TABLE OF CONTENTS

LIST OF FIGURES iii

LIST OF TABLES iii

EXECUTIVE SUMMARY iv

APPROACH 1

RESULTS AND DISCUSSION 2
- Task 1 – Management, Reporting, and Technical Outreach 2
  - Project Activities 3
  - PCOR Partnership Phase II Partners 4
- Task 2 – Field Validation Test at Beaver Lodge, North Dakota 5
- Task 3 – Field Validation Test at Zama, Alberta 6
  - Geological Characterization 6
  - Data Collection and Integration 9
  - Geomechanical Characterization 9
- Task 4 – Field Validation Test of North Dakota Lignite 9
- Task 5 – Terrestrial Validation Test 11
  - Identification of Field Trial Sites 11
  - Outreach Action Plan 18
  - Fact Sheet – Best Management Practices 18
  - Fact Sheet – Indirect Benefits 19
  - Fact Sheet – Business Flow Processes 19
  - Carbon Tracking 20
- Task 6 – Characterization of Regional Sequestration Opportunities 20
  - Decision Support System (DSS) 20
  - Characterization 22
  - Other Activities 23
- Task 7 – Research Safety, Regulatory, and Permitting Issues 23
  - Field Validation Test of North Dakota Lignite 23
  - Task Management and General Task Activities 23
- Task 8 – Public Outreach and Education 24
- Task 9 – Identification of the Commercially Available Sequestration Technologies Ready for Large-Scale Deployment 25
- Task 10 – Regional Partnership Program Integration 26
  - Management 27

CONCLUSIONS 27

Continued . . .

TABLE OF CONTENTS (continued)

COST STATUS 27

SCHEDULE STATUS..... 28

SUMMARY OF SIGNIFICANT ACCOMPLISHMENTS 29

ACTUAL OR ANTICIPATED PROBLEMS OR DELAYS..... 29

DESCRIPTION OF PRODUCT PRODUCED 29

REFERENCES 29

LIST OF FIGURES

1 PCOR Partnership Phase II sequestration demonstrations 1

2 Core samples illustrating the heterogeneity of the Keg River Pinnacles being utilized in the Zama Project 7

3 Regional cross section of the Zama study area 7

4 Thickness of the Devonian Keg River in the Zama study area 8

5 Five-spot model of production from coal seam 10

6 Location of study area 12

7 Detailed location of study area 13

8 Goebel Ranch study area 14

9 Ipswich grasslands study area 15

10 Beyers cropland study area 16

11 New home page for the DSS 21

LIST OF TABLES

1 PCOR Phase II Partners 4

2 Characteristics of Wetland Basins Located on DU and Other Privately Owned Properties 17

3 Budget by Period and Actual Costs Incurred 27

4 PCOR Partnership Deliverables for October 1, 2006 – March 31, 2007 28

5 PCOR Partnership Milestones 30

PLAINS CO_2 REDUCTION PARTNERSHIP
Semiannual Technical Progress Report
October 1, 2006 – March 31, 2007

EXECUTIVE SUMMARY

The goals and objectives of the Plains CO_2 Reduction (PCOR) Partnership Phase II program are to validate technologies and develop opportunities for our partners to capture and sequester CO_2 and, ultimately, to market and monetize credits. The long-range goal is to support the U.S. Department of Energy (DOE) 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 CO_2 sequestration; 5) ongoing collaboration among other Regional Carbon Sequestration Partnership programs; and 6) providing outreach and education for CO_2 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 the implementation of a solid monitoring, mitigation, and verification (MMV) program. The official start-up of the 100/01-13-116-6W6 acid gas injector on the Zama Keg River F Pool was December 17, 2006. Preparatory work for the Beaver Lodge Field Validation Project is ongoing, and significant progress has been made gathering baseline information on the Beaver Lodge Duperow Unit. Progress in the lignite field test includes procuring the necessary permits and developing commercial partners. The drilling prognosis has been completed. The prairie pothole field test site has been selected, and background work on the development of terrestrial carbon offsets has begun. Initial work on the carbon sequestration program brochure and the detailed fact sheet for investors is under way. Regional characterization continues, and the Decision Support System (DSS) continues to evolve and improve. In March 2007, pipeline data were added to the “partners-only” Web site. The regulatory, outreach, and program integration tasks are continuing to meet program goals.

PLAINS CO_2 REDUCTION PARTNERSHIP
Semiannual Technical Progress Report
October 1, 2006 – March 31, 2007

APPROACH

As one of seven Regional Carbon Sequestration Partnerships (RCSPs), the Plains CO_2 Reduction (PCOR) Partnership is identifying practical CO_2 sequestration options for the PCOR Partnership region. The PCOR Partnership is characterizing the technical issues, enhancing the public's understanding of CO_2 sequestration, identifying the most promising opportunities for sequestration in the region, and detailing an action plan for the demonstration of regional CO_2 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 CO_2 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 CO_2 in a deep carbonate reservoir in the Beaver Lodge oil field in northwestern North Dakota for the dual purpose of CO_2 sequestration and enhanced oil recovery (EOR); 3) Task 3 – Field Validation Test at Zama, Alberta, will evaluate the potential for geological sequestration of CO_2 as part of an acid gas stream that also includes high concentrations of H_2S; 4) Task 4 – Field Validation Test of North Dakota Lignite will evaluate the effectiveness of lignite seams to act as sinks for CO_2 during simultaneous CO_2 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 CO_2 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 CO_2 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 reporting period of October 1, 2006 – March 31, 2007, in Phase II have focused on developing National Environmental Policy Act (NEPA) compliance documents, a regulatory permitting action plan (RPAP), an experimental design package (EDP), a sampling protocol, an outreach action plan (OAP), a site health and safety plan (SHSP), PCOR Partnership public Web site updates, version two of the PCOR Partnership Regional Atlas, PCOR Partnership 2007 Annual Meeting preparation, “partners-only” Web site additions, quarterly milestones, wrap-up of Budget Period Two, 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) addition of new partners to the PCOR Partnership (Table 1), and 4) discussing existing and potential demonstration activities with prospective Phase II participants.

Project Activities

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

- Regional Carbon Sequestration Review Meeting, Pittsburgh, Pennsylvania (October)
- Western Fuels Symposium, Denver, Colorado (October)
- IEA 2nd Risk Assessment Network Meeting, Lawrence Berkeley National Laboratory, (October)
- Saskatchewan and Northern Plains Oil and Gas Symposium, Regina, Saskatchewan, Canada (October)
- Geographic Information System (GIS) User Group Meeting, Bismarck, North Dakota (October)
- Met with Lynn Helms, Ed Murphy, and David Hvinden from the North Dakota Industrial Commission (NDIC) to discuss ongoing projects and opportunities, Grand Forks, North Dakota (November)
- Documentary interview with Mary Jo Roth (Great River Energy) at Prairie Public Broadcasting studios and follow-up discussions on draft video track, Fargo, North Dakota (November)
- Documentary interviews in Chicago and Washington, D.C. (November)
- Zama Project Meeting, Calgary, Alberta, Canada (December)
- Meeting with Duck's Unlimited (DU), Bismarck, North Dakota (December)
- Society of Petroleum Engineers (SPE) CO_2 Workshop, Houston, Texas (December)
- North American Carbon Markets, Washington, D.C. (January)
- Electric Utilities Environmental Conference (EUEC), Tucson, Arizona (January)
- Ground Water Protection Council Regulatory Workshop on Geologic Sequestration of CO_2, San Antonio, Texas (January)
- Meeting with DU to discuss terrestrial field demonstration, Bismarck, North Dakota (January)
- Meeting to discuss terrestrial field demonstration, Goebel Ranch, South Dakota (February)
- Environmental Systems Research Institute (ESRI) Petroleum Users Group Annual Meeting, Houston, Texas (February)
- Public Service Commission talk about sequestration, Bismarck, North Dakota (February)
- Zama Field Validation Demonstration Meeting, Calgary, Alberta (March)
- The Capture and Transportation Model Seminar, Pittsburgh, Pennsylvania (March)
- Meeting with Minnesota Geological Survey and Excelsior Energy to discuss Phase III, St. Paul, Minnesota (March)
- Meeting to discuss terrestrial field demonstration, Grand Forks, North Dakota (March)
- Carbon Sequestration Leadership Forum Meeting (CSLF), Paris, France (March)
- American Association of Petroleum Geologist Conference, Long Beach, California (March–April)
- Point Carbon North American Carbon Markets Conference, Washington, D.C. (March)

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 57 partners in reporting period April 1 – September 30, 2006, to 66 partners in reporting period October 1, 2006 – March 31, 2007. The current membership is listed in Table 1.

Table 1. PCOR Phase II Partners (66, including the EERC)

University of North Dakota Energy & Environmental Research Center (EERC)
Advanced Geotechnology, a division of Hycal Energy Research Laboratories, Ltd.
Air Products and Chemicals
Alberta Department of Energy
Alberta Energy and Utilities Board
Alberta Geological Survey
Apache Canada Ltd.
Basin Electric Power Cooperative
Blue Source, LLC
British Columbia Ministry of Energy, Mines and Petroleum Resources
Carbozyme, Inc.
Center for Energy and Economic Development (CEED)
Dakota Gasification Company
Ducks Unlimited Canada
Ducks Unlimited, Inc.
Eagle Operating, Inc.
Eastern Iowa Community College District
Encore Acquisition Company
Environment Canada
Excelsior Energy Inc.
Fischer Oil and Gas, Inc.
Great Northern Power Development, LP
Great River Energy
Hess Corporation
Interstate Oil and Gas Compact Commission
Iowa Department of Natural Resources – Geological Survey
Lignite Energy Council
MEG Energy Corporation
Melzer Consulting
Minnesota Power
Minnkota Power Cooperative, Inc.
Missouri Department of Natural Resources

Continued . . .

