

November 15, 2006

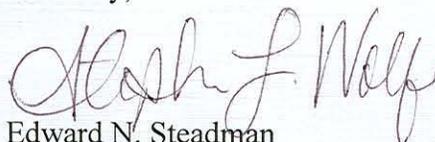
Ms. Karlene Fine
Executive Director
North Dakota Industrial Commission
600 East Boulevard Avenue
State Capitol, 10th Floor
Bismarck, ND 58505-0310

Dear Ms. Fine:

Subject: Plains CO₂ Reduction (PCOR) Partnership Semiannual Technical Progress Report
for the Period April 1, 2006 – September 30, 2006, Agreement No. G005-014,
Fund 9150

Enclosed are hard copies of the Semiannual Technical Progress Report of the PCOR Partnership Program for the North Dakota Industrial Commission Department of Mineral Resources, Oil and Gas Division. Please note that this report was originally sent on October 31, 2006, with the wrong agreement number; corrections have been made in the enclosed mailing. Also enclosed is a disk containing the Semiannual Technical Progress Report. If you have any questions, please call me at (701) 777-5279 or e-mail me at esteadman@undeerc.org.

Sincerely,


for Edward N. Steadman
Senior Research Advisor

ENS/slw

Enclosures

c/enc: Lynn Helms, North Dakota Industrial Commission (hardcopy only)
Rich Baker, North Dakota Industrial Commission (hardcopy only)
Tobe Larson, EERC (hardcopy only)



PLAINS CO₂ REDUCTION PARTNERSHIP

Semiannual Technical Progress Report

(for the period April 1, 2006 – September 30, 2006)

Prepared for:

Karlene Fine

North Dakota Industrial Commission
600 East Boulevard Avenue
State Capitol, 10th Floor
Bismarck, ND 58505-0310

Agreement No. G005-014

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PLAINS CO₂ REDUCTION PARTNERSHIP
Semiannual Technical Progress Report
April 1, 2006–September 30, 2006

EXECUTIVE SUMMARY

The goals and objectives of the Plains CO₂ Reduction (PCOR) Partnership Phase II program are to validate technologies and develop opportunities for our partners to capture, market, and monetize credits for CO₂. The long-range goal is to support the U.S. Department of Energy's (DOE's) FutureGen Initiative and to mitigate risk to industries that rely on fossil fuels by taking a market- and incentive-based approach to carbon management. The PCOR Partnership will accomplish this by 1) continuing to assess regional sequestration opportunities; 2) performing field validation tests that provide the information needed to monetize carbon credits; 3) evaluating the feasibility of selected commercial-scale carbon sequestration technologies; 4) assessing the economics, risk, public acceptance, and societal and monetary cobenefits of CO₂ sequestration; 5) ongoing collaboration among other Regional Carbon Sequestration Partnership programs; and 6) providing outreach and education for CO₂ sequestration stakeholders and the general public.

This reporting period saw significant progress in both the field validation test Tasks (Tasks 2–5) and in the supporting Tasks (Tasks 1, 6, 7, 8, 9, and 10). Significant progress has been made at the Zama field test site with a solid measurement, mitigation, and verification (MMV) plan falling into place as injection of the acid gas is about to proceed. Preparatory work for the Beaver Lodge field validation test is continuing. The lignite field test has arranged for the necessary permits and has had some success with securing commercial partners. The Prairie pothole field test site has been selected and background work on the development of terrestrial carbon offsets has begun. Regional characterization continues and the decision support system (DSS) is continuing to evolve and improve. Regulatory, outreach, and program integration task are continuing to meet and exceed expectations. Without exception scheduled deliverables and other work products were delivered on time.

PLAINS CO₂ REDUCTION PARTNERSHIP
Semiannual Technical Progress Report
April 1, 2006 – September 30, 2006

APPROACH

As one of seven Regional Carbon Sequestration Partnerships (RCSPs), the Plains CO₂ Reduction (PCOR) Partnership is identifying practical CO₂ sequestration options for the PCOR Partnership region. The PCOR Partnership is characterizing the technical issues, enhancing the public's understanding of CO₂ sequestration, identifying the most promising opportunities for sequestration in the region, and detailing an action plan for the demonstration of regional CO₂ sequestration opportunities. As a result of Phase I efforts, several field validation tests have been selected to facilitate and manage the demonstration and deployment of CO₂ sequestration projects (Figure 1).



Figure 1. PCOR Partnership Phase II Sequestration Demonstrations.

This report summarizes the activities for this reporting period. The activities are organized into ten tasks: 1) Task 1 – Management, Reporting, and Technical Outreach involves overall project management and development and distribution of required project reports; 2) Task 2 – Field Validation Test at Beaver Lodge, North Dakota, will evaluate the potential for geological sequestration of CO₂ in a deep carbonate reservoir in the Beaver Lodge oil field in northwestern North Dakota for the dual purpose of CO₂ sequestration and enhanced oil recovery (EOR); 3) Task 3 – Field Validation Test at Zama, Alberta, will evaluate the potential for geological sequestration of CO₂ as part of an acid gas stream that also includes high concentrations of H₂S; 4) Task 4 – Field Validation Test of North Dakota Lignite will evaluate the effectiveness of lignite seams to act as sinks for CO₂ during simultaneous CO₂ sequestration and enhanced coalbed methane (ECBM) production in the Williston Basin; 5) Task 5 – Terrestrial Validation Test will develop a market-based carbon sequestration strategy to capitalize on the tremendous potential for carbon sequestration in the wetlands of our region; 6) Task 6 – Characterization of Regional Sequestration Opportunities will refine the characterization of the region with respect to CO₂ sinks and sources; 7) Task 7 – Research Safety, Regulatory, and Permitting Issues will develop and implement action plans that satisfy local, state, and federal permitting requirements for demonstration projects conducted in the region; 8) Task 8 – Public Outreach and Education has been designed to ensure that the community is well informed about CO₂ sequestration and clearly understands its potential within the region; 9) Task 9 – Identification of the Commercially Available Sequestration Technologies Ready for Large-Scale Deployment will identify technologies and approaches suitable for the region and estimate their economic viability; and 10) Task 10 – Regional Partnership Program Integration will ensure that the PCOR Partnership activities are integrated with other U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL) RCSPs.

Results for the second reporting period in Phase II have focused on developing National Environmental Policy Act (NEPA) compliance documents, sampling protocols, outreach action plans, PCOR Partnership 2006 Annual Meeting preparation, wrap-up of Budget Period One, establishing subcontracts, and a continuation of the scheduled monthly and quarterly updates to DOE.

RESULTS AND DISCUSSION

Task 1 – Management, Reporting, and Technical Outreach

Task 1 includes all project management and reporting activities. This reporting period focused on the following activities: 1) managing overall project activities, 2) informing stakeholders about DOE's Regional Partnership program and the PCOR Partnership, 3) additions of new partners to the PCOR Partnership (see Table 1), and 4) discussing existing and potential demonstration activities with prospective Phase II participants.

Project Activities

The PCOR Partnership 2006 Annual Meeting and Workshops were held in Calgary, Alberta, Canada, September 13–15, 2006. The PCOR Annual Meeting provided an update of

Table 1. PCOR Partnership Phase II Partners

| | | |
|--|---|--|
| University of North Dakota Energy & Environmental Research Center (EERC) | Fischer Oil and Gas, Inc. | North Dakota Industrial Commission Oil and Gas Research Council |
| *Advanced Geotechnology Inc. | Great Northern Power Development, LP | North Dakota Natural Resources Trust |
| *Air Products and Chemicals | Great River Energy | North Dakota Petroleum Council |
| *Alberta Department of Energy | Interstate Oil and Gas Compact Commission | North Dakota State University |
| Alberta Energy and Utilities Board | Iowa Department of Natural Resources – Geological Survey | Otter Tail Power Company |
| *Alberta Geological Survey | Lignite Energy Council | Petroleum Technology Transfer Council |
| Amerada Hess Corporation | *MEG Energy Corporation | Prairie Public Television |
| Apache Canada Ltd. | Minnesota Power | Ramgen Power Systems, Inc. |
| Basin Electric Power Cooperative | Minnkota Power Cooperative, Inc. | Saskatchewan Industry and Resources |
| British Columbia Ministry of Energy, Mines and Petroleum Resources | *Missouri Department of Natural Resources | SaskPower |
| *Carbozyme, Inc. | Montana–Dakota Utilities Co. | Suncor Energy Inc. |
| Center for Energy and Economic Development (CEED) | Montana Department of Environmental Quality | *University of Alberta |
| Dakota Gasification Company | Natural Resources Canada | U.S. Department of Energy |
| Ducks Unlimited Canada | *National Commission on Energy Policy | U.S. Geological Survey Northern Prairie Wildlife Research Center |
| Ducks Unlimited, Inc. | Nexant, Inc. | Western Governors’ Association |
| Eagle Operating, Inc. | North Dakota Department of Commerce Division of Community Services | Wisconsin Department of Agriculture, Trade and Consumer Protection |
| Eastern Iowa Community College District | North Dakota Department of Health | Xcel Energy |
| Encore Acquisition Company | North Dakota Geological Survey | |
| Environment Canada | North Dakota Industrial Commission Department of Mineral Resources, Oil and Gas Division | |
| Excelsior Energy Inc. | North Dakota Industrial Commission Lignite Research, Development and Marketing Program | |

* New partners since the last reporting period.

