

Verification Report for the North Antelope Rochelle Coal Mine Methane Capture and Use Project Campbell County, Wyoming

Voluntary Carbon Standard 2007

September 2008

**Prepared by: First Environment, Inc.
91 Fulton Street
Boonton, New Jersey 07005**



1. Introduction

This report is provided to BlueSource as a deliverable of the Voluntary Carbon Standard 2007 (VCS 2007) project verification process. This report covers the verification of GHG emission reductions for the period from March 28, 2006 to October 31, 2007 at the North Antelope Rochelle Coal Mine Methane Capture and Use Project (the Project) near Gillette, Wyoming. First Environment, Inc. (First Environment) concluded the verification in July 2008.

2. Objectives

The purpose of this verification was, through review of appropriate evidence, to establish that:

- the Project conforms to the requirements of the verification criteria discussed in Section 5; and
- the data reported are accurate, complete, consistent, transparent, and free of material error or omission.

3. Verification Scope

Specific scope metrics for the verification are outlined in the table below:

Geographic Boundaries	North Antelope Rochelle Coal Mine, Campbell County, Wyoming
Greenhouse Gases Verified	Emissions Offsets (expressed in units of Carbon Dioxide equivalents (CO ₂ -e)) resulting from the capture and destruction of coal mine methane
Reporting Years	March 28, 2006 to October 31, 2007
Data Sources	Metered Data and Emissions Offset Estimates

4. Standards Used to Certify Emissions (Criteria)

The following table outlines the guidance and protocols used to conduct this verification:

Standard of Verification	Voluntary Carbon Standard 2007 including the methodology as outlined in Project Design Document
Level of Assurance	Reasonable Assurance
Materiality	Misstatements greater than 5 percent of the GHG assertion are considered material

The Audit Team was provided the Project Design Document (PDD) in late 2007. First Environment conducted the validation of the Project's approach as outlined in the PDD and approved it in an August 2008 report. First Environment used the Voluntary Carbon Standard 2007 and validated methodology in the PDD as the basis for the verification.

5. Overview of the Verification Process

To review the Project's GHG information, the following verification process was used:

- conflict of interest review;
- selection of Audit Team;
- initial interaction with BlueSource contact;
- review of the PDD;
- development of the verification plan;
- site visit focusing on control procedures around data collection;
- review and evaluation of raw data and calculations for period under review;
- follow-up interaction with BlueSource contact for corrective action or supplemental data as needed; and
- final statement and report development.

The verification process was utilized to gain an understanding of the Project's emission sources and reductions (including the risk for leakage), to evaluate and verify the collection and handling of data, the calculations that lead to the results, and the means for reporting the associated data and results.

Conflict of Interest Review

Prior to beginning any verification project, First Environment conducts an evaluation to identify any potential conflicts of interest associated with the Project. No potential conflicts were found for this Project.

Audit Team

First Environment's Audit Team consisted of the following individuals who were selected based on their verification experience as well as familiarity with coal mine operations.

B. Tod Delaney, Ph.D., P.E., BCEE – Senior Reviewer
Greg Kozak – Lead Auditor
Christina M. Magerkurth, P.E. – Auditor

Audit Kick-off

The verification audit was initiated with an exchange of emails between First Environment and the primary BlueSource contact, Mahesh Gundappa (Vice President, Engineering). The communication focused on confirming the scope and schedule, the data required for the verification, and making arrangements for the site visit.

Project Design Document Review

As described in Section 4, a PDD was developed for the Project. The Audit Team reviewed the PDD as a basis for developing the Verification Plan.

Development of the Verification Plan

The team formally documented its verification plan as well as determined the data-sampling plan.

Emissions Reduction Data and Calculation Assessment

This assessment used information and insights gained during the previous steps to evaluate the collected data and the reported emissions reduction quantities, and identify if either contained material or immaterial misstatements.

Corrective Actions and Supplemental Information

The team did request supplemental information and requested corrective actions during the verification process. The corrective actions requested and the responses provided are summarized in Section 7.

Verification Reporting

Verification reporting, represented by this report, documents the verification process and identifies its findings and results. Verification reporting consists of this report for BlueSource.

6. Site's Conformance with Verification Criteria

Site Overview

The Project is located within the lease boundaries of an active open cast mine south of Gillette, Wyoming. Peabody Natural Gas, LLC (PNG) and Powder River Coal, LLC (PRC) are wholly owned subsidiaries of Peabody Energy Corporation. PRC owns all mineral and environmental attributes associated with coal mine methane. PNG controls operation of the coal bed methane recovery Project for PRC.

Peabody Energy Corporation directed PNG to attempt to pre-drain the methane from the coal prior to mining beginning in 2002. Prior to this, all methane contained in the coal was passively vented to the atmosphere through the open cast mine's face. A total of 47 wells were drilled within the mine lease boundary to capture methane from the coal prior to mining. Evidence of the Project start date is included as Attachment A. The methane is compressed and transported to a natural gas pipeline where it is distributed to a national natural gas grid for use as fuel. Beginning in 2002, methane was sold to Kinder Morgan until early 2003 when gas sales were split between Kinder Morgan and Western/Anadarko. Since 2005, all Project gas sales have been handled by Western/Anadarko.

The active collection system consists of a network of gas extraction wells, laterals, and header pipes to extract the methane, dewatering pumps, and compressors. The PDD provides additional details regarding the site and the gas collection system.

As of October 31, 2007, 30 wells are in production. Nine wells have been shut in during the Project crediting period (March 28, 2006 to October 31, 2007). Wells were shut in because 1) the wells were in the path of the mining advance, were plugged, and eventually mined through; or 2) the wells exhibited high concentrations of air resulting from the intersection by coal mining activities. As will be discussed in the following section, flow information was collected over the

lifetime of each well. Credit for cumulative methane capture is claimed at the time the well is influenced by the mining operations, which requires the wells to be shut in and eventually plugged and abandoned. Evidence of lease ownership for the nine shut-in wells located on Section 36, Township 42 N, Range 71 W and Section 1, Township 41N, Range 71W is presented in Attachment B.

Based on information provided by PNG, there are no regulatory requirements for pre-draining coal mine methane in order to reduce emissions at the coal face. Further, GHG emissions are not regulated in the United States.

Data Collection and Monitoring Processes

The Audit Team discussed the following topics with site staff during the October 23, 2007 site visit and confirmed the information during this verification process:

- the data collection process; and
- internal documents and protocols that set guidelines for the data collection process.

Information gathered during these discussions was used to assess the Project's GHG information system and its controls for sources of potential errors and omissions.

On a periodic basis, Western/Anadarko personnel use a Varian Instruments Micro- 2 Column Gas Chromatograph (GC) at the PNG sales meter to sample and analyze gas properties. These on-site tests are subject to review by Western/Anadarko personnel in their Gillette office. The gas chromatograph is calibrated, as necessary, prior to each use. Calibration records dating back to the Project start date in 2002 were not available. However, the quality of instrumentation used, evidence of its ability to maintain its calibration over time, and the buyers' need for consistent gas quality all indicate that the GC equipment were operated in a well calibrated mode during the project creation period.

Since 2005, flow data for the entire system has been measured at the custody transfer point where it is transmitted electronically back to Western/Anadarko's office in Gillette and stored in a database to provide assurance that the records will be available for the lifetime of the Project. Flow rate information is determined using ABB Totalflow's X-series flow meter (installed in February 2005). The flow meter was calibrated upon installation and is calibrated semi-annually by an outside consultant. Since installation, the flow meter was calibrated in March, September, and October of 2005, March and September of 2006, and March and September 2007.

As discussed in the previous section, methane was sold to Kinder Morgan from 2002 until early 2003 when gas sales were split between Kinder Morgan and Western/Anadarko. Since 2005, Western/Anadarko has been responsible for all gas sales. According to site personnel, Kinder Morgan used a flow meter similar to the one currently used. As per the sales contract at the time, the unit would have been tested with a protocol similar to what is done currently. Calibration records dating back to the Project start date in 2002 were not available. However, owing to the critical nature of these measurements to gas sales between buyer and seller, the metered values are considered accurate.

Individual well flow information is determined using a Barton chart recorder (Models 202A or 202E). Chart recorders are calibrated quarterly. PNG contracts with a pumping service to visit each well each day and record the 24-hour well production, along with the cumulative gas volume from all wells through the sales meter. The well chart recordings are examined monthly

by Peabody's consultant/integrator and this information forms the basis to allocate individual well flow at the end of the month against total sales as determined by the sales (custody transfer) meter. Production information is transferred to an Excel spreadsheet and saved on the Peabody's computer system. The information is imported into an oil & gas software program called "Enertia," which allocates gas production back to each of the individual wells. The allocated flows for each well are reported to the Wyoming Oil & Gas Conservation Commission (WOGCC) and these were used (along with periodic methane measurements) in the emission reduction calculations. Once all processing is complete, charts and calibration records are stored in the main office in Gillette.

Separate meters were not installed on each compressor or electric pump to monitor Project emissions for electricity consumption. As discussed in the next section, Project emissions related to electricity consumption were estimated using equipment runtime, horsepower, and Wyoming electric grid emission factors.

As discussed in the next section, because fuel purchase receipts were not available from this time period, mileage estimates, truck fuel economy, and IPCC emission factors for motor gasoline were used to determine emissions from fuel use.

The data collection and record keeping procedures utilized were consistent with those outlined in the PDD.

Emissions Reduction Calculation Assessment

As part of the emissions reduction calculation assessment, the Project's assumptions and calculations were reviewed. The additionality arguments presented in the PDD were reviewed and found to be valid based on information and evidence provided by PNG and BlueSource. The Project used justifiable assumptions when defining the baseline scenario as the unmitigated release of methane to the atmosphere at the highwall face at the active open cast coal mine (absent of any pre-mine methane drainage wells).

The Project emissions related to methane destruction in end use applications were based on a destruction efficiency of 98.5 percent per the PDD. The CO₂e emissions related to the remaining 1.5 percent of uncombusted methane are also included under Project emissions.

Because separate meters were not installed on each compressor or electric pump used within the Project boundaries, Project emissions related to electricity consumption were estimated using equipment runtime, horsepower, and Wyoming electric grid emission factors. To be conservative, Project emissions were calculated by assuming the compressors and pumps operate continuously at rated horsepower.

Mileage estimates, truck fuel economy, and IPCC emission factors for motor gasoline were used to determine emissions from fuel use.

The emission reduction calculations, provided in Attachment C, were reviewed to ensure accuracy in the formulas used and the raw data used as input. The formulas were tested to ensure they were consistent with the Project Methodology's requirements. Additionally, copies of the raw data used in the calculations, including flow data and methane content data, were compared with the data used in the final calculations and tested for transcription or mathematical errors. The calculations for the entire period were reviewed.

7. Verification Results

BlueSource and Peabody provided good documentation for their emissions estimates as well as its programs around the data collection process. The verification process focused on verifying the data and Project Methodology used by BlueSource to calculate emissions reductions, as shown on the spreadsheets in Attachment C. The calculations on the spreadsheet were consistent with the PDD.

Where First Environment identified issues that needed clarification or had a material impact on the final emission reduction calculations, a corrective action request was issued. First Environment requested corrective actions that were resolved as follows by BlueSource:

Corrective Action Request	Response
Determine Project emissions from methane destroyed.	Project emissions from methane destruction were not originally included in the emission reduction calculations. Emission reduction calculations were revised to account for emissions from methane utilization and fugitive unburned methane.
Provide evidence supporting all methane concentration data used in calculations.	For missing monthly methane data, the lower of the two values measured before and after the missing month was used. If more than one measurement was available each month, then an average of those values was used. The PDD was revised to reflect actual monitoring practices (i.e., periodic)
Provide evidence supporting flow meter and methane meter calibration records.	Complete sets of calibration records dating back to the well installation dates were not available. The PDD was revised to provide additional evidence of the accuracy of the meters.
Provide additional information supporting calculation of flow allocation back to individual wells based on sales meter information.	Reallocated flows back to individual wells were not consistently applied across certain months. Reallocated flows back to individual wells were re-calculated

Also during the verification process, minor transcription errors were identified. The errors were below the materiality threshold of five percent and did not have a material impact on the final results.

An opportunity for improvement was identified during the verification surrounding the retention of records of instrument calibration. Improved record keeping would facilitate future verifications.

