

fr **POWERTECH (USA) Inc.** ✓

**NON CONFIDENTIAL** ✓

February 2, 2010

Allen C. Sorenson  
Senior Environmental Protection Specialist  
Division of Reclamation, Mining and Safety  
1313 Sherman Street, Room 215  
Denver, Colorado 80203

**RECEIVED**

FEB 03 2010 ✓

to Division of Reclamation,  
Mining & Safety ✓

acs ✓

**RE:**

**Notice of Intent (NOI) File No. P-2008-043 MD-03 Second Review Responses** ✓  
**Centennial Uranium Project, Weld County, Colorado**

Dear Mr. Sorenson:

Please find included within the attached document the Powertech (USA) Inc. (Powertech) responses to the DRMS comments contained in their Second Review of Notice of Intent (NOI) File Number P-2008-043 MD-03, dated December 2, 2009.

If you have any questions or require additional information, please feel free to contact myself at (303)790-7528 or Michael Beshore at (970)556-5988.

Sincerely Yours,

Richard Blubaugh  
Vice President – Environmental Health & Safety Resources  
Powertech (USA) Inc.

## **Powertech Responses to the Colorado DRMS**

### **Centennial Project, Second Review of Notice of Intent Modification MD-03, File No. P-2008-043**

***DRMS Item #1) MD-03 proposes temporary storage of groundwater pumped to the surface in Rain for Rent tanks and states that the tanks will be decontaminated before and after use. The terms and conditions section of the Rain for Rent rental/sales estimate included with Powertech's October 28, 2009 submittal states that the tanks may have contained hazardous waste in the past, and provides Powertech the option to test the units for hazardous waste prior to taking delivery. DRMS suggests that through rinsing of the tanks with water of known quality followed by sampling and analysis of the rinsate would be appropriate, but will consider any alternatives proposed by Powertech. The plan provided must describe the analysis to be done, with the selected analytes based on the previous uses of the tanks. The testing and analysis must be complete and evaluated by DRMS prior to bringing the tanks onto the pump test site.***

#### **Powertech Response to DRMS Item #1:**

The Rain for Rent tank rental estimate term and condition related to the previous contents of the tanks, and stating that the tanks may have in the past contained hazardous waste, has been removed by Rain for Rent from the estimate. Please refer to Attachment A for an updated tank rental estimate provided by Rain for Rent.

Rain for Rent tanks are typically used to contain water onsite for use in oilfield operations or for construction excavation dewatering, and Rain for Rent keeps a detailed history of the previous contents of tanks. The water holding tanks to be used by Powertech and provided by Rain for Rent will have been previously used to contain water only, at least back one tank use event.

Although Rain for Rent can ensure delivery of tanks that have previously held water and that the tanks will be thoroughly cleaned before being delivered to the pump test site, Powertech has been informed by the DRMS that testing of the tank cleaning rinsate will be required for some parameters to ensure cleanliness. In a phone conversation with Mr. Sorenson (DRMS) on January 22, 2010, Powertech was informed that chemical testing of the tank cleaning rinsate should include the following parameters.

- RCRA 8 Metals
  - Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver
- BTEX (Benzene, Toluene, Ethylbenzene, Xylenes)
- TOC (Total Organic Carbon as an indicator of contamination)

Powertech will commit to conducting the testing of the tank rinsate as described above. If the analytical results of the above sample analysis exceed standards set forth in the Colorado Department of Public Health and Environments-Groundwater Quality Standards for any of the tanks to be utilized, Powertech will instruct Tactical Cleaning Company (Rain for Rents' tank cleaning contractor) to re-clean the tank and an additional sample will be collected and analyzed.

***DRMS Item #2) The Rain for Rent rental/sales estimate included with Powertech's October 28, 2009 submittal states that Powertech will test the tanks for radon following re-injection of the stored water, and will decontaminate the tanks prior to standard cleaning procedures if radon levels are high. DRMS may incur the costs for this procedure in the event of bond forfeiture, and needs the following information in order to estimate the pertinent costs.***

- a) Will the radon test and possible subsequent decontamination be done on site, or after the tanks are returned to the Rain for Rent facility?***
- b) How will the radon test be conducted, and what will it cost? What radon levels will trigger the requirement for decontamination?***
- c) How will the tanks be decontaminated if radon levels are determined to be unacceptably high, and what will decontamination cost? How will decontamination fluids and equipment be disposed of, and what will be their disposal cost?***

Powertech Response to DRMS Item #2:

No radon testing will be conducted. As can be seen from the attached updated Rain for Rent bid estimate for tank rental (Attachment A), radon testing is not a requirement. Any radon naturally occurring within the produced water will be vented to the atmosphere.

***DRMS Item #3) If Powertech wants the latitude to conduct the proposed pump test during the months when hard freezing temperatures at the test location are possible, then a cold weather plan, including costs, must be provided for DRMS review and approval. The plan must address what measures and what equipment will be employed to keep the water from freezing both to prevent damage to tanks, pipes, and fittings, and to allow for timely re-injection of pump test water. If tank heaters or other power consumptive measures or equipment are to be employed for freeze prevention, provide a specification for generator(s) that will be required, both to conduct the pump test and to operate freeze prevention equipment; this is needed for DRMS to estimate power generation costs to establish the amount of required bond.***

Powertech Response to DRMS Item #3:

Powertech will conduct the Centennial aquifer pump test no earlier than March 15<sup>th</sup> of 2010. During the month of March, it is unlikely that hard freezing temperatures will take place over an extended duration of time sufficient to freeze water in tanks or piping. Climate data obtained from Nunn, Colorado show that during the month of March, average daily low and high temperatures range from 28 to 55 degrees F.

Powertech personnel will conduct daily monitoring of the water containment vessels, valves, and piping to ensure that stored water does not freeze. In the case that daily low temperatures are expected to be well below normal at any time during tank water storage, Powertech will have access to freeze prevention equipment that can be immediately delivered and installed by Rain for Rent. Included as Attachment B is a bid estimate from Rain for Rent for stored water freeze prevention equipment.

Additionally, Powertech will monitor the long range forecast before beginning the aquifer pump test. If temperatures are expected to be abnormally low during pumping or re-injection activities, the pump test will be rescheduled to when the long-range forecast predicts more moderate temperature extremes.

***DRMS Item #4) Provide a detailed lithological description of the core from hole IN-14-33. This is needed for DRMS to review the aquifer/aquitard relationships described and illustrated in MD-03 submittals.***

Powertech Response to DRMS Item #4:

In order to assist the DRMS in its review of the aquifer/aquitard relationships described in MD-03 submittals, Powertech has included lithology field notes prepared during the advancement of exploration borehole IN-14-33 as well as a generalized geologic cross section through the area of the pump test location. The detailed lithologic field description of the IN-14-33 exploration borehole and core is included as Attachment C. The IN-14-33 borehole was advanced to 369.5 feet during which drill cuttings were obtained and logged, and then core was recovered (or attempted recovery) from 369.5 feet to the total depth of the hole.

The generalized geologic cross section along with a description of the creation of the geologic cross section, and the data used, is included as Attachment D.

***DRMS Item #5) Powertech's October 28, 2009 submittal commits to injection under a vacuum. As discussed in the DRMS review letter dated September 25, 2009, this commitment essentially eliminates the potential for injected fluid to migrate into strata other than those where migration currently occurs under existing conditions. However, there are various descriptions in the underground injection control literature of injection under a vacuum. Therefore, Powertech must provide a detailed description of how injection under a vacuum will be conducted at this site, including monitoring and measures to be taken to assure that pressurization is prevented throughout the re-injection process.***

Powertech Response to DRMS Item #5:

Powertech has decided to commit to having personnel onsite throughout the entire pump test water re-injection process, to ensure that all equipment and safeguards operate properly. Injection pressure will be monitored and logged throughout the duration of re-injection by the use of a pressure gauge or recorder attached to the sealed wellhead flange, which will measure pressure within the injection well casing.