Year 1 progress along with an insight into future activities. The meeting featured John Litynski (U.S. Department of Energy), Dick Kempka and Randy Renner (Ducks Unlimited, Inc.), Dr. Stefan Bachu (Alberta Energy and Utilities Board), Doug Nimchuk (Apache Canada, Ltd.), and Anne-Marie Thompson (Natural Resources Canada), along with John Harju, Ed Steadman, Daniel Daly, Lisa Botnen, Wesley Peck, and Steven Smith (Energy & Environmental Research Center [EERC]).

The workshops were also very beneficial to PCOR members and nonmembers. The Practical Aspects of CO₂ Enhanced Oil Recovery Workshop featured Steve Melzer, consultant

for the CO₂ industry (Melzer Consulting) and former Director of the Center for Energy and Economic Diversification. This workshop covered discussions on state-of-the-art CO₂ EOR. The CO₂ Capture, Separation, and Compression Workshop featured Richard Luhnig (Enbridge, Inc.), John Osborne (Cansolv Technologies), John Ruby (Nexant), Michael Trachtenberg (Carbozyme Inc.), and Robert Steele (Ramgen Power Systems), along with Melanie Jensen and Mike Jones (EERC). This workshop covered discussions on current and future CO₂ capture, separation, and compression technologies.

Representatives from the PCOR Partnership participated in and/or presented at the following meetings:

- Workshop on Public Communications for the Final Phase of the International Energy Agency Greenhouse Gas Weyburn Midale CO₂ Monitoring and Storage Project, Calgary, Alberta, Canada (April).
- International Energy Agency (IEA) Greenhouse Gas (GHG) Research & Development Programme's Weyburn Midale CO₂ Monitoring and Storage Project Workshop on Communications, Outreach, and Regulatory Issues, Calgary, Alberta, Canada (April).
- Western Interstate Energy Board Meeting, via conference call (April).
- North Dakota State Teacher's Meeting, Bismarck, North Dakota (April).
- 48th Cement Industry Technical Conference, Phoenix, Arizona (April).
- North Dakota Academy of Science 96th Annual Meeting, Valley City, North Dakota (April).
- Interstate Oil and Gas Compact Commission (IOGCC) 2006 Midyear Meeting, Billings, Montana (May).
- Meeting with Alberta Energy and Utilities Board (EUB) and Apache Canada Ltd. to discuss Zama field trial, Calgary, Alberta, Canada (May).
- 5th Annual Conference on Carbon Capture & Sequestration, Alexandria, Virginia (May).
- Williston Basin Petroleum Conference, Minot, North Dakota (May).
- Farmer's Union press conference, Fargo, North Dakota (May).
- Greenhouse Gas Control Technologies Conference (GHGT-8), Trondheim, Norway (June).
- Conducted interviews for Carbon Markets Documentary (Video 2), London, England, and Trondheim, Norway (June).
- PCOR Partnership Annual Terrestrial Working Group Meeting, EERC, Grand Forks, North Dakota (June).
- Meeting with State Lands Board for easement, Bismarck, North Dakota (June).
- Geographic Information System (GIS)/Outreach/Geological Workshop in Lawrence, Kansas (July).
- Meeting with Robert Gleason in South Dakota to view Ducks Unlimited, Inc., sites (July).
- Attended Northern Great Plains Research Laboratory's Friends and Neighbors Day, Mandan, North Dakota (July).
- Meeting with Apache Canada Ltd. to tour Zama field validation test site and film documentary footage, Zama, Alberta, Canada (August).
- Sixth Annual Environmental Systems Research Institute (ESRI) Education User Conference (GIS-related), San Diego, California (August).
- Attended U.S. Environmental Protection Agency (EPA)/DOE Technical Meeting, Pittsburgh, Pennsylvania (August).

- PCOR Partnership 2006 Annual Meeting, Calgary, Alberta, Canada (September).
- Participated in acid gas injection field trip being conducted by Energy & Utilities Board (EUB) and Alberta Research Council (ARC), Calgary, Alberta, Canada (September).

Materials presented at these meetings were sent to the DOE Contracting Officer's Representative (COR) under separate cover.

PCOR Partnership Phase II Partners

Phase II of the PCOR Partnership grew from 48 partners in reporting period October 1, 2005 – March 31, 2006 to 57 partners in reporting period April 1, 2006 – September 30, 2006. The current membership is listed in Table 1.

Task 2 – Field Validation Test at Beaver Lodge, North Dakota

The goal of Task 2 is to conduct a field validation test in the Beaver Lodge oil field in northwestern North Dakota to evaluate the potential for geological sequestration of CO₂ in a deep carbonate reservoir for the dual purpose of CO₂ sequestration and EOR.

In this reporting period, efforts were primarily focused on gathering readily available data sets that will be needed to prepare the experimental design package (EDP) for the CO₂ injection and measurement, mitigation, and verification (MMV) activities that will be conducted at the Beaver Lodge field. Basic information necessary to prepare the National Environmental Policy Act (NEPA) documents for the Beaver Lodge field validation test was also gathered. Meetings with Amerada Hess were held to resolve details on preliminary information needed for NEPA documentation. Both the EDP and NEPA are the first deliverables due for Task 2 (January 2007). Additional work was done developing a detailed geologic characterization of an area in central North Dakota for the purpose of geologic sequestration of CO₂ from coal-fired power plants in the area. The primary activity is developing well log data sets that can be used to create porosity-foot maps and cross sections. Identification of data gaps with respect to geochemical, geomechanical, and seismic data for the site was researched. We are also continuing to make appropriate modifications to the PCOR saline aquifer methodology and refine the estimated CO₂ capacities for the Madison and Lower Cretaceous aquifer systems.

Task 3 – Field Validation Test at Zama, Alberta

The goal of Task 3, the field validation test in the Zama Field of Alberta, is to evaluate the potential for geological sequestration of CO₂ as part of a gas stream that also includes high concentrations of H₂S. The acid gas will be injected for the concurrent purposes of CO₂ sequestration, H₂S disposal, and EOR. In this reporting period, we have been focused on meeting our preinjection deliverables. Through this reporting period, the project team has been focused on characterization activities related to the injection zone. The following activities have been accomplished to date.

Geological Characterization

During this reporting period, the geological characterization of the Zama region has been focused on incorporating data sets from existing sources and creating data where available. The primary focus has been the creation of maps to better describe the geological environment. Testing of core and fluids has begun in order to determine properties that will indicate the reactivity of the system when acid gas is introduced.

- The regional study area has been extended to encompass the entire Zama subbasin
- All surfaces from Pre-cambrian basement to Banff Formation have been gridded for the regional study area
- Picks data for shallow stratigraphy (Spirit River, Bluesky, Gething) was retrieved and is ready for gridding
- 2000 digital well log files (in Log Ascii Standard [LAS] format) were loaded, which provides very good well log coverage over the entire regional study area
- The digital elevation model (DEM) is in the process of being imported (study area straddles two adjacent map sheets, DEM pieces require reprocessing)
- Existing structure and depth to maps are being checked for consistency and bulls eyes
- Existing water chemistry and hydraulic head maps for the expanded regional study area were regridded to match the extended regional study area
- Creation of a database of relevant well data for the regional study area from Alberta EUB digital records is in progress
- Capture of additional well information for site and local scale is in progress
- EUB's wish list draft was completed and submitted to the EERC for discussion with research providers and Apache Canada Ltd.
- Rel perm for the cap rock (Muskeg anhydrite) by Hycal was completed
- Corrosion study of Zama wells by T. Watson & Associates was completed
- Partitioning experiments of CO₂ and H₂S by Hycal is in progress and will be completed by the end of the month

Data Collection and Integration

This task has been a critical component in the overall characterization scheme. During this reporting period data has been collected from Apache Canada Ltd, Alberta EUB, and the University of Calgary Core Library. This has been incorporated into a database and provided to the research team for use in their activities. The following items have been completed since the last report.

The 2006 job scope is near completion:

- F Pool Data gathering is 90% complete to August 31, 2006
- Reservoir engineering tasks are 90% complete to August 31, 2006
 - Core Lab Tracer work is currently uncertain as to the technical merit, APA is working to redefine the technical validity of the proposal
 - The 8-13 well has watered out and the status of the sampling point must be re-examined; APA Engineering is working this with Apache Canada Ltd.

- EERC visits and laboratory testing advice did not take place, 0% at August 31, 2006
- Reporting and meetings are 80–85% complete with work on Web site presentation ongoing at August 31, 2006
- Overall for 2006, 81% complete to August 31, 2006

Geomechanical Characterization

The subcontract for the Geomechanical Characterization subtask was completed during this reporting period. Work on the Zama system began in earnest in August and was in the initial data review stage.

- Work and testing is ongoing; reporting is anticipated in November
- Working on selection of a third-party laboratory
- Anticipate ongoing discussions with EUB

Task 4 – Field Validation Test of North Dakota Lignite

In Task 4, the effectiveness of lignite seams to act as sinks for CO₂ during simultaneous CO₂ sequestration and ECBM production will be evaluated in the Williston Basin. In this reporting period efforts were focused on using the information gathered from the evaluation of baseline information on potential coal seams to arrive at the field validation test site. These activities were closely coordinated with the North Dakota Industrial Commission (NDIC) Oil and Gas Division and the North Dakota State Land Department to find the best available location that may be appropriate for CO₂ injection and ECBM production. The evaluation of the baseline geologic setting of the area is continuing as well as investigations into water quality and coal from driller logs. Work is nearly complete on securing the necessary approvals from the state of North Dakota for easements and well spacing regimes.