8. Verification Conclusion

Based on the assessments performed and the evidence collected, First Environment concludes that the Project GHG emissions reductions, due to the capture and combustion of methane gas for the period of March 28, 2006 to October 31, 2007, can be considered to a reasonable level of assurance:

- consistent with the Project Methodology,
- without material discrepancy, and
- meeting the minimum level of accuracy of at least 95 percent.

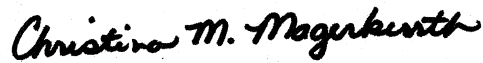
Verified results show:

	2006	2007	Total
Baseline Emissions (tCO ₂ -e)	167,063	239,128	406,191
Project Emissions (tCO ₂ -e)	26,928	38,147	65,075
Emissions Reductions* (tCO ₂ -e)	140,135	200,981	341,116

*as measured and calculated in accordance with the Project Methodology.

As per the VCS 2007 Program requirements, only VCS Board-approved verifiers can provide an independent assessment of projects applying for approval under the VCS. First Environment is currently going through the temporary accreditation process under VCS but has not yet received written approval.

9. Verifier Signatures



Christina M. Magerkurth, P.E.



Gregory L. Kozak

10. Senior Management Signatures



B. Tod Delaney, Ph.D., P.E., BCEE

ATTACHMENT A

CONTINENTAL INDUSTRIES
Authority For Expenditure
December 3, 2001

Project: Complete 28 CBM wells and install gathering system

Operator: Continental Industries

Project Total for 28 Wells: \$988,700

ESTIMATED COSTS

DESCRIPTION	AMOUNT	COST
Water and Gas Line, HDPE (2", 3", 4", 8" & 12")	103,000'	\$148,200
Misc. fittings for water and gas lines		\$3,400
Gas and Water Line Installation		\$186,300
Pod Building Construction and Installation	3	\$68,000
1-1/2" Tubing (poly) and fittings for well tubing	28 wells	\$6,800
Submersible Pump Cable	9,800'	\$3,200
Submersible Pump Panels	22	\$33,000
Submersible Pump and Motors	28 wells	\$33,600
Poly Rig to Run Pump	28 days	\$30,800
Water Stimulation	28	\$42,000
Wellhead Fittings	28 wells	\$16,800
Water Flow meter and Recorder	28	\$12,600
Water Discharge Point Installation	8	\$8,000
Well Frost Box	28	\$17,000
Well Enclosure - Cow Panels	28	\$8,500
Underground Power Cable	34,000'	\$103,000
Underground Power Cable and Installation	34,000'	\$17,000
Overhead Line Construction and Meter Drop Points, Labor and Material	6,000' & 6 drops	\$78,000
Labor to Connect Pump Panels and Meter Drop Points	28 wells	\$56,000
Set Compressor and Tie-in	1	\$9,000
Kinder-Morgan Tie-in and Meter Installation	1	\$100,000
Supervision	15 days	\$7,500
TOTAL		\$988,700

350000 (WELLS S. 36, 30)
140000 (WELLS S. 8)
\$ 1478700.

Warner C. Jennings

01/31/2002 06:40 PM

To: andy_shaver@kindermorgan.com, debbie_fishel@kindermorgan.com
cc: Vic Garber/PRC/Peabody@PeabodyEnergy, Collon
Kennedy/STL/Peabody@PeabodyEnergy, conchip@trib.com
Subject: Pipeline removal at NARC

Debbie/Andy,

To confirm my conversation with Andy this afternoon, by tomorrow we should have a permit from the USFS for ROW to extend a pipeline from the SWSW S.36 T42N/R71W and connect with your 8" line in S.1 T41N/R71W. There is a survey point staked in the KM right of way as described below. This point marks the southern extent for removal of the asbestos-wrapped pipe, as well as the point of intersection for the new line coming from our compressor in the SWSW of S. 36. Coordinates for this point are N1,053,545 and E456457. Give or take a little, the point lies on the pipeline alignment, 2547' south of the south line of S. 36.

Since this is now a permanent installation, we'll plan to connect to your line underground, rather than with a riser and valve. I hope the excavation for our intersection of new line can fit logically with Andy's pipeline removal project.

Please let me know if there are questions or if I can provide other information.

Thanks. Craig.



1010 Falcon Avenue
P.O. Box 2950
Mills, Wyoming 82644
(307) 266-6373 Tel.
(307) 266-5630 Fax

Peabody Natural Gas LLC
Attn: Craig Jennings
1013 East Boxelder
Gillette, WY 82718

Re: Electric Screw Package

Dear Mr. Jennings:

Robert Barnes, with our Hanover sales group, asked me to clarify the classification of the electric screw package you will be setting at your location. This package is rated as a Class I Division II unit, in compliance with the National Electrical Code.

Your electrical contractor responsible for hooking the electrical tie in, will be aware of the requirements in the National Electrical Code to keep this unit in this Class I Division II classification. If you have any questions or concerns, feel free to contact me at 1-800-428-1394.

Sincerely,

Mike Mundell
Operations Manager

MM:bd

HT Services

711 Apricot Street
Gillette, Wy. 82716

Invoice

Date	Invoice #
2/26/2002	1094

Bill To
Peabody Natural Gas LLC 1013 Box Elder Gillette, Wy. 82718

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
1	Piney Canyon/Porcupine Field Section 36 South Pod Tieing in lines. Ticket #3733 Sales Tax	700.00 5.25%	700.00T 36.75
OK <i>[Signature]</i> 3.1.02 P. CRYN LWC. 01.11 (S. 36 WBLLS)			
RECEIVED FEB 27 2002 PNG-GILLETTE			
Thank you for your business.		Total	\$736.75

HT Services

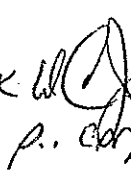
711 Apricot Street
Gillette, Wy. 82716

Invoice

Date	Invoice #
2/26/2002	1093

Bill To
Peabody Natural Gas LLC 1013 Box Elder Gillette, Wy. 82718

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
1	Piney Canyon/Porcupine Field Section 36 Well #23-36 Dug in gas and water lines. Ticket #3732 Sales Tax	262.50 5.25%	262.50T 13.78
OK  3.1.02 P. Caryn LWB.01.11 50% LWB.01.11 50% (5.36 WELLS)			
RECEIVED FEB 27 2002 PNG-GILLETTE			

Thank you for your business.

Total

\$276.28

HT Services

711 Apricot Street
Gillette, Wy. 82716

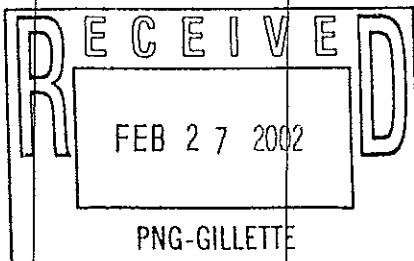
Invoice

Date	Invoice #
2/25/2002	1087

Bill To
Peabody Natural Gas LLC 1013 Box Elder Gillette, Wy. 82718

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
1	Piney Canyon/Porcupine Field Section 36 CBM Prep trenching right aways and backfill trenches. Total Footage 25,110 at \$1.60 a Foot. Ticket #3674 Sales Tax	40,176.00 5.25%	40,176.00T 2,109.24
OK WCF 3.1.02 P ENYN LWC. 01.19 5.36 WELLS			



Thank you for your business.

Total

\$42,285.24

HT Services

711 Apricot Street
Gillette, Wy. 82716

Invoice

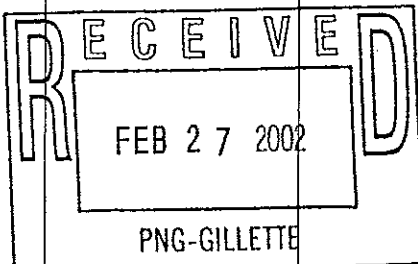
Date	Invoice #
2/25/2002	1086

Bill To
Peabody Natural Gas LLC 1013 Box Elder Gillette, Wy. 82718

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
1	Piney Canyon/Porcupine Field Section 36 CBM String and Fuse Pipe and Cradle Pipe into ditch. String Fuse and Test 4 inch Gas. Lines .70 Foot Cradle .20 Foot Total Footage 32,480 Ticket #3675 Sales Tax	29,232.00 5.25%	29,232.00T 1,534.68

OK *[Signature]* 3.1.02
P. CRYN
LWC-01.19
(36 WELLS)



Thank you for your business.	Total	\$30,766.68
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HT Services

711 Apricot Street
Gillette, Wy. 82716

Invoice

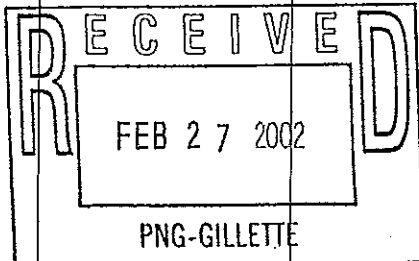
Date	Invoice #
2/25/2002	1085

Bill To
Peabody Natural Gas LLC 1013 Box Elder Gillette, Wy. 82718

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
1	Piney Canyon/Porcupine Field Section 36 CBM Loaded wire in yard. Strung wire from well heads to racks Tape additional single phase to three phase wire. Taped every 10 Feet. Total Footage at .30 a Foot 23,735 Ticket #3779 Sales Tax	7,120.50 5.25%	7,120.50T 373.83

OK *[Signature]* 3.1.02
P. CRYN
LWC-01.19
(S. 36 WELL)



Thank you for your business.

Total

\$7,494.33

HT Services

711 Apricot Street
Gillette, Wy. 82716

Invoice

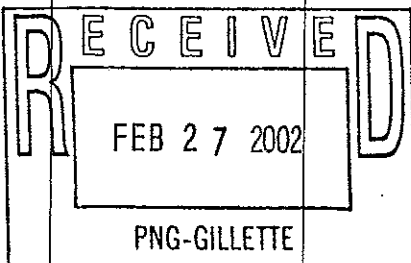
Date	Invoice #
2/25/2002	1084

Bill To
Peabody Natural Gas LLC 1013 Box Elder Gillette, Wy. 82718

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
1	Piney Canyon/Porcupine Field Section 36 CBM String Fuse and Cradle Pipe into ditch. 4in Water Line .70 Foot Cradle Line .20 Foot Total Footage 1170 Feet Ticket #3778 Sales Tax	1,053.00 5.25%	1,053.00T 55.28

OK WCF 3.1.02
P. CRYN
LWC 01.10
(5.36 WELLS)



Thank you for your business.

Total

\$1,108.28

Continental Industries, LC

Continental Industries, LC

P.O. Box 656

Casper, WY 82602

Invoice

Date	Invoice #
3/12/2002	154

Bill To
Peabody Natural Gas 14062 Denver West Parkway Suite 110 Golden, CO 80401

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
	Review field with pumpers and Hanover; Scott Chipperfield 1 day @450.00 per day;	450.00	450.00T
	Piney Canyon		
	274 Miles @.70 per mile	191.80	191.80
	Campbell County Sales Tax	5.25%	23.63
OK  4.17.02 PINEY CANYON LWC. 01. 20 (5.36 WELLS)			
Thank you for your business		Total	\$665.43



"Shannon Humphrey"
<shumphrey@hanover-co.com>

03/19/2002 04:33 PM

To: "Robert Barnes" <RBarnes@hanover-co.com>
cc: <jannettegarritty@compuserve.com>, "Becky Lee"
<BLee@hanover-co.com>, "Jerry Bob McCollom"
<JMcCollom@hanover-co.com>, Warner C.
Jennings/PRC/Peabody@PeabodyEnergy

Subject: Peabody Cust 696059

** Proprietary **
** High Priority **
** Reply Requested by 3/20/2002 (Wednesday) **

Robert,

Craig Jennings contacted our offices today to with regard to Unit 74211. He stated this unit started billing effective January 21, 2002. However, the compressor was not up and running for some time. He estimates they finally got it running approximately 10 days ago.

He recalls earlier conversation of credits being issued for the monthly rental until we were able to provide service. There has not been entries in COP to reflect credits to be issued.

Please clarify for all of us if credits are to be issued and if so, what dates? Instructions will have to be entered in COP for them to generate.

I have copied Craig on this email as you can see above. If you need to discuss this further with Craig, he can be reached at 307-687-6921.

