) – Denver, CO. Contact: 303-273-3107
11/18	Eastern Gulf workshop: Alabama O&G Seminar/Workshop (Alabama O&G Board, Black Warrior Assn. Landmen, O&G Section of Alabama State Bar) – Tuscaloosa, AL. Contact: 205-348-1880
11/22	West Coast workshop: Panel on Power Generation Using Waste and Stranded Gas – Valencia, CA. Contact: 213-740-8076
<b>December 2005</b>	
12/1	South Midcontinent workshop: Booch Play (Oklahoma Geological Survey) – Norman, OK. Contact: 405-325-3031
12/7	Central Gulf workshop: Material Balance, Modeling and Simulation; Reservoir Engineering Tools, Past, Present and Future – Lafayette, LA. Contact: 225-578-4538
12/7	Southwest workshop: H2S Issues – Farmington, NM. Contact: 505-835-5685
12/8	North Midcontinent workshop: Analyzing Mature Oil Reservoirs in Eastern Kansas for Additional Reserves – Iola, KS. Contact: 785-864-7398
12/8-9	Texas/Southwest: 11 <sup>th</sup> Annual CO2 Conference (multiple sponsors) – Midland, TX. <a href="http://www.spe-pb.org">www.spe-pb.org</a>
12/9	West Coast workshop: Anniversary Forum – The Other 30% Recovery Factor – Los Angeles, CA. Contact: 213-740-8076
12/13	Texas workshop: Reserve Growth Potential from CO2-Enhanced Oil Recovery Along the Gulf Coast (Bureau of Economic Geology) – Houston, TX. Contact: 512-471-0320
12/14-15	Texas core workshop: Tight Gas Sands of the Cotton Valley Formation of East Texas (Matador Resources) – Austin, TX. Contact: 512-471-0320
12/15-16	Southwest workshop: Southwest Regional Partnership on Carbon Sequestration; Kickoff Meeting for Phase II Field Pilots – Socorro, NM. Contact: 505-835-5685
12/TBD	Midwest workshop: Illinois Basin Log Interpretation with Basin Examples – Location TBD. Contact: 217-244-9337

## *National Activities – 4<sup>th</sup> Qtr FY05*

### **Management Activities:**

- M&B Conference Call (July 12)
- Communications Committee (audio/video) conference call (Aug. 23)
- Regional PAG Meetings/Calls: Central Gulf mtg (July 26 in Lafayette), North Midcontinent mtg (Aug. 21 in Wichita), Rocky Mountain call (Aug. 23), South Midcontinent mtg (July 13 in Oklahoma City), Southwest mtg (Aug. 10 in Farmington), Texas call (July 11), West Coast call (Aug. 31)
- National Board Meeting, Nashville, TN (July 18)
- RLO Conference Call (Sept. 29)
- Finalized FY05 3<sup>rd</sup> Qtr Activity Report
- Analyzed and summarized RLO FY06 annual plans and budget information for M&B Committee
- Retained Dwight Rychel on short-term basis for additional technical support

### **Outreach:**

#### *Industry Networking:*

Duttlinger networked extensively, participating in local, regional and national meetings. Cole focuses more in the Texas/Midcontinent area. Duttlinger and Cole respond to HQ inquiries. Rychel is primarily assisting with the DOE Microhole Technology Integration project.

#### *Industry Events*

- Gulf Coast Expo, Lafayette, LA; July 25-27 (Cole) *Exhibit*
- DOE Microhole Contractors' meeting, Tulsa, OK; Aug. 16 (Duttlinger, Cole)
- DOE/PTTC Microhole Technology Integration meeting, Houston, TX; Aug. 17 (Duttlinger, Cole) (total attendance = 65 with 61 from industry. See <http://www.microtech.thepttc.org/>)
- Drilling Engineering Association 3<sup>rd</sup> Qtr meeting, Houston, TX; Aug. 18 (Duttlinger, Cole)
- KIOGA, Wichita, KS; Aug. 21-22 (Cole)
- Summer NAPE & workshop, Houston, TX; Aug. 23-25 (Duttlinger, Cole, Goddard) *Exhibit*
- Schlumberger Tech Session, Tulsa, OK; Aug. 30 (Cole, Rychel)
- Texas Stranded Gas workshop, Dallas, TX; Sept. 20 (Cole)
- East Texas Gas Producers Association, Tyler, TX; Sept. 28 (Duttlinger)
- Osage Nation Summit, Tulsa, OK; Sept. 29-30 (Cole, Rychel)
- Rice Alliance Energy Technology Venture Forum, Houston, TX; Sept. 30 (Duttlinger)

#### *PTTC Outreach:*

Contact database: 17,347 @ 10/105

Email list (Tech Alert): 7,153 (Sept. 22)

External (non-PTTC, phone/email/personal): 708

### **National Communications:**

[www.pttc.org](http://www.pttc.org) (average mo. usage): 31,293 user sessions, 77,580 page views

*PTTC Network News* mailed: Early October 2005, circ. 17,477 (58% hardcopy only; 7% electronic only; 35% hardcopy and electronic).

*Tech Alert (Broadcast Emails)*: Four tech alerts (July 13, Aug. 5, Sept. 1, Sept. 22)).

*Tech Connections Column in American O&G Reporter*: Workshops Provide Insights on Horizontals (July), Upper Devonian And Trenton-Black River Create Excitement (Aug), Vapor Recovery Gleans Additional Profit From Oil Tanks (Sept)

*Petroleum Technology Digest in World Oil*: Pulsation Prevents Annular Flow After Cementing Offshore (July), Using The Online World To Become Informed On Hydraulic Fracturing (August), no case study published in September issue

*Regional Workshop Summaries*: Two were posted during the quarter. With EPA Natural Gas STAR's permission, we also posted summary of their recent tech transfer workshop in Casper, WY.

## PTTC Appalachian Region

Topic	Location	Date	Attendance		Repeat Attend.
(main cosponsors in parentheses)			Total	# (%) Industry	
Workshop History: FY03 Attendance (13 events)			948	824(87%)	
Workshop History: FY04 Attendance (10 events)			658	503 (76%)	
FY05 Events					
Exploration & Development of Fractured Reservoirs	Columbus, OH	10/6/04	63	38 (60%)	56%
Well Safety for Well Tenders	Marietta, OH	10/21/04	64	64 (100%)	3%
Introduction to Carbonate Reservoirs (PAPG)	Pittsburgh, PA	3/8/05	73	59 (81%)	59%
Recent Developments in Upper Devonian Sandstone Plays	Pittsburgh, PA	5/26/05	105	93 (89%)	
Central Kentucky Trenton-Black River Outcrop Analogs (KY Geol. Survey)	Lexington, KY	6/1/05	36	18 (50%)	
Outcrop Analog for Trenton-Black River Hydrothermal Dolomite Reservoirs	Albany, NY	6/7/05	37	25 (68%)	
Well Testing, Theory and Practice	Morgantown, WV	8/16/05	23	21 (91%)	71%
Well Log Analysis (AAPG Eastern Section)	Morgantown, WV	9/17-18/05	38	30 (79%)	27%
From Rocks to Models, 3D Reservoir Characterization and Modeling	Morgantown, WV	9/21/05	30	18 (60%)	72%
FY05 Attendance (9 events vs. 11 originally planned)			469	366 (78%)	
Filling Your Pipeline and Storage Tanks (Southern Ohio Oil and Gas Association)	Marietta, OH	10/13/05			
Coalbed Methane Reservoir Engineering (WVU, GTI, others)	Morgantown, WV	10/18/05			
Geochemical Exploration for Oil and Gas Success; Strategies for Success	Knoxville, TN	10/25/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr	2	127	102 (80%)	228	7,295	14,864	Newsletter about 3 times per year, online only.
2 <sup>nd</sup> Qtr	1	73	59 (81%)	345	8,148	15,129	
3 <sup>rd</sup> Qtr	3	178	136 (76%)	301	8,139	16,365	
4 <sup>th</sup> Qtr	3	91	69 (76%)	429	8,177	15,451	
FY05 Total	9	469	366 (78%)	1,303	7,940	15,452	
FY05 Avg. Attendance = 52 vs. 66 in FY04 vs. 73 in FY03							
FY06 Plans: 11 events							

**Website:** Usage remained relatively flat during FY05. Popular sections continue to be the extensive on-line newsletter, GIS-oriented databases, and AAPG Eastern Section website. Beyond routine site maintenance, staff focuses on updating databases and adding new information. See Resource Center section (below) for discussion of different data projects that are in progress. Several technical papers on coalbed methane production and production problems due to produced water that were supplied by cooperating staff in the Petroleum Engineering department at WVU were added to the website.

**Workshops/Events:** Overall attendance (469) decreased 29% compared to FY04 levels. Nine workshops were conducted, compared to 10 in FY04. In addition to several events held in Morgantown, workshops were also hosted in Ohio, Pennsylvania, Kentucky and New York. Two workshops continued coverage of Trenton-Black River technology. Periodic “Pumpers” workshops are also held. PAG member champions were instrumental in developing the “Upper Devonian Sandstone Plays” workshop, which experienced the highest attendance during

the year. Director Doug Patchen was extensively involved in technical events associated with AAPG Eastern Section's annual meeting held in late Sep 2005. Among other things, he negotiated with AAPG for the "Well Logging" short course to be reduced in length and presented at significantly reduced fees. The "Rocks to Models" workshop held after the AAPG Eastern Section meeting was the region's 100<sup>th</sup> PTTC workshop. Several other topics evolved from Patchen's networking through his AAPG activities.

**Resource Center:** Early in the year, staff developed a plan for updating the GIS databases and layers and adding new layers of interest. An information session was held for PAG members to acquaint them with the data/information contained within the system, then their input was sought on the different ways industry could use the data. Although it did not come to fruition this year, the region ultimately plans to develop a luncheon presentation and/or workshop format to acquaint industry with the contents, function and value of the GIS system. A summer intern gathered the data to build a GIS layer showing the location of wells where cores are available. Data were also provided to the Rocky Mountain Region for inclusion in their Core Locator system. The intern also compiled Appalachian Basin data by state and year for the number of wells drilled; oil, gas and water production volumes; and remaining reserves. Graphs and pie charts were developed to illustrate trends and the information was added to the website.

Staff began working towards digitizing the entire "Atlas of Major Appalachian Gas Plays" and subsequently placing the information online (plays as layers in GIS system). Progress, although hampered by personnel changes, is being made. Two of the Appalachian Oil & Natural Gas Research Consortium members were awarded a contract to scan all well logs and cores in five tight sandstone plays in the Appalachian basin and to organize the digital files and other information in a public database. At the end of the three-year effort, the information will be placed on the regional website. PTTC will then organize a workshop to explain what is available and how to access the information.

**Newsletter:** 15-page, online-only newsletter. Strive towards three issues each year. Issues published in Nov 2004 and July 2005. The newsletter is one of the more popular pages on the website. Consideration is being given to mailing one issue a year to the entire mailing list to alert them to the presence of a regional newsletter.

**Outreach/Contacts:** Overall contact activity decreased significantly, being only 53% of FY04 levels. This is primarily due to a conscious decision to adopt a more conservative contact reporting philosophy. Past practice has been for staff to contact PAG members monthly to get input on key papers/talks they have heard and get progress reports on workshops they volunteered to help develop. Although discontinued for a time during the year, staff is now continuing this practice. The region was one of several organizations that supported the Petroleum History Institute's "2005 International Symposium on the History of the Oil Industry" that was held in Morgantown in April. Doug Patchen attends area professional society and IOGA meetings whenever possible. His national involvement in AAPG and several other organizations provides numerous opportunities to promote PTTC, as does the active Trenton-Black River Consortium at WVU. Contacts in the last quarter were the highest for the year with heavy involvement in AAPG's Eastern Section meeting, recruiting of speakers for future workshops, and Trenton-Black River inquiries. Typically, the region will exhibit at important regional meetings.