The PCOR Partnership worked with the North Dakota State Land Department to obtain the mineral lease for Section 36, T159N, R90W in the southeast corner of Burke County for CO₂ injection and enhanced coalbed methane (ECBM) production. A letter was sent to and a meeting was held with the State of North Dakota Land Department regarding a lease for mineral exploration on land in Burke County on the lignite project. Permission was then obtained from the land department for the proposed project.

Topographical maps and cross sections from well logs of adjacent oil and gas wells have been prepared. The surveying has been completed for the staking of the well sites for the pilot program. A meeting was held with the State Land Department, Flatland Exploration, and Harris Construction to discuss the location of and access to the well sites. Several internal meetings were also conducted to discuss the logistics and synergies of the State Technologies Advancement Collaboration (STAC) and PCOR Partnership relationship for the lignite field validation test.

An endangered species evaluation of the proposed site was conducted, and the project will have no effect on any endangered species. The drilling permit applications have been completed and will be submitted to NDIC once the well spacing regime is approved. Discussions are

ongoing with PCOR partner and proposed subcontractor Eagle Operating, Inc., to drill the wells and assist with well operations. The drilling procedures are being prepared as these discussions continue.

An exception hearing for well spacing requirements for the lignite field validation test was held by the NDIC. EERC staff testified at the hearing as to the research needs of the project and why the variation from the spacing requirements was needed. The outcome of the hearing was positive and a written order approving the exception to the well spacing requirements is expected in the near future.

After the exception order for well spacing is received, the drilling permits will be filed with the state and, assuming additional funding and NEPA have been approved, PCOR subcontractor Eagle Operating, Inc., will begin to drill the test wells. In addition, work will continue on trying to secure CO₂ for injection in 2007.

Task 5 – Terrestrial Validation Test

The objective of the terrestrial field validation, Task 5, is to develop the technical capacity to systematically identify, develop, and apply alternate land use management practices to the prairie pothole ecosystem (at both a local and regional scale) that will result in GHG reductions.

We continue to synthesize the impacts of grazing, haying, and other land use management options on carbon sequestration. Guidelines for management of wetland hydrology and land management to enhance carbon sequestration potential are being developed and will be presented in fact sheets and/or report form for the Regional Technology Implementation Plan (RTIP). Additionally, business flow processes are being developed to provide a transparent framework for transacting carbon credits resulting from wetland/grassland sequestration under a variety of business scenarios, including the perspectives of both a landowner and an investor.

Identification of Field Trial Sites

Ducks Unlimited, Inc. (DU), and North Dakota State University (NDSU) signed a cooperative agreement for the sampling of soils on one study area during this reporting period. Approximately 2080 acres of native grassland, restored grassland, and cropland were sampled in Sheridan County, North Dakota (Figure 2). The samples consisted of 416 six-inch soil samples, 6 twelve-inch samples, and 120 two–four-foot-long cores for soil characterization. Vegetation and management practices were noted for each sample site along with the latitude and longitude for inclusion into a GIS database.

The sampling was completed to determine the following:

- Soil type and soil bulk density
- Climatological patterns of the study area
- Native grasslands
- Cropland and tillage practice
- Restored grasslands and wetlands

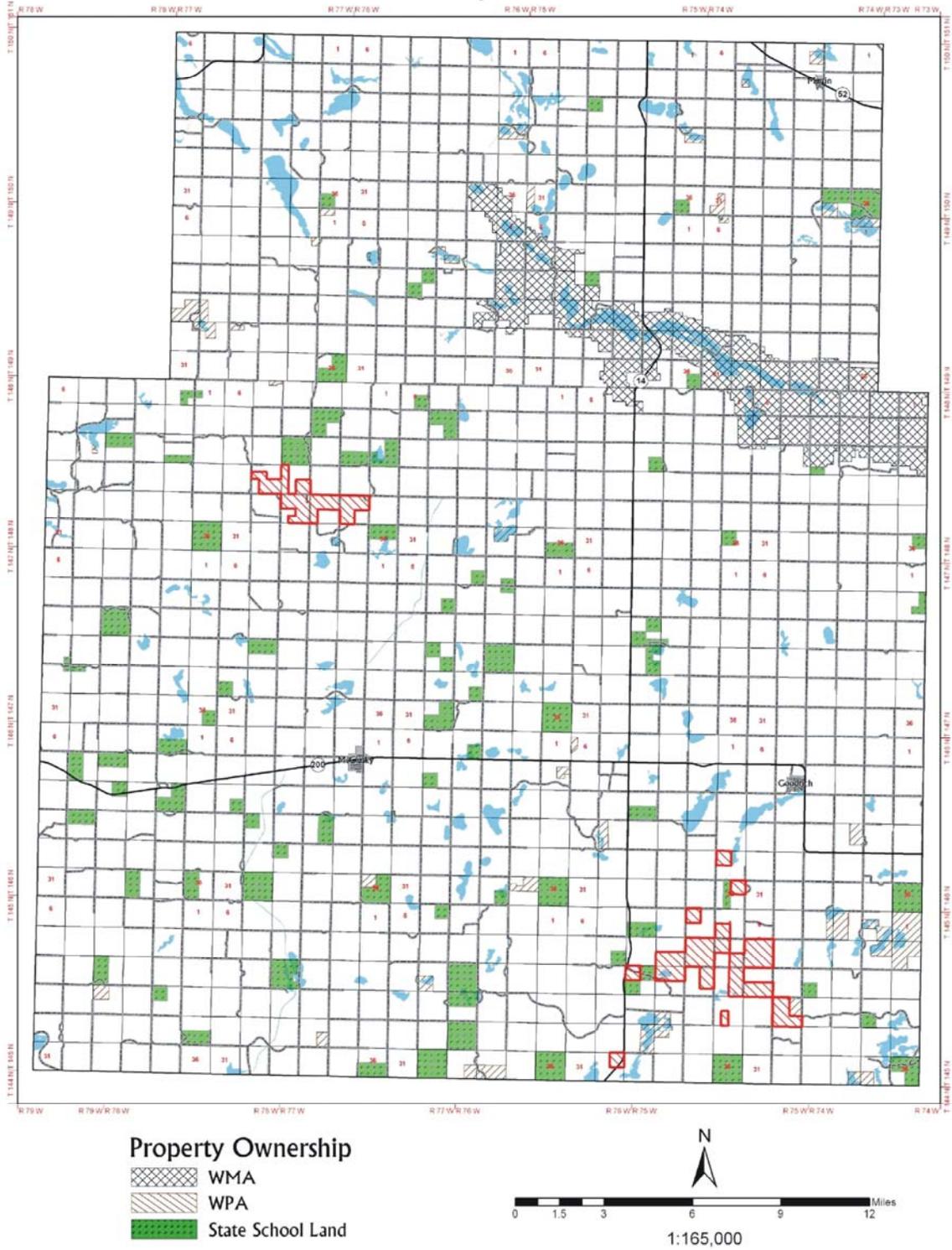


Figure 2. 2006 Sampling Sites (red)

- Site topography
- Vegetation characteristics and species
- Management prescriptions

DU collaborated with the Northern Prairie Wildlife Research Center (NPWRC) to identify a population of potential wetland sample replicates on DU property in South Dakota for monitoring of GHG fluxes over time. Areas selected for sampling were chosen based on past research conducted by the NPWRC. The final selection of sample sites will be completed during the first quarter of FY07, with gas sample collection commencing during the second quarter of FY07. Additionally, during FY06, NPWRC tested several static chamber designs that will potentially be used for gas flux measurements during field activities in FY07. Results from the different chamber designs are currently being analyzed. Ideally, the new chamber designs will permit a better understanding of the effects of grazing and haying on gas fluxes.

Restoration activities are currently planned on the Hoffman Property, McPherson County, South Dakota (Figures 3 and 4). Restored, native, and cropland wetlands selected for monitoring will be representative of wetland types most commonly targeted for restoration. To reduce background variation among wetland replicates (a minimum of three restored, three native, and three cropland wetlands), sites will be targeted that are similar with respect to water regime, size, cropping and restoration history, and soil type. Wetland sites will be instrumented to monitor fluxes of GHG emissions (i.e., CO₂, CH₄, N₂O) from wetlands and surrounding uplands following standard protocols developed by the NPWRC.

DU and the PCOR Partnership partners have been assembling information that will be used to assess socioeconomic drivers for land conversion, including past, current, and future (predicted) payments for government programs such as Conservation Reserve Program (CRP). Data on expiring CRP in key states in the PCOR Partnership region has been acquired, and DU has been investigating the criteria for CRP reenrollment (EBI [Environmental Benefits Index]) and the Farm Service Agency's (FSA's) assessment of current rental rates versus crop commodity prices.