We await your response.

Thank you for your service,

Shannon Humphrey
Credit Analyst
Hanover - Houston
832-554-4818
281-931-9638 fax
shumphrey@hanover-co.com

ATTACHMENT B

784711 ASSIGNMENT, BILL OF SALE, AND CONVEYANCE

THIS ASSIGNMENT, BILL OF SALE, AND CONVEYANCE (hereinafter referred to as "Assignment"), is entered into effective August 31, 2001 from, **BERENERGY CORPORATION**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignor") with offices at 1700 Broadway Street, Suite 660, Denver, Colorado 90290, to **POWDER RIVER COAL COMPANY**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignee") with offices at P.O. Box 1508, Gillette, Wyoming 82717.

For Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which Assignor hereby acknowledges, Assignor, subject to the reservation set forth below, hereby transfers, grants, bargains, sells, conveys, and assigns to Assignee all of Assignor's right, title, interest, and privileges, and Assignee hereby assumes all of Assignor's duties and obligations in and with respect to, the following assets:

1. The oil and gas lease (hereinafter referred to as "Lease") described in Exhibit "A" attached hereto and by this reference made a part hereof, together with all the property and rights appurtenant or incident thereto, including without limitation all rights of Assignor in oil, gas, coalbed methane and associated substances, and other minerals produced or producible from or attributable to the Lease or to any units, pooled areas, or communitized areas that cover or include all or any portion of the Lease, and all leases, permits, easements, rights-of-way, licenses, and orders in any way relating to the Lease, and all amendments to any of the foregoing.
2. The wells (hereinafter referred to as "Wells") described in Exhibit "A", together with all personal property, well equipment, fixtures, equipment inventory, materials, and improvements, whether real, personal, or mixed used by Assignor solely and exclusively in connection with the Wells or with the production, treatment, or sale of hydrocarbons and all other substances produced therefrom or attributable thereto.
3. Options, farmout agreements, exploration agreements, operating agreements, permits and approvals, sales contracts and other agreements granting to Assignor the right to earn or acquire a right, interest, or privilege in the Leases and Wells or to manage, operate, produce and sell oil, gas and coalbed methane from such Lease or Wells.
4. Copies of all files, records, and data associated with or relating to the items described in Paragraphs 1 through 3 above, including maps and other geologic and geophysical, engineering, production, accounting, land, and marketing data and interpretations.

Assignment, Bill of Sale, and Conveyance
Dated Effective August 31, 2001
Page 2 of 5

Book 1697 of Photos, Page 220

5. Seller hereby reserves unto itself and excepts from this Assignment an overriding royalty (the "Reserved Interest") of an undivided sixty percent (60%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas produced from or associated with coal or coal seams), and the constituent products thereof, in under or that may be produced from the Lease and/or the lands described in the Lease or described in Exhibit "A" attached hereto (and any gas production allocated to such Lease or lands), limited however, from the surface to three thousand (3,000) feet below the surface

The assets described in Paragraphs 1 through 5, less and except the Reserved Interest, are referred to herein as "Property".

To have and to hold the Property unto Assignee and its successors and assigns forever.

Unless provided otherwise, all recording references in Exhibit A are to the official records of Campbell County, Wyoming.

Assignor also hereby grants and transfers to Assignee, its successors and assigns, to the extent so transferable, the benefit of and the right to enforce the covenants, representations, and warranties, if any, which Assignor is entitled to enforce with respect to the Lease against Assignor's predecessors in title to the Lease.

This Assignment is made subject to the terms and conditions of an Assignment, Sale and Development Agreement (hereinafter referred to as "Agreement") between the parties hereto, which survive the delivery of this Assignment by Assignor to Assignee, dated effective August 31, 2001. Information regarding the Agreement can be obtained from Assignor or Assignee at the above addresses.

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN SECTION IV OF THE AGREEMENT, THIS ASSIGNMENT IS MADE WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION AS TO TITLE, THE MERCHANTABILITY OF ANY OF THE PROPERTY, OR THEIR FITNESS FOR ANY PURPOSE, AND WITHOUT ANY OTHER EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION WHATSOEVER.

This Assignment may be executed in any number of counterparts, and each counterpart hereof shall be deemed to be an original instrument, but all such counterparts shall constitute but one assignment.

This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns.

Assignment, Bill of Sale, and Conveyance
 Dated Effective August 31, 2001
 Page 3 of 5

Book 1697 of Photos, Page 221

ASSIGNOR

BERENERGY CORPORATION

[Signature]
 Robert M. Goodyear, Jr. President

ASSIGNEE

POWDER RIVER COAL COMPANY

[Signature]
 Ian S. Craig, President

STATE OF Colorado
 COUNTY OF Denver } S.S.

The foregoing instrument was acknowledged before me this 19th day of September 2001 by Robert M. Goodyear, Jr., President of Berenergy Corporation.

Witness my hand and official seal.

[Signature]
 NOTARY PUBLIC

My commission expires: 9/15/02

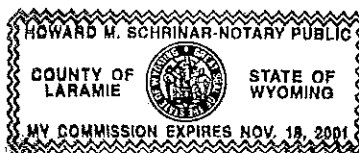
STATE OF Wyoming
 COUNTY OF Campbell } S.S.

The foregoing instrument was acknowledged before me this 14th day of September 2001 by Ian S. Craig, President of Powder River Coal Company.

Witness my hand and official seal.

[Signature]
 NOTARY PUBLIC

My commission expires: _____



Assignment, Bill of Sale, and Conveyance
Dated Effective August 31, 2001
Page 4 of 5

Book 1697 of Photos, Page 222

**EXHIBIT A
TO
ASSIGNMENT, BILL OF SALE AND CONVEYANCE**

PROPERTY DESCRIPTION

Attached to and made a part of that certain Assignment, Bill of Sale and Conveyance (hereinafter referred to as "Assignment") entered into effective August 31, 2001 by and between Berenergy Corporation and Powder River Coal Company. The following real and personal property is to be assigned, transferred, and conveyed by Berenergy Corporation to Powder River Coal Company AS IS, with no warranty of title.

Leasehold Interests to be Assigned

Lease No.:	73-0793
Lessor:	State of Wyoming, acting by and through its Board of Land Commissioners.
Lessee:	Champlin Petroleum Company.
Description:	All of Section 36, T42N, R71W, 6 th P.M.
Lease Date:	Effective January 2, 1973.
County and State:	Campbell County, Wyoming.
Recorded:	Book 526 of Photos, Page 149 on October 3, 1980.
Depths Assigned:	From the surface to the base of the Turner formation.
Working Interest:	Sixty percent (60%).
Net Revenue Interest:	Fifty-two and one-half percent (52.5%).
Reservations:	An undivided sixty percent (60%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas from or associated with coal or coal seams), and the constituent products thereof, in, under or that may be produced from the Leased Premises (or allocated thereto), limited however, from the surface to three thousand (3,000) feet below the surface.

Equipment Sold with Wells

Well Number CPC 12 - 36

Equipment Sold:	1. 2 - 400 BBL flat bottom production tanks with stairway and walkways.
	2. 1 - 4' X 25" vertical treater; #50 Eaton, serial no. 16432.
	3. 1 - 30" X 10' separator; 125 PSI 350 degrees, serial no. 5889,
	4. 1 - gas meter house.

Assignment, Bill of Sale, and Conveyance
Dated Effective August 31, 2001
Page 5 of 5

Book 1697 of Photos, Page 223

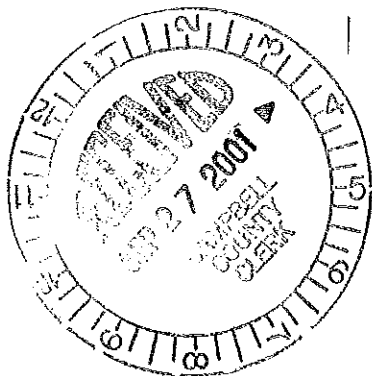
5. 1 - wellhead equipment injection.
6. All casing and tubing.

Well Number CPC 34 - 36

Equipment Sold
walkways.

1. 2 - 400 BBL bottom production tanks with stairway and
2. 1 - 30" X 10' separator; 250 PSI 350 degrees, serial no. 7178.
3. 1 - gas meter house.
4. 1 - wellhead fiberglass cover.
5. 1 - wellhead injection equipment.
6. All casing and tubing.

STATE OF WYOMING } ss.
Campbell County
Filed for record this 27th day of September A.D. 2001 at 3:40 o'clock P M. and recorded in Book 1697
of Photos on page 219-223 Fees \$ 14.00
Quentin Saunders By Deanne Vackell **784711**
County Clerk and Ex-Officio Register of Deeds
RECORDED
ABSTRACTED
INDEXED
CHECKED



797998

ASSIGNMENT, BILL OF SALE, AND CONVEYANCE

THIS ASSIGNMENT, BILL OF SALE, AND CONVEYANCE (hereinafter referred to as "Assignment"), is entered into effective November 1, 2001, from, **DAVEN CORPORATION**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignor") with offices at 1700 Broadway Street, Suite 660, Denver, Colorado 80290, to **POWDER RIVER COAL COMPANY**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignee") with offices at P.O. Box 1508, Gillette, Wyoming 82717.

For Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which Assignor hereby acknowledges, Assignor, subject to the reservation set forth below, hereby transfers, grants, bargains, sells, conveys, and assigns to Assignee all of Assignor's right, title, interest, and privileges, and Assignee hereby assumes all of Assignor's duties and obligations in and with respect to, the following assets:

1. The oil and gas lease (hereinafter referred to as "Lease") described in Exhibit "A" attached hereto and by this reference made a part hereof, together with all the property and rights appurtenant or incident thereto, including without limitation all rights of Assignor in oil, gas, coalbed methane and associated substances, and other minerals produced or producible from or attributable to the Lease or to any units, pooled areas, or communitized areas that cover or include all or any portion of the Lease, and all leases, permits, easements, rights-of-way, licenses, and orders in any way relating to the Lease, and all amendments to any of the foregoing.
2. The wells (hereinafter referred to as "Wells") described in Exhibit "A", together with all personal property, well equipment, fixtures, equipment inventory, materials, and improvements, whether real, personal, or mixed used by Assignor solely and exclusively in connection with the Wells or with the production, treatment, or sale of hydrocarbons and all other substances produced therefrom or attributable thereto.
3. Options, farmout agreements, exploration agreements, operating agreements, permits and approvals, sales contracts and other agreements granting to Assignor the right to earn or acquire a right, interest, or privilege in the Leases and Wells or to manage, operate, produce and sell oil, gas and coalbed methane from such Lease or Wells.
4. Copies of all files, records, and data associated with or relating to the items described in Paragraphs 1 through 3 above, including maps and other geologic and geophysical, engineering, production, accounting, land, and marketing data and interpretations.
5. Seller hereby reserves unto itself and excepts from this Assignment an overriding royalty (the "Reserved Interest") of an undivided ten percent (10%) of fifty

Assignment, Bill of Sale, and Conveyance

Dated Effective November 1, 2001

Page 2 of 5

percent (50%) of 8/8ths of all gas (including, without limitation, gas produced from or associated with coal or coal seams), and the constituent products thereof, in under or that may be produced from the Lease and/or the lands described in the Lease or described in Exhibit "A" attached hereto (and any gas production allocated to such Lease or lands), limited however, from the surface to three thousand (3,000) feet below the surface

The assets described in Paragraphs 1 through 5, less and except the Reserved Interest, are referred to herein as "Property".

To have and to hold the Property unto Assignee and its successors and assigns forever.

Unless provided otherwise, all recording references in Exhibit A are to the official records of Campbell County, Wyoming.

Assignor also hereby grants and transfers to Assignee, its successors and assigns, to the extent so transferable, the benefit of and the right to enforce the covenants, representations, and warranties, if any, which Assignor is entitled to enforce with respect to the Lease against Assignor's predecessors in title to the Lease.

This Assignment is made subject to the terms and conditions of an Assignment, Sale and Development Agreement (hereinafter referred to as "Agreement") between the parties hereto, which survive the delivery of this Assignment by Assignor to Assignee, dated effective November 1, 2001. Information regarding the Agreement can be obtained from Assignor or Assignee at the above addresses.