In order to ensure re-injection under a vacuum, the well casing will be sealed from the atmosphere by the wellhead flange. Produced water will then be pumped from the storage tanks to the wellhead and allowed descend into the empty casing of the well, creating a negative pressure, or vacuum, relative to atmospheric pressure. Pressure at the wellhead will be monitored and logged, and if at any point the pressure gauge approaches positive atmospheric pressure, the water flow rate from the tanks will be

decreased. Included as Attachment E is a diagram illustrating the injection pressure monitoring design and water flow from the storage tanks to the wellhead.

***DRMS Item #6) If and when MD-03 is approved, DRMS will review the Powertech field notes for all post-June, 2008 well sampling conducted in section 33, where the proposed pump test is to occur. DRMS will contact Powertech to coordinate the review at the appropriate time.***

Powertech Response to DRMS Item #6:

Powertech has all field notes for post-June, 2008 well sampling activities that were conducted in section 33. If and when MD-03 is approved, all the associated well sampling notes requested will be made available to the DRMS for review.

# Custom Estimate Developed Especially for:

Michael Beshore  
Powertech  
5575 Dtc Parkway, Suite 140  
Greenwood Village, CO 80111  
Phone: 970-282-7777

Prepared on 12/18/2009 by:



**Rain  
for  
Rent**

Dwight Wozney  
Cell: (303)901-0595  
P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

[www.rainforrent.com](http://www.rainforrent.com)



**A benefit of doing business with Rain for Rent is the knowledge that our Engineering Department is behind the scenes, backing up our Sales Representatives to ensure that your project needs are met.**



**Rain  
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Rent** Denver

**Rental/Sale Estimate**

www.rainforrent.com

P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312005  
Prepared By: Dwight Wozney

**Job Description:**  
Tanks to store ground water for well testing purposes. SEE ADDITIONAL SPECS FOR JOB PROCESS. Hauling is estimate: actual will be billed. Customer to clean tanks before return. Tanks to be cert. cleaned prior to job start.

**Customer:** Powertech  
**Customer ID:** R98591  
**Address:** 5575 Dtc Parkway, Suite 140  
**City/State:** Greenwood Village, CO 80111  
**Contact:** Michael Beshore  
**Office:** 970-282-7777  
**Fax:**

**Location:**  
Wellington - East of I-25

**Rental Sub Total:** \$4,575.00  
**Sale Sub Total:** \$1,391.42  
**Sub Total:** \$5,966.42

\*The Terms and Conditions of the Rain For Rent Rental and Acute Hazardous Waste Agreements, Credit Application, Invoice and this estimate contain the complete and final agreement between Rain For Rent and Customer and no other agreement in any way modifying or adding to any of said Terms and Conditions will be binding upon Rain For Rent unless made in writing and signed by a Rain For Rent Corporate Officer.  
\*Payment terms are net 30 days from invoice date. A 1.5%month late charge will be made on any past due invoices.  
\*Estimate is valid for 30 days and is subject to credit approval.  
\*Availability subject to change without notice.  
\*Estimates are based on Customer supplied information and are subject to change based on actual requirements and usage.

Est. Delivery Hauling	\$1,875.00
Est. Pick-up Hauling	\$1,875.00
Est. Install Labor	\$1,015.00
Est. Removal Labor	\$925.00
Est. Enviro. Recovery Fee	\$15.00
Est. Fuel Surcharge	\$300.00

( Does Not Include Sales Tax )

**Estimate Total: \$11,971.42**

Date Prepared: 12/18/2009

Valid Until: 1/17/2010

\_\_\_\_\_  
Customer

\_\_\_\_\_  
Date

By signing this estimate, customer represents that customer has read and agreed to all terms of this estimate, including those on Terms & Conditions page and those on the Additional Specifications page (if applicable).



**Rain  
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Rental/Sale Estimate

www.rainforrent.com

P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312005

Application: Storage Materials: Ground water

\*Rain for Rent Cycle = 28 Days.

This estimate has not been flagged as PREVAILING WAGE.

Rental Items

Qty	Unit	Duration	Item	Description	Day	Week	Cycle	Expense
4	Each	28 Day	+560201	TANK-MANIFOLD UNCTD	\$35.00	\$0.00	\$0.00	\$3,920.00
1	Each	1 *Cycle	MRC	4" LOW FLOW DIESEL POWER PUMP	\$0.00	\$0.00	\$350.00	\$350.00
1	Each	1 Day	MRC	500 GAL POLY TANK W/ HYDROTEST WATER	\$100.00	\$0.00	\$0.00	\$100.00
1	Each	1 Day	MRC	HYDROSTATIC TEST	\$200.00	\$0.00	\$0.00	\$200.00
5	Each	1 Day	740697	SPILLGUARD BRIDGE- 4"- 6" HO	\$1.00	\$0.00	\$0.00	\$5.00

Rental Sub Total: \$4,575.00

Sale Items

Qty	Unit	Item	Description	Unit Price	Expense
350	Feet	MS	4" SCH 40 PVC PIPE BELL END	\$2.51	\$878.50
2	Each	MS	4" SCH 40 PVC SOC END CAP	\$12.21	\$24.42
5	Each	MS	4" SCH 40 PVC SOC X MPT	\$4.24	\$21.20
25	Each	MS	4" SCH 40 PVC COUPLING	\$8.97	\$224.25
5	Each	MS	4" SCH 40 PVC SOC 90 DEG ELLBOW	\$19.57	\$97.85
5	Each	MS	4" SCH 40 PVC SOCXSOXSOC	\$29.04	\$145.20

Sale Sub Total: \$1,391.42

Sub Total: \$5,966.42





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## Rental/Sale Estimate

www.rainforrent.com

P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312005

### OPTIONAL PRODUCTS

pricing for delivery will be \$95.00/hr at 3hrs = \$285.00

pricing for pickup will be \$95.00/hr at 3 hrs = \$285.00

#### Optional Rental Items

Qty	Unit	Duration	Item	Description	Rate	Week	Cost	Extension
1	Each	0 Day	+560201	TANK-MANIFOLD UNCTD	\$35.00	\$0.00	\$0.00	\$0.00

Rental Sub Total: \$0.00

Optional Total: \$0.00



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P O Box 149  
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Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312005

### **Additional Specifications**

#### **PROJECT PROCESS:**

Once items are on site and system is installed, a hydrotest will be performed on the piping to ensure no leaks are present (approx. 500 gallons of water needed for test). Water will then be pumped from the well into the tanks. After testing is complete, the water will be pumped back into the well at a slow rate.

\*Estimate for tactical cleaning of tanks is \$600.00 per tank. This is an estimate only and actual will be billed.



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## Rental/Sale Estimate

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P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312005