**Problem Identification:** In August Patchen participated in an "Unconventional Gas Problem Identification" workshop coordinated by Gas Technology Institute (GTI). Beyond inviting PTTC, GTI solicited staff input on who should be invited. The group ended up being relatively small. The four highest technology needs identified were: reservoir characterization, play-based resource assessment, data mining and collection, and extending well life.

**Follow-up/Case Studies:** A group the region was not familiar with, the Southeast Ohio Oil & Gas Association, approached the region about its "Pumpers" workshops and holding workshops in conjunction with their annual meeting. During a Potential Gas Committee meeting, Doug Patchen was approached by a person who had just witnessed a field demonstration of a new technology to drill horizontal wells in thin coals in West Virginia and was searching for a partner with available acreage to drill using this technology. Soon after at the IOGCC meeting, Patchen discussed this opportunity with an acquaintance that manages land for a company in southern



West Virginia. Patchen connected these two individuals that are now exploring partnership opportunities. Topics where workshop attendees indicate they have taken action include: applying new methods for measuring porosity and water saturation in carbonates, using GIS in developing and in using geologic datasets, and information for the application of Paleozoic outcrops and modern analogs to subsurface reservoir modeling.

## PTTC Central Gulf Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) Industry	
Workshop History: FY03 Attendance (7 events)			620	558 (90%)	
Workshop History: FY04 Attendance (5 events, Plus 1 by Texas)			256	195 (76%)	
FY05 Events					
Understanding O&G Reservoir Using Mat. Balance	Lafayette, LA	10/21/04	45	42 (93%)	82%
Energy Summit 2004 (Center for Energy Studies)	Baton Rouge, LA	10/21-22/04	109	76 (70%)	6%
Well Abandonment Methods & Regulations	Lafayette, LA	11/10/04	33	28 (85%)	52%
Reservoir Engineering Symposium, From The Matrix To The Market (ULLA)	Lafayette, LA	12/2/04	50	41 (82%)	48%
Productivity and Economic Potential of Inactive/Marginal Wells in LA (ChevronTexaco)	New Orleans, LA	12/7/04	33	30 (91%)	39%
Low Cost Oil and Gas Recovery Methods	Shreveport, LA	1/27/05	41	36 (88%)	51%
Controlling Sand Production (Texas)	Houston, TX	3/2/05	To be reported by Texas Region		
Louisiana Coalbed Methane, workshop & field trip (ULL Energy Institute, Louisiana Geol. Survey)	Natchitoches, LA	3/17/05	30	20 (67%)	57%
Cost Effective Horizontal Well Technology	Lafayette, LA	5/12/05	26	18 (69%)	58%
Stimulation of Watered-Out Inactive/Marginal Wells with Dual Completions	Lafayette, LA	5/24/05	22	21 (95%)	82%
Material Balance, Modeling and Simulation, Reservoir Engineering Tools (Core Labs, w C. Gulf)	Houston, TX	6/29/05	To be reported by Texas Region		
Using Technology To Reduce Severance Taxes (Chevron)	New Orleans, LA	9/14/05	Canceled due to Hurricane Katrina		
Horizontal Well Technologies and CBM Applications (Texas)	Houston, TX	9/22/05	Canceled due to Hurricane Rita		
FY05 Attendance (9 events, plus 2 w Texas, 2 hurricane cancellations vs. 8 originally planned)			389	312 (80%)	
Energy Summit 2005: Louisiana’s Integration With Global Energy Markets (Center for Energy Studies)	Baton Rouge, LA	10/19-20/05			
Work Production Performance for Independents	Lafayette, LA	11/3/05			
Material Balance, Modeling and Simulation; Reservoir Engineering Tools Past, Present & Future	Lafayette, LA	12/7/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr	5	270	217 (80%)	168	7,001	12,739	Announcements in LIOGA newsletter
2 <sup>nd</sup> Qtr	2	71	56 (79%)	172	8,591	15,650	
3 <sup>rd</sup> Qtr	2	48	39 (81%)	151	9,083	15,929	
4 <sup>th</sup> Qtr	0	0	0	163	8,165	13,133	
FY05 Total	9	389	312 (80%)	654	8,210	14,363	
FY05 Avg. Attendance = 43 vs. 51 in FY04 vs. 89 in Fy03							
FY06 Plans: 7 events							

**Website:** Although fluctuating, usage appeared to be on the increase during FY05. Routine maintenance was performed. Usage dropped significantly following Hurricane Katrina.

**Workshops/Events:** Overall attendance (389) increased 52% compared to FY04 levels due to nine events being held versus five in FY04. Both workshops this quarter were canceled due to hurricanes. The workshop on

“Horizontal Well Technologies and CBM Applications,” which was a joint effort with the Texas Region, may be rescheduled. Three activities are planned in the coming quarter.

**Resource Center:** The Louisiana Parish Well Reference (LPWR) is another project undertaken by the region. All the historical production data, including that prior to 1977 (back to discovery, a weakness of prior data), was compiled from two sources from the Louisiana Department of Natural Resources Office of Conservation. Monthly LUW production was taken from the Production Audit Cards and annual field production was taken from the Annual Oil and Gas Reports. Project parishes to date include: St. Bernard, Cameron, Rapides and Vernon (will be release together).

**Newsletter:** There is not a regional newsletter. Communications are maintained through announcements in *LIOGA News*.

**Outreach/Contacts:** Overall contact activity remained level with FY04 activity despite the impact of Hurricanes Katrina and Rita on communications late in the year. Contacts from Louisiana operators about applying downhole water sink (DWS) technology increased throughout the year due to Andrew Wojtanowicz’s state-supported project for applying the technology to marginal/inactive wells. Two of this year’s workshops focused on this project. Staff assisted Livingston Parish in obtaining contacts to install and finance a landfill gas project. They also made a presentation on augmenting production on Louisiana Wildlife and Fisheries-managed properties. The region exhibited at LIOGA’s Gulf Coast Prospect Expo, and Don Goddard supports HQ booth at NAPE and summer NAPE. Beyond helping HQ, this provides valuable networking opportunities with Gulf Coast-oriented explorationists.

**Problem Identification:** Industry needs and directions for future activities are determined by feedback from workshop participants, contacts at trade shows, inquiries, some targeted visits and PAG input.

**Follow-up/Case Studies:** Based on Dr. Wojtanowicz’s workshops on “Stimulation of Watered-Out Inactive/Marginal Wells with Dual Completions,” numerous domestic as well as international calls have been received. A recent publication by Donald Goddard regarding Oligocene Frio reservoirs of abandoned mature fields in south Louisiana Parishes indicates that such fields still contain sufficient bypassed oil and gas reserves to make them economic at today’s prices. Based on such studies, small- and medium-size independent operators are beginning to show interest in these and other similar areas in Louisiana. Such redevelopment projects using adequate drilling and production technologies have proven to be economically rewarding.

## PTTC Eastern Gulf Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) Industry	
Workshop History: FY03 Attendance (9 events)			529	457 (86 %)	
FY04 Attendance (8 events, Plus 1 by Central Gulf)			469	356 (76 %)	
FY05 Events					
2004 O&G Forum (US O&G Assn)	Jackson, MS	10/6/04	126	110 (87%)	49%
Alabama O&G Seminar (Alabama State O&G Board, Black Warrior Assn Landmen, O&G Section of State Bar)	Tuscaloosa, AL	10/28-29/04	115	91 (79%)	34%
Sequence Stratigraphy for Explorationists	Jackson, MS	1/12/05	36	24 (67%)	64%
Interpreting Seismic Data on Kingdom 2d/3d PAK	Raymond, MS	2/7/05	7	6 (86%)	57%
GeoPlus PETRA Basic Training for Beginners	Raymond, MS	3/16-17/05	20	17 (85%)	75%
The New Phase I ESA: “All Appropriate Inquiry” and the Nebulous Nature of Total Petroleum Hydrocarbons (MS Board Registered Petroleum Geologists, AAPG DPA)	Jackson, MS	4/7/05	31	28 (90%)	50%
International Coalbed Methane Symposium	Tuscaloosa, AL	5/16-20/05	191	163 (85%)	70%
GeoPlus PETRA Interm. Cross-Section Techniques	Raymond, MS	6/7-8/05	19	18 (5%)	58%
An Integrated Coalbed Methane Exploration Model: Defining Coalbed Methane Exploration Sweetspots (AAPG DPA, MS Board of Reg. Prof. Geologists)	Jackson, MS	9/7/05	Canceled due to Hurricane Katrina		
FY05 Attendance (8 events, plus1 hurricane cancellation; Vs. 8 events originally planned)			545	457 (84%)	
US O&G Association Annual meeting/workshop	Jackson, MS	10/12/05			
PETRA Intermediate Mapping Techniques	Raymond, MS	10/25-26/05			
PETRA Data Loading	Raymond, MS	11/8-9/05			
Alabama O&G Seminar/Workshop (Alabama O&G Board, Black Warrior Assn Landmen, O&G Section of Alabama State Bar	Tuscaloosa, AL	11/18/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr	2	241	201 (83%)	231	5,263	9,079	Semiannual newsletter
2 <sup>nd</sup> Qtr	3	63	47 (75%)	368	5,199	8,462	
3 <sup>rd</sup> Qtr	3	241	209 (87%)	277	4,283	6,886	
4 <sup>th</sup> Qtr	0	0	0	218	4,304	7,414	
FY05 Total	8	545	457 (84%)	1,094	4,762	7,960	
FY05 Avg. Attendance = 68 vs. 59 in FY04 vs. 59 in FY03							
FY06 Plans: 10 events							

**Website:** After reaching a peak in the first six months, usage during the second half of FY05 dropped to levels consistent with FY04 levels. Beyond routine maintenance, staff focuses on putting technical reports from DOE-supported projects performed by the University of Alabama online. Several from multiple projects were posted this year.

**Workshops/Events:** Overall attendance (545) increased 16% compared to FY04 levels, which set a record annual attendance for the region despite the cancellation of a September workshop due to Hurricane Katrina. Eight workshops were conducted, the same as in FY04. More than half of the workshops this year were

cooperative efforts, some including new partners. Major events were the Alabama O&G Seminar and the International Coalbed Methane Symposium. GeoPlus PETRA software training has been well received.

**Resource Center:** Funds for reestablishing a satellite office in Mississippi were incorporated in the FY06 budget.

**Newsletter:** Semiannual newsletter, Dec 2004 and July 2005 (circ. 564, 95% industry).

**Outreach/Contacts:** Overall contact activity increased 28% compared to FY04 levels. Focus during FY05 was on broadening connections with other organizations. Bennett Bearden worked with the U.S. Oil and Gas Association, Alabama and Mississippi Division, to integrate their mailing list. Discussions were initiated with AAPG DPA about combined sponsorship of all regional workshops and the possibility of integrating mailing lists. Bearden also attended the Coalbed Methane Association of Alabama's (CMAA) annual meeting. Planning is underway for a co-sponsored workshop at CMAA's 2006 annual meeting. Bearden worked with the State Geologist of Alabama about the region co-sponsoring a workshop at IOGCC's 2006 Midyear Issues Summit originally scheduled for May 2006 in Alabama. Hurricane Katrina damage led IOGCC to switch locations to Montana, moving back to Alabama in 2007. Staff will then work to conduct a cooperative workshop. Bearden's election as a Delegate for Alabama to the AAPG House of Delegates is providing leverage opportunities, as are Director Ernie Mancini's positions as Editor for AAPG and President of the American Geological Institute.