Table 1. PCOR Phase II Partners (66, including the EERC), continued

Missouri River Energy Services
Montana–Dakota Utilities Co.
Montana Department of Environmental Quality
Natural Resources Canada
Nexant, Inc.
North Dakota Department of Commerce Division of Community Services
North Dakota Department of Health
North Dakota Geological Survey
North Dakota Industrial Commission Department of Mineral Resources, Oil and Gas Division
North Dakota Industrial Commission Lignite Research, Development and Marketing Program
North Dakota Industrial Commission Oil and Gas Research Council
North Dakota Natural Resources Trust
North Dakota Petroleum Council
North Dakota State University
Otter Tail Power Company
Petroleum Technology Transfer Council
Prairie Public Television
Pratt & Whitney Rocketdyne, Inc.
Ramgen Power Systems, Inc.
RPS Energy
Saskatchewan Industry and Resources
SaskPower
Schlumberger
Shell Canada Energy
Spectra Energy
Suncor Energy Inc.
U.S. Department of Energy
U.S. Geological Survey Northern Prairie Wildlife Research Center
University of Alberta
Western Governors' Association
Westmoreland Coal Company
Wisconsin Department of Agriculture, Trade and Consumer Protection
Xcel Energy

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 CO_2 in a deep carbonate reservoir for the dual purpose of CO_2 sequestration and EOR.

In this reporting period, efforts were primarily focused on gathering readily available data sets for the CO_2 injection and monitoring, mitigation, and verification (MMV) activities that will be conducted at the Beaver Lodge field. Basic information necessary to prepare the NEPA,

RPAP, EDP, and SHSP documents for the Beaver Lodge Field Validation Project was also gathered. The due dates for these documents were reassigned for May 31, 2007. Meetings with Hess Corporation are currently being held to resolve details on preliminary information needed for completion of these documents in conjunction with their schedules. Some of the issues that will be discussed are 1) the volumes of CO_2, 2) the source of the CO_2, 3) the schedule and duration of the injection tests, and 4) specific well locations. 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.

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 CO_2 as part of a gas stream that also includes high concentrations of H_2S. The acid gas will be injected for the concurrent purposes of CO_2 sequestration, H_2S disposal, and EOR. Injection of acid gas into the Zama Keg River "F" pool began on December 17, 2006. A cumulative volume of 70,000 mcf has been injected through April 2007 since inception. The stream consists of approximately 70% CO_2 and 30% H_2S, which results in a volume of 2800 tons of CO_2 injected to date.

A new section of core was collected from a nearby pinnacle in March 2007. This core will be evaluated to determine geochemical and geomechanical properties of the system. The core contains the transition from the caprock and into the oil-producing zone of the pinnacle. We are interested in the effect that acid gas has on this transition and will be performing tests that will be compared to core exposed to acid gas (in situ), which we will collect this year.

Geological Characterization

Geological characterization of the Zama region has continued throughout this reporting period. Regional-scale reports will be completed by the end of this reporting period. 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. Activities during this reporting period include the following:

- Mapping of geology and hydrogeology in process; isopach mapping is under way, Alberta Geological Survey (AGS) water analysis (hydro) data are dated; currently accessing and importing newer data from the Alberta Energy and Utilities Board (EUB).
- Update of well status data.
- Lithofacies mapping of Keg River is being discussed utilizing Gamma Ray logs.
- Core logging, some samples ready for mineralogical analysis.
- Testing of CO_2 solubility (Hycal Partition Study) is complete.
- Working to meet with Apache Canada Ltd. Geophysicist and Geologist to review seismic data quality implications and geologic data.

Figures 2–4 are examples of the work that has been ongoing this period.

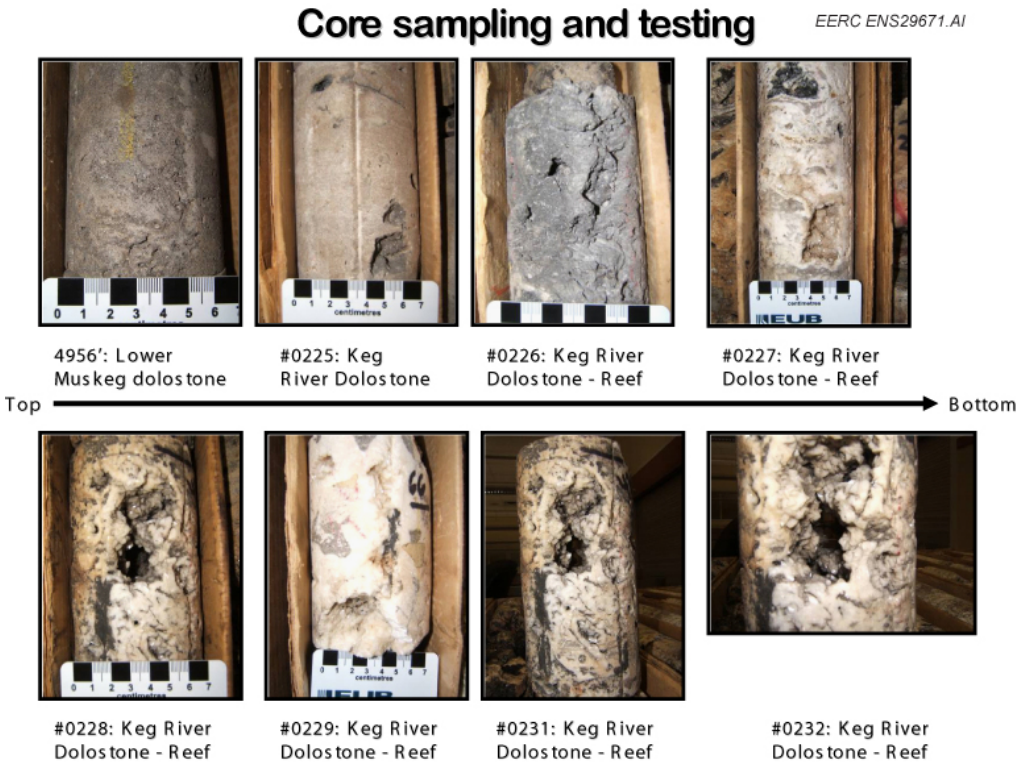


Figure 2. Core samples illustrating the heterogeneity of the Keg River Pinnacles that are being utilized in the Zama Project.

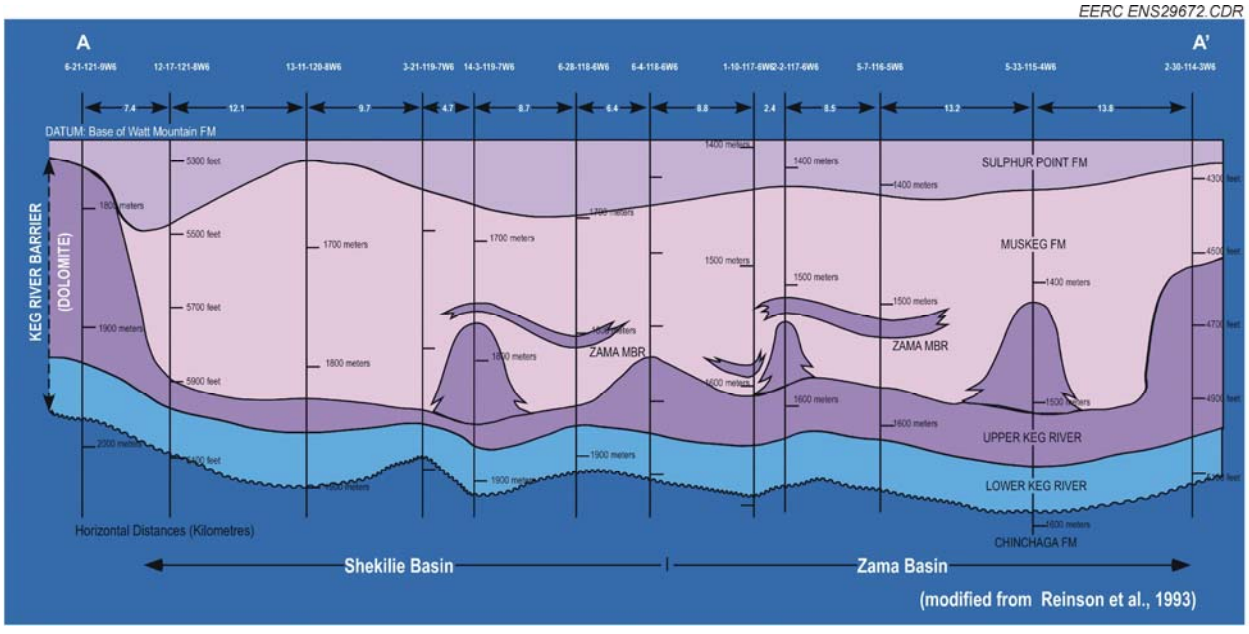


Figure 3. Regional cross section of the Zama study area.