## Terms & Conditions

### Additional Terms

1. A cycle is defined as 4 weeks. A week is defined as one third of a cycle and a day is one third of a week. Customers will be invoiced at the appropriate cycle, weekly or daily rate based on actual equipment usage except for filtration, pipe, hose and fittings which will be billed at the cycle rates only and will not be pro-rated.
2. The rental rate for pumps and equipment with hour meters are based on an 8 hour day or 48 hour running week. The rental rate will be multiplied by 1.5 for greater than 8 hours per day or 49-96 operating hours per week and multiplied by 2.0 for more than 16 hours per day or 96 operating hours per week. Customer will be invoiced for 24 hours per day if the hour meter has stopped functioning.
3. Overtime will be invoiced at 1.5 times the regular rate for work occurring outside of normally scheduled business hours and 2.0 times the regular rate for work occurring on company recognized holidays.
4. Customer shall pay for any changes to work scope including but not limited to schedule changes, material, labor, third party, permit, fee or service costs. It is the Customer's responsibility to cooperate in the timely processing, approval and payment of any charges within Rain For Rent's invoice terms.
5. Customer is responsible to determine the suitability of equipment for the application.
6. Delivery, Return, Installation and Removal costs are estimated. Customer will be invoiced for actual time. Transportation will be invoiced on a Portal to Portal basis.
7. Customer is responsible for flushing and cleaning tanks, roll off boxes, pipelines, pumps, filters and other Rain for Rent equipment prior to return.
8. Customer is responsible for equipment, repairs, maintenance and damage, excluding normal wear and tear. All returned equipment is subject to inspection by Rain for Rent personnel. Damages and accrued rent will be invoiced to Customer while equipment is out of service for repairs.
9. The Customer cannot alter the equipment without Rain For Rent's prior written approval.
10. Customer will provide "all risk" property insurance for rented equipment.
11. Customer will not allow any equipment to come in contact with any substance that will cause corrosion, damage or leakage.
12. The Customer assumes all risks of loss due to operation and use of the equipment.
13. Customer is responsible to obtain any permits, licenses, certificates, bonds and give all notices required by law.
14. The rental period begins the day the equipment is delivered and continues until returned to Rain For Rent's facility unless written confirmation of the release is provided to the Customer before that time.
15. Rental equipment must be returned to the renting Rain for Rent branch unless agreed to in writing before the rental period begins.
16. All material that comes in contact with Rain For Rent equipment including media is the responsibility of Customer as generator. Rain For Rent shall not be responsible for any fines or sanctions as a result of Customer's use of the equipment.
17. The equipment is sold "AS IS, WHERE IS" in its present condition. Seller makes no warranties, expressed or implied of any kind whatsoever with respect to the equipment. Buyer agrees that buyer has purchased the equipment based on his judgement and evaluation, without reliance upon any statements of representations of seller, and that seller is not responsible for any defects in its operation or for any repairs, parts or services, unless otherwise noted.
18. De-watering, Roll-off, Vacuum boxes and similar equipment are not liquid tight. Rentee accepts full responsibility for all losses, damages and costs caused by or arising out of spills, leakage or discharge from this equipment.
19. Customer will use the equipment in a careful and proper manner and in accordance with safety rules, industry standards, manufacturer's specifications, recommendations, regulations and applicable laws
20. Customer shall be responsible for environmental fees covering waste fluid, fuel, filter and other disposal costs.
21. A Fuel Surcharge will be calculated and invoiced based on the diesel fuel price as published by the Department of Energy on <http://tonto.eia.doe.gov/oog/info/wohdp/diesel.asp>
22. Customer shall pay Rain For Rent additional expenses caused by site, soil or underground conditions, including, but not limited to, rock formations, environmental conditions, regulations or restrictions, hard pan, boulders, cesspools, gas lines, water lines, drain pipes, underground electrical conduits or other above ground or underground obstructions.
23. Customer shall be responsible for acquiring and paying for, if necessary, all public and private property easements required by the project.
24. The estimated labor component of this quote is based on non-prevailing wage rates. If prevailing wage laws are applicable, Customer must notify Rain For Rent in writing before Rain For Rent estimate completed. If Rain For Rent was not properly notified, Customer shall promptly pay any change orders that adjust wages to prevailing wage rates. Customer is responsible for providing applicable prevailing wage rates to Rain for Rent. Rain For Rent will provide certified payrolls on a bi-weekly basis if notified in writing 10 days before the start of the project.
25. Customer is prohibited from deducting retention from Rain For Rent invoices and charging Rain for Rent liquidated damages.
26. Customer is responsible for all routine maintenance including fuel, fluids, lubrication and filters every 150 hours on engine driven equipment. Rain For Rent will charge Customer for servicing any equipment that is on rent or returned that has not been serviced in 150 hours. Rain For Rent can provide field service upon request for an additional service charge. Rain For Rent must be notified 2 business days in advance to schedule required field service.
27. This estimate excludes any additional costs to Rain For Rent associated with Owner Controlled Insurance (OCIP) or WRAP insurance programs that will be added to Rain For Rent's prices.
28. Customer is responsible to provide freeze protection for all equipment on site.
29. Customer will be responsible for security, traffic control and road crossings. Traffic control shall meet all applicable Federal, State, and Municipal laws and regulations to assure a safe work environment.

30. Cold Weather Packages for tanks consist of up to 4 tank heaters and a submersible pump which is designed for use in a non-combustible or corrosive environment.
31. Tank heaters are operated on 120 volts, 12.5 amps each or 50 amps total. The submersible pump operates at 120 volts, 10 amps.
32. Customer is responsible for electrical connections and compliance with applicable permits, regulations and code requirements.
33. Tank Cold Weather Packages are not to be used in combustible or corrosive environments.
34. Tank Cold Weather Packages are a preventative measure that may keep fluids inside the tank from freezing. RFR will not guarantee fluids from freezing and any resulting damages.

### **Job Specific Terms**

35. Rain for Rent must be advised of application and product being stored in tanks before the estimate is completed. Manifolding available at an additional charge.
36. Customer shall hold harmless, indemnify and defend Rain For Rent from any claims whatsoever, arising from or related to (A) any pollution, contamination, environmental impairment and/or similar condition directly or indirectly caused by or resulting in whole or in part from Customer's use of any Equipment or (B) any environmental statutory or regulatory compliance requirements applicable to any equipment (or any use thereof) and required under any and all foreign or domestic federal, state or local laws, ordinances, regulations, codes, or requirements of any governmental authorities which regulate or impose standards of liability or conduct concerning air, water, soils, wetlands and watercourses, solid waste, hazardous waste and/or materials, worker and community right-to-know, noise, resource protection, health protection and similar environmental, health, safety, and land use concerns as may now or at any time hereafter be in effect. This indemnification shall survive the termination of the agreement.

# Custom Estimate Developed Especially for:

Michael Beshore  
Powertech  
5575 Dtc Parkway, Suite 140  
Greenwood Village, CO 80111  
Phone: 970-282-7777

Prepared on 12/18/2009 by:



**Rain  
for  
Rent**

Dwight Wozney  
Cell: (303)901-0595  
P O Box 149  
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Phone: 303-857-6246  
Fax: 303-857-4435

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**A benefit of doing business with Rain for Rent is the knowledge that our Engineering Department is behind the scenes, backing up our Sales Representatives to ensure that your project needs are met.**



**Rain  
for  
Rent** Denver

## Rental Estimate

www.rainforrent.com

P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312067

Prepared By: Dwight Wozney

Customer: Powertech

Customer ID: R98591

Address: 5575 Dtc Parkway, Suite 140

City/State: Greenwood Village, CO 80111

Contact: Michael Beshore

Office: 970-282-7777

Fax:

Job Description:

Freeze prevention for (4) tanks and 350 ft. of pipe.

Location:

Carr, CO

Rental Sub Total: \$5,176.00

Sub Total: \$5,176.00

\*The Terms and Conditions of the Rain For Rent Rental and Acute Hazardous Waste Agreements, Credit Application, Invoice and this estimate contain the complete and final agreement between Rain For Rent and Customer and no other agreement in any way modifying or adding to any of said Terms and Conditions will be binding upon Rain For Rent unless made in writing and signed by a Rain For Rent Corporate Officer.  
\*Payment terms are net 30 days from invoice date. A 1.5% month late charge will be made on any past due invoices.  
\*Estimate is valid for 30 days and is subject to credit approval.  
\*Availability subject to change without notice.  
\*Estimates are based on Customer supplied information and are subject to change based on actual requirements and usage.

Est. Delivery Hauling	\$300.00
Est. Pick-up Hauling	\$300.00
Est. Install Labor	\$870.00
Est. Removal Labor	\$580.00
Est. Services	\$0.00
Est. Fuel Surcharge	\$48.00

( Does Not Include Sales Tax )

**Estimate Total: \$7,274.00**

Date Prepared: 12/18/2009

Valid Until: 1/17/2010

Customer

Date

By signing this estimate, customer represents that customer has read and agreed to all terms of this estimate, including those on Terms & Conditions page and those on the Additional Specifications page (if applicable).



**Rain  
for  
Rent** Denver

## Rental Estimate

www.rainforrent.com

P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312067

\*Rain for Rent Cycle = 28 Days.