Outreach Action Plan

The terrestrial field validation test is scheduled to begin in the spring of 2006 in a rural, agricultural area located in northeastern South Dakota. DU will be in charge of local outreach surrounding the field validation test site, and the PCOR Partnership will provide DU with outreach materials as appropriate. The PCOR Partnership will collaborate with DU in providing outreach at the regional and national level. During this reporting period, DU has compiled existing research relating to existing local, state and federal actions on climate change. We are working to develop a position paper and fact sheet on the latest policy developments, the impacts on eco-asset markets, and recommendations for the policy and regulations needed to stimulate the carbon market. The fact sheet will provide information to policy makers at the regional and national level from the perspective of a conservation nongovernmental organization (NGO) with specific ecological objectives for terrestrial offsets. A portion of this research is being done collaboratively with Columbia University's Environmental Protection through Incentives and Commerce (EPIC) program.

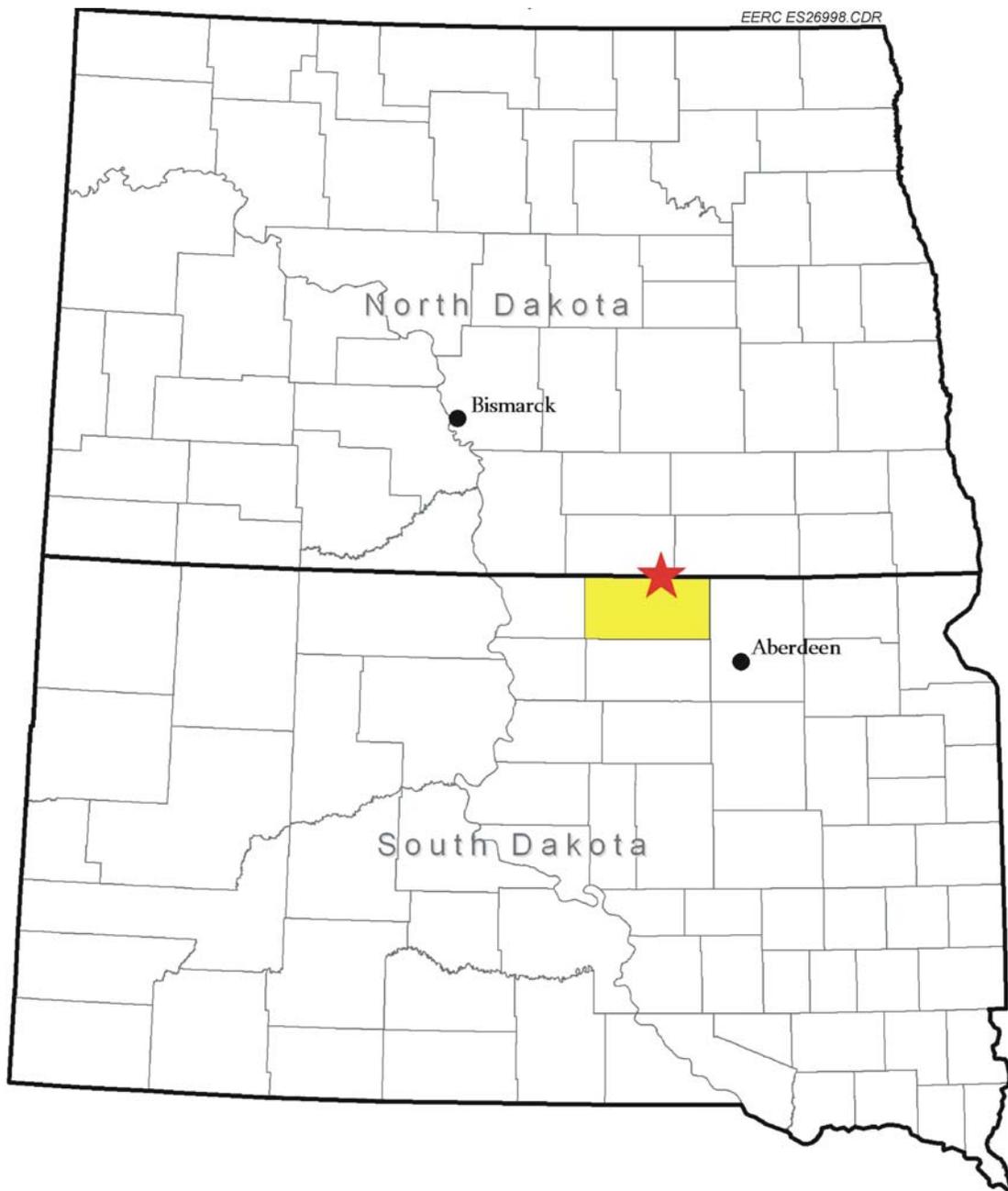


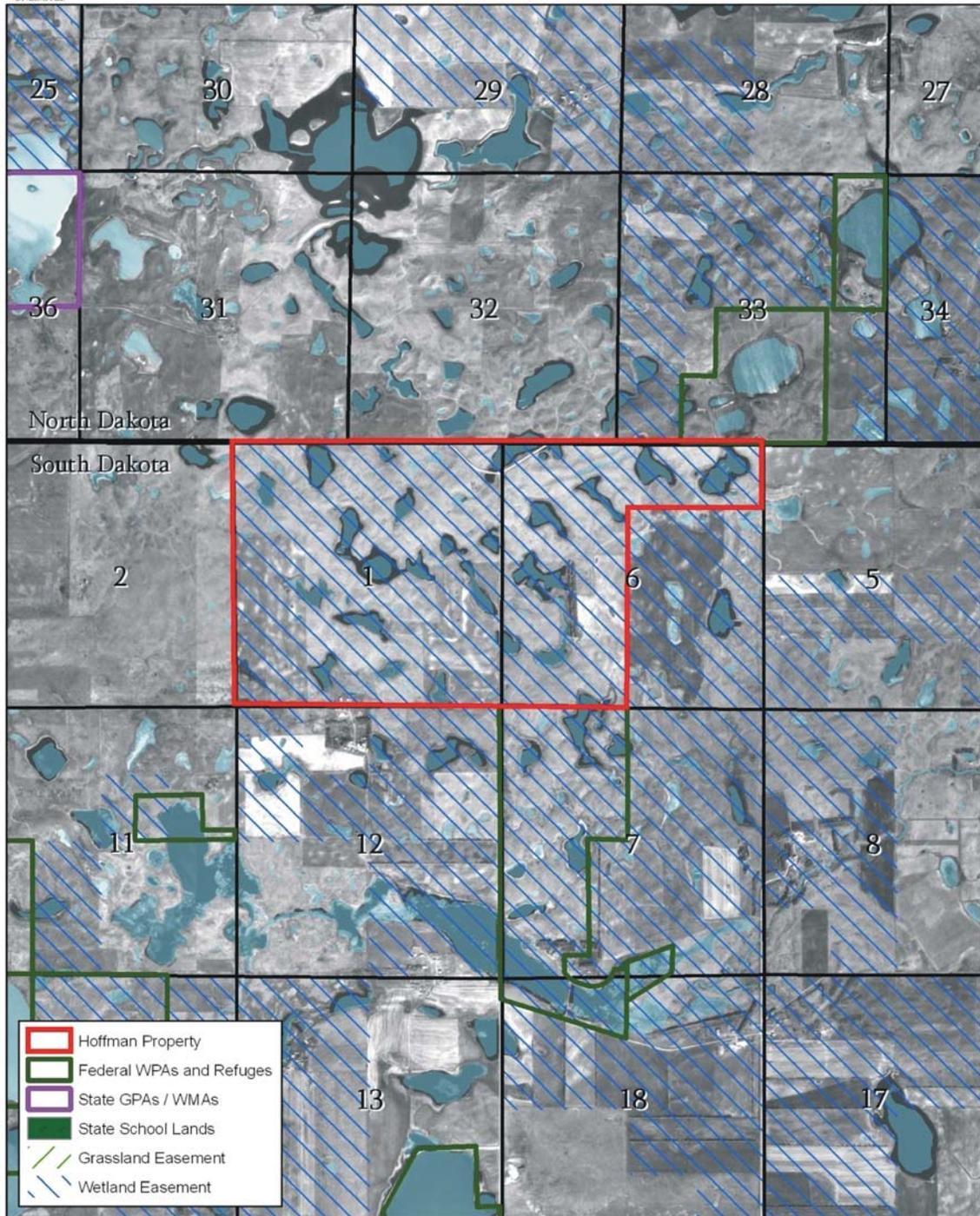
Figure 3. Hoffman property location in McPherson County, South Dakota.



Hoffman Property

Township 128N Range 69W Sec. 1; Township 128N Range 68W Sec. 6 W½, N½ NE ¼

McPherson County, South Dakota



EERC ES26999.CDR

Figure 4. Aerial photo of the Hoffman property restoration site.

DU has implemented a new PCOR Partnership Terrestrial Project Web site on www.ducks.org/Conservation/EcoAssets/2530/PCORPartnership.html. There will be ongoing content development during the project life cycle. The Web site will serve as a reference and primary communications resource for the Phase II PCOR Partnership terrestrial field test and provide links to the main PCOR Partnership Web site on www.undeerc.org/pcor. The site will address the options for sequestration practices, the carbon sequestration potential of the practices, and best management practices for retaining sequestered carbon. The information will be presented as articles and fact sheets as they are completed.

Fact Sheet – Best Management Practices

DU has continued to synthesize the impacts of grazing and other land use management options on carbon sequestration. Guidelines for management of wetland hydrology and land management to enhance carbon sequestration potential are being developed and will be presented in fact sheets. These fact sheets are currently in draft form. These guidelines will also provide the basis for management plans that will be incorporated into carbon sequestration easement documents.