**Problem Identification:** Topics of interest to operators include Floyd Shale in the Black Warrior Basin, coalbed methane sweetspots, and a new updip Smackover play in Conecuh County, Alabama. Feedback concerning needs primarily comes from workshop attendees, PAG members and interactions with other organizations/individuals in organizing cooperative events.

**Follow-up/Case Studies:** The region has been assisting industry with the new stratigraphic trap oil play associated with the Upper Jurassic Smackover microbial reef trend in the Little Cedar Creek Field, in Conecuh County, southwest Alabama. This field is apparently the largest Smackover field discovered in the Eastern Gulf Region in the last three decades. The field is significant because the petroleum trap appears to be a stratigraphic trap near the updip limit of Smackover (70 to 100) feet deposition. The discovery well in 1994 tested 108 bopd. Development was slow with the 2<sup>nd</sup> and 3<sup>rd</sup> wells not coming until 2000 and 2003. In 2004 13 additional wells were drilled and the field was unitized in 2004. To date in 2005, an additional six wells have been drilled. Cumulative production for the field through May 2005 was approaching one million barrels of oil. In a research project led by the University of Alabama, staff continued working with Pruett Production to drill two infill wells in the Womack Hill Field in Alabama. The Turner Land and Timber Co. 13-10#1 initially tested at 132 bopd and (at Sept. 30) with apparently stabilized production is still pumping 110 bopd, 51 mcf/d, and 88 bwpd. As predicted, the Smackover top is structurally higher than offsets and there is more pay. Attic reserves have been estimated at 175,000 bbl. Pruett is very satisfied with the experience of working with government and academia in this DOE-supported project led by the University of Alabama.

## PTTC Midwest Region

Topic	Location	Date	Attendance		Repeat Attend.
(main cosponsors in parentheses)			Total	# (%) Industry	
<b>Workshop History: FY03 Attendance (8 events)</b>			<b>456</b>	<b>337 (74%)</b>	
<b>Workshop History: FY04 Attendance (7 events)</b>			<b>542</b>	<b>440 (81%)</b>	
<b>FY05 Events</b>					
Pumpers & Well Operators Training	Mt Carmel, IL	10/12/04	80	72 (90%)	19%
Annual Illinois Basin CBM Symposium	Evansville, IN	11/16/04	121	103 (85%)	28%
Crash Course in Log Interpretation	Grayville, IL	12/9/04	73	60 (82%)	68%
Practical Power Cost Reduction for Old Oil Fields	Grayville, IL	1/19/05	40	37 (90%)	62%
SPCC Compliance Workshop (Ind. Prod. Tri-State)	Evansville, IN	3/2/05	47	41 (87%)	80%
Geochemical Exploration (Ind. Prod. Tri-State)	Evansville, IN	3/2/05	50	45 (90%)	82%
<i>Kiker presentation @ Ind. Prod. Tri-State</i>	<i>Evansville, IN</i>	<i>3/4/05</i>	71	65 (92%)	80% est
Michigan Field Experiences, Focus on the Antrim (Michigan Geological Society, SPE N. Michigan)	Mt. Pleasant, MI	3/18/05	185	152 (82%)	54%
Pumpers & Well Operations Training (IL O&G)	Grayville, IL	5/20/05	62	50 (81%)	46%
Pumpers Workshop (Illinois O&G Assn.)	Salem, IL	9/30/05	46	44 (96%)	41%
<b>FY05 Attendance (10 events vs. 9 originally planned)</b>			<b>775</b>	<b>669 (86%)</b>	
U.S. Geological Survey Basin Assessment of Remaining O&G Reserves in Michigan Basin	Mt. Pleasant, MI	10/20/05			
Illinois Basin CO2 Operational Workshop (Midwest Geological Sequestration Consortium)	Evansville, IN	11/15/05			
Illinois Basin Log Interpretation with Basin Examples	Location TBD	12/TBD			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
<b>1<sup>st</sup> Qtr</b>	3	274	235 (86%)	2,196	13,043	86,579 + Michigan	<b>Semiannual newsletter</b>
<b>2<sup>nd</sup> Qtr</b>	4	322	275 (85%)	2,641	13,246	79,057 + Michigan	
<i>L&amp;L</i>	<i>1</i>	<i>71</i>	<i>65 (92%)</i>				
<b>3<sup>rd</sup> Qtr</b>	1	62	50 (81%)	2,855	12,206	79,474 + Michigan	
<b>4<sup>th</sup> Qtr</b>	1	46	44 (96%)	2,896	14,035	89,723 + Michigan	
<b>FY05 Total</b>	<b>9</b>	<b>704</b>	<b>604 (86%)</b>	<b>10,588</b>	<b>13,133</b>		
<i>L&amp;L</i>	<i>1</i>	<i>71</i>	<i>65 (92%)</i>				
<b>FY05 Avg. Attendance = 78 vs. 77 in FY04 vs. 57 in FY03</b>							
<b>FY06 Plans: 6 events</b>							

**Website:** In Illinois staff expanded the interactive mapping web site (IMS) that has been used to locate new prospects and production. This portion of the website receives high usage. The Michigan satellite web activity has grown in nearly every quarter for the last five years. Another popular section of the Illinois website contains the free online Illinois Geological Survey oil and gas reports, including all out-of-print documents on Illinois. Operators are using the Illinois oil and gas development quadrangle maps developed by the RLO for prospecting and field management by geo-referencing them and using them in their GIS mapping programs.

**Workshops/Events:** Overall attendance (775) increased 43% compared to FY04 levels. Ten workshops were conducted, compared to seven in FY04. The workshop that drew the highest attendance was Michigan's "Field

Experience, Focus on the Antrim.” It drew 185 attendees. Three “Pumpers” workshops, which drew combined attendance of 188 people, involved extensive interaction with operator associations to develop content and coordinate logistics. Other topics varied from “Log Interpretation” to “Geochemical Exploration.” Major workshops in both the Illinois Basin and Michigan are planned early in FY06.

**Resource Center:** A log- and data-scanning project that will ultimately feed the ILoil data/GIS website has begun. The region supports the mapping services provided by the Illinois State Geological Survey. Michigan continues to scan well logs. Michigan databases are frequently updated and expanded. Michigan is currently negotiating to lease space that will be used as a permanent facility for their core and sample repository. The satellite office will also be located there.

**Newsletter:** Semiannual newsletter – Feb. 2005; circ. 3,200, estimated 95% industry. 2<sup>nd</sup> issue missed this year. Next issue planned for January 2006.

**Outreach/Contacts:** Overall contact activity remained highest among the regions with 10,588 contacts representing a 56% increase compared to FY04’s already high levels. Staff exhibits at strategic regional events. Many of the inquiries received in both Illinois and Michigan are data- or exploration-oriented. In developing the “Pumpers” workshops, staff interacted frequently with producers and operator associations. Illinois and Michigan staffs regularly attend professional society and operator association meetings. In Illinois staff are assuming a major outreach role for the CO<sub>2</sub> Sequestration consortium led by the Illinois Geological Survey. A major workshop on “CO<sub>2</sub> Flooding” is planned early in FY06.

**Problem Identification:** New PAG members in both Illinois and Michigan are providing new perspectives regarding needs. Well data remain a top priority. There is high interest in the geology and development of new plays. Feedback indicates that new technologies, such as multi-lateral drilling, CO<sub>2</sub> EOR, improved well stimulation, underbalanced drilling, etc. are of interest. Grammer and Harrison in Michigan visited several operators to get future workshop ideas.

**Follow-up/Case Studies:** Michigan small operators have further expanded the successful application of 3-D seismic and horizontal drilling to develop new Niagaran reserves. In Illinois the region now maintains and has expanded the ILoil interactive mapping website that many operators are using to obtain production and locate new prospects. Operators are using the Illinois oil and gas development quadrangle maps developed by the RLO for prospecting and field management by geo-referencing them and using them in their GIS mapping programs. Staff interactions were instrumental in helping to acquire a \$60,000 donation from the Illinois Petroleum Resource Board that will be used to fund the first year of the log- and data-scanning project.

## PTTC North Midcontinent Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) Industry	
Workshop History: FY03 Attendance (13 events)			608	470 (77 %)	
Workshop History: FY04 Attendance (11 events)			432	382 (88 %)	
FY05 Events					
Crash Course in Log Analysis, Excel SS	Lawrence, KS	10/14/04	20	20 (100%)	60%
PfEFFER Log Analysis Software	Lawrence, KS	10/15/04	12	12 (100%)	100%
1 <sup>st</sup> Annual Midcontinent CBM Symposium	Tulsa, OK	11/7-9/04	171	157 (92%)	13%
Practical Reservoir Characterization and Modeling Using Free Web-based Software Tools and Data	Lawrence, KS	11/16/04	10	8 (80%)	50%
Lunch & Learn: Stimulating Arbuckle Production in Kansas with New Technology (KS Geol. Society)	Wichita, KS	1/12/05	45	40 (90% est)	
Unconventional Gas Resources in Kansas	Wichita, KS	1/19/05	99	86 (87%)	60%
Luncheon Presentation (SE Kansas Economic Development Commission): Coalbed Methane Production in Eastern Kansas	Chanute, KS	2/18/05	17	17 (100% est)	
TORP Oil Recovery Conference	Wichita, KS	4/6-7/05	136	92 (68%)	64%
CO <sub>2</sub> Flooding Potential in Kansas (KIOGA)	Russell, KS	4/21/05			
Workshop			95	95 est	
Field Trip			77	77 est	
Reading the Rocks from Wireline Logs (KGS)	Lawrence, KS	4/27/05	8	5 (63%)	37%
Cased Hole and Production Log Interpretation for Geologists (KGS)	Lawrence, KS	4/28/05	12	4 (33%)	67%
Simplified Online Automated Reporting (KIOGA)	Wichita, KS	8/22/05	30	30 (100% est)	
Maintaining and Repairing Casing Integrity (Great Bend API)	Great Bend, KS	9/13/05	65	55 (85%)	72%
Candidate Selection for Horizontal Drilling with Case Studies in Pennsylvanian Sandstones	Chanute, KS	9/15/05	32	27 (84%)	71%
Kansas Oil and Gas Information Available Online (EKOGA)	Chanute, KS	9/16/05	50	50 (100% est)	
FY05 Attendance (16 events vs. 12 originally planned)			879	775 (88%)	
The Crash Course in Log Analysis, An Excel Spreadsheet Workshop	Lawrence, KS	10/6/05			
Old Electric Logs, Interpretation and Analysis	Lawrence, KS	10/7/05			
Analyzing Mature Oil Reservoirs in Eastern Kansas for Additional Reserves	Iola, KS	12/8/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
<b>1<sup>st</sup> Qtr</b>	4	213	197 (92%)	658	27,697	72,321	<b>Semiannual newsletter</b>
<b>2<sup>nd</sup> Qtr</b>	2	144	126 (88%)	1,040	41,474	91,698	
<i>L&amp;L</i>	<i>1</i>	<i>17</i>	<i>17 (100%)</i>				
<b>3<sup>rd</sup> Qtr</b>	5	328	273 (83%)	647	17,307	49,440	
<b>4<sup>th</sup> Qtr</b>	2	97	82 (85%)	863	18,447	49,819	
	2	80	80 (100%)				
<b>FY05 Total</b>	<b>13</b>	<b>782</b>	<b>678 (87%)</b>	<b>3,208</b>	<b>26,231</b>	<b>65,797</b>	
<i>L&amp;L</i>	<i>3</i>	<i>97</i>	<i>97 (100%)</i>				
<b>FY05 Avg. Attendance = 55 vs. 39 in FY04 vs. 47 in FY03</b>							
<b>FY06 Plans: 14 events</b>							



**Website:** For reasons not fully understood, usage dropped significantly in spring 2005. Although increasing modestly, usage has not yet increased to levels previously observed. Still, usage is one of the highest among the regions. Access by commercial domains remains above 50%. KGS staff continues to maintain existing features/databases and make both incremental and major additions. One major feature was adding online decline curve analysis for production data. Content of the polymer gel website is continually being expanded.