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN SECTION IV OF THE AGREEMENT, THIS ASSIGNMENT IS MADE WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION AS TO TITLE, THE MERCHANTABILITY OF ANY OF THE PROPERTY, OR THEIR FITNESS FOR ANY PURPOSE, AND WITHOUT ANY OTHER EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION WHATSOEVER.

This Assignment may be executed in any number of counterparts, and each counterpart hereof shall be deemed to be an original instrument, but all such counterparts shall constitute but one assignment.

This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns.

Assignment, Bill of Sale, and Conveyance
Dated Effective November 1, 2001
Page 3 of 5

ASSIGNOR

DAVEN CORPORATION

[Signature]

By: DAVID I. BEREN

Title: PRESIDENT

ASSIGNEE

POWDER RIVER COAL COMPANY

[Signature]

By: Ian S. Craig, President

STATE OF New York
COUNTY OF Rockland S.S.

The foregoing instrument was acknowledged before me this 30th day of May, 2002 by DAVID I. BEREN President of Daven Corporation

Witness my hand and official seal.

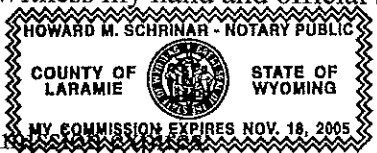
My commission expires: _____

STATE OF WYOMING)
) S.S.
COUNTY OF CAMPBELL)

[Signature]
NOTARY PUBLIC
MICHELE LOWY
Notary Public, State of New York
No. 01LO5069770
Qualified in Rockland County
Commission Expires Dec. 2, 2001

The foregoing instrument was acknowledged before me this 5th day of June, 2002 by Ian S. Craig, President of Powder River Coal Company.

Witness my hand and official seal.

My commission expires: _____


[Signature]
NOTARY PUBLIC

Assignment, Bill of Sale, and Conveyance
Dated Effective November 1, 2001
Page 4 of 5

EXHIBIT A
TO
ASSIGNMENT, BILL OF SALE AND CONVEYANCE

PROPERTY DESCRIPTION

Attached to and made a part of that certain Assignment, Bill of Sale and Conveyance (hereinafter referred to as "Assignment") entered into effective November 1, 2001 by and between Daven Corporation and Powder River Coal Company. The following real and personal property is to be assigned, transferred, and conveyed by Daven Corporation to Powder River Coal Company AS IS, with no warranty of title.

Leasehold Interests to be Assigned

Lease No.:	73-0793
Lessor:	State of Wyoming, acting by and through its Board of Land Commissioners.
Lessee:	Champlin Petroleum Company.
Description:	All of Section 36, T42N, R71W, 6 th P.M.
Lease Date:	Effective January 2, 1973.
County and State:	Campbell County, Wyoming.
Recorded:	Book 526 of Photos, Page 149 on October 3, 1980.
Depths Assigned:	From the surface to the base of the Turner formation.
Working Interest:	Ten percent (10%).
Net Revenue Interest:	Fifty-two and one-half percent (52.5%).
Reservations:	An undivided ten percent (10%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas from or associated with coal or coal seams), and the constituent products thereof, in, under or that may be produced from the Leased Premises (or allocated thereto), limited however, from the surface to three thousand (3,000) feet below the surface.

Equipment Sold with Wells

Well Number CPC 12 – 36

Equipment Sold:	1. 2 - 400 BBL flat bottom production tanks with stairway and walkways.
	2. 1 - 4' X 25" vertical treater; #50 Eaton, serial no. 16432.
	3. 1 - 30" X 10' separator; 125 PSI 350 degrees, serial no. 5889.
	4. 1 - gas meter house.

Assignment, Bill of Sale, and Conveyance

Dated Effective November 1, 2001

Page 5 of 5

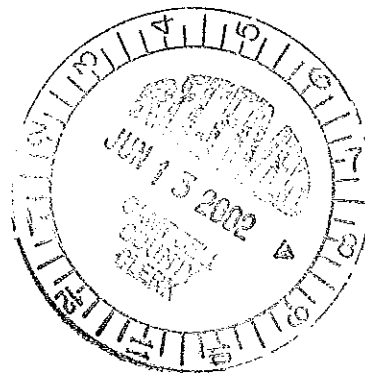
5. 1 – wellhead equipment injection.
6. All casing and tubing.

Well Number CPC 34 – 36Equipment Sold
walkways.

1. 2 – 400 BBL bottom production tanks with stairway and
2. 1 – 30" X 10' separator; 250 PSI 350 degrees, serial no. 7178.
3. 1 – gas meter house.
4. 1 – wellhead fiberglass cover.
5. 1 – wellhead injection equipment.
6. All casing and tubing.

STATE OF WYOMING } ss.
Campbell County

Filed for record this 13th day of June A.D., 2002 at 8:34 o'clock A M. and recorded in Book 1764
 of Photos on page 195-199 Fees \$ 14.00
Quentin Gunders By Cheryl L. Lister **797998**
 County Clerk and Ex-Officio Register of Deeds
 RECORDED
 ABSTRACTED
 INDEXED
 CHECKED



787487

ASSIGNMENT, BILL OF SALE, AND CONVEYANCE

THIS ASSIGNMENT, BILL OF SALE, AND CONVEYANCE (hereinafter referred to as "Assignment"), is entered into effective November 1, 2001, from, **SPORT RESOURCES, INC.**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignor") with offices at 1700 Broadway Street, Suite 660, Denver, Colorado 90290, to **POWDER RIVER COAL COMPANY**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignee") with offices at P.O. Box 1508, Gillette, Wyoming 82717.

For Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which Assignor hereby acknowledges, Assignor, subject to the reservation set forth below, hereby transfers, grants, bargains, sells, conveys, and assigns to Assignee all of Assignor's right, title, interest, and privileges, and Assignee hereby assumes all of Assignor's duties and obligations in and with respect to, the following assets:

1. The oil and gas lease (hereinafter referred to as "Lease") described in Exhibit "A" attached hereto and by this reference made a part hereof, together with all the property and rights appurtenant or incident thereto, including without limitation all rights of Assignor in oil, gas, coalbed methane and associated substances, and other minerals produced or producible from or attributable to the Lease or to any units, pooled areas, or communitized areas that cover or include all or any portion of the Lease, and all leases, permits, easements, rights-of-way, licenses, and orders in any way relating to the Lease, and all amendments to any of the foregoing.
2. The wells (hereinafter referred to as "Wells") described in Exhibit "A", together with all personal property, well equipment, fixtures, equipment inventory, materials, and improvements, whether real, personal, or mixed used by Assignor solely and exclusively in connection with the Wells or with the production, treatment, or sale of hydrocarbons and all other substances produced therefrom or attributable thereto.
3. Options, farmout agreements, exploration agreements, operating agreements, permits and approvals, sales contracts and other agreements granting to Assignor the right to earn or acquire a right, interest, or privilege in the Leases and Wells or to manage, operate, produce and sell oil, gas and coalbed methane from such Lease or Wells.
4. Copies of all files, records, and data associated with or relating to the items described in Paragraphs 1 through 3 above, including maps and other geologic and geophysical, engineering, production, accounting, land, and marketing data and interpretations.

5. Seller hereby reserves unto itself and excepts from this Assignment an overriding royalty (the "Reserved Interest") of an undivided ten percent (10%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas produced from or associated with coal or coal seams), and the constituent products thereof, in under or that may be produced from the Lease and/or the lands described in the Lease or described in Exhibit "A" attached hereto (and any gas production allocated to such Lease or lands), limited however, from the surface to three thousand (3,000) feet below the surface

The assets described in Paragraphs 1 through 5, less and except the Reserved Interest, are referred to herein as "Property".

To have and to hold the Property unto Assignee and its successors and assigns forever.

Unless provided otherwise, all recording references in Exhibit A are to the official records of Campbell County, Wyoming.

Assignor also hereby grants and transfers to Assignee, its successors and assigns, to the extent so transferable, the benefit of and the right to enforce the covenants, representations, and warranties, if any, which Assignor is entitled to enforce with respect to the Lease against Assignor's predecessors in title to the Lease.

This Assignment is made subject to the terms and conditions of an Assignment, Sale and Development Agreement (hereinafter referred to as "Agreement") between the parties hereto, which survive the delivery of this Assignment by Assignor to Assignee, dated effective November 1, 2001. Information regarding the Agreement can be obtained from Assignor or Assignee at the above addresses.

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN SECTION IV OF THE AGREEMENT, THIS ASSIGNMENT IS MADE WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION AS TO TITLE, THE MERCHANTABILITY OF ANY OF THE PROPERTY, OR THEIR FITNESS FOR ANY PURPOSE, AND WITHOUT ANY OTHER EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION WHATSOEVER.

This Assignment may be executed in any number of counterparts, and each counterpart hereof shall be deemed to be an original instrument, but all such counterparts shall constitute but one assignment.

This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns.

Assignment, Bill of Sale, and Conveyance
Dated Effective November 1, 2001
Page 3 of 5

ASSIGNOR

SPORT RESOURCES, INC.

By: [Signature]
Title: President

ASSIGNEE

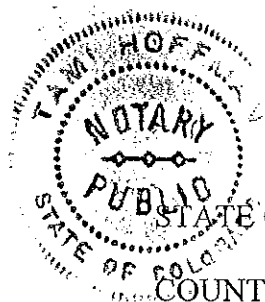
POWDER RIVER COAL COMPANY

[Signature]
By: Ian S. Craig, President

STATE OF Colorado)
COUNTY OF Denver) S.S.

The foregoing instrument was acknowledged before me this 6th day of November, 2001 by Daniel Brun, President, of Sport Resources, Inc.

Witness my hand and official seal.

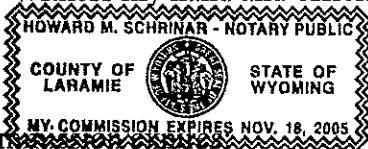


[Signature]
NOTARY PUBLIC
my commission expires 9/15/02

STATE OF WYOMING)
COUNTY OF CAMPBELL) S.S.

The foregoing instrument was acknowledged before me this 30th day of November, 2001 by Ian S. Craig, President of Powder River Coal Company.

Witness my hand and official seal.



My commission expires Nov. 18, 2005

[Signature]
NOTARY PUBLIC

**EXHIBIT A
TO
ASSIGNMENT, BILL OF SALE AND CONVEYANCE**

PROPERTY DESCRIPTION

Attached to and made a part of that certain Assignment, Bill of Sale and Conveyance (hereinafter referred to as "Assignment") entered into effective November 1, 2001 by and between ~~Zalman~~^{Spart} Resources, Inc. and Powder River Coal Company. The following real and personal property is to be assigned, transferred, and conveyed by ~~Zalman~~^{Spart} Resources, Inc. to Powder River Coal Company AS IS, with no warranty of title.

Leasehold Interests to be Assigned

Lease No.:	73-0793
Lessor:	State of Wyoming, acting by and through its Board of Land Commissioners.
Lessee:	Champlin Petroleum Company.
Description:	All of Section 36, T42N, R71W, 6 th P.M.
Lease Date:	Effective January 2, 1973.
County and State:	Campbell County, Wyoming.
Recorded:	Book 526 of Photos, Page 149 on October 3, 1980.
Depths Assigned:	From the surface to the base of the Turner formation.
Working Interest:	Ten percent (10%).
Net Revenue Interest:	Fifty-two and one-half percent (52.5%).
Reservations:	An undivided ten percent (10%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas from or associated with coal or coal seams), and the constituent products thereof, in, under or that may be produced from the Leased Premises (or allocated thereto), limited however, from the surface to three thousand (3,000) feet below the surface.

Equipment Sold with Wells

Well Number CPC 12 – 36

Equipment Sold:	1. 2 - 400 BBL flat bottom production tanks with stairway and walkways.
	2. 1 - 4' X 25" vertical treater; #50 Eaton, serial no. 16432.
	3. 1 - 30" X 10' separator; 125 PSI 350 degrees, serial no. 5889.
	4. 1 - gas meter house.

5. 1 – wellhead equipment injection.
6. All casing and tubing.

Well Number CPC 34 – 36

Equipment Sold
walkways.

1. 2 – 400 BBL bottom production tanks with stairway and
2. 1 – 30" X 10' separator; 250 PSI 350 degrees, serial no. 7178.
3. 1 – gas meter house.
4. 1 – wellhead fiberglass cover.
5. 1 – wellhead injection equipment.
6. All casing and tubing.