This estimate has not been flagged as PREVAILING WAGE.

### Rental Items

Qty	Unit	Rate	Part No	Description	Rate	Days	Sub Total	Ext (GHS)
4	Each	1 Day	326840	FREEZEENTRY 500F/T TNK HTRSET	\$134.00		\$0.00	\$536.00
14	Each	1 Day	326901	FREEZEENTRY PIPE/MNF WRP03X25	\$10.00			\$140.00
1	Each	1 *Cycle	+840530	GENSETS-120KW (24 HR RATE)			\$4,500.00	\$4,500.00

Rental Sub Total: \$5,176.00

**Sub Total: \$5,176.00**



**Rain  
for  
Rent** Denver

## Rental Estimate

www.rainforrent.com

P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312067

### OPTIONAL PRODUCTS

Place under generator to contain any fuel or liquid drips.

#### Optional Rental Items

Qty	Unit	Duration	Item #	Description	Day	Rate	S/S	Ex(G)Rate
1	Each	1 Day	+670501	SPILLGUARD-12'X16'X1'		\$20.00	\$0.00	\$20.00

Rental Sub Total: \$20.00

Optional Total: \$20.00





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Rental Estimate

[www.rainforrent.com](http://www.rainforrent.com)

P O Box 149  
Fort Lupton, CO 80621  
Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312067

## **Additional Specifications**

Power Requirements: 120v power needed.  
Each 3x25 heat blanket requires 6 amps.  
Each complete tank heater requires 51.36 amps.

Total system estimated requires 290 amps.

Generator Specifications:  
Fuel Capacity = 214 Gallons. Fuel Consumption Rate = 9.2 GPH @ full load.



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## Rental Estimate

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P O Box 149  
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Phone: 303-857-6246  
Fax: 303-857-4435

Estimate Number: 10-056-312067

## Terms & Conditions

### Additional Terms

1. A cycle is defined as 4 weeks. A week is defined as one third of a cycle and a day is one third of a week. Customers will be invoiced at the appropriate cycle, weekly or daily rate based on actual equipment usage except for filtration, pipe, hose and fittings which will be billed at the cycle rates only and will not be pro-rated.
2. The rental rate for pumps and equipment with hour meters are based on an 8 hour day or 48 hour running week. The rental rate will be multiplied by 1.5 for greater than 8 hours per day or 49-96 operating hours per week and multiplied by 2.0 for more than 16 hours per day or 96 operating hours per week. Customer will be invoiced for 24 hours per day if the hour meter has stopped functioning.
3. Overtime will be invoiced at 1.5 times the regular rate for work occurring outside of normally scheduled business hours and 2.0 times the regular rate for work occurring on company recognized holidays.
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5. Customer is responsible to determine the suitability of equipment for the application.
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10. Customer will provide "all risk" property insurance for rented equipment.
11. Customer will not allow any equipment to come in contact with any substance that will cause corrosion, damage or leakage.
12. The Customer assumes all risks of loss due to operation and use of the equipment.
13. Customer is responsible to obtain any permits, licenses, certificates, bonds and give all notices required by law.
14. The rental period begins the day the equipment is delivered and continues until returned to Rain For Rent's facility unless written confirmation of the release is provided to the Customer before that time.
15. Rental equipment must be returned to the renting Rain for Rent branch unless agreed to in writing before the rental period begins.
16. All material that comes in contact with Rain For Rent equipment including media is the responsibility of Customer as generator. Rain For Rent shall not be responsible for any fines or sanctions as a result of Customer's use of the equipment.
17. The equipment is sold "AS IS, WHERE IS" in its present condition. Seller makes no warranties, expressed or implied of any kind whatsoever with respect to the equipment. Buyer agrees that buyer has purchased the equipment based on his judgement and evaluation, without reliance upon any statements of representations of seller, and that seller is not responsible for any defects in its operation or for any repairs, parts or services, unless otherwise noted.
18. De-watering, Roll-off, Vacuum boxes and similar equipment are not liquid tight. Rentee accepts full responsibility for all losses, damages and costs caused by or arising out of spills, leakage or discharge from this equipment.
19. Customer will use the equipment in a careful and proper manner and in accordance with safety rules, industry standards, manufacturer's specifications, recommendations, regulations and applicable laws
20. Customer shall be responsible for environmental fees covering waste fluid, fuel, filter and other disposal costs.
21. A Fuel Surcharge will be calculated and invoiced based on the diesel fuel price as published by the Department of Energy on <http://tonto.eia.doe.gov/oog/info/wohdp/diesel.asp>
22. Customer shall pay Rain For Rent additional expenses caused by site, soil or underground conditions, including, but not limited to, rock formations, environmental conditions, regulations or restrictions, hard pan, boulders, cesspools, gas lines, water lines, drain pipes, underground electrical conduits or other above ground or underground obstructions.
23. Customer shall be responsible for acquiring and paying for, if necessary, all public and private property easements required by the project.
24. The estimated labor component of this quote is based on non-prevailing wage rates. If prevailing wage laws are applicable, Customer must notify Rain For Rent in writing before Rain For Rent estimate completed. If Rain For Rent was not properly notified, Customer shall promptly pay any change orders that adjust wages to prevailing wage rates. Customer is responsible for providing applicable prevailing wage rates to Rain for Rent. Rain For Rent will provide certified payrolls on a bi-weekly basis if notified in writing 10 days before the start of the project.
25. Customer is prohibited from deducting retention from Rain For Rent invoices and charging Rain for Rent liquidated damages.
26. Customer is responsible for all routine maintenance including fuel, fluids, lubrication and filters every 150 hours on engine driven equipment. Rain For Rent will charge Customer for servicing any equipment that is on rent or returned that has not been serviced in 150 hours. Rain For Rent can provide field service upon request for an additional service charge. Rain For Rent must be notified 2 business days in advance to schedule required field service.
27. This estimate excludes any additional costs to Rain For Rent associated with Owner Controlled Insurance (OCIP) or WRAP insurance programs that will be added to Rain For Rent's prices.
28. Customer is responsible to provide freeze protection for all equipment on site.
29. Customer will be responsible for security, traffic control and road crossings. Traffic control shall meet all applicable Federal, State, and Municipal laws and regulations to assure a safe work environment.

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Page 6 of 7

Estimate 10-056-312067 Confidentiality Notice: This quotation and any associated document(s) are privileged and confidential, and are intended for the sole use of the addressee(s). They cannot be used, circulated, duplicated, quoted or otherwise referred to or disclosed to third parties for any reason without the written consent of an Officer of Western Oilfields Supply Company dba/Rain for Rent. If you have received this information in error, please immediately contact us at [riake@rainforrent.com](mailto:riake@rainforrent.com) or by telephone at 661-387-6173. Thank you.

30. Cold Weather Packages for tanks consist of up to 4 tank heaters and a submersible pump which is designed for use in a non-combustible or corrosive environment.
31. Tank heaters are operated on 120 volts, 12.5 amps each or 50 amps total. The submersible pump operates at 120 volts, 10 amps.
32. Customer is responsible for electrical connections and compliance with applicable permits, regulations and code requirements.
33. Tank Cold Weather Packages are not to be used in combustible or corrosive environments.
34. Tank Cold Weather Packages are a preventative measure that may keep fluids inside the tank from freezing. RFR will not guarantee fluids from freezing and any resulting damages.