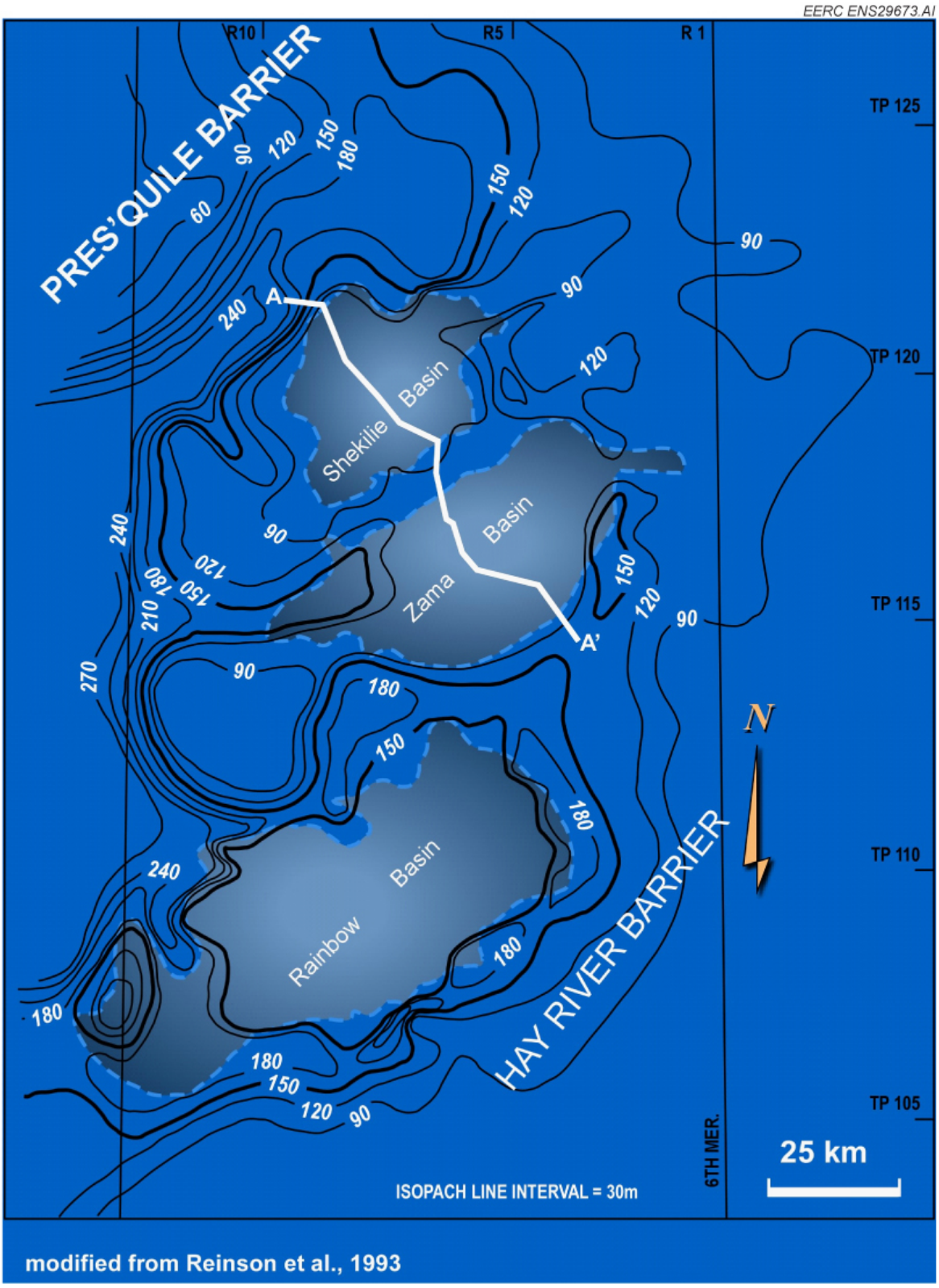


Figure 4. Thickness of the Devonian Keg River in the Zama study area.

Data Collection and Integration

This task has been a critical component in the overall characterization scheme. During this reporting period, data have been collected from Apache Canada Ltd., 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:

- Tracer evaluation is progressing. Pro Techniques is evaluating methods for stripping the tracer from the acid gas mixture without removing the tracer.
- Web document is complete and being reviewed.
- Future work scope to be developed.

Geomechanical Characterization

Geomechanical testing has been progressing throughout this reporting period. An evaluation of the elastic properties of the cap rock and reservoir rock has been completed. Additional tests and geomechanical models of the environment are near completion. Current geomechanical characterization activities include the following:

- Profiling Keg River and Muskeg rock properties.
- Identifying wells in the area with shear and compression sonic logs; no valid analogue well identified at present.
- Began to build geostatistical model; currently working to define the required number of blocks or units.
- Lab tests – unconfined compressive strength tests are under way at Calgary Advanced Geotechnology Laboratories. Pore volume compressibility testing will be carried out at perhaps either of Hycal or Omni (Advanced Geotechnology now part of these companies).
- Advanced Geotechnology, Ltd., is focusing on samples with porosities between 15% and 25% to deal with problems associated with testing of vuggy samples; this problem is shared by AGS.
- Discussed the use of tornado diagrams within the reporting to identify the most important model/data parameters.
- Target date is September 2007; initial geomodel runs are targeted for February 2007.
- Working with University of Regina, computer modeling group (CMG) gridded simulation model, discussed the fact that gridded model was simplified from the static model work done by RPS Energy, gridded model was a simplified layer cake model.

Task 4 – Field Validation Test of North Dakota Lignite

In Task 4, the effectiveness of lignite seams to act as sinks for CO_2 during simultaneous CO_2 sequestration and ECBM production will be evaluated in the Williston Basin. In this reporting period, efforts were focused on developing the operating plans and procedures for the validation test. These activities were closely coordinated with PCOR Partnership partners Fischer Oil and Gas, Inc., as well as Eagle Operating, Inc. The evaluation of the baseline geologic setting

of the area is continuing. The design and nature of the pump test for the dewatering phase of this task are under development.

The model for simulation of injection/production from lignite in Burke County, North Dakota, is under development. Additional inputs for this model will come from logging that will be completed once the wells are drilled. Figure 5 shows the five-spot well layout. A database of gamma ray logs from 54 wells and sonic logs from 12 wells in the vicinity of the proposed pilot project site was created. Available logs were analyzed, and a map of the coal seam thickness in the area was also created. A database on available background data has been developed. Background data gaps have been identified, and research is under way for available information to fill the gaps. The available background data were analyzed using statistical procedures and parameters for the initial (not validated) geological and numerical models chosen. The initial numerical model of the coal seam was built using ECLIPSE software. Manipulations with the created numerical model were completed to ensure obtaining physically sound results of the numerical simulation. Preliminary results of numerical simulations provided insight into anticipated production rates. A list of data needed for geological and numerical model validation has been put together.

A review of coalbed methane (CBM) drilling methods has been conducted. An analysis of coal drilling procedures, including well construction and completion, was conducted for wells in North Dakota and New Mexico.

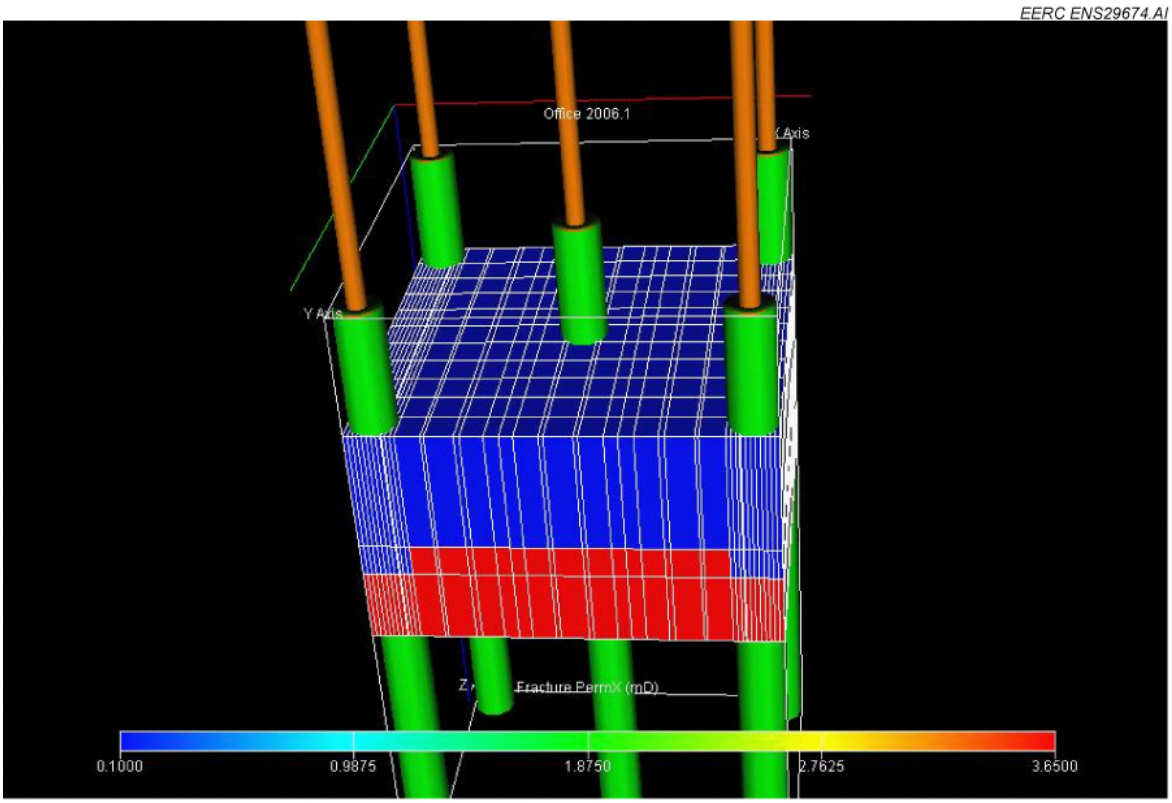


Figure 5. Five-spot model of production from coal seam.