**Workshops/Events:** Overall attendance (879) more than doubled compared to FY04 levels. Sixteen workshops were conducted, compared to 11 in FY04. Tim Carr with KGS assumed a major role in organizing the 1<sup>st</sup> Annual Midcontinent CBM Symposium held in Tulsa. This event, along with the TORP Oil Recovery Conference, account for 35% of the annual attendance. Five logging-oriented workshops were conducted by KGS staff in Lawrence. The region supported KIOGA's spring meeting with a "CO<sub>2</sub> Flooding" workshop and field trip. Technical presentations were made during both KIOGA's and EKOGA's fall annual meetings. The cooperative workshop with API's Great Bend chapter, "Maintaining and Repairing Casing Integrity," was well attended, drawing participants from six states. Soon after delivering a "Produced Water Management" workshop in Texas, On the afternoon preceeding EKOGA's annual meeting, Bob Westermarck of Grand Directions presented a workshop on "Candidate Selection for Horizontal Drilling." Presented guidelines/insights were based on extensive personal experience, field results within a DOE-supported project in the Osage in northeastern Oklahoma and other regional projects where he had data. PAG member Bob Barnett, recently retired after working the latter part of his career in southeastern Kansas, worked hard to stimulate attendance at the horizontal drilling workshop.

**Resource Center:** The region continues to leverage past work documenting case studies on (1) polymer gel treatments, (2) 3-D seismic and (3) GasGun solid propellant stimulation treatments. Content of the polymer gel website is continually being expanded. Staff is also involved in the CO<sub>2</sub> miscible flooding pilot in a Lansing-Kansas City reservoir. Many of the improvements made in website rightly could be considered resource center projects.

**Newsletter:** Semiannual newsletter, March 2005; circ. 5,200; 80% industry. 2<sup>nd</sup> issue not issued due to budgetary constraints.

**Outreach/Contacts:** Overall contact activity remained high, increasing 13% over FY04 levels. Staff interacts frequently with producers, service providers, KIOGA and EKOGA, professional societies and PTTC staff from other regions. Topics for these interactions vary widely—from recent or upcoming workshops to longstanding topics such as CBM and polymer gel water shut-off treatments. Progress in building an email database, now at 500, is slow. Even though small, using the email database for workshop reminders has appeared to stimulate attendance.

**Problem Identification:** Industry needs and directions for future activities are determined by feedback from workshop participants, contacts at industry events, inquiries, and PAG input. Occasionally, Director Rodney Reynolds will schedule visits across Kansas, discussing technology needs and discovering some new technology applications.

**Follow-up/Case Studies:** Building from past efforts, operators continue to perform polymer gel water shut-off treatments in Arbuckle wells. TORP also now has a project with the DOE-supported Stripper Well Consortium exploring disproportionate permeability reduction. Operator interest in producing low BTU gas in southwestern Kansas is increasing, indicating impact from the FY05 workshop. Small scale 3-D seismic surveys have now been accepted to the point that few prospects in western Kansas are drilled without them. Rodney Reynolds and Bob Kiker have now delivered their "Produced Water/Wellbore Management" workshop 19 times, presenting it in multiple regions. Rodney Reynolds has been asked to contribute to an SPE monograph and Bob Kiker has delivered multiple presentations.

## PTTC Rocky Mountain Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) from Industry	
Workshop History: FY03 Attendance (42 events)			2,116	1,852 (88 %)	
Workshop History: FY04 Attendance (35 events, Plus 1 by Southwest, Futures in Energy)			915	843 (92 %)	
FY05 Events					
What's New in Logging Measurements & Techniques	Casper, WY	10/6/04	28	16 (57%)	90%
GeoPlus PETRA Basic Training for Beginners	Golden, CO	10/7-8/04	22	22 (100%)	86%
Simulation Users Group: Fekete RTA (Dave Anderson, Fekete)	Denver, CO	10/19/04	10	10 (100%)	100%
GeoPlus PETRA Intermediate Cross Section	Golden, CO	10/21/04	18	18 (100%)	95%
GeoPlus PETRA Intermediate Engineering Tools	Golden, CO	10/22/04	19	19 (100%)	100%
Hydrothermal Dolomite Conference (RMAG)	Golden, CO	11/15/04	117	92 (79%)	90%
Simulation Users Group: CBM Simulation ECLIPSE	Denver, CO	11/18/04	11	11 (100%)	100%
Simulation Users Group: Williston Basin Case Study; Merging Modern Reservoir Characterization with Traditional Reservoir Engineering (Forest Oil)	Denver, CO	1/24/05	13	13 (100%)	100%
Hydraulic Fracturing	Vernal, UT	1/28/05	20	15 (75%)	50%
GeoGraphix Overview and Refresher	Golden, CO	1/28/05	22	21 (95%)	86%
GeoPlus PETRA, Intermediate Mapping & Display	Golden, CO	2/3/05	22	20 (91%)	100%
GeoPlus PETRA, Basics	Golden, CO	2/10-11/05	22	21 (95%)	64%
GeoPlus PETRA, Intermediate Cross Section	Golden, CO	2/17/05	21	21 (100%)	100%
Electric Submersible Pumps Plus Well Stimulation and Corrosion Control (SPE Casper)	Casper, WY	2/17/05	24	5 (21%)	92%
Simulation Users Group: What One Needs to Know to Simulate a Polymer Flood or In-Depth Polymer Crosslink Gel Process (Jim Mack, TIORCO)	Denver, CO	2/23/05	13	13 (100%)	100%
Core wkshp: Valley-Fill Sandstones (USGS)	Denver, CO	2/24/05	60	58 (97%)	93%
GeoPlus PETRA, Intermediate Engineering Tools	Golden, CO	2/25/05	20	20 (100%)	100%
2005 Gas Well Deliquification (Texas Tech Univ., ALRDC, Southwest Petroleum Short Course)	Denver, CO	2/28-3/2/05	390	351 (90% est.)	74%
Simulation Users Group: Probabilistic Modeling Using a New Boast 98 Module (Reeves, ARI)	Denver, CO	3/17/05	15	100 (100%)	100%
Introduction to Mining the Internet: Free GIS Data/Low Cost Software for O&G Professionals	Golden, CO	3/31/05	40	38	(95%)
90%Subsurface Fluid Pressures & Their Relation to O&G Generation, Migration and Accumulation	Denver, CO	4/22/05	29	29 (100%)	83%
Simulation Users Group: Production History/Type Curve Matching for Fractured Tight Gas Reservoirs	Denver, CO	4/27/05	19	19 (100%)	90%
Geology of Horizontal Reservoirs; Past, Present and Future (A Core Workshop) (RMAG, USGS)	Denver, CO	5/13/05	32	30 (94%)	88%
SMT Kingdom Suite Data Loading	Golden, CO	5/19/05	9	9 (100%)	78%
Gas & Oil Developments Utah: 2005 (SPE Salt Lake)	Salt Lake City, UT	5/20/05	150	120 (80% est)	65% est.
SMT Kingdom Suite 2d/3d PAK Interpretation Basics	Golden, CO	5/23/05	14	14 (100%)	86%
SMT Kingdom Suite 2d/3d PAK Interpretation II	Golden, CO	5/24/05	8	8 (100%)	75%
SMT Kingdom Suite VuPAK	Golden, CO	5/25/05	9	9 (100%)	78%
GeoGraphix Overview and Refresher	Golden, CO	5/26/05	20	18 (90%)	0%
Futures in Energy -- Colorado	Golden, CO	6/13-17/05	20	Not Applicable	
Futures in Energy -- Wyoming	Pinedale, WY	6/27 - 7/105	7	Not Applicable	
Coalbed Methane Symposium (RMAG)	Denver, CO	6/30/05	235	225 (96% est.)	85% est.
Gas in Low Permeability Reservoirs (RMAG)	Denver, CO	8/29/05	387	364 (94%)	90%
Short Courses @ AAPG Rocky Mountain Section	Jackson Hole, WY	9/24/05			
(1) Internet – Free GIS Data & Low Cost Software			19	18 (95%)	84%
(2) Bakken Play Essentials			60	57 (95%)	83%

GeoGraphix Overview and Refresher	Golden, CO	9/30/05	11	10 (1%)	82%
<b>FY05 Attendance (34 events, plus 2 Futures vs. 47 planned)</b>			<b>1,936</b>	<b>1,729 (89%)</b>	
Coalbed Methane Conference (SDSM&T)	Rapid City, SD	10/20-21/05			
<i>Simulation Users Group: SMT SURE Simulator</i>	Denver, CO	10/27/05			
Source Rocks 101; What the Exploration Geologist, Geophysicist and Production Engineer Should Know About Petroleum Source Rocks	Golden, CO	10/28/05			
Successfully Awakening Mature Fields; A Process for Reversing Production Decline	Golden, CO	11/4/05			
Core workshop: Pore System Variations in Some Major Carbonate Reservoirs in the Rocky Mountains (USGS)	Denver, CO	11/17/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr L&L	5	204	167 (82%)	667	6,160	13,936	Quarterly newsletter
	2	21	21 (100%)				
2 <sup>nd</sup> Qtr L&L	10	641	570 (89%)	1,158	7,047	15,902	
	3	41	41 (100%)				
3 <sup>rd</sup> Qtr L&L Intern	9	506	462 (91%)	1,049	6,967	14,169	
	1	19	19 (100%)				
	2	27					
4 <sup>th</sup> Qtr	4	477	449 (94%)	660	7,424	14,028	
FY05 Total	28	1,828	1,648 (90%)	3,534	6,900	14,509	
L&L	6	81	81 (100%)				
Intern	2	27					
FY05 Avg. Attendance (excluding Futures) = 56 vs. 26 in FY04 vs. 50 in FY03							
FY06 Plans: 29 events							

**Website:** Stable during most of FY05, usage during FY05 is significantly above levels experienced during FY04. The Wyoming Geological Association has notified the region that they will start doing their own website maintenance. Case studies are periodically posted to the web.

**Workshops/Events:** Overall attendance (1,936) is the highest among the regions. Attendance more than doubled compared to FY04 levels with the number of activities being about the same. Twenty nine of 36 events were held in Colorado with Wyoming being the next most popular location with five events. Five major cooperative events (Hydrothermal Dolomite Conference with RMAG; Gas Well Deliquification with several sponsors; O&G in Utah 2005 with SPE Salt Lake City; Coalbed Methane Symposium with RMAG; Low Permeability Reservoirs with RMAG) were responsible for 66% of the total annual attendance. Fifteen software workshops covering GeoPlus PETRA, GeoGraphix and SMT Kingdom Suite products were conducted. A licensing issue arose with GeoPlus about individuals from competitive vendors attending PETRA training workshops. Until issues about PTTC's role in screening attendees are resolved, no PETRA training classes will be provided. Informal discussions that may resolve the issue have occurred. Director Sandra Mark was heavily involved in AAPG's Rocky Mountain Section meeting held at year-end FY05. The region co-sponsored two workshops there, one on "Bakken Play Essentials" to support high activity and interest.

**Resource Center:** Major projects considered resource center activities include: (1) Core Locator GIS system, (2) Low Cost Software and Data Fair and (3) Online CBM Symposium. Significant progress was made on the Core Locator project this summer. There are currently 130,756 cores posted from five collections, covering 30 states. Appeals have been made to other PTTC regions for more data. An advertising campaign, including an

extended ad in the December 2005 national newsletter, is planned early in FY06. New papers are being pursued for posting in the online CBM symposium. Intent here is to provide an information resource for individuals not able to attend workshops/conferences. Staff actively look for new software packages appropriate for the “Low Cost Software and Data” Fair.