STATE OF WYOMING } ss.
Campbell County
Filed for record this 30th day of November A.D., 2001 at 3:50 o'clock P M. and recorded in Book 1712
of Photos on page 195-199 Fees \$ 14.00 **787487**
Quinn Saunders By Denise Peacock
County Clerk and Ex-Officio Register of Deeds Deputy
RECORDED
ABSTRACTED
INDEXED
CHECKED



787485

ASSIGNMENT, BILL OF SALE, AND CONVEYANCE

THIS ASSIGNMENT, BILL OF SALE, AND CONVEYANCE (hereinafter referred to as "Assignment"), is entered into effective November 1, 2001, from, **ZAB, INC.**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignor") with offices at 1700 Broadway Street, Suite 660, Denver, Colorado 90290, to **POWDER RIVER COAL COMPANY**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignee") with offices at P.O. Box 1508, Gillette, Wyoming 82717.

For Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which Assignor hereby acknowledges, Assignor, subject to the reservation set forth below, hereby transfers, grants, bargains, sells, conveys, and assigns to Assignee all of Assignor's right, title, interest, and privileges, and Assignee hereby assumes all of Assignor's duties and obligations in and with respect to, the following assets:

1. The oil and gas lease (hereinafter referred to as "Lease") described in Exhibit "A" attached hereto and by this reference made a part hereof, together with all the property and rights appurtenant or incident thereto, including without limitation all rights of Assignor in oil, gas, coalbed methane and associated substances, and other minerals produced or producible from or attributable to the Lease or to any units, pooled areas, or communitized areas that cover or include all or any portion of the Lease, and all leases, permits, easements, rights-of-way, licenses, and orders in any way relating to the Lease, and all amendments to any of the foregoing.
2. The wells (hereinafter referred to as "Wells") described in Exhibit "A", together with all personal property, well equipment, fixtures, equipment inventory, materials, and improvements, whether real, personal, or mixed used by Assignor solely and exclusively in connection with the Wells or with the production, treatment, or sale of hydrocarbons and all other substances produced therefrom or attributable thereto.
3. Options, farmout agreements, exploration agreements, operating agreements, permits and approvals, sales contracts and other agreements granting to Assignor the right to earn or acquire a right, interest, or privilege in the Leases and Wells or to manage, operate, produce and sell oil, gas and coalbed methane from such Lease or Wells.
4. Copies of all files, records, and data associated with or relating to the items described in Paragraphs 1 through 3 above, including maps and other geologic and geophysical, engineering, production, accounting, land, and marketing data and interpretations.
5. Seller hereby reserves unto itself and excepts from this Assignment an overriding royalty (the "Reserved Interest") of an undivided ten percent (10%) of fifty

percent (50%) of 8/8ths of all gas (including, without limitation, gas produced from or associated with coal or coal seams), and the constituent products thereof, in under or that may be produced from the Lease and/or the lands described in the Lease or described in Exhibit "A" attached hereto (and any gas production allocated to such Lease or lands), limited however, from the surface to three thousand (3,000) feet below the surface

The assets described in Paragraphs 1 through 5, less and except the Reserved Interest, are referred to herein as "Property".

To have and to hold the Property unto Assignee and its successors and assigns forever.

Unless provided otherwise, all recording references in Exhibit A are to the official records of Campbell County, Wyoming.

Assignor also hereby grants and transfers to Assignee, its successors and assigns, to the extent so transferable, the benefit of and the right to enforce the covenants, representations, and warranties, if any, which Assignor is entitled to enforce with respect to the Lease against Assignor's predecessors in title to the Lease.

This Assignment is made subject to the terms and conditions of an Assignment, Sale and Development Agreement (hereinafter referred to as "Agreement") between the parties hereto, which survive the delivery of this Assignment by Assignor to Assignee, dated effective November 1, 2001. Information regarding the Agreement can be obtained from Assignor or Assignee at the above addresses.

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN SECTION IV OF THE AGREEMENT, THIS ASSIGNMENT IS MADE WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION AS TO TITLE, THE MERCHANTABILITY OF ANY OF THE PROPERTY, OR THEIR FITNESS FOR ANY PURPOSE, AND WITHOUT ANY OTHER EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION WHATSOEVER.

This Assignment may be executed in any number of counterparts, and each counterpart hereof shall be deemed to be an original instrument, but all such counterparts shall constitute but one assignment.

This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns.

ASSIGNOR

ZAB, INC.

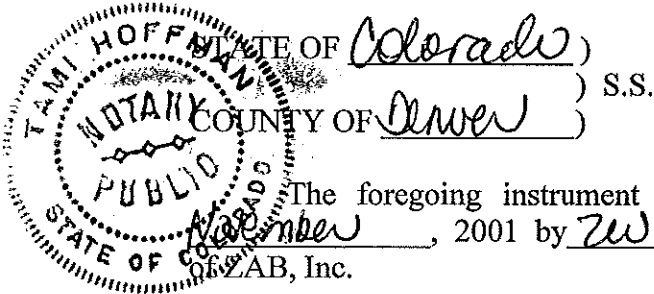
By: Zev A. Beren *Z A*

Title: President

ASSIGNEE

POWDER RIVER COAL COMPANY

By: Ian S. Craig, President



The foregoing instrument was acknowledged before me this 14th day of November, 2001 by Zev A. Beren, President of ZAB, Inc.

Witness my hand and official seal.

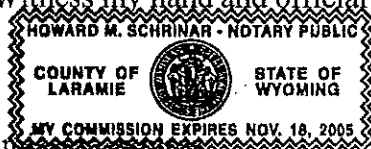
Tami Hoffman
NOTARY PUBLIC

My commission expires: 9/15/02

STATE OF WYOMING)
) S.S.
COUNTY OF CAMPBELL)

The foregoing instrument was acknowledged before me this 30th day of November, 2001 by Ian S. Craig, President of Powder River Coal Company.

Witness my hand and official seal.



My commission expires: Nov 18, 2005

Howard M. Schrinar
NOTARY PUBLIC

EXHIBIT A
TO
ASSIGNMENT, BILL OF SALE AND CONVEYANCE

PROPERTY DESCRIPTION

Attached to and made a part of that certain Assignment, Bill of Sale and Conveyance (hereinafter referred to as "Assignment") entered into effective November 1, 2001 by and between ZAB, Inc. and Powder River Coal Company. The following real and personal property is to be assigned, transferred, and conveyed by ZAB, Inc. to Powder River Coal Company AS IS, with no warranty of title.

Leasehold Interests to be Assigned

Lease No.:	73-0793
Lessor:	State of Wyoming, acting by and through its Board of Land Commissioners.
Lessee:	Champlin Petroleum Company.
Description:	All of Section 36, T42N, R71W, 6 th P.M.
Lease Date:	Effective January 2, 1973.
County and State:	Campbell County, Wyoming.
Recorded:	Book 526 of Photos, Page 149 on October 3, 1980.
Depths Assigned:	From the surface to the base of the Turner formation.
Working Interest:	Ten percent (10%).
Net Revenue Interest:	Fifty-two and one-half percent (52.5%).
Reservations:	An undivided ten percent (10%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas from or associated with coal or coal seams), and the constituent products thereof, in, under or that may be produced from the Leased Premises (or allocated thereto), limited however, from the surface to three thousand (3,000) feet below the surface.

Equipment Sold with Wells

Well Number CPC 12 - 36

Equipment Sold:	1. 2 - 400 BBL flat bottom production tanks with stairway and walkways.
	2. 1 - 4' X 25" vertical treater; #50 Eaton, serial no. 16432.
	3. 1 - 30" X 10' separator; 125 PSI 350 degrees, serial no. 5889.
	4. 1 - gas meter house.

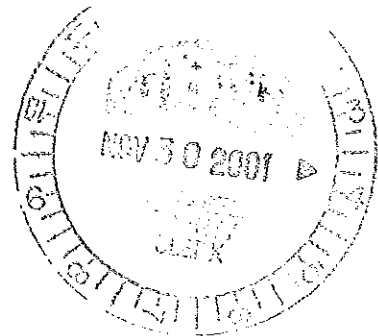
5. 1 – wellhead equipment injection.
6. All casing and tubing.

Well Number CPC 34 – 36

Equipment Sold
walkways.

1. 2 – 400 BBL bottom production tanks with stairway and
2. 1 – 30" X 10' separator; 250 PSI 350 degrees, serial no. 7178.
3. 1 – gas meter house.
4. 1 – wellhead fiberglass cover.
5. 1 – wellhead injection equipment.
6. All casing and tubing.

STATE OF WYOMING } ss.
Campbell County
Filed for record this 30th day of November A.D., 2001 at 3:46 o'clock P. M. and recorded in Book 1712
of Photos on page 185-189 Fees \$ 14.00 **787485**
Gus B. Gunders By Denise Pearson
County Clerk and Ex-Officio Register of Deeds
RECORDED
ABSTRACTED
INDEXED
CHECKED



ASSIGNMENT, BILL OF SALE, AND CONVEYANCE

THIS ASSIGNMENT, BILL OF SALE, AND CONVEYANCE (hereinafter referred to as "Assignment"), is entered into effective November 1, 2001, from, **ZALMAN RESOURCES, INC.**, a corporation organized and existing under the laws of the State of Colorado (hereinafter referred to as "Assignor") with offices at 1700 Broadway Street, Suite 660, Denver, Colorado 90290, to **POWDER RIVER COAL COMPANY**, a corporation organized and existing under the laws of the State of Delaware (hereinafter referred to as "Assignee") with offices at P.O. Box 1508, Gillette, Wyoming 82717.

For Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which Assignor hereby acknowledges, Assignor, subject to the reservation set forth below, hereby transfers, grants, bargains, sells, conveys, and assigns to Assignee all of Assignor's right, title, interest, and privileges, and Assignee hereby assumes all of Assignor's duties and obligations in and with respect to, the following assets:

1. The oil and gas lease (hereinafter referred to as "Lease") described in Exhibit "A" attached hereto and by this reference made a part hereof, together with all the property and rights appurtenant or incident thereto, including without limitation all rights of Assignor in oil, gas, coalbed methane and associated substances, and other minerals produced or producible from or attributable to the Lease or to any units, pooled areas, or communitized areas that cover or include all or any portion of the Lease, and all leases, permits, easements, rights-of-way, licenses, and orders in any way relating to the Lease, and all amendments to any of the foregoing.
2. The wells (hereinafter referred to as "Wells") described in Exhibit "A", together with all personal property, well equipment, fixtures, equipment inventory, materials, and improvements, whether real, personal, or mixed used by Assignor solely and exclusively in connection with the Wells or with the production, treatment, or sale of hydrocarbons and all other substances produced therefrom or attributable thereto.
3. Options, farmout agreements, exploration agreements, operating agreements, permits and approvals, sales contracts and other agreements granting to Assignor the right to earn or acquire a right, interest, or privilege in the Leases and Wells or to manage, operate, produce and sell oil, gas and coalbed methane from such Lease or Wells.
4. Copies of all files, records, and data associated with or relating to the items described in Paragraphs 1 through 3 above, including maps and other geologic and geophysical, engineering, production, accounting, land, and marketing data and interpretations.

5. Seller hereby reserves unto itself and excepts from this Assignment an overriding royalty (the "Reserved Interest") of an undivided ten percent (10%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas produced from or associated with coal or coal seams), and the constituent products thereof, in under or that may be produced from the Lease and/or the lands described in the Lease or described in Exhibit "A" attached hereto (and any gas production allocated to such Lease or lands), limited however, from the surface to three thousand (3,000) feet below the surface

The assets described in Paragraphs 1 through 5, less and except the Reserved Interest, are referred to herein as "Property".

To have and to hold the Property unto Assignee and its successors and assigns forever.

Unless provided otherwise, all recording references in Exhibit A are to the official records of Campbell County, Wyoming.

Assignor also hereby grants and transfers to Assignee, its successors and assigns, to the extent so transferable, the benefit of and the right to enforce the covenants, representations, and warranties, if any, which Assignor is entitled to enforce with respect to the Lease against Assignor's predecessors in title to the Lease.