Various aspects of the field demonstration logistics continue to be developed with our partners. Discussions are ongoing with PCOR Partnership partner Eagle Operating, Inc., to drill the wells and assist with well operations. In addition, a meeting was held at Eagle's offices to finalize drilling plans. This resulted in some changes to our plans with Schlumberger, and they are in the process of developing an alternative logging suite. Also, a conference call and meeting were held with WellDog, Inc., regarding its critical gas content tool. This may be another type of analysis that could possibly provide gas content and gas saturation of the lignites. Further discussions were held with WellDog upon receipt of its proposal. We are currently evaluating WellDog's involvement in this test.

We are planning a meeting with the North Dakota State Land Department to go over the experimental design and drilling plans. Once we have finalized the drilling plans and logging package, we anticipate meeting with local officials in Burke County, North Dakota, to provide them with more details regarding the research project. Drilling is anticipated for May or June 2007 as load restrictions are on local roads and the land needs to dry before pad setup and drilling can commence.

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 greenhouse gas (GHG) reductions. During the last 6 months, we have synthesized the impacts of grazing, haying and other land use management options on carbon sequestration and presented the results in a fact sheet. The analysis of the impacts of grazing on carbon stocks is currently being researched as part of the terrestrial field validation test, and the fact sheet will be updated as soon as results are available.

Additionally, business flow processes have been 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

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. The samples consisted of 416 six-inch soil samples, six 12-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 samples have all been milled and are currently being analyzed by the NDSU Soil Science Laboratory for their organic carbon and inorganic carbon content. 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
- Site topography
- Vegetation characteristics and species
- Management prescriptions

Three sampling areas have been selected for the 2007 field season. The sampling areas are located in north-central South Dakota, south-central South Dakota, and western Minnesota. Landowner contacts for access to sample pastures, Conservation Reserve Program (CRP), and cropland are under way and nearly completed. Plans are being developed for grassland restorations on DU-owned properties in South Dakota. One 40-acre restoration will be a monoculture of switchgrass to evaluate its ability to sequester carbon when grown to produce biomass for ethanol production.

DU collaborated with the U.S. Geological Survey (USGS) 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 from grazed and hayed areas over time (Figures 6 and 7).

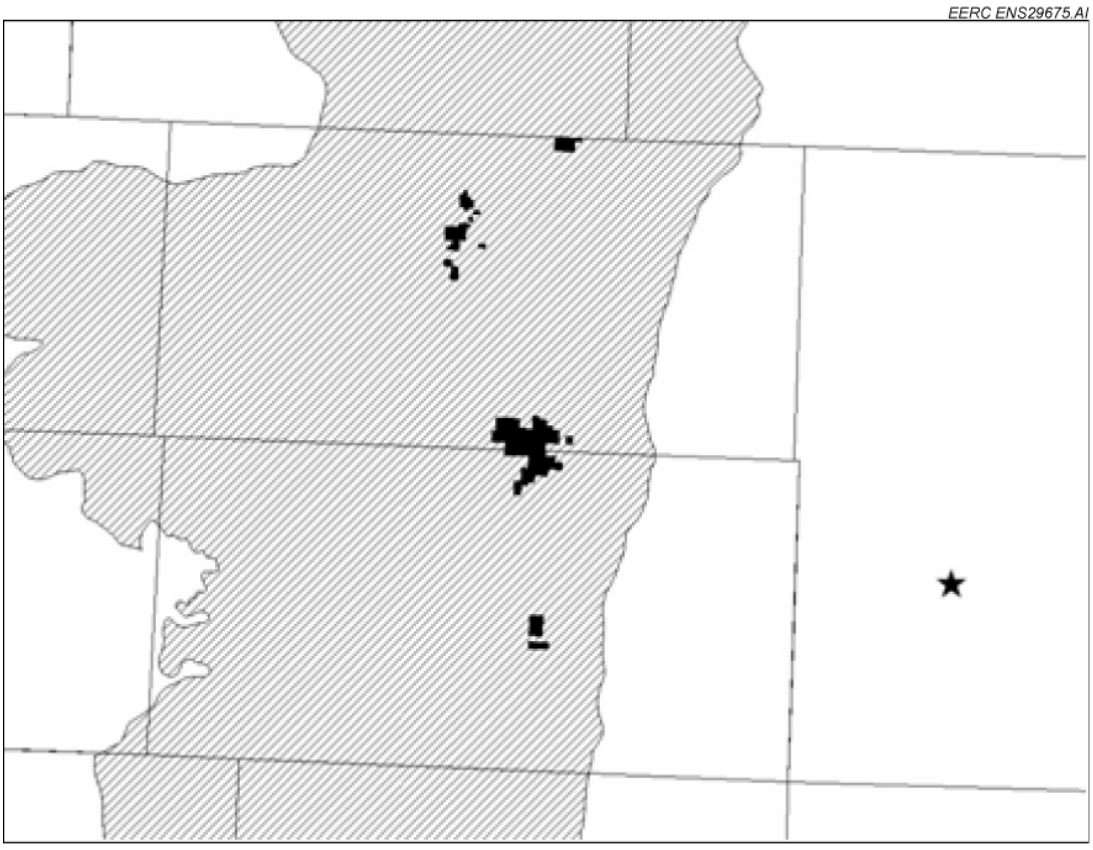


Figure 6. Location of study area.

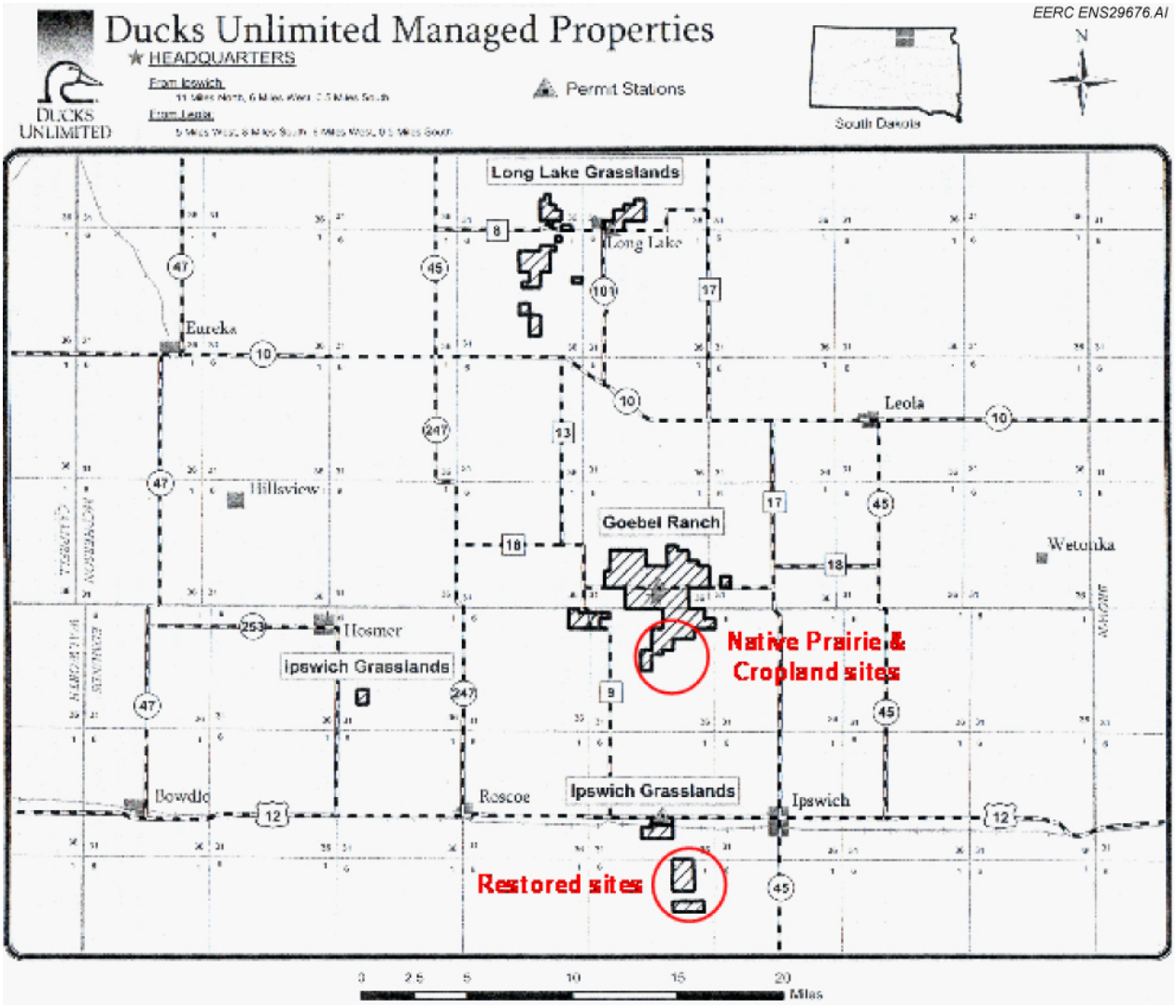


Figure 7. Detailed location of study area.

The final selection of 17 wetland catchments was completed during the 2nd quarter of FY07. Wetland catchments selected for monitoring are located on DU Goebel Ranch and Ipswich Grasslands property and other privately owned properties in Edmunds County, South Dakota (Figures 8–10).

To eliminate background variation among sites, wetland catchments selected were similar with respect to water regime, size, land use history, and soils (Table 2). Emissions of GHGs (i.e., CO_2, CH_4, N_2O) will be measured biweekly throughout the growing season from wetland catchments following standard protocols developed by USGS. Collection of gas emission samples will commence during the week of March 26, 2007.