**Newsletter:** Quarterly (December 2004, March 2005, May 2005, August 2005). Circulation=3,081 at FY05 year-end with 95% from industry; 16% electronic. Circulation was expanded when HQ Rockies addresses were merged, but there were some problems with “returns” that have subsequently been addressed. Interviews with PAG members are a standard feature.

**Outreach/Contacts:** Overall contact activity remained essentially level with FY04. Each year the region exhibits at the Technofest and Prospect Fair (Nov. 1, about 700 people) and Colorado Legislative Reception (Feb. 8, about 125 people) in Denver. Much of the proactive outreach in spring and summer was related to the “Futures in Energy” student training/internship programs. This year programs were held in Golden and, for the first time, in Pinedale, Wyoming. Those in the PAG Futures subcommittee were also actively involved in outreach and fund raising. Questar funded the effort in Pinedale. Student participation was not as high this year as hoped for, but it wasn’t for lack of effort. Director Sandra Mark’s heavy involvement in AAPG’s Rocky Mountain Section meeting provided excellent visibility, as did participation in the large RMAG events. With Mark working only half time beginning FY06, Michael Ewing has been retained part-time as Coordinator.

**Problem Identification:** Industry needs and directions for future activities are determined by feedback from workshop participants, contacts at industry events, inquiries and PAG input. An active PAG workshop committee also helps define topics/subtopics for regional events.

**Follow-up/Case Studies:** In Richland County, Montana alone, there were nearly 250 horizontal completions in the Middle Bakken dolomite by mid-year 2005. There have been very few dry or unsuccessful wells. Prior regional technology transfer events (horizontal drilling by Bob Knoll, a core workshop for horizontal applications at USGS Denver, support of the North Dakota horizontal drilling conference) supported by the region are one of several factors responsible for the success rate. The AAPG Short Course on “Bakken Play Essentials” in September 2005 was standing room only.

## PTTC South Midcontinent Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) from Ind	
Workshop History: FY03 Attendance (40 + MWC Trade Fair)			1,300	1,147 (88%)	
Workshop History: FY04 Attendance (31 events, Plus 1 by N. Mid.)			1,419	1,286 (91%)	
FY05 Events					
Stratigraphic & Structural Evolution of the Quachita Mountains & Arkoma Basin (OGS), workshop	Poteau, OK	10/21-23/04	72	63 (88%)	65%
Stratigraphic & Structural Evolution of the Quachita Mountains & Arkoma Basin (OGS), field trip	Poteau, OK	10/21-23/04	72	63 (88%)	65%
1 <sup>st</sup> Annual Midcontinent CBM Symposium (North Midcontinent, OIPA, Midcontinent CBM Forum)	Tulsa, OK	11/7-9/04	Reported by North Midcontinent		
Springer Field Trip for Indian Exploration Co.	Ardmore, OK	11/29 12/1/04	8	7 (88%)	100%
Springer Field Trip for Marathon Oil Co.	Ardmore, OK	12/9/04	10	9 (90%)	100%
SPE Ft Smith Lunch and Learn	Ft Smith, AR	12/14/04	33	33 (100%)	
Maximize Rod String Life Through Proper Handling and Care (MWC)	Ardmore, OK	2/2/05	9	9 (100%)	100%
4 <sup>th</sup> Annual Oklahoma Aggregates Assn. Mtg	Oklahoma City, OK	2/8-9/05	201 wks 89 field	188 (94%) 85 (77%)	43% 43%
Maximize Rod String Life Through Proper Handling and Care (MWC)	Pawhuska, OK	2/9/05	9	9 (100%)	100%
Lunch and Learn: Hydraulic Fracture Design, Treatment & Application (AOGCC, SPE Ft. Smith)	Fort Smith, AR	2/10/05	30	23 (77%)	0%
Maximize Rod String Life Through Proper Handling and Care (MWC)	Oklahoma City, OK	2/16/05	31	31 (100%)	100%
Deep Gas Well Stimulation (Pinnacle Technologies)	Norman, OK	2/23/05	124	104 (84%)	48%
Maximize Rod String Life Through Proper Handling and Care (MWC)	Tulsa, OK	2/23/05	13	13 (100%)	100%
Chart-Type Gas Meters and How To Calculate Gas Production (MWC)	Tulsa, OK	4/12/05	34	34 (100% est)	
Chart-Type Gas Meters and How To Calculate Gas Production (MWC)	Oklahoma City, OK	4/13/05	73	73 (100% est)	
Polymer Gel (OGS)	Norman, OK	4/13/05	40	33 (83%)	70%
Chart-Type Gas Meters and How To Calculate Gas Production (MWC)	Ardmore, OK	4/20/05	20	20 (100%)	
Morrow and Springer Strata in the Southern Midcontinent (OGS)	Oklahoma City, OK	5/10-11/05	237	214 (90%)	71%
Risks & Optimum Well Designs for Compacting Reservoirs (SPE Ft. Smith)	Ft. Smith, AR	5/12/05	16	16 (100%)	
Natural Gas Balancing, Current Issues and Known Problems as Affected by JOA (MWC)	Oklahoma City, OK	6/14/05	55	55 (100%)	
Natural Gas Balancing, Current Issues and Known Problems as Affected by JOA (MWC)	Tulsa, OK	6/15/05	47	47 (100%)	
Directional Drilling (SPE Ft. Smith)	Ft. Smith, AR	6/29/05	17	17 (100%)	
Horizontal Drilling with Case Studies in Osage County (Grand Resources)	Norman, OK	7/27/05	95	84 (88%)	60%
SPCC Rules and 2002 Revisions; Artificial Lift Downhole Technology	Smackover, AR	8/10/05	54	52 (96%)	65%
Crash Course in Log Interpretation	Norman, OK	9/21/05	92	72 (78%)	49%
FY05 Attendance (25 events, plus 1 reported by N. Midcontinent.)			1,448	1,328 (92%)	
Booch Play (Okla. Geological Survey)	Norman, OK	12/1/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr L&L	4 1	162 33	142 (88%) 33 (100%)	243	Not Available	Not Available	Quarterly newsletter
2 <sup>nd</sup> Qtr L&L	7 1	476 30	439 (92%) 23 (77%)	314	469	Not Available	
3 <sup>rd</sup> Qtr L&L	7 2	506 33	476 (94%) 33 (100%)	375	4,176	Not Available	
4 <sup>th</sup> Qtr	3	241	208 (86%)	399	2,718	Not Available	
FY05 Total L&L	21 4	1,385 63	1,265 (91%) 63 (100%)	1,331	3,447 (3 <sup>rd</sup> -4 <sup>th</sup> )		
FY05 Avg. Attendance = 58 vs. 46 in FY04 vs. 33 in FY03							
FY06 Plans: 14 events							

**Website:** Website usage, which is not reported on the same basis as other regions, remains relatively modest and fluctuates significantly. When the website crashed early in FY05, staff had to spend considerable time reconstructing it. Highlights for several technology workshops were developed and placed online. Links to data resources offered by the Oklahoma Geological Survey and within the Oklahoma Petroleum Information Center (OPIC) are prominent. Core data for Oklahoma wells available at OPIC has been shared with the Rocky Mountain Region and is now online in the Core Locator system.

**Workshops/Events:** Overall attendance (1,448), which was second highest among the regions, was essentially the same as FY04. Approximately 20% fewer activities were hosted. Two major events, the Oklahoma Aggregates Association workshop and field trip and OGS's Morrow – Springer two-day workshop, accounted for 36% of the annual attendance. Support was also provided for the 1<sup>st</sup> Annual Midcontinent Coalbed Methane Symposium (see North Midcontinent Region). Another 23% of annual attendance came from Marginal Well Commission workshops (three topics, 9 workshops) that the region co-sponsored. OGS delivered a workshop and field trip on "Stratigraphic & Structural Evolution of the Quachita Mountains and Arkoma Basin," plus some Springer field trips were conducted for individual companies. Topics for other major workshops included: Deep Gas Well Stimulation, Polymer Gel Water Shut-off Treatments, Horizontal Drilling with Case Studies in Osage County and a Crash Course in Log Interpretation. The region supported luncheon presentations of the recently formed SPE Ft. Smith section, plus a workshop covering two topics was held in southern Arkansas.

#### **Resource Center:**

Progress is being made in making data within OPIC more available to the public.

**Newsletter:** Quarterly newsletter (December 2004, April 2005, October 2005 – missed one issue); circ. 5,839 (est. 98% industry). OGS also makes frequent mailings announcing workshops. Size and technical content have been expanded considerably. Issues now contain articles on recently held workshops, developments in OPIC, and upcoming events/calendar.

**Outreach/Contacts:** Overall contact activity increased a modest 10% compared to FY04 levels. Early in FY05, OGS hosted (1) a tour of OPIC for IOGCC and (2) a Central Region cluster meeting of the American Association of State Geologists. OGS played a major role in hosting the AAPG/SEG Student Expo. Director Charles Mankin makes numerous presentations, incorporating PTTC information within those as appropriate. Contacts were highest in the 4<sup>th</sup> quarter when the AAPG Midcontinent Section annual meeting was held in Oklahoma City. Through the year staff exhibited at: Marginal Well Commission Trade Fair, the Aggregates Association meeting, the AAPG/SEG student expo, and AAPG's annual meeting in Calgary.

**Problem Identification:** Industry needs and directions for future activities are determined by feedback from workshop participants, contacts at industry events, inquiries and PAG input.

**Follow-up/Case Studies:** Brian Cardot leads OGS's technical effort supporting CBM and shale gas. There continue to be increasing contacts to him about CBM and shale gas, at least some of which can be attributed to the workshops/conferences that the region has co-sponsored with OGS in recent years. In conversation with National Project Manager Lance Cole at SPE's recent annual meeting, Bob Sydansk, one of the speakers in the recent Polymer Gel workshop, indicated that he was working with one operator to implement polymer gel treatments in Oklahoma. Data are early and results cannot be shared yet, but it is confirmation that producers take action with information presented.

## PTTC Southwest Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) from Industry	
Workshop History: FY03 Attendance (11 events, plus 1 by Texas)			402	340 (85 %)	
Workshop History: FY04 Attendance (9 events, plus 1 by Texas)			322	273 (85%)	
FY05 Events					
Devonian FEE Tool Training (PRRC)	Roswell, NM	12/1/04	10	8 (80%)	100%
2004 CO <sub>2</sub> Conference (Texas)	Midland, TX	12/9-10/04	Reported by Texas		
Stranded Gas and Power Reduction (Texas)	Midland, TX	12/15/04	Reported by Texas		
Data Gathering Techniques and Interfaced Production Accounting Software (Texas)	Midland, TX	3/1/05	Reported by Texas		
Data Gathering Techniques and Interfaced Production Accounting Software (Texas)	Farmington, NM	3/17/05	19	15 (79%)	25%
Horizontal Drilling (Texas)	Midland, TX	5/12/05	84	81 (96%)	15%
Hydraulic Fracturing	Farmington, NM	6/21/05	21	20 (95%)	25%
Introduction to Mining the Internet: Free GIS Data and Low Cost Software (Texas)	Midland, TX	9/13/05	Reported by Texas		
	Farmington, NM	9/15/05	23	22 (95%)	86%
FY05 Attendance (5 events, plus 4 reported by Texas)			157	146 (93%)	
H2S Issues	Farmington, NM	12/7/05			
11 <sup>th</sup> Annual CO2 conference (Texas & others)	Midland, TX	12/8-9/05			
Southwest Regional Partnership on Carbon Sequestration: Kickoff Meetings for Field Pilots	Socorro, NM	12/15-16/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr	1	10	8 (80%)	120	26,327	98,036	Semiannual PRRC newsletter with PTTC section
2 <sup>nd</sup> Qtr	1	19	15 (79%)	168	30,914	136,158	
3 <sup>rd</sup> Qtr	2	105	101 (96%)	158	33,396	135,741	
4 <sup>th</sup> Qtr	1	23	22 (95%)	215	34,090	145,898	
FY05 Total	5	157	146 (93%)	661	31,182	128,958	
FY05 Avg. Attendance = 31 vs. 36 in FY04 vs. 37 in FY03							
FY06 Plans: 6 events							

**Website:** Usage, one of the highest among the regions, continues to regularly increase with year-end usage being more than 50% higher than year-end FY04 usage. Probable causes include consolidation of all information onto a single server, integration of New Mexico water quality data into the website, and actual increased usage with strong oil and gas prices. Initial efforts using Mollyguard/Paypal for online registration have been reasonably successful, although some customers don't like having to have a Paypal account. Some continue to call in reservations.