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IND-14-33

T.D. 584.5' LOCATION: NOI - State Plane NAD 27: 2168728 - 570995.36

BIT SIZE 85" HSA (0-29) 4.125" Hicone (29-369.5) 3.72" core bit (369.5-584.5) 4X diameter Core

SAMPLE LOG BY LE LEASE: (PROJECT) Continental

DATE 4/2 - 4/23/09 COUNTY Weld STATE CO

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %	SAMPLE DESCRIPTION						
						L=Limnite (Lmn)	SOX Surf. Oxidation	(Amounts in Percent, %)		T=Trace		
						Rd. Reduced	POX= Primary Oxid.			1= Minor		
						Rdt. Reduction	BBOX= Base of Surf. Oxid.			2= Moderate		
						P= Pyrite (Pyr)	2OX= Secondary Oxid.			3= Abundant		
						Pt= Pyrite Tarnish	Tn= Transition Zone			C=Carbon	B= Bleached	
							fid= Feldspar			K=Kaolin	ChT= Chert	
0												
0-29'												
10												
20												
30												
29-85'												
40												
50												
60												
70												
80												
85-145'												
90												
100												

0-29'  
CORED: SEE FOLLOWING SHEETS

29-85'  
fl. silty SHALE / CLAYSTONE, md-dk. gray, not when stringers

85-145'  
vlg. lg SANDSTONE, ll. grayish brown, subbed, limonite staining, ox

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER

HOLE NO. IN08-41-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	Alteration %	SAMPLE DESCRIPTION			
					SOX Surf. Oxidation	(Amounts in Percent, %)	T = Trace	
100								
110								
120								
130								
140								
150								
160								
170								
180								
190								
200								

L = Limonite (Lmn)  
 SOX = Surf. Oxidation  
 Rd. = Reduced  
 Rat. = Reduction  
 P = Pyrite (Pyr)  
 P<sub>2</sub> = Pyrite Tarnish  
 POX = Primary Oxid.  
 BSOX = Base of Surf. Oxid.  
 SOX = Secondary Oxid.  
 Tn = Transition Zone  
 fld = Feldspar  
 T = Trace  
 1 = Minor  
 2 = Moderate  
 3 = Abundant  
 C = Carbon  
 B = Bleached  
 K = Kaolin  
 Ch = Chert

\* 100-105' lignitic

145-200'  
 silty SHALE/CLAYSTONE, med gray, starting to get more silty & sandy  
 - towards bottom, scat carbon

\* 150-155' lignitic

DRILLED WITH: AIR  WATER  HOLE NO. EN07-14-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration %	SAMPLE DESCRIPTION		Legend														
						SOX Surf. Oxidation	(Amounts in Percent, %)	T = Trace	1 = Minor	2 = Moderate	3 = Abundant											
200																						
210		alternating SHALE (med. gray) layers w/ lg-vlg SANDSTONE & SILTSTONE - scat. carbon & pyrite, reduced.																				
220																						
230																						
240																						
250																						
260																						
270																						
280																						
285		* 280-290' lignitic																				
290		* 285-300' good sand.																				
300																						

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. INT-14-53

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration %		SAMPLE DESCRIPTION (Amounts in Percent, %)				T = Trace 1 = Minor 2 = Moderate 3 = Abundant	
					Primary Oxidation	Reduction	L = Limonite (Lmn)	SOX = Surf. Oxidation	Rd. = Reduced	POX = Primary Oxid.		BSOX = Base of Surf. Oxid.
300												
310												
320												
330												
340												
350												
360												
370												
380												
390												
400												

cont...

\* 320' lignitic

330-369.5'  
mostly sl. silty shale, med gray, scat. carbon frcks

\* 330' lignitic

\* 360' lignitic

START DRILING @ 369.5'  
SEE FOLLOWING SHEETS

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IN-14-33  
 T.D. ~600 LOCATION: Section 33, T10N, R67W  
 BIT SIZE 4" auger core NOI 2168, 728, 00E 53095, 36N  
 SAMPLE LOG BY DT + LE LEASE: (PROJECT) Centennial  
 DATE 4/8/09 COUNTY Wdd STATE CO

DEPTH	LITHOLOGY	CARBON	PYRITE	Alteration %	SAMPLE DESCRIPTION		T = Trace 1 = Minor 2 = Moderate 3 = Abundant
					SOX Surf. Oxidation	(Amounts in Percent, %)	
					L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P = Pyrite (Pyr) P <sub>T</sub> = Pyrite Tarnish	POX = Primary Oxid. BSOX = Base of Surf. Oxid. SOX = Secondary Oxid. Tn = Transition Zone Fid = Feldspar	C = Carbon K = Kaolin B = Bleached Cht = Chert
0-10					Sax, clayey topsoil. Limonite, weathered topsoil w/ high clay content to 16" shallow roots. found one 1/4" piece of gravel		
10-20					At 16" becoming highly weathered, very sandy, silty soil w/ minimal to medium clay fraction poorly consolidated.		
20-30							
30-40					some pea gravel near base, chert nodules Recover 41" out of 48"		
40-50							
50-60							
60-70							
70-80					start core again, continue very sandy, silty, limonite, poorly consolidated weathered soil Iron stone nodules at 7 feet		
80-90					75' becoming slightly reduced with higher clay fraction. More clay fraction contributes higher degree of consolidation.		
90-100					caliche zone at just under 9 feet Last 3' of core was hard black clay. Recovered 2.5 feet of 4'		



# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IN-14-33  
 T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 BIT SIZE 4" auger  
 SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_  
 DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	Alteration %	SAMPLE DESCRIPTION		T=Trace	
					Primary Oxidation	Reduction	1=Minor	2=Moderate
					L=Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P= Pyrite (Pyr) P <sub>2</sub> = Pyrite Tarnish	POX= Primary Oxid. BSOX= Base of Surf. Oxid. SOX= Secondary Oxid. Tn= Transition Zone Fid= Feldspar		B=Bleached Ch=Chert
					No core			
110					↓			
120								
12.5					Core retrieval @ 12.5 - 14.0 feet continuation of silty, clayey, sandy, SOX limonitic weathered soil. Poorly consolidated. Most likely alluvium due to channel 100 yards south. Iron concretion is getting chared ahead of auger resulting in poor retrieval.			
30					Caliche cemented, clastic mudstone w/ organic/woody fragments, for 3" at 14.0'			
40					Poorly consolidated oxidized, weathered, clayey, silty, very limonitic soil			
50								
60					Clay fraction increasing at 16.5 feet. Highly desiccated + possible fractured Alternating beds of limonitic + slightly reduced claystone. Very hard greasy clay.			
70								
80								
90					Last 2" of core are black semi-friable lignite, grading into brown friable carbonaceous peat, grading into silty, sandy, limonitic clay, poorly indurated			
200								

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER

HOLE NO. EN-14-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE 4" auger

SAMPLE LOG BY DT + LE LEASE: (PROJECT) Catead

DATE 4/8/09 COUNTY weld STATE CO

DEPTH	LITHOLOGY	CARBON PYRITE	Alteration %	SAMPLE DESCRIPTION		T = Trace	
				Primary Oxidation	Reduction	(Amounts in Percent, %)	1 = Minor
210					grading into higher clay fraction w/ reduced chemistry + organic clasts that are oxd. still silty.		
220							
230					clay becoming more greasy towards T.D. of core.		
					No recovery		
					↓		
240					continued high clay fraction, slight limonite staining.		
250					organic, brown stringer at contact w/ fine to very fine-grained buff silicious sand w/ minimal clay fraction. Moderately consolidated		
260							
270					brown friable peat stringer		
280					black friable to moderately consolidated lignite + coal, to T.D. @ 29 feet		
					↓		
290					grading to poorer grade right at T.D.		
300							

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. 1N08-14-33  
 T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 BIT SIZE \_\_\_\_\_  
 SAMPLE LOG BY IE LEASE: (PROJECT) Carbonium Project  
 DATE 4/16/09 COUNTY Weld STATE CO