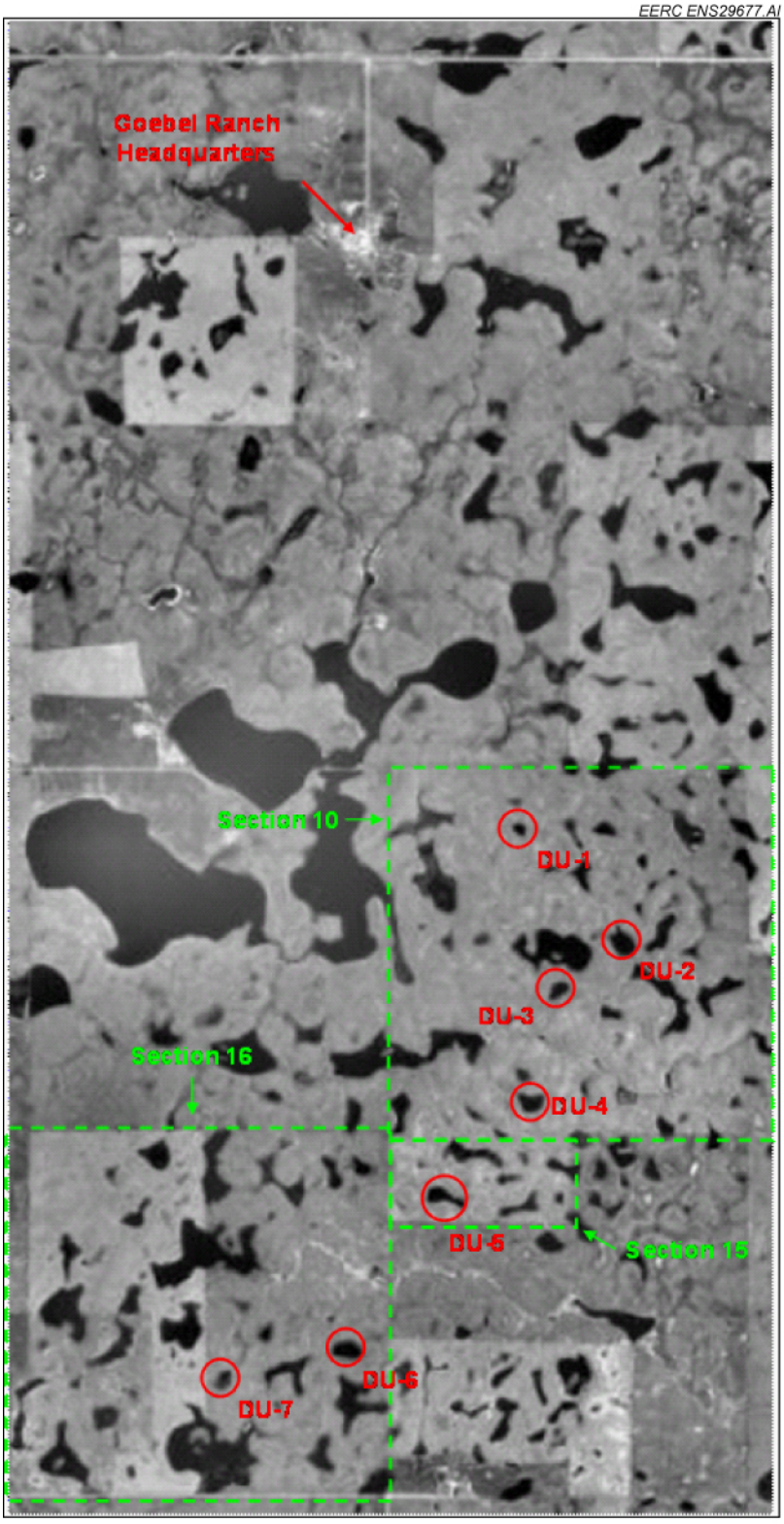


Figure 8. Goebel Ranch study area.

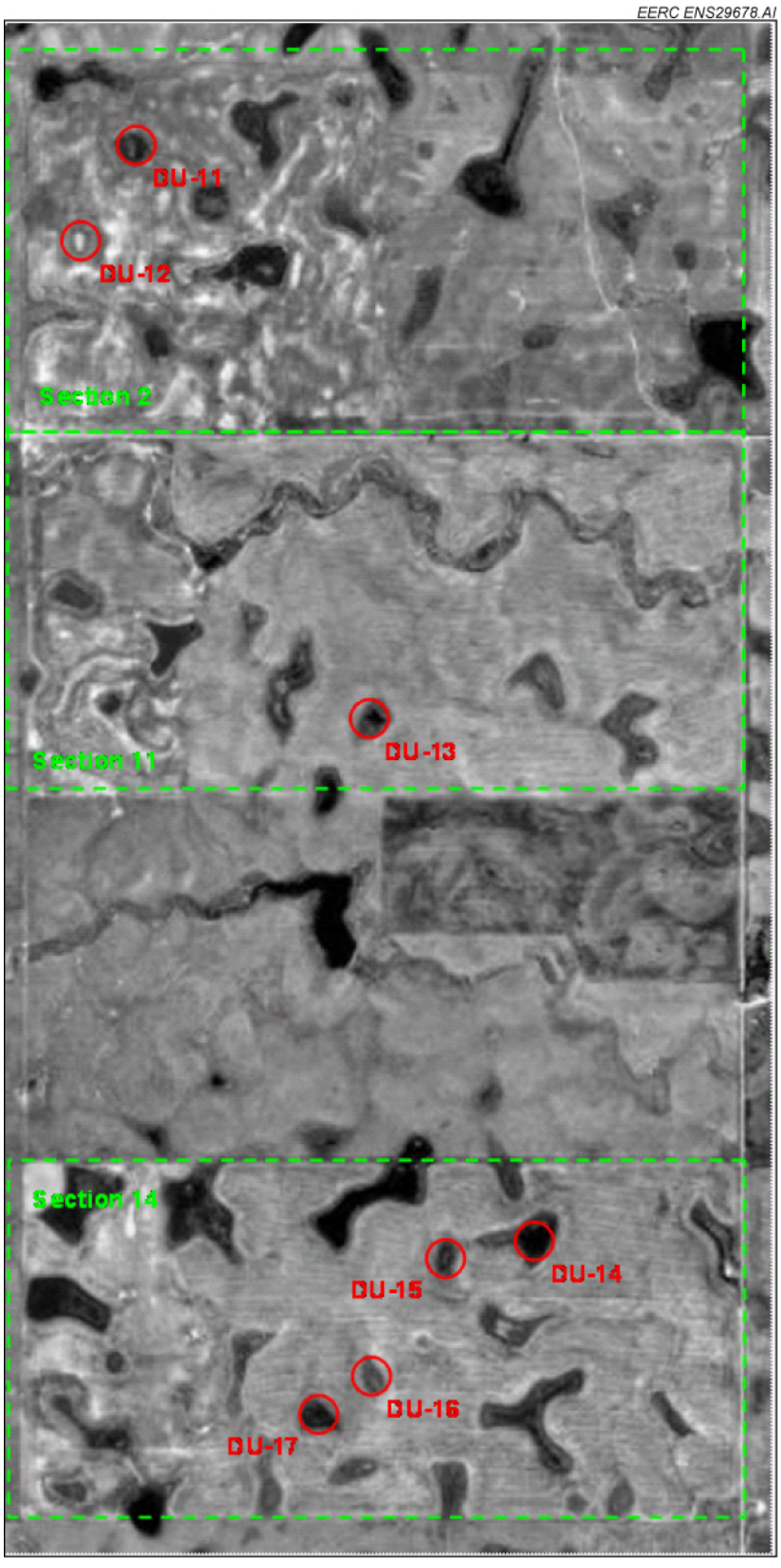


Figure 9. Ipswich grasslands study area.