This Assignment is made subject to the terms and conditions of an Assignment, Sale and Development Agreement (hereinafter referred to as "Agreement") between the parties hereto, which survive the delivery of this Assignment by Assignor to Assignee, dated effective November 1, 2001. Information regarding the Agreement can be obtained from Assignor or Assignee at the above addresses.

EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN SECTION IV OF THE AGREEMENT, THIS ASSIGNMENT IS MADE WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION AS TO TITLE, THE MERCHANTABILITY OF ANY OF THE PROPERTY, OR THEIR FITNESS FOR ANY PURPOSE, AND WITHOUT ANY OTHER EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION WHATSOEVER.

This Assignment may be executed in any number of counterparts, and each counterpart hereof shall be deemed to be an original instrument, but all such counterparts shall constitute but one assignment.

This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns.

ASSIGNOR

ZALMAN RESOURCES, INC.

Jonathan Z. Beren
By: Jonathan Z. Beren

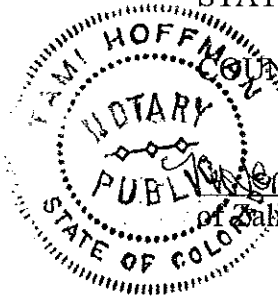
Title: President

ASSIGNEE

POWDER RIVER COAL COMPANY

I. S. Craig
By: Ian S. Craig, President

STATE OF Colorado)
COUNTY OF Denver) S.S.



The foregoing instrument was acknowledged before me this 14th day of November, 2001 by Jonathan Z. Beren, President of Zalman Resources, Inc.

Witness my hand and official seal.

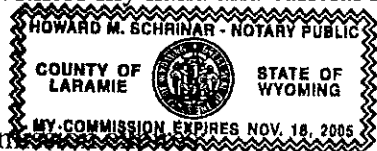
Yami Hoffman
NOTARY PUBLIC

My commission expires: 9/15/02

STATE OF WYOMING)
COUNTY OF CAMPBELL) S.S.

The foregoing instrument was acknowledged before me this 30th day of November 2001 by Ian S. Craig, President of Powder River Coal Company.

Witness my hand and official seal.



My commission expires:

Howard M. Schriener
NOTARY PUBLIC

EXHIBIT A
TO
ASSIGNMENT, BILL OF SALE AND CONVEYANCE
PROPERTY DESCRIPTION

Attached to and made a part of that certain Assignment, Bill of Sale and Conveyance (hereinafter referred to as "Assignment") entered into effective November 1, 2001 by and between Zalman Resources, Inc. and Powder River Coal Company. The following real and personal property is to be assigned, transferred, and conveyed by Zalman Resources, Inc. to Powder River Coal Company AS IS, with no warranty of title.

Leasehold Interests to be Assigned

Lease No.:	73-0793
Lessor:	State of Wyoming, acting by and through its Board of Land Commissioners.
Lessee:	Champlin Petroleum Company.
Description:	All of Section 36, T42N, R71W, 6 th P.M.
Lease Date:	Effective January 2, 1973.
County and State:	Campbell County, Wyoming.
Recorded:	Book 526 of Photos, Page 149 on October 3, 1980.
Depths Assigned:	From the surface to the base of the Turner formation.
Working Interest:	Ten percent (10%).
Net Revenue Interest:	Fifty-two and one-half percent (52.5%).
Reservations:	An undivided ten percent (10%) of fifty percent (50%) of 8/8ths of all gas (including, without limitation, gas from or associated with coal or coal seams), and the constituent products thereof, in, under or that may be produced from the Leased Premises (or allocated thereto), limited however, from the surface to three thousand (3,000) feet below the surface.

Equipment Sold with Wells

Well Number CPC 12 - 36

Equipment Sold:	1. 2 - 400 BBL flat bottom production tanks with stairway and walkways.
	2. 1 - 4' X 25" vertical treater; #50 Eaton, serial no. 16432.
	3. 1 - 30" X 10' separator; 125 PSI 350 degrees, serial no. 5889.
	4. 1 - gas meter house.

5. 1 – wellhead equipment injection.
6. All casing and tubing.

Well Number CPC 34 – 36

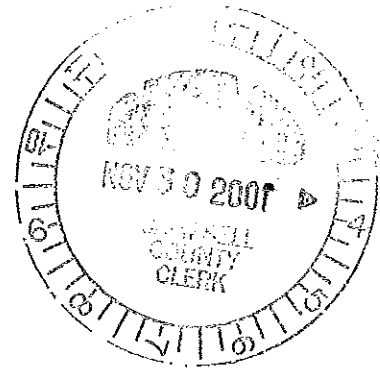
Equipment Sold
walkways.

1. 2 – 400 BBL bottom production tanks with stairway and
2. 1 – 30" X 10' separator; 250 PSI 350 degrees, serial no. 7178.
3. 1 – gas meter house.
4. 1 – wellhead fiberglass cover.
5. 1 – wellhead injection equipment.
6. All casing and tubing.

STATE OF WYOMING } ss.
Campbell County }
Filed for record this 30th day of November A.D. 2001 at 3:48 o'clock P M. and recorded in Book 1712
of Photos on page 190-194 Fees \$ 14.00
Susan Saunders By Denise Rescob
County Clerk and Ex-Officio Register of Deeds Deputy

RECORDED
ABSTRACTED
INDEXED
CHECKED

787486



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
OFFER TO LEASE AND LEASE FOR OIL AND GAS

Serial No. WYW136875

The undersigned (reverse) offers to lease all or any of the lands in Item 2 that are available for lease pursuant to the Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.), the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351-359), the Attorney General's Opinion of April 2, 1941 (40 Op. Atty. Gen. 41), or the

READ INSTRUCTIONS BEFORE COMPLETING

1. Name Rubenstein Irwin
Street 4550 S Univ Blvd
City, State, Zip Code Englewood, CO 801106021

2. This application/offer/lease is for: (Check only One) ☐ PUBLIC DOMAIN LANDS ☒ ACQUIRED LANDS (percent U.S. interest _____)
Surface managing agency if other than BLM: Forest Service - Lakewood Unit/Project Thunder Basin
Legal description of land requested: _____ *Parcel No.: _____ *Sale Date (m/d/y): _____ / _____ / _____
*SEE ITEM 2 IN INSTRUCTIONS BELOW PRIOR TO COMPLETING PARCEL NUMBER AND SALE DATE.
T. _____ R. _____ Meridian _____ State _____ County _____

Amount remitted: Filing fee \$ _____ Rental fee \$ _____ Total acres applied for _____
Total \$ _____

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T. 0410N R. 0710W 06th Meridian WY State Campbell County
sec. 001 LOTS 7-10, 15-18;

Total acres in lease 316.730
Rental retained \$ 475.50

This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described in Item 3 together with the right to build and maintain necessary improvements thereupon for the term indicated below, subject to renewal or extension in accordance with the appropriate leasing authority. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance, and to regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease.

NOTE: This lease is issued to the high bidder pursuant to his/her duly executed bid or nomination form submitted under 43 CFR 3120 and is subject to the provisions of that bid or nomination and those specified on this form.

Type and primary term of lease:

☐ Noncompetitive lease (ten years)

☒ Competitive lease (ten years)

☐ Other _____

THE UNITED STATES OF AMERICA

by Jean M. [unclear]
(Signing Officer)

Land Law Examiner

(Title)

EFFECTIVE DATE OF LEASE

JUN 26 1995

(Date)

JUL 01 1995

(b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions, and stipulations of which offeror has been given notice, and any amendment or separate lease that may include any land described in this offer open to leasing at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or in part, unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments. 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this _____ day of _____, 19____ (Signature of Lessee or Attorney-in-fact)

LEASE TERMS

Sec. 1. Rentals—Rentals shall be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:

- (a) Noncompetitive lease \$1.50 for the first 5 years; thereafter \$2.00;
- (b) Competitive lease, \$1.50; for the first 5 years; thereafter \$2.00;
- (c) Other, see attachment, or as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due at the rate specified in (a), (b), or (c) for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. Royalties—Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations on production removed or sold. Royalty rates are:

- (a) Noncompetitive lease, 12 1/2 %;
- (b) Competitive lease, 12 1/2 %;
- (c) Other, see attachment; or as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties shall be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production shall be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee shall not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor shall lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year shall be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge shall be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee shall be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

Sec. 3. Bonds—A bond shall be filed and maintained for lease operations as required under regulations.

Sec. 4. Diligence, rate of development, unitization, and drainage—Lessee shall exercise reasonable diligence in developing and producing, and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. Documents, evidence, and inspection—Lessee shall file with proper office of lessor, not later than 30 days after effective date thereof, any contract or evidence of other arrangement for sale or disposal of production. At such times and in such form as lessor may prescribe, lessor shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs. In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, information on well surveys and tests, and a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that supports

costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for 8 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

Sec. 7. Mining operations—To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessor reserves the right to deny approval of such operations.

Sec. 8. Extraction of helium—Lessor reserves the option of extracting or having extracted helium from gas production in a manner specified and by means provided by lessor at no expense or loss to lessee or owner of the gas. Lessee shall include in any contract of sale of gas the provisions of this section.

Sec. 9. Damages to property—Lessee shall pay lessor for damage to lessor's improvements, and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 10. Protection of diverse interests and equal opportunity—Lessee shall: pay when due all taxes legally assessed and levied under laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public.

Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly. If lessee operates a pipeline, or owns controlling interest in a pipeline or a company operating a pipeline, which may be operated accessible to oil derived from these leased lands, lessee shall comply with section 28 of the Mineral Leasing Act of 1920.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractors shall maintain segregated facilities.

Sec. 11. Transfer of lease interests and relinquishment of lease—As required by regulations, lessee shall file with lessor any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Sec. 12. Delivery of premises—At such time as all or portions of this lease are returned to lessor, lessee shall place affected wells in condition for suspension or abandonment, reclaim the land as specified by lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells.

Sec. 13. Proceedings in case of default—If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation unless or until the leasehold contains a well capable of production of oil or gas in paying quantities, or the lease is committed to an approved cooperative or unit plan or unitization agreement which contains a well capable of production of unitized substances in paying quantities. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time. Lessee shall be subject to applicable provisions and penalties of FOGRMA (30 U.S.C. 1701).

Sec. 14. Heirs and successors-in-interest—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to the heirs, executors, administrators, successors, beneficiaries, or assignees of the respective parties hereto.

WYW156875

MULTIPLE MINERAL DEVELOPMENT STIPULATION

Operations will not be approved which, in the opinion of the authorized officer, would unreasonably interfere with the orderly development and/or production from a valid existing mineral lease issued prior to this one for the same lands.

R2-FS-2820-17 (92)

TB# - 63

Serial No. _____

USDA - FOREST SERVICE

FLOODPLAIN AND WETLAND
LEASE NOTICE

The lessee is hereby notified that this lease contains the riparian ecosystem (Management Area 9A , Forest Plan, pages III-205-218). The lands affected include:

T. 41 N. R. 71 W. Section 1 (S2NW & E2NW & SW)

All activities within this area may be precluded or highly restricted in order to comply with Executive Order 11988 - Floodplain Management and Executive Order 11990 - Protection of Wetlands, in order to preserve and restore or enhance the natural and beneficial values served by floodplains and wetlands.

Management Area 9A, the riparian ecosystem, will be managed by the Forest Service to protect from conflicting uses in order to provide healthy, self-perpetuating plant and water communities that will have optimum diversity and density of understory and overstory vegetation. Occupancy and use of lands within Management Area 9A, proposed in a Surface Use Plan of Operations will be considered in an environmental analysis done to identify the mitigation measures necessary to protect the riparian area. Measures such as road design, well pad size and location or directional drilling, will be made part of the permit authorizing the activity.

TB-63
WY 1134875

R2-FS-2820-13 (92)

Serial No. _____

NOTICE FOR LANDS OF THE NATIONAL FOREST SYSTEM
UNDER JURISDICTION OF
DEPARTMENT OF AGRICULTURE

The permittee/lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of Interior in the permit. The Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of an exploration plan by the Secretary of the Interior, (2) uses of all existing improvements, such as forest development roads, within and outside the area permitted by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by an exploration plan approved by the Secretary of the Interior.

All matters related to this stipulation are to be addressed

to: District Ranger

at: 809 S. 9th Street, Douglas, WY 82633n

Telephone: 307/358-4690

who is the authorized representative of the Secretary of Agriculture.