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %		SAMPLE DESCRIPTION (Amounts in Percent, %)	T = Trace 1 = Minor 2 = Moderate 3 = Abundant  C = Carbon B = Bleached K = Kaolin Ch = Chert
					Primary Oxidation	Reduction Secondary Oxidation		
370							L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P = Pyrite (Pyr) Pt = Pyrite Tarnish	POX = Primary Oxid. BSOX = Base of Surf. Oxid. 2OX = Secondary Oxid. Tn = Transition Zone fd = Feldspar
							369.9 - 371.8' START CORE # 7 4/16/09	
							silty SHALE alternating w/ SILTSTONE stringers, med-dk gray, * calcite cemented zone 369.9 - 369.7'	
3710							* quartz cemented zone 370.9 - 371.0' DRILLED 369.5 - 374.5' * lignitic 371.8 - 372.1' RECOVERED 369.5 - 372.1'	
3720							372.1 - 375.3' silty SHALE/CLAYSTONE, brownish black, lignitic	52% R * (covered on next core!)
3730								
3740							END CORE # 7 START CORE # 8	
3750							375.3' - 376.0' SHALE/CLAYSTONE, v. dk gray	DRILLED 374.5 - 379.5' RECOVERED 372.1' - 379.2' 140% R * (covered last core from last run)
3760							376.0 - 379.2' interbedded v. fq. SANDSTONE & SHALEY layers, lt. gray - med. gray, carbon stringers	
3770								
3780								
3790							END CORE # 8 START CORE # 9	4/16/09 4/21/09
1200								1200

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IN08-14-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON PYRITE OTHER	Alteration % Primary Oxidation Reduction Secondary Oxidation	SAMPLE DESCRIPTION		T = Trace 1 = Minor 2 = Moderate 3 = Abundant  C = Carbon B = Bleached K = Kaolin Ch = Chert
				L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P = Pyrite (Pyr) P <sub>r</sub> = Pyrite Tarnish	(Amounts in Percent, %) POX = Primary Oxid. BSOX = Base of Surf. Oxid. SOX = Secondary Oxid. Tn = Transition Zone fld = Feldspar	
3800				cont. from previous page		DRILLED 3795-3845' REMOVED 3795-3845' 100% R
3810				3795-3841' (same as above (SAA))		
3820				*abundant carbon stringers		
3830						
3840				*384.1 - 384.2' silice stringer - hard spot - 384.2 - 384.5' shaley		
3850				END CORE # 9 START CORE # 10		1210 1220
3860				3845-3894' sl. silty SHALE/CLAYSTONE, grayish black.		DRILLED 3845-3895' REMOVED 3845-3895' 100% R
3870				- subparallel fissility, sl. carbonaceous, much less silt/clay sand than above * turbulence feature @ 386.1' approx 1" in thickness		
3880						
3890				* 389.2 - 389.3' more carbonaceous		
3900				389.3 - 389.5' sl. silty vfg SANDSTONE, lt. greenish gray, mod-well sorted, mod indurated, END CORE # 10		1296
3910				- sat carbonaceous material, reduced silty - subrounded		

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IN08-1433

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON PYRITE	Alteration % Primary Oxidation Reduction Secondary Oxidation	SAMPLE DESCRIPTION		T = Trace			
				(Amounts in Percent, %)		1 = Minor	2 = Moderate	3 = Abundant	
3900				L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P = Pyrite (Pyr) T = Pyrite Tarnish	PQX = Primary Oxid. BSOX = Base of Surf. Oxid. SOX = Secondary Oxid. Tn = Transition Zone Fld = Feldspar	C = Carbon	B = Bleached	K = Kaolin	Ch = Chert
3900					START CORE # 11				
3900									
3900					3895-3905'				
3910					SAA - more carbonaceous stringers				
3910					3905-3913'				
3910					interbedded sandy SILTSTONE layers w/ silty SHALE layers, scat				
3920					carbonaceous stringers.				
3920					3913-3937'				
3920					1. silty SHALE/CLAYSTONE, grayish black, scat. carbon material,				
3930					sl.				
3930					subparallel-parallel bedding, wavy.				
3930					* 392.2-392.4' silica cemented zones				
3940									
3940					NO RECOVERY				
3940									
3940					END CORE # 11				
3940					START CORE # 12				
3940									
3950					3945-3958'				
3950					SAA SHALE...				
3960									
3970									
3980									
3990									
3990					3988-3995'				
3990					silty w/ SANDSTONE, lt. greenish gray, med-well sorted, mod. indurated,				
3990					END CORE # 12				
3990					abundant carbonaceous mat, reduced, wavy-cross bedding, subang-subrounded.				

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER

HOLE NO. IN08-14-57

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	Alteration %	SAMPLE DESCRIPTION			T = Trace 1 = Minor 2 = Moderate 3 = Abundant
					Primary Oxidation	Reduction	Secondary Oxidation	
400.0								
410.0								
420.0								
430.0								
440.0								
450.0								
460.0								
470.0								
480.0								
490.0								
500.0								

399.9 - 402.9' START CORE #13 DRILLED: 399.5-404.5' RECOVERED: 399.5-404.5' 1427 100 BR

SAA - SS, mod. poorly indurated. \* 14-16 gr throughout

402.9 - 404.5 LIGNITE, black

END CORE #13 START CORE #14 \* 10' Run 1437 1457

404.5 - 405.8' LIGNITE, SAA DRILLED: 404.5-414.5' RECOVERED: 404.5-413.7' 92 BR

405.8 - 408.4' silty SHALE / CLAYSTONE, dk. blackish gray - med gray @ bottom of zone. abundant carbonaceous material

408.4 - 410.1' LIGNITE, black

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IND-11-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration %	SAMPLE DESCRIPTION		T = Trace	
						Primary Oxidation	Reduction	SOX Surf. Oxidation	(Amounts in Percent, %)
4100									
4110							410.1 - 413.8'		
4120							silty SHALE/CLAYSTONE, med gray grades to blackish gray @ bottom of zone, abundant carbonaceous material.		
4130									
4140							4130 - 413.7'		
4150							LIGNITE, black		
4160									
4170							4145 - 417.1'	END CORE #14 START CORE #15	1970 1990
4180							v. silty SHALE/clay SILTSTONE, med. dk. gray, silty carb. mat.		
4190									
4200									
4210									
4220									
4230									
4240									
4250									
4260									
4270									
4280									
4290									
4300									
4310									
4320									
4330									
4340									
4350									
4360									
4370									
4380									
4390									
4400									
4410									
4420									
4430									
4440									
4450									
4460									
4470									
4480									
4490									
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4590									
4600									
4610									
4620									
4630									
4640									
4650									
4660									
4670									
4680									
4690									
4700									
4710									
4720									
4730									
4740									
4750									
4760									
4770									
4780									
4790									
4800									
4810									
4820									
4830									
4840									
4850									
4860									
4870									
4880									
4890									
4900									
4910									
4920									
4930									
4940									
4950									
4960									
4970									
4980									
4990									
5000									

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IN08-M-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %			SAMPLE DESCRIPTION (Amounts in Percent, %)				T = Trace 1 = Minor 2 = Moderate 3 = Abundant							
					Primary Oxidation	Reduction	Secondary Oxidation	L = Limonite (Lmn)	SOX Surf. Oxidation	Rd. Reduced	Rdt. Reduction	P = Pyrite (Pyr)	P <sub>T</sub> = Pyrite Tarnish	POX = Primary Oxid.	B8OX = Base of Surf. Oxid.	2OX = Secondary Oxid.	Tn = Transition Zone	fid = Feldspar	C = Carbon
4700																			
4710									4709.5 - 4710.0'	SAA - SHALE/CLAYSTONE	* 14-15 $\mu$ R/hr								
4720																			
4730																			
4740									4739.0 - 4740.0'	sh. silty vfg SANDSTONE, med. greenish gray, med well-sorted, mod. indurated poorly									
4750																			
4760									4759.5 - 4760.0'	SAA - SHALE (from 4757.0 - 4758.5')	* 14-16 $\mu$ R/hr								
4770																			
4780																			
4790																			
4800																			



# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. DMB-14-33  
 T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 BIT SIZE \_\_\_\_\_  
 SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_  
 DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %		SAMPLE DESCRIPTION				T = Trace						
					Primary Oxidation	Reduction	SOX Surf. Oxidation	Rd. Reduced	POX = Primary Oxid.	BSOX = Base of Surf. Oxid.	20X = Secondary Oxid.	Tn = Transition Zone	fid = Feldspar	1 = Minor	2 = Moderate	3 = Abundant	
440.0																	
441.0																	
442.0																	
443.0																	
444.0																	
445.0																	
446.0																	
447.0																	
448.0																	
449.0																	
450.0																	