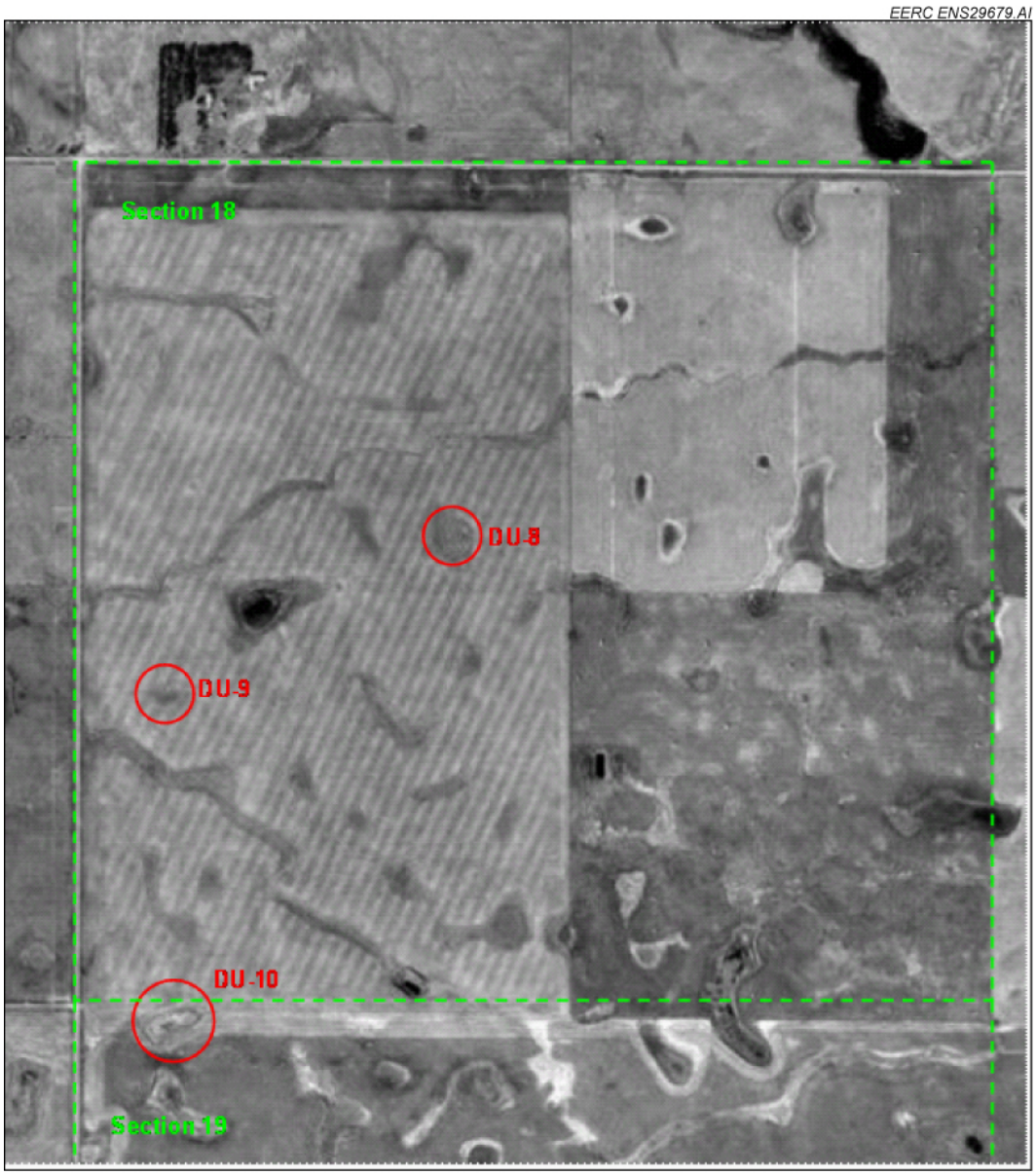


Figure 10. Beyers cropland study area.

DU and the PCOR Partnership partners have assembled information that will be used to assess socioeconomic drivers for land conversion, including past, current, and future (predicted) payments for government programs such as 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. Rental rates for CRP, the Grassland Reserve Program, and agricultural rental rates have been compiled and are being used to assess the economic feasibility of carbon sequestration at the county level of the PCOR Partnership region.

Table 2. Characteristics of Wetland Basins Located on DU (i.e., Goebel Ranch, Ipswich Grassland) and Other Privately Owned Properties (see Figure 6 and 7). The native prairie sites will be managed for grazing (grazed or nongrazed), the restored grassland sites will be managed for haying (hayed or nonhayed), and the cropland sites will be actively farmed using standard practices of the region. The Ipswich Grassland properties were farmed previously and planted to native grasses in 2005 and 2006.

						Soils				
						Wetland Zone			Upland Zone	
Property[1]	Wetland ID	Wetland Class[2]	Wetland Type[3]	Treatment Category	Approximate Wetland Size, ha	Primary[4]	Mapped[5]	Typic Wetland Soil[4]	Primary[4]	Secondary[4]
DU-GR	DU-1	PEMC	NP	Grazed	0.24	WvC	No	Pa; He	WvC	–
DU-GR	DU-2	PEMC	NP	Grazed	0.93	WvC	No	Pa; He	WvC	–
DU-GR	DU-3	PEMC	NP	Grazed	0.48	WvC	No	Pa; He	WvC	–
DU-GR	DU-4	PEMC	NP	Dual Transect	0.64	WvC	No	Pa; He	WvC	–
DU-GR	DU-5	PEMC	NP	Idle	0.93	Pa	Yes	--	WvC	–
DU-GR	DU-6	PEMC	NP	Idle	0.85	WvC	No	Pa; He	WtB	WvC
DU-GR	DU-7	PEMC	NP	Idle	0.44	WvC	No	Pa; He	WvC	–
Private	DU-8	PEMC	CW	Cropland	0.65	WtA	No	Pa; Tn	WtA	WtB
Private	DU-9	PEMC	CW	Cropland	0.32	WtB	No	Pa; Tn	WtB	–
Private	DU-10	PEMC	CW	Cropland	0.61	WtB	No	Pa; Tn	WtB	–
DU-IG	DU-11	PEMC	RG	Idle	0.68	WtB	No	Pa	WtB	–
DU-IG	DU-12	PEMC	RG	Idle	0.24	WtB	No	Pa	WtB	–
DU-IG	DU-13	PEMC	RG	Idle	0.56	WtB	No	Pa; Tn	WnB	WtB
DU-IG	DU-14	PEMC	RG	Hayed	1.09	WtB	No	Pa; Tn	WtB	–
DU-IG	DU-15	PEMC	RG	Hayed	0.56	WtB	No	Pa; Tn	WtB	–
DU-IG	DU-16	PEMC	RG	Dual Transect	0.40	WtB	No	Pa; Tn	WtB	–
DU-IG	DU-17	PEMC	RG	Hayed	0.56	WtB	No	Pa; Tn	WtB	–

[1]DU-GR = DU Goebel Ranch, DU-IG = DU Ipswich Grasslands, private = private landowner.
[2]PEMC = palustrine emergent seasonally flooded wetland classified by the National Wetlands Inventory.
[3]NP = native prairie, CW = cropland wetland (not drained), RG = farmed previously (not drained) and restored to native grasses.
[4]Soil map unit symbol from soil survey.
[5]Yes = wetland basin mapped as inclusion in soil survey, No = wetland basin not mapped in soil survey. If wetland basin was not mapped, the soil-mapping unit is assumed to be the typic wetland soil-mapping unit found in the parcel of land.

Outreach Action Plan

The Terrestrial Field Validation Project is scheduled to begin in the spring of 2007 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 been organizing a Climate Change Workshop to be held in April that will discuss the impacts of global warming on wetland and waterfowl habitats. We are assembling a group of approximately 15 scientists, managers, and policy specialists with an interest in climate change, carbon sequestration, climate policy, and wetland and waterfowl management. The main purpose of the workshop is to draw on the experience of the participants to define possible management and policy options for wetland ecosystems and related habitats under pressure from climate variability. The results of the workshop will provide input for the fact sheet on climate science.

Presentations on terrestrial carbon sequestration including updates on the PCOR Partnership grassland sequestration tasks were completed at the following venues as part of DU's outreach, education, and communication to industry, landowners, and other stakeholders.

- North Central Leadership Forum on Nutrient Management and Water Quality, Madison, Wisconsin, December 17–19, 2006; Sponsor: Sand County Foundation. This meeting included conservation nongovernmental organizations (NGOs), state environmental agencies, policy makers, and agricultural producers.
- Electric Utilities Environmental Conference 2007, Tucson, Arizona, January 22–24, 2007.
- Lower Mississippi Valley field tour of terrestrial sequestration sites with Prairie Public Television, February 12–13, 2007.

DU has updated the PCOR Partnership Terrestrial Project Web site on www.ducks.org/Conservation/EcoAssets/2530/PCORPartnership.html. A project update report has been added and links to the fact sheets that have been completed for Phase II. The site will continue to address the options for sequestration practices, the carbon sequestration potential of the practices, and best management practices for retaining sequestered carbon. More information will be presented as reports and fact sheets as they are completed.

Two outreach brochures are currently in development with draft layouts ready for internal review. They are both glossy brochures that can be distributed as a stand-alone resource for landowners or investors interested in terrestrial carbon offset opportunities. The final brochures will also be distributed as appropriate for the PCOR Partnership regional and national OAP.

Fact Sheet – Best Management Practices

DU has synthesized existing information on the impacts of grazing and other land use management options on carbon sequestration and prepared a fact sheet for review. This

information will provide the basis for management plans that will be incorporated into carbon sequestration easement documents. Guidelines for management of wetland hydrology and land management to enhance carbon sequestration potential have been developed; however, results of the impacts of certain practices, such as haying and grazing intensities, are not yet available. Fact Sheet 8 "CO_2 Sequestration Through Habitat Restoration – Defining Best Terrestrial Sequestration Practices for Landowners" introduces these land management guidelines, and the research that is under way during Phase II for quantifying the soil carbon potential of different practices.

Fact Sheet – Indirect Benefits

Other economic and environmental incentives that may result from agricultural land restoration, such as water quality, erosion control, flood buffering, 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 have been evaluated, and a fact sheet entitled "Cobenefits of Terrestrial Carbon Sequestration in the PCOR Partnership Region" was completed and submitted during this reporting period.

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 information is necessary for correlating environmental benefits, carbon offsets, and financial returns associated with wide-scale deployment of terrestrial carbon sequestration. The outreach brochures that are currently in draft form describe the business processes from a landowner and an investor perspective. Next, a fact sheet will be developed and incorporated into the Regional Technology Integration Plan (RTIP). The business flow processes are being defined 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. The following items have or will be submitted to DOE as stand-alone documents or part of a business processes package:

- Prospectus for grassland carbon offset sale in the Prairie Pothole Region (PPR) (submitted)
- General term sheet for grassland carbon offset sale with investor in the PPR (submitted)
- DU carbon sequestration fact sheet for investors (submitted)
- Evaluation of DOE guidelines for aggregators and terrestrial offset providers (review complete, and document in draft form)
- Evaluation of state/regional GHG or cap and trade program rules and policies (in process)
- Private carbon/easement legal document (complete; will submit to DOE in next quarter)
- Agreement with landowner and DU to market carbon on their behalf (in draft form)
- Legal document to transfer carbon rights from landowner to DU for an aggregated transaction (in draft form)

Carbon Tracking

A Business Requirements Document (BRD) to support the system design is nearly complete and will be submitted to DOE in the next quarter. The BRD defines all of the aspects of information tracking that are required for a carbon transaction including financial, agreements, habitat, carbon, monitoring, third-party verification, risk management, insurance, etc. These information-tracking requirements have been related to DU's existing conservation and accounting databases. The carbon system will allow transacted carbon offsets to be tracked and for portfolios of offsets available for sale to be queried and marketed to investors.