NOTICE

CULTURAL AND PALEONTOLOGICAL RESOURCES - The FS is responsible for assuring that the leased lands are examined to determine if cultural resources are present and to specify mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator, unless notified to the contrary by the FS, shall:

1. Contact the FS to determine if a site specific cultural resource inventory is required. If a survey is required, then:
2. Engage the services of a cultural resource specialist acceptable to the FS to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the area of proposed disturbance to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory

report is to be submitted to the FS for review and approval at the time a surface disturbing plan of operation is submitted.

3. Implement mitigation measures required by the FS and BLM to preserve or avoid destruction of cultural resource values. Mitigation may include relocation of proposed facilities, testing, salvage, and recordation or other protective measures. All costs of the inventory and mitigation will be borne by the lessee or operator, and all data and materials salvaged will remain under the jurisdiction of the U.S. Government as appropriate.

The lessee or operator shall immediately bring to the attention of the FS and BLM any cultural or paleontological resources or any other objects of scientific interest discovered as a result of surface operations under this lease, and shall leave such discoveries intact until directed to proceed by FS and BLM.

ENDANGERED OR THREATENED SPECIES - The FS is responsible for assuring that the leased land is examined prior to undertaking any surface-disturbing activities to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened, or their habitats. The findings of this examination may result in some restrictions to the operator's plans or even disallow use and occupancy that would be in violation of the Endangered Species Act of 1973 by detrimentally affecting endangered or threatened species or their habitats.

The lessee/operator may, unless notified by the FS that the examination is not necessary, conduct the examination on the leased lands at his discretion and cost. This examination must be done by or under the supervision of a qualified resource specialist approved by the FS. An acceptable report must be provided to the FS identifying the anticipated effects of a proposed action on endangered or threatened species or their habitats.

LEASE NOTICE**BASELINE WATER QUALITY/MONITORING**

This lease was issued based on limited available information regarding water resources that may be affected by oil and gas operations. No activities can be approved that would violate the "Clean Water Act of 1972," as amended and associated Federal and State regulations. In order to assure protection and antidegradation of water quality, the lessee may be required to collect baseline information for any surface and subsurface waters that could be adversely affected, prior to approval of proposed operations. Baseline water quality information may include flow, physical, chemical and biological components of the water resource. Authority for this requirement can be found in Section 6 of the Standard Lease Terms. Whereas, "Prior to disturbing the surface of leased lands...Lessee may be required to complete minor inventories or short-term special studies under guidelines provided by the lessor."

Section 6 also requires that the lessee conduct operations in a manner that minimizes adverse impacts to water and biological resources. The lessee shall take reasonable measures deemed necessary by the lessor to protect these resources. The lessee will be required to establish a monitoring program capable of identifying and measuring any impacts to flow, physical, chemical and biological components of the water resource that may occur as a result of operations.

Requirements for baseline data collection and water monitoring will be determined on a site specific basis.

75875

NOTICE TO LESSEE

Provisions of the Mineral Leasing Act (MLA) of 1920, as amended by the Federal Coal Leasing Amendments Act of 1976, affect an entity's qualifications to obtain an oil and gas lease. Section 2(a)(2)(A) of the MLA, 30 U.S.C. 201 (a)(2)(A), requires that any entity that holds and has held a Federal coal lease for 10 years beginning on or after August 4, 1976, and who is not producing coal in commercial quantities from each such lease, cannot qualify for the issuance of any other lease granted under the MLA. Compliance by coal lessees with Section 2(a)(2)(A) is explained in 43 CFR 3472.

In accordance with the terms of this oil and gas lease, with respect to compliance by the initial lessee with qualifications concerning Federal coal lease holdings, all assignees and transferees are hereby notified that this oil and gas lease is subject to cancellation if: (1) the initial lessee as assignor or as transferor has falsely certified compliance with Section 2(a)(2)(A), or (2) because of a denial or disapproval by a State Office of a pending coal action, i.e., arms-length assignment, relinquishment, or logical mining unit, the initial lessee as assignor or as transferor is no longer in compliance with Section 2(a)(2)(A). The assignee, sublessee or transferee does not qualify as a bona fide purchaser and, thus, has no rights to bona fide purchaser protection in the event of cancellation of this lease due to noncompliance with Section 2(a)(2)(A).

Information regarding assignor, sublessor or transferor compliance with Section 2(a)(2)(A) is contained in the lease case file as well as in other Bureau of Land Management records available through the State Office issuing this lease.

United States
Department of the Interior
Bureau of Land Management
2515 Warren Ave., Cheyenne, WY 82001
Competitive Oil and Gas
Lease Bid Receipt

Filing #: _____
State: _____ Date of Sale: _____
Table: _____ Bidder: _____
Lease Serial Number: 136875

Legal Description: 216.130 Acres
T 0410N R 0710W 06E10 PM WY
Sec. 001 LOTS 7-10, 15-16, Campbell Co

Total Acres (rounded)	<u>217.00</u>
X	
Bid per Acre	<u>2</u>
=	
Total Bonus	<u>634</u>
Minimum Bonus @ \$2	<u>634.00</u>
+	
Advance Rent @ \$1.50	<u>477.50</u>
+	
Administrative Fee	<u>75.00</u>
=	
Minimum Due	<u>1186.50</u>
+	
Additional Bonus	<u>0</u>
=	
Total Due	<u>1184.50</u>

Received 1184.50 ^{CD}

Within 10 working days, send
any additional payment, and a
copy of this form, to:
Bureau of Land Management
Box 1828, 2515 Warren Ave.
Cheyenne, WY 82001

IRWIN RUBENSTEIN

Lessee Name (as it will appear on lease)

4550 S. UNIVERSITY - BID

Address

Englewood

Colorado - 80110 - 6021

City, State, and ZIP

Irwin Rubenstein
Name of Bidder

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

COMPETITIVE OIL AND GAS OR
GEOTHERMAL RESOURCES LEASE BID

30 U.S.C. 181 et seq.; 30 U.S.C. 351-359;
30 U.S.C. 1001-1025; 42 U.S.C. 6508

FORM APPROVED
OMB NO. 1004-0074
Expires: November 30, 1996

State

Wyo.

Date of sale

6/6/95

PARCEL NUMBER

AMOUNT OF BID (See Instructions below)

TOTAL BID

PAYMENT SUBMITTED
WITH BID

THE BID IS FOR (Check one):

☒ Oil and Gas Parcel Number

398

☐ Geothermal Parcel Number

Name of Known Geothermal Resource Area (KGRA)

The appropriate regulations applicable to this bid are: (1) for oil and gas leases—43 CFR 3120; (2) for National Petroleum Reserve-Alaska (NPR-A) leases—43 CFR 3132; and (3) for Geothermal resources leases—43 CFR 3220. (See details concerning lease qualifications on reverse.)

I CERTIFY THAT I have read and am in compliance with, and not in violation of, the lessee qualification requirements under the applicable regulations for this bid.

I CERTIFY THAT this bid is not in violation of 18 U.S.C. 1860 which prohibits unlawful combination or intimidation of bidders. I further certify that this bid was arrived at independently and is tendered without collusion with any other bidder for the purpose of restricting competition.

IMPORTANT NOTICE: Execution of this form, where the offer is the high bid, constitutes a binding lease offer, including all applicable terms and conditions. Failure to comply with the applicable laws and regulations under which this bid is made shall result in rejection of the bid and forfeiture of all monies submitted.

IRWIN RUBENSTEIN

Print or Type Name of Lessee

4550 S. UNIVERSITY BLVD.

Address of Lessee

ENGLEWOOD CO. 80110-6021

City

State

Zip Code



Signature of Lessee or Bidder

INSTRUCTIONS

INSTRUCTIONS FOR OIL AND GAS BID
(Except NPR-A)

1. Separate bid for each parcel is required. Identify parcel by the parcel number assigned in the *Notice of Competitive Lease Sale*.
2. Bid **must** be accompanied by the national minimum acceptable bid, the first year's rental and the administrative fee. The remittance **must** be in the form specified in 43 CFR 3103.1-1. The remainder of the bonus bid, if any, **must** be submitted to the proper BLM office within 10 working days after the last day of the oral auction. **Failure to submit the remainder of the bonus bid within 10 working days will result in rejection of the bid offer and forfeiture of all monies paid.**
3. If bidder is not the sole party in interest in the lease for which the bid is submitted, all other parties in interest may be required to furnish evidence of their qualifications upon written request by the authorized officer.
4. This bid may be executed (*signed*) before the oral auction. If signed before the oral auction, this form cannot be modified without being executed again.
5. In view of the above requirement (4), bidder may wish to leave AMOUNT OF BID section blank so that final bid amount may be either completed by the bidder or the Bureau of Land Management at the oral auction.

INSTRUCTIONS FOR GEOTHERMAL OR
NPR-A OIL AND GAS BID

1. Separate bid for each parcel is required. Identify parcel by the number assigned to a tract.
2. Bid **must** be accompanied by one-fifth of the total amount of bid. The remittance **must** be in the form specified in 43 CFR 3220.4 for a Geothermal Resources bid and 3132.2 for a NPR-A lease bid.
3. Mark envelope Bid for Geothermal Resources Lease in (*Name of KGRA*) or Bid for NPR-A Lease, as appropriate. Be sure correct parcel number of tract on which bid is submitted and date of bid opening are noted plainly on envelope. No bid may be modified or withdrawn unless such modification or withdrawal is received prior to time fixed for opening of bids.
4. Mail or deliver bid to the proper BLM office or place indicated in the *Notice of Competitive Lease Sale*.
5. If bidder is not the sole party in interest in the lease for which bid is submitted, all other parties in interest may be required to furnish evidence of their qualifications upon written request by the authorized officer.

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Serial Number W-136875

Lease Date 7-1-95

Expiration 6-30-05

Description:

41-71
Sec 1. L 7-10. 15-18
316.73 a.c.

Lessee of Record:

Irwin Rubenstein
(100%)

Operating Rights:

Beard Oil Co. 90%
Irwin Rubenstein - 10%

Notes:

Date Checked _____

Norma Rose

Serial Number _____

Lease Date _____

Expiration _____

Description:

Lessee of Record:

Notes:

Date Checked _____

Norma Rose

ATTACHMENT C

Year	Baseline Emissions	Project Emissions					Emissions Reductions
		Grid-Based Electricity	Fossil Fuel Combustion	Uncombusted Methane	Pipeline Gas Combustion	Total	
2006	167,063	2,867	6	2,506	21,549	26,928	140,135
2007	239,128	3,708	7	3,587	30,845	38,147	200,981
	406,191	6,576	13	6,093	52,394	65,075	341,116

	2006	2007	TOTAL
Fossil Fuel Combustion-Maintenance Vehicle	6	7	13
Electric Consumption – Water Pumps	91	81	172
Electric Consumption – Compressors	2,776	3,627	6,404
Total emissions from energy usage (PE_{ME})	2,873	3,716	6,589
Emissions from methane destroyed (PE_{MD})	21,549	30,845	52,394
Emissions from uncombusted methane (PE_{UM})	2,506	3,587	6,093
Total Project Emissions (PE_y)	26,928	38,147	65,075