439.5-441.2'  
 SAA vlg ss/silt @ SHALE stringer 439.5-440.0' #441.0-441.1'  
 DRILLED 439.5-441.5'  
 RECOVERED 439.5-441.2'  
 21% R  
 \* 11-15 μR/hr  
 441.2-446.2'  
 SHALE, blackish gray, silty from 445.0-446'  
 \* will try to recover on next run.  
 END CORE #20  
 START CORE #21  
 DRILLED 441.5-447.0'  
 RECOVERED 441.2-447.0'  
 232% R + from #20  
 1447  
 1514  
 446.2-447.0' - A2 -  
 vlg-fg sl silty SANDSTONE, H. med greenish gray, mod-well sorted, mod. indurated,  
 suborg-subbed, little clay/silt  
 - surf carbon mat., reduced  
 END CORE #21  
 START CORE #22  
 DRILLED 447.0-454.5'  
 RECOVERED 447.0-454.5'  
 100% R  
 1525  
 1540  
 447.0-454.5'  
 SAA, abundant carbon stringers @ low angles, vlg sand w/ more  
 - clay/silt than above, reduced.  
 \* 16-17 μR/hr

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER

HOLE NO. IN08-14-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration %			SAMPLE DESCRIPTION (Amounts in Percent, %)				T = Trace 1 = Minor 2 = Moderate 3 = Abundant							
					Primary Oxidation	Reduction	Secondary Oxidation	L = Limonite (Lmn)	SOX Surf. Oxidation	Rd. Reduced	Rdt. Reduction	P = Pyrite (Pyr)	T = Pyrite Tarnish	POX = Primary Oxid.	BSOX = Base of Surf. Oxid.	SOX = Secondary Oxid.	Tn = Transition Zone	fd = Feldspar	C = Carbon
4600																			
4610																			
4620																			
4630																			
4640																			
4650																			
4660																			
4670																			
4680																			
4690																			
4700																			

END CORE # 23 4/22/09 1634  
START CORE # 24 4/27/09 889

4645-468.1'  
SHA, more lg than vfg, mod. amt of silt & clay, mod indurated, abundant

\* shells 4659-4669 - calcite replacement, scat carbon mat - more @ bottom.  
DRILLED 464.5-467.5  
RECOVERED 464.5-468.1  
72%  
\* will try to recover on next run.

\* 14-15 µR/hr

NO RECOVERY 468.1-468.4'

468.4'-471.5  
sl. silty SHALE, grayish black, lignitic 468.7-469.2' rip up clasts

- scat throughout, subparallel / low angle laminations, etc  
END CORE # 24 909  
START CORE # 25 928

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. INDS-14-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON PYRITE OTHER	Alteration % Primary Oxidation Reduction Secondary Oxidation	SAMPLE DESCRIPTION		T = Trace 1 = Minor 2 = Moderate 3 = Abundant  C = Carbon B = Bleached K = Kaolin Cht = Chert
				L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P = Pyrite (Pyr) P <sub>T</sub> = Pyrite Tarnish	POX = Primary Oxid. BSOX = Base of Surf. Oxid. SOX = Secondary Oxid. Tn = Transition Zone fld = Feldspar	
4700					DRILLED 4695-4715 RECOVERED 4684-474.5 1226R  *recovered 1.1' of 1.4' lost on previous core.	
4710						
4720						
4730						
4740						
4750					END CORE #25 START CORE #26	998 DRILLED: 474.5-474.0 20 RECOVERED: 474.9-479.2 948R
4750					474.5-477.1'	SAA, much less silt - mostly SHALE, dk. grayish black, some appearance in spots
4760						
4770					477.1-478.0'	silty, clayey, v. gray SANDSTONE, lt. greenish gray, partly variegated, subang. grain, - mod indurated, scat carbon flecks, reduced.
4780					478.0-479.2'	SAA except v. mid - albite cement.
4790						END CORE #26 START CORE #27
4800						1051 1110

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. 7108-11-87  
 T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 BIT SIZE \_\_\_\_\_  
 SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_  
 DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %	SAMPLE DESCRIPTION		T = Trace 1 = Minor 2 = Moderate 3 = Abundant
						L= Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P= Pyrite (Pyr) P <sub>T</sub> = Pyrite Tarnish	POX = Primary Oxid. BSOX = Base of Surf. Oxid. 2OX = Secondary Oxid. Tz = Transition Zone fid = Feldspar	
4780								
4795-482.1'						sl. silty SHALE, dk. grayish black		DRILLED 4795-4845 RECOVERED 4795-482.1' 92.8R
4810						* 480.7-481.0' vlg ss, same as above ss.		
4820								
4830								
4840						* 484.8-485.1' vlg ss layer as above one cont.		END CORE # 27 START CORE # 28
4850						482.7-487.6' SAA,		DRILLED 4845-4885 RECOVERED 482.7-487.5 176.6R
4860								
4870								
4880						487.6-489.5' sl. silty vlg SANDSTONE, lt. greenish gray, med. well sorted, subang. subind. - med indurated, slat carbon streaks, reduced,		
4890								
4700								END CORE # 28 START CORE # 29

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER

HOLE NO. INB-14-33

T.B. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ CORP. (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON PYRITE OTHER	Alteration %			SAMPLE DESCRIPTION (Amounts in Percent, %)	T = Trace 1 = Minor 2 = Moderate 3 = Abundant
			Primary Oxidation	Reduction	Secondary Oxidation		
4900							
4910							
4920							
4930							
4940							
4950							
4960							
4970							
4980							
4990							
5000							

**Legend:**  
 L = Limonite (Lmn)  
 SOX = Surf. Oxidation  
 Rd. = Reduced  
 Rdt. = Reduction  
 P = Pyrite (Pyr)  
 Pp = Pyrite Porphyry  
 POX = Primary Oxid.  
 BSOX = Base of Surf. Oxid.  
 SOX = Secondary Oxid.  
 Tn = Transition Zone  
 Fld = Feldspar  
 C = Carbon  
 K = Kaolinite  
 Bleached Chert

**Handwritten Log Entries:**

- 4900-4909' SAA, med. indurated
- 4919-4945' silty shale, dk. blackish gray, med. silt stringers in bed, fractured up
- 4933.9-4936' silica concretion
- 4945-4948' SAA
- 4948-4973' silty, clayey, v. lg. SANDSTONE, med. lt. greenish gray, partly ind. sorted, subang. subround, scat. carbon flakes, more shaly alternating beds
- (496.7-497.3) reduced
- 4973-4988' silty shale, grayish black
- 4988-4992' v. lg. s.l. as above + calcite cement, v. hard.