**Workshops/Events:** Overall attendance (157) was approximately half that experienced in FY04, largely due to fewer workshops being conducted. This does not reflect the four cooperative events reported by the Texas Region. One of those cooperative events, the annual CO<sub>2</sub> Conference held in Midland, drew 245 attendees. A significant event for the year was the Horizontal Drilling workshop held in Midland. PAG Chairman Dave Boneau contributed significantly to this workshop. Several presentations featured case study results. Martha Cather coordinated workshops in Midland and Farmington on Manifold (low-cost GIS software) and using free data from the Internet. Participants were provided a "cookbook" handout for later home use/application. Some of the workshops originally planned during FY05 did not occur, for a variety of reasons.



**Resource Center:** Regional effort primarily goes to developing and maintaining the databases offered online. Digital data has been a priority throughout the region's history.

**Newsletter:** Column in semiannual PRRC newsletter, January and July 2005; circ. 3,000.

**Outreach/Contacts:** Overall contact activity remained essentially level with FY04 levels. Most inquiries relate to how to use the different data resources. Other calls concern the water quality data and how to use NM Oil Conservation Division's website.

**Problem Identification:** Industry needs and directions for future activities are determined by feedback from workshop participants, contacts at industry events, inquiries and PAG input. There is interest in PETRA software training. One suggestion that has been made is for the region to conduct a technical updates-type workshop on software/geology. Pit issues remain of concern. Further work is needed before planned workshops on pit issues can be conducted. The workshop on H<sub>2</sub>S Issues scheduled early in FY06 is in response to strong producer interest. In a general sense, there is concern about personnel and equipment shortages and Governor Richards general disfavor for the O&G industry.

**Follow-up/Case Studies:** Partly as a consequence of several workshops concerning data access that the region presented, web activity has increased dramatically and contacts via e-mail and telephone are up as well. At the request of San Juan Basin producers, staff has begun to compile data regarding H<sub>2</sub>S occurrences in that basin. This has resulted in a cooperative effort with the Farmington's BLM field office to document the spread of H<sub>2</sub>S problems. Discussions during an August 2005 PAG meeting about "pit issues" led New Mexico Tech's PRRC group to commit some resources to further gathering historical data and technology information.

## PTTC Texas Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) Industry	
Workshop History: FY03 Attendance (12 events, plus 4 by others)			1,054	967 (92 %)	
Workshop History: FY04 Attendance (13 events, plus 1 by Southwest)			794	749 (94 %)	
FY05 Events					
Tech Sessions @ Permian Basin Oil Show (Kiker facilitated, involved in Program Committee)	Midland, TX	10/19-20/04	230	230 (100%)	
Business Tech Session @ PBPA	Midland, TX	10/28/04	41	41 (100%)	100%
“Emerging Technologies” Workshop @ IPAA Annual Meeting (Headquarters)	Austin, TX	10/28/04	88	88 (100%)	
Unconventional Gas Reservoirs Symp.	Farmers Branch	11/3/04	65	65 (100%)	
Produced Water Seminar (Texas Alliance)	Wichita Falls, TX	11/4/04	35	35 (100%)	
Essentials of Subsurface Mapping (S TX Geol. Soc.)	San Antonio, TX	11/10/04	32	32 (100%)	50%
Permian Basin Initiative Workgroup	Midland, TX	11/30/04	38	38 (100%)	40%
Permian Basin Initiative Workgroup	Houston, TX	12/7/04	23	23 (100%)	26%
Deep Gas Well Stimulation (Pinnacle Technologies)	Houston, TX	12/8/04	82	78 (95%)	17%
2004 Annual CO <sub>2</sub> Conference (CEED & others)	Midland, TX	12/9-10/04	245	215 (82%)	
Stranded Gas & Power Cost Reduction (Southwest)	Midland, TX	12/15/04	13	13 (100%)	31%
Data Gathering Techniques and Interfaced Production Accounting Software (Southwest)	Midland, TX	3/1/05	16	16 (100%)	5%
Controlling Sand Production (Central Gulf)	Houston, TX	3/2/05	31	27 (87%)	26%
Rocks, Pores & Capillary Pressure (EMGTI)	Farmers Branch	3/3-4/05	35	35 (100%)	
Kiker presentation @ Illinois O&G Association	Evansville, IN	3/4/05	Reported by Midwest		
Data Gathering Techniques and Interfaced Production Accounting Software (Southwest)	Farmington, NM	3/17/05	Reported by Southwest		
Kiker presentation @ Digital Energy Conference	Houston, TX	3/23/05	200	200 (100%)	
Kiker presentations @ Southwestern Petroleum Short Course, Wellbore Management and Produced Water Management (4 presentations)	Lubbock, TX	4/19-20/05	87	87 (100%)	20%
Petroleum Geoscience; Basics of Petroleum Generation, Migration, Trapping (EMGTI)	Farmers Branch, TX	5/3-4/05	35	31 (89%) est.	
Horizontal Drilling (Southwest)	Midland, TX	5/12/05	Reported by Southwest		
Barnett Shale III Symposium (EMGTI)	Farmers Branch	6/8-9/05	200	180 (90%) est.	
EPA’s Natural Gas STAR & Vapor Recovery/Wellhead Compression	Corpus Christi, TX	6/16/05	15	14 (93%)	0%
Material Balance, Modeling and Simulation, Reservoir Engineering Tools (Core Labs, w C. Gulf)	Houston, TX	6/29/05	70	68 (97%)	30%
Introduction to Mining the Internet: Free GIS Data and Low Cost Software (Southwest)	Midland, TX	9/13/05	23	23 (100%)	37%
Introduction to Mining the Internet: Free GIS Data and Low Cost Software (Southwest)	Farmington, NM	9/15/05	Reported by Southwest		
Stranded Gas, Options for Realizing Value (Texas Alliance)	Dallas, TX	9/20/05	30	28 (93%)	6%
Geological, Petrophysical and Engineering Aspects of Reserves Writedowns (Ellison Miles)	Farmers Branch	9/20-22/05			
Horizontal Well Technologies and CBM Applications (Central Gulf)	Houston, TX	9/22/05	Canceled due to Hurricane Rita		
FY05 Attendance (23 events, plus 3 by Southwest, 1 by Midwest and 1 hurricane cancellation)			1,674	1,607 (96%)	
New Technology Enabling New Plays (SIPES, N. Texas Energy Council)	Farmers Branch, TX	10/18/05			
Tech Session @ PBPA annual meeting	Midland, TX	10/20/05			
Symposium on Improved Profits Through Emissions Reductions (Texas A&M Corpus Christi)	Corpus Christi, TX	11/1/05			
Barnett Shale Symp. (Midland College, SPE PB)	Midland, TX	11/1/05			
Fundamentals of Seismic Interpretation (EMGI)	Farmers Branch	11/1-2/05			

11 <sup>th</sup> Annual CO2 Conference (Southwest, Others)	Midland, TX	12/8-9/05			
Reserve-Growth Potential from CO2-Enhanced Oil Recovery Along the Gulf Coast (BEG)	Houston, TX	12/13/05			
Core workshop: Tight Gas Sands, Cotton Valley Formation of East Texas (Matador Resources)	Austin, TX	12/14-15/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr	11	892	858 (96%)	1,489 (142 TIPRO)	10,719 (314,308 TIPRO)	19,200 (424,200 TIPRO)	Quarterly newsletter
2 <sup>nd</sup> Qtr L&L	3 1	82 200	78 (95%) 200 (100%)	1,076 (206 TIPRO)	8,567 (298,213 TIPRO)	16,719 (360,282 TIPRO)	
3 <sup>rd</sup> Qtr L&L	4 1	320 87	293 (92%) 87 (100%)	960 (296 TIPRO)	10,003 (378,116 TIPRO)	17,222 (466,008 TIPRO)	
4 <sup>th</sup> Qtr	3	93	91 (98%)	1,002 (223 TIPRO)	9,286 (528,272 TIPRO)	28,920 (727,306 TIPRO)	
FY05 Total L&L	21 2	1,387 287	1,320 (95%) 287 (100%)	4,527 (867 TIPRO)	9,644	20,515	
FY05 Avg. Attendance = 73 vs. 61 in FY04 vs. 88 in FY03							
FY06 Plans: 12 events							

**Website:** Usage statistics are reported for the Texas Region website, plus portions of TIPRO's Energy Connection site that are considered technology related. Usage remains strong, one of the highest levels among the regions. Practice is to place workshop presentations online if speakers give permission. Content of the Barnett Shale section of the website is continually expanded. Steve Kirk with TIPRO provides several web-related services, including: server maintenance and security, online registration, listserv maintenance, and scripting. He also leads periodic efforts to modify/refresh website navigation and look. Staff has worked diligently to place workshop speaker presentations/slides online and is actively working towards audio/videotaping selected workshops and placing those online.

**Workshops/Events:** Overall attendance (1,674), which was third highest among the regions, more than doubled compared to FY04 levels. Twenty three workshops were conducted, compared to 13 in FY04. There were additional cooperative events with the Southwest and Central Gulf regions. Four events (tech sessions at Permian Basin Oil Show, 2004 Annual CO<sub>2</sub> conference, Kiker's presentation at the Digital Energy Conference in Houston, and the Barnett Shale III Symposium) account for more than half of the total attendance. Workshops covered a broad spectrum of engineering and geological topics, providing something that would meet almost anyone's interests. Locations were spread across Texas. The region co-sponsored four events at Ellison Miles Geotechnology Institute. The workshop with EPA STAR and Hybon Corporation on vapor recovery is a prime example of seizing a cooperative opportunity that arose during the year. Another example of seizing the day is the "Deep Gas Well Stimulation" workshop that presented results from a large, multi-year DOE-supported project. PAG members and Bob Kiker play an important role in shaping operations/engineering workshops.

**Resource Center:** Through BEG, extensive data and information resources are available. An online searchable database developed by BEG of all geologic and geophysical materials helps users know what is available. BEG worked closely with the Rocky Mountain Region to provide them with data for the Core Locator system. The Barnett Shale website makes a wealth of information electronically available.

**Newsletter:** Semi-annual online newsletter (March 2005 and Aug 2005) circ. 1,000. Announcements are made in PBPA newsletter (1,200) and SPE Permian Basin (1,100 ea). Regular coverage in the Energy Section of the *Midland Reporter-Telegram* (circ. 25,000). Regularly uses e-mail alerts.

**Outreach/Contacts:** Overall contact activity increased 34% compared to FY04 levels. This does not include the Internet/website contacts made by TIPRO. Connections with key organizations in the region were strengthened by cooperative efforts. Bob Kiker's networks in the Permian Basin and across Texas are leveraged extensively, including out of state. Staff exhibited at the Tyler Prospect Expo and the Texas Alliance's annual meeting.

**Problem Identification:** Industry needs and directions for future activities are determined by feedback from workshop participants, contacts at industry events, inquiries and PAG input. The region is also alert to cooperative opportunities that arise through the year.