Presently, several protocols are being developed, including the 1605(b) Voluntary 14 Reporting Program, the Chicago Climate Exchange, the California Action Registry, the World Resources Institute, the World Business Council on Sustainable Development, and RGGI (Regional Greenhouse Gas 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 project portfolio with stakeholders and investors.

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 United States. DU currently is negotiating the sale of 1,500,000 tons of CO_2 offsets on approximately 33,000 acres of grassland in the prairies with a for-profit investor that specializes in the generation and management of high-quality carbon credits derived from reforestation, forest conservation, and sustainable land management. The PCOR Partnership Phase II Field Validation Project will provide accurate baseline carbon determination and accumulation rates for expiring CRP as well as native prairie grasslands.

Task 6 – Characterization of Regional Sequestration Opportunities

The goal of Task 6 is to characterize the PCOR Partnership regions with respect to regional sequestration opportunities and to provide this information to our partners through our Web-based Decision Support System (DSS). Accomplishments during this reporting period include the following.

Decision Support System

Updated versions of the DSS were released in December 2006 and February 2007. The new features include the following:

- A new look for the home page (Figure 11). The home page now features a map of the partnership area with the field demonstration sites highlighted. The user can click on a specific site to view a project update. Monthly general PCOR Partnership activities are also available by clicking the link below the map.

- Modified the extent of the PCOR Partnership region to include northeastern corner of British Columbia, Canada.
- Added new layers (stratigraphy and coal with references), ability to use multiple text boxes and to clear text on the map, a measuring tool, and ecoregion definitions to the DSS.
- Created a "T-Zone" for terrestrial data.
- Began programming of a GIS site for the gas analysis data. This gas analysis will provide us with a better understanding of the nature of acid gas resources in the region, including zones that are not currently being produced. It will assist us in developing our regional vision. The gas analysis GIS site will be built entirely on the SDE/SQL platform.
- Added a topical report by Stefan Bachu (EUB), various presentation materials, new partners, and project updates to the DSS.
- Continued work on the development of an HTML-based (Web) help file that will replace the previous help document.
- Purchased and received a pipeline data set from PennWell. Installed these data on our test server and plan to make them available through the DSS to our partners in April.

Figure 11. New home page for the DSS.

Characterization

Characterization activities include the following:

- Received oil field shape files for British Columbia, Canada. We are waiting for the associated attribute data.
- Continued working with EUB on the Alberta oil and gas well and field data.
- Created stratigraphy maps for the states and provinces contained in the PCOR Partnership region for use in the DSS.
- Received the most recent geographic files for the delineation of unitized and nonunitized oil/gas fields in North Dakota from North Dakota Industrial Commission (NDIC). These files also contain the latest cumulative production data for the fields. These data will be incorporated into the DSS and will allow for updated capacity estimates for the fields.
- Reviewed and added new ethanol CO_2 sources to the DSS. The current number of sources in the DSS is 1106. There is no lower limit to the CO2 emission value in the database, except that it has to be >0. We will be reviewing the sources over the next year, as well as the categorization of sources. In addition, we will be preparing a capture document that contains a matrix of capture/separation technologies and source types that may be good technology matches and make this document available through the DSS.
- Completed QA/QC on the gas analysis data.
- We are also continuing to make appropriate modifications to the PCOR saline aquifer methodology and refine the estimated CO_2 capacities for the Madison and Lower Cretaceous aquifer systems. Work on the evaluation of Class II injection well data from North Dakota, South Dakota, Montana, Nebraska, Wyoming, and Iowa also continued.
- Identified gaps in readily available data with respect to Class II wells in states other than North Dakota. Contacted Montana, Nebraska, and South Dakota Oil and Gas Commissions with respect to Class II well data. South Dakota provided high-quality data; Montana provided a list of the data available from its database. Online databases for the other states were evaluated.
- Tasks performed by Fischer Oil and Gas, Inc., included the completion of drafts for six topical reports (formation outlines) for review by coauthors; the investigation of deep (lower Ordovician) reservoir characteristics in Beaver Lodge field, Williams County, North Dakota; and work on lignite characterization for central North Dakota.
- The Iowa Geological Survey (IGS) began refinements and updates to the existing structure, lithofacies, and isopach maps digitized in the previous quarter, including the identification of data needs and “holes” to fill. The most significant changes have been made to maps of Ordovician units. In addition, IGS digitized and began the review of existing total dissolved solids (TDS) and potentiometric maps for the Mississippian, Silurian–Devonian, Cambro–Ordovician aquifers. These maps, while created 20–30 years ago, are useful starting points for the preparation of final products. Additional information on TDS, collected since they were originally created, has been added to these maps.

Other Activities

- Finalized the subcontract with IGS.
- Purchased and installed the ECLIPSE software from Schlumberger. This package will enable us to model geologic reservoirs.
- Began work on the second edition of the PCOR Partnership Atlas. The new version will include all new maps depicting the expanded region, a new member list, updated source and sink data, discussion of the Phase II and Phase II demonstration sites, and material on regulatory and safety issues.
- Provided NatCarb with shape files and other products for use in the National Atlas and in NatCarb Lite. Reviewed and commented on the National Atlas.
- Participated in GIS Working Group conference calls.
- An article was published in ArcNews. ArcNews is a quarterly news magazine for ESRI users (www.esri.com/news/arcnews/winter0607articles/carbon-dioxide.html).

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

State of North Dakota regulations for flaring or venting gas were reviewed. State regulations were also reviewed for the discharge and/or disposal of water. Several meetings were conducted with task leaders and Eagle Operating, Inc., to discuss operating plans and procedures and to develop plans for land access, drilling, and water disposal. Drilling permit applications were completed as well as the drilling prognosis. An exception order for well-spacing requirements was received from NDIC in October. The NEPA, SHSP, and RPAP have all been completed and submitted to DOE.

Task Management and General Task Activities

Collaborations continued with the outreach task leader by participating in the Outreach Working Group's conference call that discussed financial responsibility, insurance, and liability issues. The group's comments on the EPA Draft Guidance Document Using Class V Injection Wells were also reviewed. Input is also being provided to the outreach task leader with regard to the carbon markets video.

Several conferences were attended during this reporting period. They include the following:

- IEA 2nd Risk Assessment Network Meeting, Lawrence Berkeley National Laboratory, Berkeley, California, October 2006

- Point Carbon North American Carbon Markets Conference in Washington, D.C., January 2007
- Groundwater Protection Council's CO_2 Sequestration Workshop, San Antonio, Texas, January 2007

Research continued on developing business strategies for competing in the carbon marketplace as well as pricing structures and market trends. Also, an analysis for a CO_2 emission avoidance technology's qualification as a carbon offset project under various schemes in the United States and Europe was completed. Numerous existing, revised, and new rules, regulations, and guidelines were reviewed and evaluated. The following is a list of some of those documents:

- Draft 1605(b) forms and instructions
- API CCS guidelines
- EPA Final Guidance to assist State and EPA Regional UIC Programs in processing permit applications for pilot- and small-scale CO_2 geologic sequestration projects
- California Global Warming Solutions Act of 2006
- Western Regional Climate Action Initiative signed by five western governors calling on their respective states to reduce greenhouse gases

In addition to the activities listed above, several new bills have been introduced in Congress this session. Those bills are being analyzed and tracked with respect to their impact on the PCOR Partnership and CO_2 sequestration as a whole.

Participation in the Interstate Oil and Gas Compact Commission (IOGCC) Carbon Capture and Geological Storage Regulatory Task Force is ongoing. 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. The task force meeting that was held in Texas in October was attended by the EERC.

Task 8 – Public Outreach and Education

The goals of the PCOR Partnership's Public Outreach and Education (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 this reporting period, the PowerPoint update was due. The presentation provides a general introduction to CO_2 sequestration, the DOE RCSP Program, and the PCOR Partnership's activities. The PowerPoint update was submitted for review by DOE on schedule at the end of February 2007. During this reporting period, progress continued on the following:

- The public Web site (reviewed by DOE in September of 2006) was further revised to reflect the changes in the definition of the PCOR Partnership region and to accommodate updated information to ensure consistency with other outreach products.

The Web site passed its internal review in March. Final revisions are under way with an expected launch in April 2007.

- A draft OAP for the Lignite Field Validation Project was completed and submitted for internal review. The OAP is due to DOE for review at the end of April 2007.
- A draft of the OAP for the Beaver Lodge Field Validation Project was initiated. The OAP for Beaver Lodge is due to DOE at the end of June 2007.
- The PCOR Partnership display booth was initiated with a draft scheduled for internal review in mid-April 2007. The booth is due to DOE for review at the end of April.
- Work on the Carbon Market Video, due to DOE at the end of July 2007, included the following:

  – In February a meeting involving Prairie Public Television and the EERC was held to discuss a production schedule to reflect the new completion date of July 2007.
  – A script rewrite was initiated to accommodate the evolving situation with respect to the U.S. carbon market, including private transactions.
  – The final interview with Blue Source, LLC, was scheduled for early April.

- Work on the terrestrial sequestration video (due to DOE at the end of January 2008) included the following:

  – In February a meeting involving Prairie Public Television and the EERC was held to discuss a production schedule to reflect the new completion date of July 2007. The video will contain footage on terrestrial sequestration activities in wetlands, forests, and agricultural settings with locations in Brazil and the United States (northern Great Plains, southeast, and California).
  – Location footage and interviews were obtained in February for DU terrestrial sequestration sites in the southeastern United States.
  – Efforts were initiated in March to obtain location footage of no-till agriculture, field sampling for soil character, and terrestrial sequestration activity sites in California.

In addition, activities under Task 8 also involved attending monthly conference call with the Outreach Working Group.