CMM Gas Volume (mcf)																	Methane Volume (mcf)																					
WELL:	11-36	12-36	13-36	14-36	21-1-41-71	21-36	22-36	23-36	24-36	31-36	32-36	33-36	34-36	41-36	42-36	43-36	44-36	Total Rate	%CH4	11-36	12-36	13-36	14-36	21-1-41-71	21-36	22-36	23-36	24-36	31-36	32-36	33-36	34-36	41-36	42-36	43-36	44-36	Total Rate	
March-02	1032	41	1999	1786	0	3699	2991	2359	2942	1920	1285	422	264	1478	115	1496	149	23978	89.0	919	37	1780	1590	0	3293	2663	2100	2619	1709	1144	376	235	1316	102	1332	133	21347	
April-02	1476	245	3512	2246	0	4425	5822	3098	5163	1846	2425	410	130	7877	102	816	93	39686	88.9	1312	218	3122	1996	0	3933	5175	2754	4589	1641	2156	364	116	7002	91	725	83	35277	
May-02	1169	490	3752	2184	0	7087	4849	3234	4829	3345	2667	424	103	10674	97	417	92	45413	88.9	1039	436	3335	1941	0	6300	4310	2875	4292	2973	2371	377	92	9488	86	371	82	40368	
June-02	3397	1988	515	1999	0	6483	5660	2954	4351	2322	2444	345	141	9322	119	361	100	42501	88.9	3020	1767	458	1777	0	5763	5031	2626	3868	2064	2172	307	125	8286	106	321	89	37779	
July-02	2781	653	4553	2506	0	5269	5502	3129	3967	2853	2405	216	552	5955	164	651	98	41254	88.9	2472	580	4047	2228	0	4684	4891	2781	3526	2536	2138	192	491	5293	146	579	87	36671	
August-02	2656	1168	7168	4057	0	5415	6430	3771	4130	4344	2653	321	761	4807	56	144	27	47908	88.9	2361	1038	6372	3606	0	4813	5716	3352	3671	3861	2358	285	676	4273	50	128	24	42585	
September-02	3406	1862	8729	4927	0	5297	6127	3328	3292	6338	2264	41	209	3401	0	0	4	49225	88.9	3028	1655	7759	4380	0	4709	5446	2958	2926	5634	2012	36	186	3023	0	0	4	43756	
October-02	4396	2731	8503	4583	0	5219	5764	3074	3216	5953	2107	284	14	3335	0	0	0	49179	88.9	3908	2428	7558	4074	0	4639	5124	2732	2859	5292	1873	252	12	2964	0	0	0	43715	
November-02	4332	2838	7880	4881	0	4847	5477	3047	3470	5113	2371	681	-	3246	0	0	0	48183	88.9	3851	2523	7005	4339	0	4308	4869	2708	3084	4545	2108	605	0	2885	0	0	0	42830	
December-02	6176	3543	9222	5732	0	5703	6238	3613	3977	5419	2718	723	0	3245	0	0	0	56309	88.9	5490	3149	8197	5095	0	5069	5545	3212	3535	4817	2416	643	0	2884	0	0	0	50053	
January-03	6857	3676	9047	5842	0	6090	6341	3803	4046	5447	2709	637	0	3267	0	0	0	57762	90.9	6230	3340	8220	5308	0	5533	5761	3455	3676	4949	2461	579	0	2968	0	0	0	52483	
February-03	6239	3065	7785	4922	0	5082	5104	2340	3182	4552	2116	184	0	2279	0	0	0	46850	90.9	5669	2785	7073	4472	0	4618	4637	2126	2891	4136	1923	167	0	2071	0	0	0	42568	
March-03	7496	3518	8797	5280	0	5522	5795	3379	3560	4993	2082	283	0	2712	0	0	0	53417	90.9	6811	3196	7993	4797	0	5017	5265	3070	3235	4537	1892	257	0	2464	0	0	0	48535	
April-03	7691	3063	8141	4551	0	4662	4913	2976	2863	3739	1612	238	0	1881	0	0	0	46330	91.7	7051	2808	7464	4172	0	4274	4504	2728	2625	3428	1478	218	0	1725	0	0	0	42476	
May-03	5104	2584	6713	4150	0	2240	3116	2216	2340	720	442	5	0	0	0	0	0	29630	91.9	4689	2374	6167	3813	0	2058	2863	2036	2150	661	406	5	0	0	0	0	0	27221	
June-03	5133	2819	6641	4068	0	2059	3267	2098	2339	347	244	0	0	0	0	0	0	29015	91.8	4713	2588	6098	3735	0	1891	3000	1926	2148	319	224	0	0	0	0	0	0	26642	
July-03	5058	3781	6823	4255	0	1415	2991	1967	2262	190	623	0	0	0	0	0	0	29365	92.1	4658	3482	6283	3918	0	1303	2754	1811	2083	175	574	0	0	0	0	0	0	27042	
August-03	4776	4004	6802	4319	0	1152	2761	1940	2237	52	612	0	0	0	0	0	0	28655	92.1	4398	3687	6264	3977	0	1061	2543	1787	2060	48	564	0	0	0	0	0	0	26388	
September-03	4396	3835	6324	4099	0	902	2457	1767	1998	0	395	0	0	0	0	0	0	26173	92.2	4052	3535	5828	3778	0	831	2264	1629	1841	0	364	0	0	0	0	0	0	0	24122
October-03	4410	3792	6064	3724	0	828	2394	1701	1772	0	0	0	0	0	0	0	0	24685	92.2	4064	3495	5589	3432	0	763	2206	1568	1633	0	0	0	0	0	0	0	0	0	22751
November-03	4198	3629	5456	3540	0	864	2533	1755	1855	0	0	0	0	0	0	0	0	23830	92.6	3886	3359	5050	3277	0	800	2345	1624	1717	0	0	0	0	0	0	0	0	0	22057
December-03	4191	3097	5554	3348	0	906	2561	1847	1901	0	0	0	0	0	0	0	0	23405	93.0	3898	2881	5166	3114	0	843	2382	1718	1768	0	0	0	0	0	0	0	0	0	21770
January-04	4121	2952	5989	3363	0	989	2432	1937	2001	0	0	0	0	0	0	0	0	23784	92.6	3818	2735	5548	3115	0	916	2253	1794	1854	0	0	0	0	0	0	0	0	0	22034
February-04	3766	2703	5338	3109	0	1107	2354	1935	1907	0	0	0	0	0	0	0	0	22219	92.6	3489	2504	4945	2880	0	1026	2181	1793	1767	0	0	0	0	0	0	0	0	0	20584
March-04	3875	2651	5488	3169	0	1227	2283	2015	2009	0	0	0	0	0	0	0	0	22717	92.6	3590	2456	5084	2936	0	1137	2115	1867	1861	0	0	0	0	0	0	0	0	0	21045
April-04	3234	2149	4646	2810	0	961	1866	1651	1837	0	0	0	0	0	0	0	0	19154	92.6	2996	1991	4304	2603	0	890	1729	1529	1702	0	0	0	0	0	0	0	0	0	17744
May-04	3248	2372	4262	2973	0	982	2045	1763	1977	0	0	0	0	0	0	0	0	19622	92.6	3009	2197	3948	2754	0	910	1894	1633	1831	0	0	0	0	0	0	0	0	0	18178
June-04	2645	1619	3812	2810	0	487	1160	1336	1250	0	0	0	0	0	0	0	0	15119	92.6	2450	1500	3531	2603	0	451	1075	1238	1158	0	0	0	0	0	0	0	0	0	14006
July-04	2893	1908	4087	3096	0	583	1543	1596	1506	0	0	0	0	0	0	0	0	17212	93.3	2700	1781	3815	2890	0	544	1440	1490	1406	0	0	0	0	0	0	0	0	0	16067
August-04	2926	2539	4068	3113	0	621	1706	1622	1634	0	0	0	0	0	0	0	0	18229	93.3	2731	2370	3797	2906	0	580	1592	1514	1525	0	0	0	0	0	0	0	0	0	17016
September-04	2661	2380	3737	2869	0	601	1654	1554	1531	0	0	0	0	0	0	0	0	16987	93.3	2484	2222	3488	2678	0	561	1544	1451	1429	0	0	0	0	0	0	0	0	0	15857
October-04	2805	2527	3832	2816	0	673	1818	1687	1607	0	0	0	0	0	0	0	0	17765	93.3	2618	2359	3577	2629	0	628	1697	1575	1500	0	0	0	0	0	0	0	0	0	16583
November-04	2833	2493	3687	2751	0	713	955	1399	1295	0	0	0	0	0	0	0	0	16126	93.3	2644	2327	3442	2568	0	666	891	1306	1209	0	0	0	0	0	0	0	0	0	15053
December-04	3157	2535	3726	2874	0	860	1033	975	1378	0	0	0	0	0	0	0	0	16538	93.4	2950	2368	3481	2685	0	804	965	911	1287	0	0	0	0	0	0	0	0	0	15452
January-05	3386	2193	3996	2790	328	998	1376	1498	1511	0	0	0	0	0	0	0	0	18076	91.5	3099	2007	3658	2554	300	914	1260	1371	1383	0	0	0	0	0	0	0	0	0	16546
February-05	2845	1741	3241	2095	386	617	1280	1469	1296	0	0	0	0	0	0	0	0	14970	91.5	2604	1594	2967	1918	353	565	1172	1345	1186	0	0	0	0	0	0	0	0	0	13703
March-05	2099	1067	2095	1362	401	244	550	783	753	0	0	0	0	0	0	0	0	9354	91.5	1921	977	1918	1247	367	223	503	717	689	0	0	0	0	0	0	0	0	0	8562
April-05	1237	130	996	733	163	170	65	591	550	0	0	0	0	0	0	0	0	4635	93.8	1160	122	934	687	153	159	61	554	516	0	0	0	0	0	0	0	0	0	4347
May-05	1458	0	11																																			

	Methane Volume		Uncombusted CH4		CO2e Combustion Emiss
Year	<i>Mcf CH4</i>		<i>tonnes CH4</i>	<i>tonnes CO2e</i>	<i>tonnes CO2</i>
2002	6,470		2	39	337
2003	145,265		42	881	7,577
2004	-		-	-	-
2005	-		-	-	-
2006	413,141		119	2,506	21,549
2007	591,356		171	3,587	30,845

Assumptions:

Parameter	CH4 Density	CEF	GWP	Destruction Efficiency
Value	0.0193	2.75	21	98.5%
Units	tonne CH4/mcf CH4	tCO2e/tCH4		percent

NARM Project Emissions from Electricity Use

Year	Wells Drilled	Wells Operating	Months	Wells Shut-in	Well Months	Annual Well Hours	kW equivalent to 3 hp	MW-hrs	Metric Tons CO2/MW-hr	CO2 Emissions from Elec. Pumps	Compressor Size (hp)	kW Equivalent	Annual Hours Operated	MW-hrs	CO2 Emissions from Elec. Compressors	Total Project Emissions (Metric tons CO2)
2002	20	12	10	4	120											
		4	1		4											
		3	6		18											
		1	8		8											
		20			150	109,500	2.237	244.97	1.033107	253	350	261	7300	1,905	1,968	2,221
2003	10	13	12	3	156											
		1	7		7											
		1	8		8				1.033107		350	261	6570	1,715	1,772	1,772
		11	9		99				1.033107	456	350	261	8760	2,286	2,362	2,818
		26	(23 at end of year)			270	197,100	2.237	440.94							
2004	2	23	12	0	276											
		1	9		9											
		1	10		10											
		25			295	215,350	2.237	481.77	1.033107	498	700	522	8760	4,573	4,724	5,222
Jan-Sep 2005	15	29	9	0	261											
		7	8		56				1.033107		700	522	3650	1,905	1,968	1,968
		4	7		28				1.033107	582	615	459	2920	1,339	1,383	1,966
		40			345	251,850	2.237	563.42								
Oct-Dec 2005	0	39	3	1		wells w/pumps										
		1	2		18											
		40				13,140	2.237	29.40	1.033107	30	300	224	2190	490	506	506
									1.033107		200	149	2190	327	337	368
2006	0	31	12	8		wells w/pumps										
		2	10		54											
		5	7						1.033107		50	37	5352	200	206	206
		1	5						1.033107		300	224	6672	1,493	1,542	1,542
		39				39,420	2.237	88.19	1.033107	91	200	149	6672	995	1,028	1,119
2007	0	27	12	4		wells w/pumps										
		4	10		48				1.033107		50	37	6570	245	253	253
									1.033107		300	224	8760	1,960	2,025	2,025
		31				35,040	2.237	78.39	1.033107	81	200	149	8760	1,306	1,350	1,431
															3,627	3,708

Wyoming Elec Power Emiss Co-Efficients hp to kW conversion factor = 1.341
lbs/MW-hr tons/MW-hr
CO2 2278 1.033107

Until September 2005, all wells had pumps. Since then some wells did not have pumps. Peabody provided information regarding pump usage for 2006 and 2007. In 2006, only 6 pumps operated for 9 months each. In 2007, only 4 pumps operated for 12 months each. In cells G29 and G33, we capture the number of hours the pumps operated (# of pumps x # of months x 730 hrs./month). Since there is no electric meter on each pump, we use the 3 hp rating and convert to kW. The resulting kW-hrs are used to determine the emissions