**Follow-up/Case Studies:** The region and PTTC HQ analyzed the impact of eight selected workshops conducted from October 2003 through December 2004. DrillingInfo.com volunteered to conduct an Internet survey. A random 25% of attendees were contacted, of which a 20% subset responded. Topics where respondents indicated that PTTC workshops were major decision drivers included: Pump Controls, Soil Remediation, Polymer Gel WSO Treatments, and Deep Gas Well Stimulation. Many respondents expressed that, with the way questions were asked, their responses would be conservative. Extrapolating to total attendance, the MINIMUM economic value was estimated at \$677 million. HQ's analysis, which consisted of follow-up calls to 17 attendees who had indicated on their feedback forms that they had applied technologies learned about through PTTC, indicated a wide range of \$ impact, ranging from a few thousand to several millions. This analysis too yielded an attractive multiple of resources invested. In another indication of impact, the BEG "Permian Basin Initiative" where PTTC had co-sponsored informational meetings has attracted industry sponsors (5 sponsors totaling \$130,000).

## PTTC West Coast Region

Topic (main cosponsors in parentheses)	Location	Date	Attendance		Repeat Attend.
			Total	# (%) from Industry	
Workshop History: FY03 Attendance (14 events plus COMET)			583	383 (66 %)	
Workshop History: FY04 Attendance (12 events plus COMET)			644	459 (71 %)	
FY05 Events					
Coiled Tubing Application and Operations	Valencia, CA	10/21/04	34	19 (56%)	89%
Tunnel Vision Management of Mature Oilfields (SPE Los Angeles Basin)	Los Angeles, CA	11/16/04	60	50 (83%)	
Waterflood Enhancement and Management	Los Angeles, CA	12/3/04	47	32 (68%)	84%
Application of Innovative and New Technologies in Reservoir Characterization	Valencia, CA	1/27/05	51	38 (75%)	97%
Modern Completion Practices	Valencia, CA	2/17/05	42	26 (62%)	88%
SPE Los Angeles (50 <sup>th</sup> Anniversary Presentation: Metamorphoses of Oilfield Technologies	Long Beach, CA	3/9/05	150	105 (70% est)	
Independents' Day @ SPE Western Regional Mtg	Irvine, CA	3/31/05	24	17 (70% est)	
Gas Field Technology	Sacramento, CA	4/28/05	26	18 (69%)	89%
Water Control for Southern California Oil Wells(Global Energy Partners LLC), a roundtable discussion	Los Angeles, CA	6/10/05	16	11 (69%)	82%
COMET Student Training/Internship	Los Angeles, CA	6/26 7/1/05	18	15 students, 3 teachers	
Computer-Aided Geological and Petroleum Engineering Studies	Valencia, CA	7/28/05	30	27 (90% est)	
Troubleshooter Forum	Valencia, CA	9/22/05	32	29 (90% est)	
FY05 Attendance (11 events plus COMET)			530	372 (70%)	
Oilfield Safety and Recommended Practices	Valencia, CA	10/27/05			
Panel on Power Generation Using Waste and Stranded Gas	Valencia, CA	11/22/05			
Anniversary Forum: The Other 30% Recovery Factor	Los Angeles, CA	12/9/05			

FY05 Statistical Summary By Quarter							
	Workshops			Industry Contacts	Website (mo. Avg.)		Newsletter
	#	Attend	Industry No. (%)		User Sessions	Page Views	
1 <sup>st</sup> Qtr L&L	2 1	81 60	51 (63%) 50 (83%)	84	4,255	12,850	Announcements in CIPA newsletter; email alerts
2 <sup>nd</sup> Qtr L&L	3 1	117 150	81 (69%) 105 (70% est)	84	4,094	13,537	
3 <sup>rd</sup> Qtr L&L Intern	1 1 1	26 16 18	18 (69%) 11 (69% est)	81	3,998	12,790	
4 <sup>th</sup> Qtr	2	62	56 (90%est)	70	3,764	13,064	
FY05 Total L&L Intern	8 3 1	286 226 18	206 (72%) 166 (73%)	319	4,028	13,060	
FY05 Avg. Attendance = 44 vs. 54 in FY04 vs. 42 in FY03							
FY06 Plans: 10 events							

**Website:** Usage, which was relatively stable through FY05, increased measurably compared to FY04. Staff continued to provide routine maintenance and updating. Presentations from speakers giving permission are archived on the website.

**Workshops/Events:** Overall attendance (530) decreased 18% compared to FY04 levels. One less event was held in FY05. Most workshops were held in Valencia, which is relatively accessible to Los Angeles Basin operators and those from the Bakersfield area. Director Iraj Ershaghi made two technical presentations to local SPE sections. There was also a major cooperative effort organizing “Independents’ Day” for SPE’s Western Region meeting. Other workshop topics ranged from coiled tubing to water control to computer-aided geological and petroleum engineering. Traditional events included the Anniversary Forum in December and the Trouble Shooters Forum in September. For several years the region has made “Technology Transfer Awards” during the Anniversary Forum. The process of stimulating nominations from industry provides valuable outreach. The Trouble Shooters Forum brought producers and local consultants up-to-date on some low cost technologies and the current operating environment affecting the producers. Speakers representing several companies were involved. The region regularly recruits PAG members to serve as workshop moderators.

**Communications:** There is not a regional newsletter. Communications are maintained through announcements in association newsletters and email alerts of upcoming workshops.

**Outreach/Contacts:** Overall contact activity, although at a relatively low level compared to other regions, increased 19% compared to FY04 levels. Much of the outreach occurs through PAG member and staff interactions as agendas and content are developed for regional events. Iraj Ershaghi is also well networked within SPE in the West Coast.

**Problem Identification:** The region relies heavily on input from past workshop participants, shaped by PAG insights, to determine workshop topics. Each year’s schedule typically covers topics across the spectrum.

**Follow-up/Case Studies:** The region worked with Global Energy Partners in the California Public Utilities Commission program that offered rebates on purchase of equipment that would reduce power consumption. In one case, artificial lift systems were replaced with hydraulic pumping systems. A total of 43 wells in three fields were converted during seven months. Power consumption dropped more than 50%. Considering the rebates, simple payback will be 18 months. Numerous other examples with payouts ranging from less than a month to around two years were documented.

## Roster—PTTC Regional Lead Organizations

**Appalachian**

Dr. Douglas Patchen  
 Program Director  
 Appalachian Oil & Natural Gas Research Consortium  
 West Virginia University  
 P.O. Box 6064  
 Morgantown, WV 26506-6064

**Central Gulf**

Mr. Robert H. Baumann  
 Special Assistant to the Provost/Energy Programs  
 Center for Energy Studies  
 Louisiana State University  
 One East Fraternity Circle  
 Baton Rouge, LA 70803

**Eastern Gulf**

Dr. Ernest Mancini  
 Professor of Geology  
 University of Alabama  
 Box 870338, 202 Beville Bldg.  
 Tuscaloosa, Alabama 35487

**Midwest**

Dr. David Morse  
 Petroleum Geologist  
 Oil and Gas Section  
 Illinois State Geological Survey  
 615 East Peabody Drive  
 Champaign, Illinois 61820

**North Midcontinent**

Mr. Rodney Reynolds  
 EOR Liaison Engineer  
 Kansas University Energy Research Center  
 1930 Constant Avenue  
 Lawrence, KS 66047

**Rocky Mountain**

Dr. Sandra Mark  
 Research Assistant Professor  
 Colorado School of Mines  
 13<sup>th</sup> and Maple St.  
 Golden, CO 80401-1887

**South Midcontinent**

Dr. Charles Mankin  
 Director  
 Oklahoma Geological Survey  
 100 East Boyd St., Rm. N131  
 Norman, OK 73019

**Southwest**

Dr. Robert Lee  
 Director  
 Petroleum Recovery Research Center  
 New Mexico Institute of Mining and Technology  
 801 Leroy Place - Campus Station  
 Socorro, NM 87801

**Texas**

Dr. Scott Tinker  
 Director  
 Bureau of Economic Geology  
 The University of Texas at Austin  
 University Station, Box X  
 Austin, TX 78713-8924

**West Coast**

Dr. Iraj Ershaghi  
 Director, Petroleum Engineering Program  
 University of Southern California  
 HEDCO-316  
 University Park  
 Los Angeles, CA 90089-1211

## Petroleum Technology Transfer Council Board of Directors

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**OFFICERS:**

Chair	Brian Sims	Independent	Madison, MS
Vice Chair	Gene Ames	The Nordan Trust	San Antonio, TX
Immed. Past Chair	Brook Phifer	Nico Resources, LLC	Littleton, CO
Exec. Director & Sec/Treas (non-voting)	Don Duttlinger	PTTC	Houston, TX

(Note: Officers serve 1-yr. terms that extend through the next annual meeting of the Board)

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**DIRECTORS**
**REPRESENTING:**


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*REGIONS:*

Appalachian	Rick Goings	Dominion E&P, Inc.	Jane Lew, WV
Central Gulf	Joe Jacobs	Gas Masters of America, Inc.	Monroe, LA
Eastern Gulf	Karl Kaufmann	Valioso Petroleum Co.	Flowood, MS
Midwest	Richard Straeter	Continental Resources of IL	Mount Vernon, IL
North Midcontinent	Mark Shreve	Mull Drilling Co., Inc.	Wichita, KS
Rocky Mountain	Robert McDougall	Westland Energy Inc.	Cody, WY
South Midcontinent	Fletcher Lewis	Fletcher Lewis Eng.	Oklahoma City, OK
Southwest	David Boneau	Yates Petroleum Corp.	Artesia, NM
Texas	Allen Gilmer	Vecta Exploration, Ltd.	Austin, TX
West Coast	Chris Hall	Drilling & Production Co..	Torrance, CA
Regional Lead Orgs.	Doug Patchen	NRCCE – WVU	Morgantown, WV

**ORGANIZATIONS:**

Indep. Petrol. Assoc. Of America	Allen Frizzell	Enrich Oil Corporation	Abilene, TX
Interstate Oil & Gas Compact Comm.	John T. King	MI Public Service Comm.	Lansing, MI
American Assoc. of Pet. Geologists	Eddie David	David Petroleum Corp.	Roswell, NM
Society of Explor. Geophysicists	Hugh Rowlett	ConocoPhillips	Houston, TX
Society of Petroleum Engineers	Ken Oglesby	IMPACT Technologies, LLC	Tulsa, OK

**INDUSTRY SECTORS:**

Service Cos.	Mo Cordes	Schlumberger Oil Field Svcs.	Houston, TX
Large E&P Cos.	Robert Lestz	Chevron	Houston, TX



### **Alternate Directors**

**Representing:**

Appalachian	Bernie Miller	Miller Energy Techn. LLC	Lexington, KY
Central Gulf	Bob Meredith	Vada Energy LLC	Port Allen, LA
Eastern Gulf	Bob Schneeflock	Paramount Petroleum	Ridgeland, MS
Midwest	Matt Stone	Barger Engineering	Evansville, IN
North Midcontinent	Gary Reed	Arkan Petroleum, Inc.	Wichita, KS
Rocky Mountain	Bob Lamarre	Lamarre Geol. Enterprises	Denver, CO
South Midcontinent	Vacant		
Southwest	T. Greg Merrion	Merrion Oil & Gas	Farmington, NM
Texas	Vacant		
West Coast	Vacant		
Regional Lead Orgs.	Sandra Mark	Colorado School of Mines	Golden, CO
IOGCC	Freed Steece	SD Dept of Env./Nat Res	Rapid City, SD
SEG	Robert Graebner	The Information Store	Houston, TX
SPE	Michael Gatens III	MGV Energy, Inc.	Calgary, AB, CAN
Service Cos.	Jay Haskell	Schlumberger Oilfield Svces	Houston, TX
Large E&P Cos.	Vacant		

### **Management & Budget (M&B) Committee**

**Position:**

M&B Committee Chair, and Board Vice Chair	Gene Ames III	San Antonio, TX
Current Board Chair	Brian Sims	Madison, MS
Immediate Past Board Chair	Brook Phifer	Littleton, CO
M&B Committee Member	Robert McDougall	Cody, WY
M&B Committee Member	Joe Jacobs	Monroe, LA
Executive Director (ex-officio, non-voting)	Don Duttlinger	Houston, TX

**Notes from the by-laws:**

- The terms served by Alternate Directors are the same as for the Directors they represent.
- Officers do not have Alternates. Officers may succeed themselves.
- Members of the Nominating Committee and the Management & Budget Committee who are Officers have terms on these committees that are linked to their terms as Officers. Other committee members have terms that are concurrent with their Board membership.