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. Maintaining a current emission database; enhancing the ability to identify good matches between CO_2 emission sources, capture/separation technologies, and appropriate geologic sinks; and accurately estimating the costs of capture, compression, and transportation are crucial aspects to meeting this goal. Several activities were performed in this area.

- The quantity of CO_2 produced by new ethanol plants in the region was added to the PCOR Partnership DSS GIS database, and some of the power plant and gas-processing facility data were updated.
- A meeting for the RCSP Capture, Separation, and Transportation Working Group was attended in March 2007 at which capture technology cost-calculating models, a pipeline-routing and cost-calculating model, and a source–sink matching model were all presented. At least two of these models (the Carnegie–Mellon Integrated Environmental Control Model and the MIT pipeline-routing/cost model) will be utilized as part of future Task 9 capture activities and carbon management plans.
- Task 9 personnel are helping to develop a technology roadmap for the North Dakota Lignite Energy Council. When completed, the road map will include advanced combustion, gasification, and carbon management technologies specific to lignite and will serve as a working document for the Lignite Technology Development Work Group.

An important aspect of characterizing the CO_2 emission sources and identifying appropriate capture technologies and sequestration scenarios is disseminating the information to interested stakeholders. Several information dissemination activities were performed, including:

- The most recent emission data from the Canadian portion of the PCOR Partnership region (data from 2004) were integrated with the 2002 U.S. data from EPA to form an updated regional CO_2 emission summary for use in the new version of the PCOR Partnership Atlas and on the updated PCOR Partnership public Web site.
- An extensive table summarizing CO_2 capture technologies that was prepared during the July through September 2006 quarter is being included on the PCOR Partnership "Partners-Only" Web site.
- A capture and separation section was prepared for the new version of the PCOR Partnership Atlas.

The utilization and management of CO_2 is a major subtask within Task 9. A best practices manual for developing carbon management plans will be prepared by November 30, 2007.

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 activities that were aimed at the further integration of the regional partnerships:

- Regional Carbon Sequestration Review Meeting, Pittsburgh, Pennsylvania (October)
- The Capture and Transportation Model Seminar, Pittsburgh, Pennsylvania (March)
- Carbon Sequestration Leadership Forum Meeting (CSLF), Paris, France (March)
- Membership discussions continued with numerous organizations

Management

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

- Melzer Consulting
- Pratt & Whitney Rocketdyne, Inc.
- Westmoreland Coal Company
- Shell Canada Energy
- Spectra Energy
- Schlumberger
- Missouri River Energy Services
- Blue Source, LCC

Further, we have assisted the National Carbon Sequestration Project with the National Carbon Sequestration Atlas. The work included capacity estimates and maps. We also continued participation in working group conference calls, including the following:

- GIS
- Capture, separation, and transportation
- Geologic
- Outreach and education

CONCLUSIONS

Work is progressing, and deliverables for the reporting period (October 1, 2006 – March 31, 2007) were submitted on schedule, unless an extension was established. The PCOR Partnership continues to grow, with eight new members since the last reporting period.

COST STATUS

The approved budget for Period 2, along with actual costs incurred and cost share, is shown in Table 3.

Table 3. Budget by Period and Actual Costs Incurred

Organization	Approved Budget Period 1	Actual Costs Incurred
DOE Share	$7,710,015	$3,481,460
Nonfederal Share	$6,412,388	$942,278
Total	$14,122,403	$4,423,738

SCHEDULE STATUS

Table 4 contains all the deliverables and submission dates for the period. See Table 5 for a listing of all milestones and completion dates for the duration of the project listed by task.

Table 4. PCOR Partnership Deliverables for October 1, 2006 – March 31, 2007

Deliverables	Date Submitted
Monthly Update for October	October 31, 2006
Task 1 – Quarterly PPT Presentation and EVM Report (for the period April 1, 2006 – September 30, 2006)	October 31, 2006
Technical Progress Report (semiannual) to DOE and NDIC (for the period July 1, 2006 – September 30, 2006)	October 31, 2006
Task 9 – BPM – Wind Energy	November 29, 2006 (revisions currently in progress)
Monthly Update for November	November 30, 2006
Task 8 – Fact Sheet 8 (wetland CO_2 sequestration validation test)	December 29, 2006
Monthly Update for December	December 28, 2006
Task 4 – Identification of Specific Well Locations (2007 Quarter 1 milestone)	December 31, 2006
Task 1 – Quarterly PPT Presentation and EVM Report (for the period October 1, 2006 – December 31, 2006)	January 31, 2007
Monthly Update for January	January 31, 2007
Task 2 – EDP	Moved to June 2007
Task 2 – NEPA Compliance Document	Moved to June 2007
Task 8 – Carbon Market and Trading Video	Moved to July 2007
Task 4 – EDP	February 28, 2007
Task 4 – NEPA Compliance Document	October 31, 2006
Task 8 – General Audience PowerPoint Presentation	February 28, 2007
Monthly Update for February	February 28, 2007
Task 2 – OAP	Moved to June 2007
Task 4 – SHSP	March 29, 2007
Task 4 – RPAP	March 30, 2007
Monthly Update for March	March 30, 2007
Task 4 – Finalized Drilling Prognosis for the Five-Spot Research Wells (2007 Quarter 2 milestone)	March 30, 2007

SUMMARY OF SIGNIFICANT ACCOMPLISHMENTS

Significant deliverables for the second 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 COR. Project task managers participated in regional partnership working groups to integrate and collaborate with other RCSPs. Project milestones are shown in Table 5.

ACTUAL OR ANTICIPATED PROBLEMS OR DELAYS

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

DESCRIPTION OF PRODUCT PRODUCED

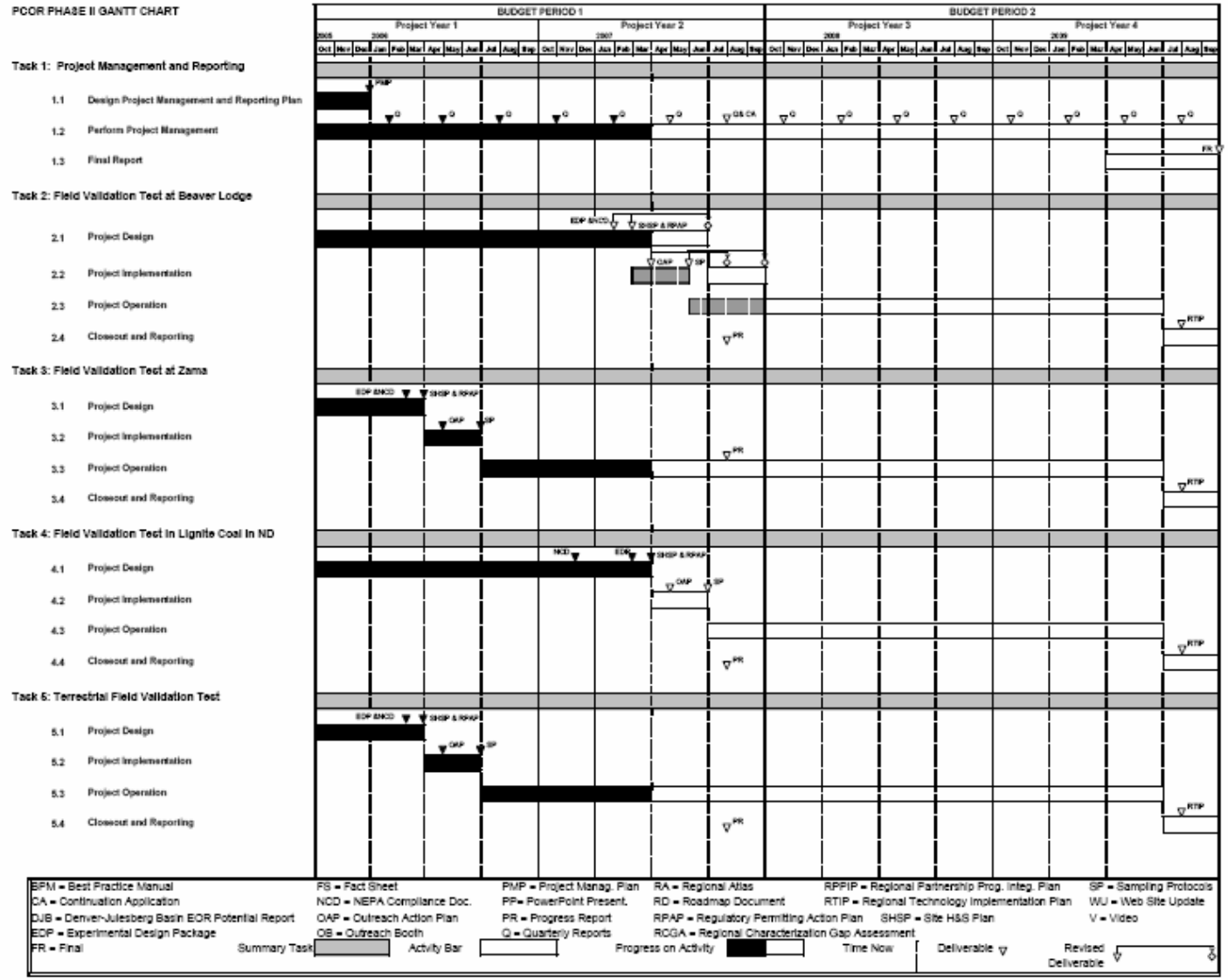
The PCOR Partnership produced, or assisted in the production of, a number of products. These products included the following:

- Papers/proceedings and journal articles
  - 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 launching the site in April 2007. The current site can be found at www.undeerc.org/pcor.

REFERENCES

None.

Table 5. PCOR Partnership Milestones



Continued…

Table 5. PCOR Partnership Milestones, continued