Fact Sheet – Indirect Benefits

Other economic and environmental incentives that may result from agricultural land restoration, such as water quality, erosion control, flood buffering, and recreational and wildlife benefits are being identified. DU is closely following the emerging nutrient credit market (nitrogen, phosphorus, and turbidity) that would provide incremental environmental returns. Emerging markets associated with indirect benefits are being considered and will be incorporated into a fact sheet that will be submitted by the end of 2006.

Fact Sheet – Business Flow Processes

In anticipation of market trading of offsets in the PCOR Partnership region, business flow processes are being defined to provide a transparent framework for transacting carbon credits resulting from grassland sequestration under a variety of business scenarios. This will be invaluable in correlating environmental benefits, carbon offsets, and financial returns associated with wide-scale deployment of terrestrial carbon sequestration. Fact sheets that describe the business processes from a landowner and an investor perspective will be developed and incorporated into the RTIP. The business flow processes are being developed using a number of scenarios in light of recent market interest and activity, policy developments and trading guidelines, and the types of terrestrial carbon offsets being traded. This fact sheet/flow diagram is in draft form.

Carbon Tracking

A preliminary design of this system has been reviewed, and data gathering on the inclusion of sequestration activities in voluntary GHG reduction programs took place over the last 6 months of the project. Most of the accounting protocols to address these issues are not yet official. Presently, several protocols are being developed, including the 1605(b) Voluntary

Reporting Program, the Chicago Climate Exchange, the California Action Registry, the World Resources Institute, the World Business Council on Sustainable Development, and RGGI (Regional GHG Initiative). Each has established basic project requirements designed to create consistency in carbon sequestration projects with the registry or market trading system. Terrestrial sequestration projects require data-tracking consistency and transparency across project types to enhance the credibility of the offset projects portfolio with stakeholders and investors. Modifications to DU's existing project database have been documented to improve tracking of eco-assets. Legal documentation pertaining to easements, carbon offset credit sales or transfers, and offer sheets are also being developed. Easement contracts that include securing "mineral rights" that include carbon offsets realized through the terms of the agreement have been drafted and will continue to be refined in the next 6 months. DU continues to refine the requirements for high quality terrestrial carbon offset projects in the prairies that will qualify for either a voluntary registry or a trading system, while at the same time balancing the need for transparency and competitive cost. Premium offsets will also stimulate interest from investors such as hedge funds and financial groups that are speculating on the carbon market in the U.S.

Task 6 – Characterization of Regional Sequestration Opportunities

The goal of Task 6 is to identify regional characterization needs. This will include a plan to address source- and sink-related data gaps in which missing data and resources of the region will be identified. Accomplishments during this reporting period include the following.

Decision Support System (DSS)

A new version of the DSS was released in July of 2006, and additional features were added in September. The new features include:

- A new look for the home page with different colors and images.
- The geographic information system (GIS) Web site now opens to the demonstration sites as the active and visible layer (Figure 5). It previously opened with the sources as the active layer.
- Improved the action buttons on the left side of the map by using colors to group similar functions.
- Added an action button for adding or clearing one or more text boxes to the map.
- Added an action button for multiselect, so the user can select objects from the active layer by clicking the objects instead of having to draw a rectangle around the objects.
- Provided a method to save the visible map (including text) to an image file.
- Provided a method for a user to place a check mark next to a row in the grid in order to locate that particular object on the map by color change. Also provided a method for the user to filter the grid and selections on the map to the checked rows.
- Changed the look of the layers by grouping common layers into folders.
- Added an option to automatically refresh the map when layers are selected.
- Added a hydrology layer for the United States and Canada. This layer is visible only and does not contain any attribute data, as many of the stream segments do not have these data associated with the shape file.
- Added an ecosystem layer. This will be the base layer for terrestrial information.

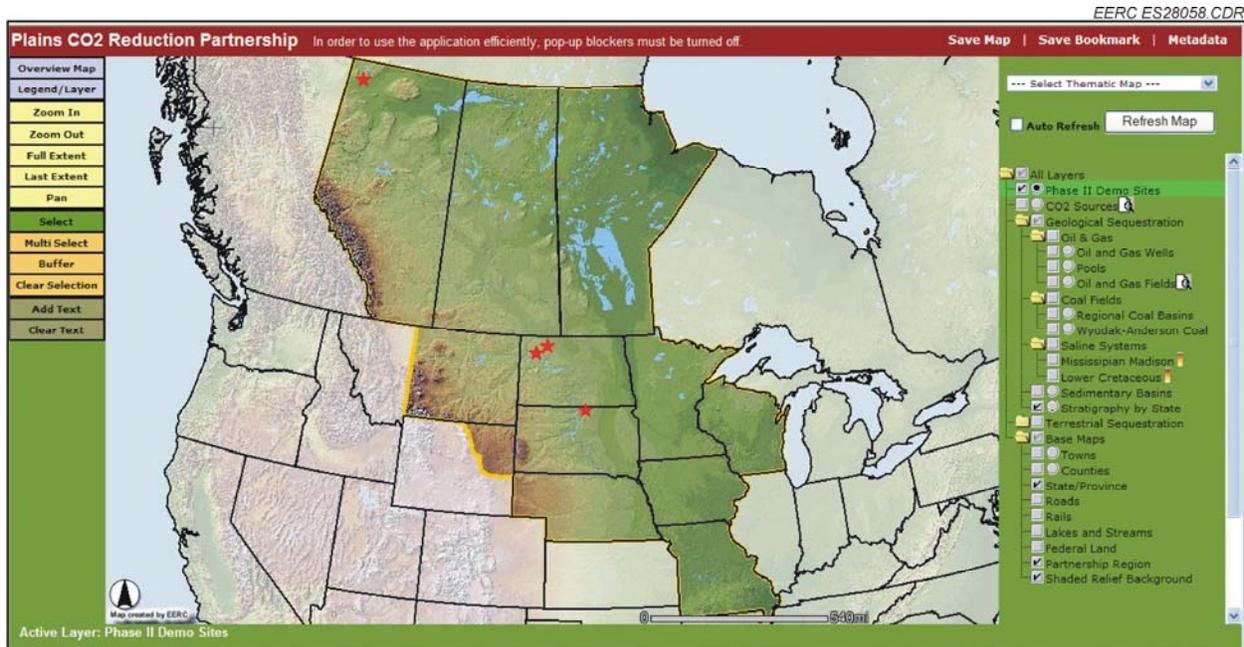


Figure 5. New home page for GIS PCOR Partnership Web site.

- Modified the coal field layer to include descriptive information with respect to the coal field and geological sequestration opportunities of the coal fields.
- Created a “Zama Zone” site. The Zama Zone is exclusive to Zama project team members. It is a Web site for the sharing of data pertinent to the Zama demonstration project.
- Added the Lower Cretaceous aquifer layer and associated data regarding sequestration potential.
- Removed the help file. It is too cumbersome and does not reflect the changes made to the new release. It will be replaced by a more efficient and user-friendly help document.
- Added a stratigraphic layer.

In addition, work has begun on the development of an HTML-based (Web) help file that will replace the previous help document. We continued development of the spatial database engine (SDE) on our test server. We also began work on a method to allow nonmembers to review the DSS using a Web system whereby temporary passwords do not have to be granted. In this scenario, a PCOR Partnership member would be using the Web site while a prospective member was “watching” on his/her computer. This method could also be used as a training tool for partners.

Characterization

Characterization activities include the following:

- Continued to analyze the gas analysis data from NDIC. There are approximately 889 analysis sheets that have been entered into the database; however, these 889 analysis sheets represent approximately 80 wells, which are clustered in one oil field

in the Nelson Anticline. NDIC is looking to see if additional gas analysis data would make this information useful in future analyses of well data.

- Acquired well data from Alberta, Canada, and imported the 400,000+ wells into the test database. It was determined that about 100,000 of the 450,000 wells in the Alberta dataset were duplicate wells with different license information. We are working on eliminating the duplicates.
- Continued evaluation of the saline aquifer system in the southwest corner of North Dakota. Specifically, the Broom Creek Formation will be featured as a potential target for sequestration and will have a complete study to be incorporated into the PCOR Partnership DSS.
- Continued evaluation of the subsurface characterization of the Minnelusa Fm and Madison River beds in the southwestern corner of North Dakota.
- Neuralog is currently being used to generate data from well logs in the Williston Basin of North Dakota. The logs currently exist as image files and are being converted to the LAS format, which is the preferred format for oil and gas related software programs. Currently over 150 logs have been digitized throughout western North Dakota. Efforts have focused primarily on Bowman, Mercer, and Williams Counties, and the logs will be used to create detailed depth, porosity, water saturation, and permeability maps for CO₂ sequestration targets.
- Participated in the geological/GIS working group meeting held in Lawrence, Kansas. As a result of this meeting, we have recalculated the geological CO₂ sequestration estimates for saline aquifers. The newest values have significantly dropped the sequestration capacity numbers (about 40%–78% less than our original values). The other layers (coal, oil/gas) remain unchanged.
- Worked on the development of maps and text for the National Atlas.
- Participated in GIS working group calls and conference calls regarding the National Atlas.
- Worked on the technicalities of the subcontract with the Iowa Geological Survey.