## Petroleum Technology Transfer Council

### Guide for Professional and Ethical Conduct

**The Petroleum Technology Transfer Council (PTTC)** is a national not-for-profit organization that is tax-exempt under Section 501(c)(3) of the IRS code. PTTC is not a membership organization, although there are volunteer members of the Board of Directors, its committees, and the Producer Advisory Groups. This Guide for Professional and Ethical Conduct applies to all members of those groups, as well as the national and regional PTTC staff and contractors. These dedicated professionals recognize their responsibility to PTTC and those it serves in carrying out the organization's mission:

*"PTTC benefits the nation by helping U.S. independent oil and gas producers make timely, informed technology decisions."*

PTTC, embodied by its representatives and staff, recognizes its responsibility to pursue its mission while maintaining the high standards of professional and ethical conduct summarized below.

- **Ethical Behavior:** PTTC will be guided in all of its affairs by high standards of business ethics and professional conduct, striving to maintain honesty, integrity, fairness, impartiality, and trust. PTTC will strive to avoid making false, misleading, or unwarranted statements or representations.
- **Service, Quality, Professionalism:** Every PTTC action and activity will be performed in a manner that fosters the organization's mission. PTTC will professionally deliver products and services of the highest possible quality.
- **Confidentiality:** When those being served by PTTC require secrecy, PTTC will treat as confidential any knowledge of proprietary data or information as directed by those providing such data or information.
- **Referrals, Self-Interest:** For those it serves, PTTC will provide unbiased referrals to the best solution providers for their problems. PTTC will deny any use of its structure or program for individual or organizational self-interest. Any potential conflict of interest that might influence (or appear to influence) the judgment, fairness, and quality of PTTC's performance in any way will be disclosed immediately.
- **Copyrights, Cooperation:** PTTC will honor the copyrights and other intellectual property rights of speakers, authors, and other sources of published information. PTTC will appropriately recognize the work done by others, avoid plagiarism, and avoid accepting credit due to others.
- **Opportunity:** PTTC will make every effort to ensure that its structure and programs are carried out without bias due to race, religion, gender, age, national origin, or handicap.
- **Public Welfare:** PTTC will hold paramount the safety, health, and welfare of the public in all of its programs and activities, and act in accordance with all applicable laws.

*Note: Statement adopted by the PTTC Board of Directors on December 6, 1998*

## Petroleum Technology Transfer Council

### Conflict of Interest Policy Statement

The Petroleum Technology Transfer Council (PTTC) strives to carry out all of its activities in accordance with the “Guidelines for Professional and Ethical Conduct,” as adopted by the Board of Directors on December 6, 1998. To further clarify PTTC’s position on issues related to conflict of interest and confidentiality, the Board hereby adopts this “Conflict of Interest Policy Statement.”

#### *Need for Policy*

Most individuals involved with PTTC have multiple interests and affiliations and many hold various positions of responsibility within the industry and community. In matters related to the mission of PTTC, Board members and alternates (which includes elected officers) are expected to uphold the interests of the Council and its obligations to the public trust.

This policy applies only to conflicts of interest in personal or business interests; it does not apply to political, philosophical, or professional differences of opinion. It recognizes that both real and apparent conflicts of interest sometimes occur in the course of conducting PTTC affairs. As a not-for-profit educational organization that is tax-exempt, it is important for PTTC to avoid even the appearance of a conflict of interest.

#### *Conflict of Interest Policy*

PTTC adopts this policy to serve as an official process through which any potential conflict of interest problems can be rendered harmless to all concerned. The policy requires that the following steps are taken:

- A. All Board members and alternates shall disclose any real or apparent conflicts of interest in connection with PTTC’s activities that they discover, or that have been brought to their attention. In this event, a written description of the situation shall be provided to the Executive Director who will take appropriate steps as needed, under the guidance of the Management and Budget Committee.
- B. Any Board members and alternates making such a disclosure is prohibited from being involved in PTTC affairs that are specifically related to such conflicts, including making motions, voting, executing agreements, or taking any other similar action.
- C. The official meeting minutes shall reflect that such disclosure was made, and that the Board member or alternate was absent from any discussion and vote on the matter in question.
- D. A copy of this conflict of interest policy shall appear in the orientation materials for new directors and shall be included in all official reference materials for the Council.

*Note: Statement adopted by PTTC Board of Directors on March 30, 1999*



## Statement of Identity

The Petroleum Technology Transfer Council (PTTC) enables independent operators to make timely, informed exploration and production (E&P) decisions through practical, targeted information and connections to technology solutions. As a regionally focused national non-profit organization, PTTC has an 8-year record of growth in meeting the technology needs of US independent oil and gas producers. PTTC's primary customers are independent producers, who drill 85 percent of all US wells. As a group, they produce 60 percent of US natural gas and 40 percent of crude oil.

Independents face technology decisions every day, such as whether to address an opportunity or problem with technology, what solution to use, whether it is cost-effective and how to use it. The PTTC program helps producers make these decisions through its three core services. First, it helps identify and clarify producers' problems and makes them aware of technology opportunities. Second, it educates producers about technology solution options. Third, it connects producers to these solution sources. Thus, by providing problem identification, education, and connections, PTTC achieves its mission:

*"To strengthen the U.S. independent oil and natural gas industry for the benefit of consumers and the nation by helping producers make timely, informed technology decisions."*

Through its 10 Regional Resource Centers, PTTC offers expert assistance, information resources, and referrals. Services also include demonstrations of E&P software solutions, and technology workshops held around the country on a variety of topics. In addition, PTTC's newsletters, websites, case studies and reports cover a range of information and databases.

All PTTC products and services – nationally and regionally – can be grouped into program lines: (1) exploration (2) drilling & completion, (3) development & reservoir, (4) operations & production, and (5) environmental.

PTTC is more than just an information clearinghouse. It supports producer technical decision processes – from early awareness of problems and opportunities to the point that the customer selects the right solution provider.

In addition to independent producers, PTTC focuses on two other market segments. The first group, technology solution providers, include service companies/vendors, the US Department of Energy, national labs, consultants, the Gas Research Institute, academia, professional societies, industry R&D organizations, etc. The other group is PTTC's supporters/funders.

PTTC delivers value to all the market segments it serves. Solution providers benefit when PTTC educates producers about technologies. Producers benefit when PTTC helps solution providers understand the needs of independent producers. Both groups benefit when technologies solve problems, leverage opportunities, and strengthen the industry.

The nation and energy consumers benefit when US petroleum supplies are made more reliable and secure by industry's improved access to E&P technology. , PTTC is the independent petroleum industry's

***"Bridge to Solutions"***

PTTC is primarily funded by the U.S. Department of Energy's Office of Fossil Energy through its National Energy Technology Laboratory.

## Petroleum Technology Transfer Council

### PTTC's Goal Categories

PTTC has chosen five categories of goals to direct its actions. Each is captured in a single word, which makes them more memorable; and each has several vision statements describing what success will be like.

#### 1. AWARENESS

- PTTC is aware of its customers' problems and understands the context/underlying issues.
- Independent producers are aware of PTTC and its services at their local level, as well as nationally.
- Independents understand their technology needs, focusing beyond the symptoms of their problem.
- Independents are aware of the range of solutions available and of the benefits/risks of each.
- Technology solution providers are aware of PTTC and that it can help them reach independents.
- Solution providers understand the problems of independent producers, and their value as a market.

#### 2. CONNECTIONS

- Independent producers rely on PTTC for connections to a range of technology solution options.
- Solution providers rely on PTTC for contacts with independent producers and access to that market.
- Independents learn how to successfully apply technologies as a result of PTTC referrals.
- Independents credit PTTC for their success in finding the right sources for technologies/information.
- Technology solution providers credit PTTC for improving their access to independents.

#### 3. PERFORMANCE

- Producers make inquiries to PTTC as a result of its workshops, newsletters, websites, etc.
- Independent producers contact PTTC more than once for help, and request new products/services.
- Case studies about U.S. field-tested technologies are offered to PTTC for industry dissemination.
- Independents publicly commend PTTC's products/services and refer other producers to the RLOs.
- Technology solution providers offer financial support for PTTC events and other functions.
- Other groups want to conduct jointly-sponsored events or activities with PTTC.

#### 4. CREDIBILITY

- PTTC is perceived by independents as the best choice for access to practical, real-world solutions.
- PTTC is recognized by technology solution providers as the best pathway to reach independents.
- The Board, PAGs, and committees have active participation and effective volunteer leaders.
- The Dept. of Energy values PTTC's unique abilities to strengthen the domestic oil and gas industry.
- PTTC has high name recognition in the industry and a positive image in outside markets.

#### 5. FINANCES

- PTTC has achieved financial strength, which engenders confidence about the organization's future.
- PTTC activities are not limited by the number of customers that it can serve
- PTTC has the required cash flow and financial reserves to explore new outreach projects.
- RLOs receive sufficient funds on a timely basis so that regional programs remain effective.
- PTTC can charge enough for services and products to make them generally self supporting.

## Petroleum Technology Transfer Council

### PTTC Program Lines

Since PTTC was formed in 1993, its programs have mainly focused on transferring individual technologies. Although very effective, it has been difficult to identify gaps, overlaps, or conflicts in various technologies across regions and topics. As part of the new business model, PTTC has selected five program lines that encompass the services and products being delivered to its customers. They were chosen to be general enough to survive for the long term, yet provide flexibility by topic and region:

#### **PTTC Program Lines:**

- **Exploration**
- **Drilling and Completion**
- **Development and Reservoir**
- **Operations and Production**
- **Environmental**

The transition from individual technology focus to program lines will be initiated during FY2000. Working together, the HQ and RLO staff will start finding ways to accomplish the following steps:

- Organize current products and services by program line.
- Identify and prioritize gaps in needed products and services, according to regional and other factors.
- Take action to close high-priority gaps by assembling the required resources (contacts with solution providers, workshop speakers, etc.) to provide comprehensive services/products in each program line.
- Develop quality assurance criteria to guide performance of each service and product.

The concept is that resources (information, reports, network of experts, etc.) would not necessarily be required in every region, but somewhere within the national PTTC organization. Each program line will include not only services, but also products. PTTC is beginning to build up more marketable products as it captures the results of regional workshops and other activities.

Several benefits are expected from the establishment of program lines:

- Having memorable names for program lines makes it easier for customers to find PTTC's services.
- It should be easier to measure effectiveness, completeness, and quality of products and services.
- HQ can better monitor PTTC's national and regional program, enabling efficiencies through streamlining and better sharing across regions.
- PTTC programs can be marketed more effectively to specific market segments.
- The system should enhance inter-regional technology transfer activities and reduce duplication of programs that can be more efficiently packaged as a generic product/service.
- Program lines should help emphasize PTTC's marketing message.
- It demonstrates PTTC's commitment to serve independent oil and gas producers with solution options that span across the total E&P technology spectrum.