Task 7 – Research Safety, Regulatory, and Permitting Issues

The goal of Task 7 is to identify and track new and existing regulations with respect to the relevant regulatory agencies within each of the PCOR Partnership states and provinces and the relevant federal regulatory agencies of the United States and Canada. Accomplishments during this reporting period include the following.

Field Validation Test of North Dakota Lignite

Drilling permit requirements, injection applications, and well completion documents that are required by the state of North Dakota were reviewed. The U.S. Army Corps' wetland permit types and possible implications for potential Lignite Field Validation Test sites were also evaluated. Several meetings were conducted with task leaders to discuss operating plans and procedures and to develop plans for land access, drilling, and water disposal. Numerous meetings and conference calls with the North Dakota State Land Department were held to discuss leases and easements for the lignite field validation test. Paperwork and drilling procedures were reviewed and evaluated. A letter and supporting documentation were submitted to NDIC to be on the docket at a public hearing to ask for an exception to well spacing requirements for the STAC

and lignite field validation test. The NDIC exception hearing for well-spacing requirements went well and an exception order is expected in the near future. The NEPA has been completed and will be submitted to DOE in early October.

Task Management and General Task Activities

An evaluation of the Neuralog Web site was conducted to review their products and demonstrations. An assessment of value-added products that may be applicable to the regulatory task was started. This included discussions with Dawn Browne of Ducks Unlimited, Inc., regarding possibly developing a user-friendly document that explains the 1605(b) guidelines. Discussions were also held with the public education and outreach task leader to discuss collaborations between the outreach and regulatory tasks. An outline for analysis and reporting of carbon market strategies is in development.

An abstract prepared with other PCOR Partnership task leaders and partners regarding the unitization of geologic formations for the purpose of monetizing geologic sequestration credits was submitted to the American Association of Petroleum Geologists special publication on geological sequestration of CO₂. The PCOR Partnership became a member of the Environmental Markets Association.

Several discussions were held with numerous people and entities to discuss various aspects of the PCOR Partnership. Some of these conversations included the Minnesota Pollution Control Agency regarding the bundling of water quality and carbon credits; the Nebraska Department of Agriculture to discuss PCOR Partnership membership; and NDIC, regarding the types and numbers of underground injection wells in North Dakota.

Meetings were held with officials from Excelsior Energy to discuss their carbon management plan and testimony regarding geologic sequestration that will be required at their public hearings. Review of recent publications relating to regulating CO₂ sequestration and MMV issues continued during this reporting period.

Several existing, revised, and new rules, regulations, and guidelines were reviewed and evaluated. The following is a list of some of those documents:

- 1605(b) Voluntary Reporting Guidelines
- North Dakota Underground Injection Control (UIC) Program regulations and authorities
- A model Coal Creek Station Energy Services code with developed comments to submit to the primary author
- Global Warming Pollution Reduction Act introduced by Senator Jeffords
- Supreme Court Case regarding whether or not the EPA should regulate greenhouse gases, especially carbon dioxide from cars under Section 202(a)(1) of the Clean Air Act

Participated in the IOGCC Carbon Capture and Geological Storage Regulatory Task Force meeting that was held in St. Louis in early September. The task force has legal and technical subgroups. The technical subgroup is currently reviewing issues related to licensing, well

operations, well/site closure, and long-term storage. The task force is also working to develop model statutes that can be adapted and modified by states.

Task 8 – Public Outreach and Education

The goals of Task 8 are to provide 1) outreach and education mechanisms that raise the awareness of sequestration opportunities in the region and 2) outreach to interested stakeholders with information about existing and future sequestration efforts in the region.

In the previous reporting period, two products under Task 8 were submitted on schedule and accepted: 1) Fact Sheet 6 that provides a summary of the PCOR Partnership's Phase II activities, including a summary of the four field verification tests, and 2) The Outreach Action Plan, which lays out the resources and overall approach for the PCOR Partnership's Phase II outreach under Task 8.

In this reporting period, activities under the PCOR Partnership's Public Outreach and Education (Task 8) included the following:

- The Outreach Action Plans for the Zama, Alberta, Canada, geologic verification test and the terrestrial verification test were submitted on schedule in April 2006.
- The Outreach PowerPoint was submitted on schedule in May 2006.
- Fact Sheet 7 on the Zama verification project was submitted on schedule in July 2006.
- The Year 1 update of the PCOR Partnership Phase II public Web site was submitted on schedule in August of 2006. The Web site is in the review process and will be available soon.

During the current reporting period, progress continued on the 30-minute carbon trading television documentary due for DOE review at the end of January of 2007. In the last reporting period, approximately 12 hours of footage was obtained in the form of interviews and location footage. Representatives of DU; Xcel Energy; and RNK Capital, LLC; were interviewed at the PCOR Partnership Phase I Wrap-Up/Phase II Kickoff Meeting in Minneapolis, Minnesota. During a January 2006 trip to Brazil, interviews and location footage were obtained from the Guaraquecaba Nature Reserve (terrestrial sequestration), the Nature Conservancy, EcoSecurities, EcoInvest, and the University of Sao Paulo.

During this reporting period the PCOR Partnership:

- Obtained a number of interviews at the 5th Annual Conference on Carbon Capture & Sequestration in Alexandria, Virginia (May) and the Greenhouse Gas Control Technologies Conference (GHGT-8) in Trondheim, Norway (June).
- Reviewed the more than 20 hours of interview and location footage obtained to date.
- Initiated the expanded storyboard, consisting of a matrix of interviews and visuals.

Activities under Task 8 also provided technical support to the Outreach Working Group (Sarah Wade) in 1) the development of sequestration video segments by NETL for its Web site, 2) the outline, PowerPoint, and presentation for the summary paper on outreach activities

presented at the 5th Annual Conference on Carbon Capture & Sequestration in May 2006, and 3) the introductory PowerPoint materials for the 5th Annual Conference on Carbon Capture & Sequestration in May 2006.

Task 9 – Identification of the Commercially Available Sequestration Technologies Ready for Large-Scale Deployment

The goal of Task 9 is to identify sequestration technologies and approaches that are suitable and available for large-scale deployment in the PCOR Partnership region and to estimate their economic viability. Point source and transportation infrastructure data sets that will be used during this activity were reviewed, data gaps were identified, and plans were made to fill the gaps. The most recent versions of power plant CO₂ emissions data from various Web sites were compared with the data contained in the DSS to verify that the DSS data are current. While the majority of the PCOR Partnership region's CO₂ emissions come from coal-fired power plants, other CO₂ sources are also being considered in the identification of promising large-scale sequestration opportunities. Emissions data from these sources that are contained in the DSS will be reviewed during the October through December quarter.

An important aspect of characterizing the CO₂ emissions sources and identifying appropriate capture technologies and sequestration scenarios is disseminating the information to interested stakeholders. Pie charts summarizing the regional CO₂ emissions and point sources were prepared for use on the PCOR Partnership public Web site. A table summarizing CO₂ capture technologies was prepared for distribution to the capture–separation–transportation task leaders from the other six Regional Partnerships. The table was also used as a primary resource for the CO₂ capture portion of a paper on coal gasification that will be presented at the 20th Symposium on Western Fuels to be held October 24–26, 2006, in Denver, Colorado.

The information was also presented during a CO₂ Capture, Separation, Compression, and Transportation Workshop that was held on September 15, 2006, in conjunction with the PCOR Partnership Annual Meeting in Calgary, Alberta, Canada. Task 9 personnel provided an overview of CO₂ capture technologies and PCOR Partnership Task 9 activities. Other presentation topics and speakers included:

- Amine Scrubbing Technologies – Cansolv Inc.
- Membrane Technologies – Carbozyme, Inc.
- Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies – Nexant
- Compression Technologies – Ramgen Power Systems
- CO₂ Pipelines – Enbridge, Inc.

The use of wind power to offset at least a portion of the electricity needed to operate the pipeline compressors is under investigation. Wind speed data from various sites in North Dakota were evaluated. Preliminary studies indicate that the wind resources in the vicinity of the Great Plains Gasification facility (GPG) are adequate for utility-scale wind turbines and that the power required by the CO₂ compressors at GPG could be provided by wind turbines. A draft report on

this topic is in review. During the October–December quarter, the report will be finalized and a best practice manual prepared on the topic.

The utilization and management of CO₂ is a major subtask within Task 9. A kickoff meeting was held with officials from Excelsior Energy to develop an outline of the topics that will be covered by the CO₂ management plan that will be prepared under this task for their Mesaba integrated gasification combined cycle (IGCC) plant to be built in northern Minnesota. It was decided that a draft of the management plan will be prepared by the end of the October through December quarter. A preproposal for a CO₂ utilization study was prepared for another PCOR Partnership member.

Methods to reduce the costs of capture, separation, transportation, and subsequent sequestration are also being explored under this task. A meeting was held with representatives from Air Products Inc. to discuss PCOR Partnership membership and possible collaboration on CO₂ capture within the scope of the PCOR Partnership program.

Task 10 – Regional Partnership Program Integration

Task 10 consists of the PCOR Partnership actively participating in and providing leadership to technical working groups to identify, discuss, and resolve common issues related to the deployment of sequestration technologies. The following are representative of the steps taken to integrate the regional partnerships:

- Presented poster on geologic storage deployment activities and regional assessments pertaining to the PCOR Partnership at the 5th Annual Conference on Carbon Capture & Sequestration, Alexandria, Virginia (May).
- Presented talk on PCOR Partnership – Regional Partnership Field Work at the EPA/DOE Technical Meeting, Pittsburg, Pennsylvania (August).
- Presented a number of posters/talks for the 8th International Conference on Greenhouse Gas Control Technologies (GHGT-8) in Norway (June). They included:
 - “Estimates of CO₂ in Saline Aquifers and Oil Fields of the PCOR Partnership Region”
 - “Utilization of Geologic Formation for the Purpose of Monetizing Geologic Sequestration Credits”
 - “The Plains CO₂ Reduction (PCOR) Partnership – Developing CO₂ Sequestration Opportunities for the Central Interior of North America”
 - “Geologic Suitability of Coal Deposits in the Northern Great Plains Region of the United States for CO₂ Sequestration”
- Membership discussions continued with numerous organizations.

Management

During this reporting period, a number of new partners joined Phase II of the PCOR Partnership; they included:

- Advanced Geotechnology Inc.
- Air Products and Chemicals

- Alberta Department of Energy
- Alberta Geological Survey
- Carbozyme, Inc.
- MEG Energy Corporation
- Missouri Department of Natural Resources
- National Commission on Energy Policy
- University of Alberta

Further, we have participated in the following activities:

- Assisted National Carbon Sequestration Project with the National Carbon Sequestration Atlas. The work included capacity estimates and maps
- Participation continued in working group conference calls, including:
 - GIS
 - Capture, separation, and compression
 - Geologic
 - Outreach and Education

CONCLUSIONS

Work is progressing on schedule and deliverables are being met (see Table 2). The PCOR Partnership continues to grow, with nine new members since the last reporting period.

COST STATUS

The approved budget for Period 1, along with actual costs incurred and cost share, is shown in Table 3.

SCHEDULE STATUS

All milestones for the reporting period (April 1, 2006 – September 30, 2006) were met on the scheduled due date. Table 3 contains all the milestones and submission dates for the period. See Table 4 for a listing of all milestones and completion dates for the duration of the project listed by Task.

SUMMARY OF SIGNIFICANT ACCOMPLISHMENTS

Significant deliverables for the first budget period include quarterly PowerPoint presentations, semiannual progress reports, and outreach materials. Additionally, detailed briefings (monthly updates) explaining the plans, progress, and results of the technical effort have been presented to the contracting officer's representative. Project task managers

Table 2. PCOR Partnership Milestones for April 1, 2006 – September 30, 2006

| Milestones | Date Submitted |
|--|-----------------------|
| Monthly Update for April | April 27, 2006 |
| Task 1 – Quarterly PPT Presentation and EVM Report | April 28, 2006 |
| Technical Progress Report (Semiannual) to DOE and NDIC | April 28, 2006 |
| Task 3 – Outreach Action Plan | April 28, 2006 |
| Task 5 – Outreach Action Plan | April 28, 2006 |
| Task 8 – PowerPoint presentation | May 31, 2006 |
| Monthly Update for May | May 30, 2006 |
| Task 3 – Sampling Protocols | June 29, 2006 |
| Task 5 – Sampling Protocols | June 21, 2006 |
| Monthly Update for June | June 29, 2006 |
| Task 1 – Quarterly PPT Presentation and EVM Report | July 26, 2006 |
| Task 8 – Fact Sheet #7 (Pinnacle Reef/Acid Gas Seq. Verification Test) | July 28, 2006 |
| Task 10 – Regional Partnership Program Integration Plan | July 18, 2006 |
| Monthly Update for July | July 26, 2006 |
| Task 8 – Web Site Update | August 31, 2006 |
| Monthly Update for August | August 31, 2006 |
| Monthly Update for September | September 30, 2006 |

Table 3. Budget by Period and Actual Costs Incurred

| Organization | Approved Budget Period 1 | Actual Costs Incurred |
|---------------------|---------------------------------|------------------------------|
| DOE Share | \$ 6,300,000 | \$ 2,108,738 |
| Nonfederal Share | \$ 3,363,284 | \$ 583,586 |
| Total | \$ 9,663,284 | \$ 2,692,324 |

participated in regional partnership working groups to integrate and collaborate with other Regional Carbon Sequestration Partnerships. Project milestones are shown in Table 4.

ACTUAL OR ANTICIPATED PROBLEMS OR DELAYS

Task 4 – The costs of drilling wells and purchasing CO₂ for the lignite demonstration project continue to be a concern. The current budget does not include funds for drilling the wells, and significant cuts will have to be made in the areas of MMV if additional funding for drilling and CO₂ purchase is not obtained.

Table 4. PCOR Partnership Milestones

PCOR PHASE II GANTT CHART

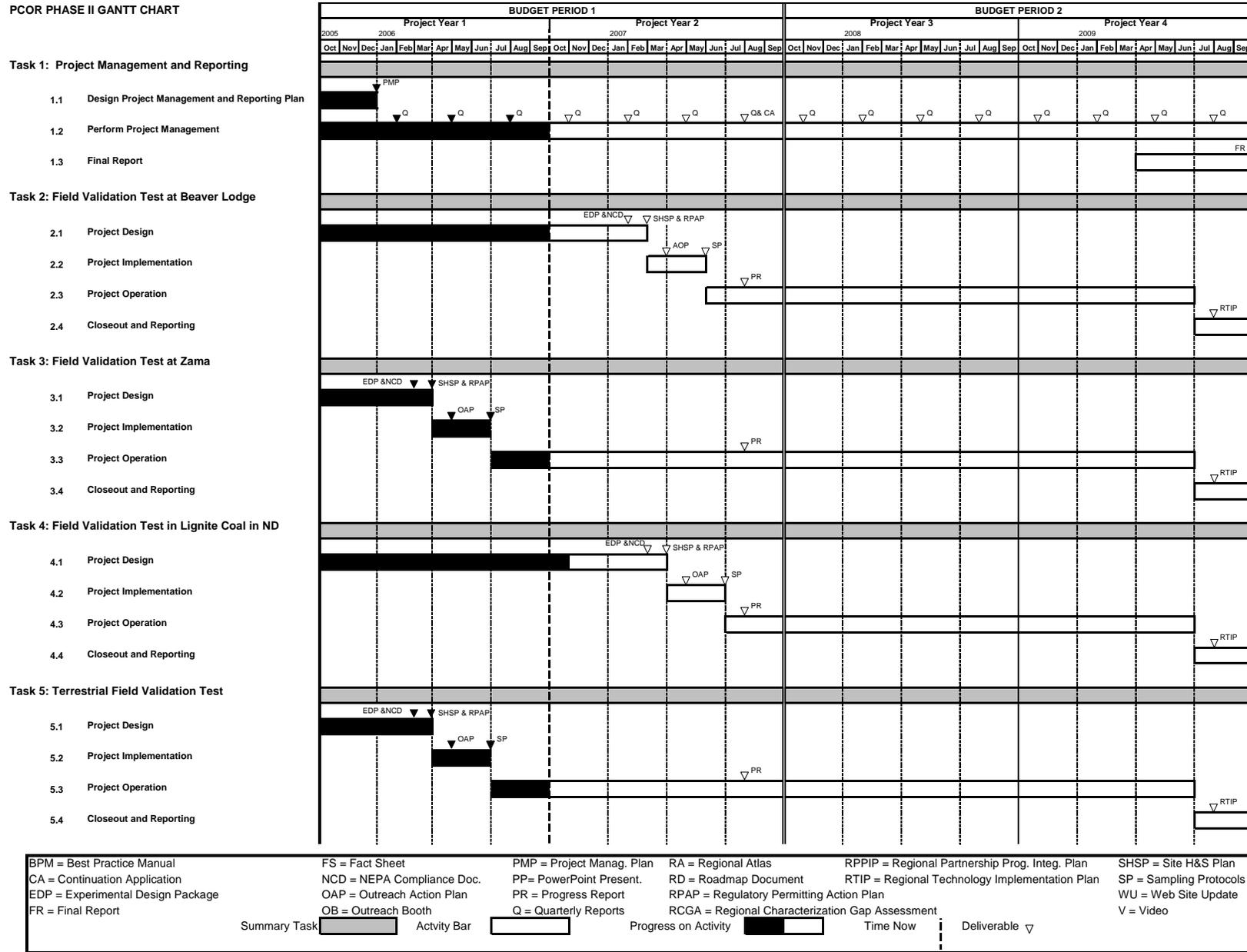


Table 4. PCOR Partnership Milestones, continued

PCOR PHASE II GANTT CHART

Task 6: Characterization of Regional Sequestration Opportunities

- 6.1 Regional Characterization Gap
- 6.2 Data Collection
- 6.3 Improvement to DDS
- 6.4 Reporting

Task 7: Research Safety, Regulatory, and Permitting Issues

- 7.1 Existing Regulations
- 7.2 New Regulatory Guidelines
- 7.3 Reporting

Task 8: Public Outreach and Education

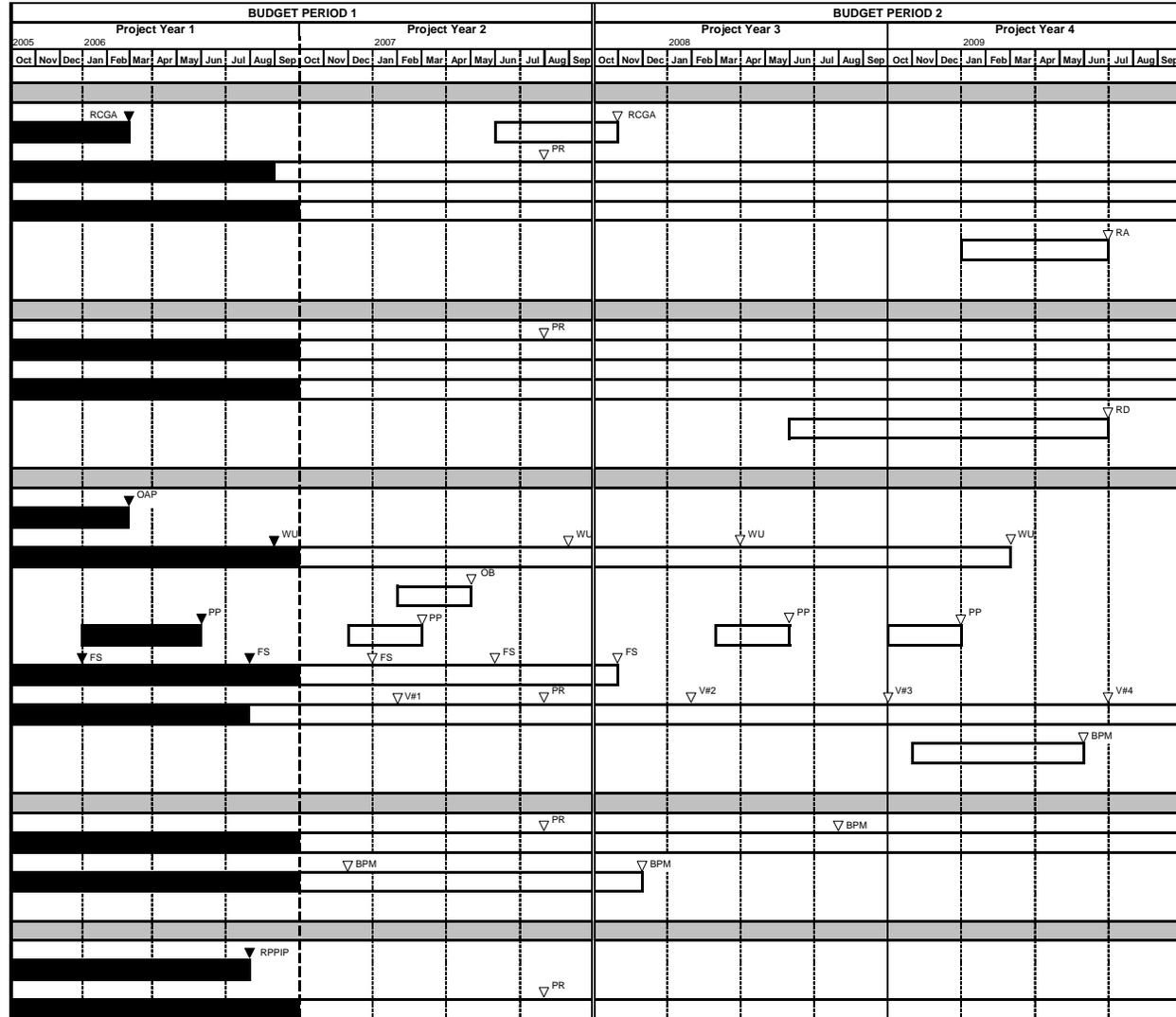
- 8.1 Outreach Planning
- 8.2 Web Site
- 8.3 Outreach Booth
- 8.4 Outreach PowerPoint
- 8.5 Fact Sheets
- 8.6 Television Programs
- 8.7 Reporting

Task 9: Economic Assessment of Opportunities

- 9.1 Economic Assessment of Opportunities
- 9.2 New Sequestration Approaches

Task 10: Regional Partnership Program Integration

- 10.1 Development of RPPIP
- 10.2 Integration of Partnership Program Activities



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| | | | | | |
|-----------------------------------|----------------------------|---------------------------|---|--|-------------------------|
| BPM = Best Practice Manual | FS = Fact Sheet | PMP = Project Manag. Plan | RA = Regional Atlas | RPPIP = Regional Partnership Prog. Integ. Plan | SHSP = Site H&S Plan |
| CA = Continuation Application | NCD = NEPA Compliance Doc. | PP= PowerPoint Present. | RD = Roadmap Document | RTIP = Regional Technology Implementation Plan | SP = Sampling Protocols |
| EDP = Experimental Design Package | OAP = Outreach Action Plan | PR = Progress Report | RPAP = Regulatory Permitting Action Plan | | WU = Web Site Update |
| FR = Final Report | OB = Outreach Booth | Q = Quarterly Reports | RCGA = Regional Characterization Gap Assessment | | V = Video |
| Summary Task | Activity Bar | Progress on Activity | Time Now | Deliverable | |

Task 8 – Finalizing storyboards and review of raw film footage in preparation for initial narration and draft Phase II Documentary 1.

DESCRIPTION OF PRODUCT PRODUCED

The PCOR Partnership produced, or assisted in the production of, a number of products. These products included:

- Papers/proceedings and journal articles
 - Presented three papers for the Greenhouse Gas Control Technologies Conference (GHGT-8), June 19–23, 2006, Trondheim, Norway
 - Presented poster on geologic storage deployment activities and regional assessments pertaining to the PCOR Partnership at the 5th Annual Conference on Carbon Capture & Sequestration, Alexandria, Virginia (May).
 - Presented talk on PCOR Partnership – Regional Partnership Field Work at the EPA/DOE Technical Meeting, Pittsburg, Pennsylvania (August).
 - A number of Phase II partners and task leaders presented at the PCOR Partnership 2006 Annual Meeting, Calgary, Alberta, Canada (September).
- Table 5 lists outreach materials to be produced throughout the duration of the project.
- Completed an additional/value-added PCOR Partnership Phase II product entitled “Carbon Dioxide Storage Capacity in Upper Cretaceous–Tertiary Ardley Coals in Alberta.” The document is currently in DOE review.

- Web site
 - DU has implemented a new PCOR Partnership terrestrial project Web site which can be found at www.ducks.org/Conservation/EcoAssets/2530/PCORPartnership.html
 - PCOR Partnership public Web site update was developed and has been reviewed by DOE. The site is currently being internally reviewed; we anticipate initiating the site the first part of the next reporting period. The current site can be found at www.undeerc.org/pcor

Additional products produced in Phase I and II of the PCOR Partnership are listed in Table 5.

REFERENCES

None

Table 5. PCOR Partnership Outreach Products (Phase I and Phase II)

| Designation | Product ¹ | Availability Date |
|-------------------------|---|-------------------------|
| Fact Sheet 1 | What Is CO ₂ Sequestration? | 10/2005 |
| Fact Sheet 2 | CO ₂ Sequestration – Controlling CO ₂ Emissions to the Atmosphere Through Capture and Long-Term Storage | 10/2005 |
| Fact Sheet 3 | The Weyburn Oil Field – A Model for Value-Added Direct CO ₂ Sequestration | 10/2005 |
| Fact Sheet 4 | Wetland Carbon Sinks in the Glaciated North American Prairie | 10/2005 |
| Fact Sheet 5 | Identifying CO ₂ Sequestration Opportunities | 10/2005 |
| Fact Sheet 6 | PCOR Partnership Phase II | 03/2006 ² |
| Fact Sheet 7 | Site G2 – Pinnacle Reef/Acid Gas Sequestration Verification Test | 10/2006 ² |
| Fact Sheet 8 | Site T1 – Wetland CO ₂ Sequestration Verification Test | 04/2007 ² |
| Fact Sheet 9 | Site G3 – Deep Oil Field CO ₂ Sequestration Verification Test | 08/2007 ² |
| Fact Sheet 10 | Site G1 – Unminable Lignite CO ₂ Sequestration Verification Test | 12/2007 ² |
| Video 1 | “Nature in the Balance – CO ₂ Sequestration” | 10/2005 ³ |
| Video 2 | “Carbon Trading” | 03/2007 ³ |
| Video 3 | “Terrestrial Sequestration” | 02/2008 ³ |
| Video 4 | “Geologic Sequestration” | 10/2008 ³ |
| Video 5 | “Sequestration Update” | 06/2009 ³ |
| Article 1 | Controlling Carbon Dioxide Emissions and Still Providing Affordable Energy | 10/2005 |
| Article 2 | An Introduction to Storage of Carbon | 10/2005 |
| Article 3 | The Capture and Long-Term Storage of Carbon Dioxide | 10/2005 |
| Atlas | PCOR Partnership Atlas | 10/05 |
| Public Web Site | PCOR Partnership Public Web Site: (www.undeerc.org/pcor) | 10/2005 ^{4, 5} |
| PowerPoint Presentation | PCOR Partnership Public Outreach PowerPoint presentation | 08/2006 ⁴ |
| Display Booth | PCOR Partnership Public Outreach Display Booth | 06/2007 ⁴ |
| Press Releases | Multiple products developed and released by the EERC | On file ⁶ |

¹ Products developed by PCOR Partnership only; outreach products available to PCOR Partnership from DOE and other organizations are not listed here.

² Will be updated periodically.

³ 30-minute joint PCOR Partnership/public television production aimed at general audiences; available for broadcast or in DVD format.

⁴ Updated annually.

⁵ Monthly updates and additions.

⁶ Created on demand.