**Annotations:**  
 DRILLED 4905-4945  
 RECOVERED 4905-4945  
 100%  
 END CORE #29  
 START CORE #70  
 DRILLED 4945-4973  
 RECOVERED 4945-4973  
 94%  
 END CORE #30  
 START CORE #31  
 1304  
 1370  
 1412  
 147

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IND-14-33  
 T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 BIT SIZE \_\_\_\_\_  
 SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_  
 DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %		SAMPLE DESCRIPTION		T = Trace			
					Primary Oxidation	Reduction	SOX Surf. Oxidation	(Amounts in Percent, %)	1 = Minor	2 = Moderate	3 = Abundant	
500												
500.5-503.7								DRILLED: 4995-5045 RECOVERED: 4995-5037 8488				
								silty SHALE / CLAYSTONE, grayish BK.				
								*broken up core.				
5010												
5020												
5030												
5040												
5045	NK											
5048-506.1								END CORE # 31 START CORE # 32 DRILLED 5045-5095 RECOVERED 504.5-506.1 8488	1446 1519			
5050												
5060												
5061-508.2												
5070												
5080												
5082-508.7												
5090												
5095												
5100								END CORE # 32 START CORE # 33	1538 1548			

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. DA08-14-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration %	SAMPLE DESCRIPTION		T = Trace 1 = Minor 2 = Moderate 3 = Abundant
						SOX Surf. Oxidation	(Amounts in Percent, %)	
70.0						L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Ret. Reduction P = Pyrite (Pyr) P <sub>r</sub> = Pyrite Tarnish	POX = Primary Oxid. BSOX = Base of Surf. Oxid. SOX = Secondary Oxid. Tn = Transition Zone Fid = Feldspar	C = Carbon K = Kaolin B = Bleached Cht = Chert
90.0						909.9-912.5' SAA, alternating silty layers	DRILLED 509.5-514.5 RECOVERED 509.5-513.3 76.8R	
110.0								
120.0								
130.0						512.5-513.1' LIGNITE		
140.0						513.1-513.2' vfg ss - carbonaceous/lignitic		
150.0						- WE -	ENCLOSURE # 33 START CORE # 34 DRILLED 504.5-514.5 RECOVERED 504.5-510.6 82.8R	1607 1621
160.0						514.5-518.6' sl. silty, silty clay vfg. to sandstone, - lt. brownish gray, med sorted, subang-subroded, qtz grains have yellowish - large, scat carbon flecks throughout, reduced, more clay in bot 2' - med indurated, scat mica flecks throughout.		
170.0								
180.0								
190.0								
200.0								

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IND-1433

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration % Primary Oxidation Reduction Secondary Oxidation	SAMPLE DESCRIPTION (Amounts in Percent, %)		
						L=Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P= Pyrite (Pyr) Pt = Pyrite Tarnish	POX= Primary Oxid. BSOX = Base of Surf. Oxid. 2OX = Secondary Oxid. Tn = Transition Zone fd = Feldspar	T = Trace 1 = Minor 2 = Moderate 3 = Abundant C=Carbon B=Bleached K=Kaolin Ch=Chert
5200						5195-5228'		
						SAA except is more of a med greenish gray color, more clay content & flat carbon stringers, poorly indurated.		DRILLED 5195-5245' RECOVERED 5195-5228' 649R
5210								
5220								
5230								
	NR							
5240								
5250								
5260								
5270								
5280								
5290								
	NR							
5300								





# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. 2A08-14-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration %			SAMPLE DESCRIPTION (Amounts in Percent, %)	T = Trace 1 = Minor 2 = Moderate 3 = Abundant
					Primary Oxidation	Reduction	Secondary Oxidation		
540.0									
							heavily damaged core - WE core		
							- SHALE, wavy appearance		
5410									
5420	?								
5430									
5440									
5450	?								
5460									
5470									
5480									
5490									
5500									

DREADED 549.5-544.5'  
RECOVERED ? 3'  
= 60 BR

\*dropped all of core on first recovery attempt - try again

\*recovered part of crumbled core on next run. I guessed the division btw # 39 & #40 @ 546.3'

END CORE # 39  
START CORE # 40

1150

DREADED 544.5-549.5'  
RECOVERED 546.3-549.5'  
61 BR

1240

546.3-547.3'  
LIGNITE

547.3-549.5'  
sl. silty vlg-fg sandstone, greenish gray, med sorted, med-poorly indurated,  
- subang, cont carbon-cont, reduced, -  
- highly damaged core

END CORE # 40  
START CORE # 41

1311  
1338

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IN08-H 33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %		SAMPLE DESCRIPTION (Amounts in Percent, %)	T = Trace 1 = Minor 2 = Moderate 3 = Abundant
					Primary Oxidation	Reduction		
5500							L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P = Pyrite (Pyr) Pt = Pyrite Tarnish POX = Primary Oxid. BSOX = Base of Surf. Oxid. SOX = Secondary Oxid. Tn = Transition Zone fld = Feldspar	C = Carbon K = Kaolin B = Bleached Cht = Chert
5500							549.5-550.1' SAA DRILLED 549.5-551.5' RECOVERED 549.5-550.8' 65% R	
5510	NR						550.1-550.8' silty SHALE, grayish black - gray, alternating dk. carbon beds. * v. poor core quality - tripping out to see what problem is. END CORE #41 4/21/09 1350 START CORE #42 4/21/09 1340	
5520							551.1-552.2' SAA * 551.7-552.2' lignitic DRILLED: 551.5-554.5' RECOVERED: 551.1-554.5' 119% R * recovered .4' from #41	
5530							552.2-554.5' - B - sl. silty fq. mg SANDSTONE, dk-med gray, med. well sorted, subang. sort carbon material @ bottom - abundant at top of core, reduced, alternating dk- H. zone.	
5540	NR						END CORE #42 START CORE #43 DRILLED 554.5-554.5' RECOVERED 554.5-554.0' 95% R	1355 1406
5550							554.5-564.0' SAA, scat. carbon flecks + pyrite, more fine grained, lt-med greenish gray.	
5560								
5570								
5580								
5590								
5600								

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER

HOLE NO. IND-4-33

T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_

BIT SIZE \_\_\_\_\_

SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_

DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %		SAMPLE DESCRIPTION (Amounts in Percent, %)				T = Trace 1 = Minor 2 = Moderate 3 = Abundant								
					Primary Oxidation	Reduction	L = Limonite (Lmn)	SOX Surf. Oxidation	Rd. Reduced	POX = Primary Oxid.	BSOX = Base of Surf. Oxid.	C = Carbon	B = Bleached	K = Kaolin	Ch = Chert				
5600																			
5610																			
5620																			
5630																			
5640																			
5650																			
5660																			
5670																			
5680																			
5690																			
5700																			

END CORE #43  
 START CORE #44  
 DRILLED 5645-5745'  
 RECOVERED 74.5-570.1'  
 To R. see next page →

1115  
1130

5645-570.1  
 JAA, fine gr., scat carbon stringers

# PowerTech (USA) Inc.

Attachment C

DRILLED WITH: AIR  WATER  HOLE NO. IN98-M-33  
 T.D. \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 BIT SIZE \_\_\_\_\_  
 SAMPLE LOG BY \_\_\_\_\_ LEASE: (PROJECT) \_\_\_\_\_  
 DATE \_\_\_\_\_ COUNTY \_\_\_\_\_ STATE \_\_\_\_\_

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER MINERALIZATION	Alteration %			SAMPLE DESCRIPTION		T = Trace		
					Primary Oxidation	Reduction	Secondary Oxidation	(Amounts in Percent, %)		1 = Minor	2 = Moderate	3 = Abundant
7800								L = Limonite (Lmn)	POX = Primary Oxid.	C = Carbon	B = Bleached	
								SOX Surf. Oxidation	B5OX = Base of Surf. Oxid.	K = Kaolin	ChT = Chert	
								Rd. Reduced	ROX = Secondary Oxid.			
								Rdt. Reduction	Ta = Transition Zone			
								P = Pyrite (Pyr)	fld = Feldspar			
								P <sub>T</sub> = Pyrite Tarnish				
5810								579.2-584.5	DRILLED 579.5-584.5			
								SMA	RECOVERED 579.2-584.5			
									1063R			
5830												
5840												
5850								END OF HOLE	END CORE #46			
								TD = 5845'			1700	
5860												
5870												
80												
90												
00												

## ATTACHMENT D

# PREPARATION OF PROJECT-WIDE, GEOLOGIC CROSS SECTIONS - CENTENNIAL PROJECT

The A-A' Cross Section is an east-west cross section through the northern portion of the Centennial Project. It is one of a series of five project-wide cross sections, whose purpose is to illustrate:

- the nature and extent of the Upper Fox Hills Sandstone host rocks along the western margin of the Cheyenne Basin, and
- the relationship of the subsurface stratigraphy within the Centennial Project to existing U.S. Geological Survey (USGS) surface mapping in the area

These are hand-drawn geologic cross sections, based on geophysical and geologic logs from uranium exploration drill holes. Most of this drilling was performed by Rocky Mountain Energy Company in the late 1970's.

Geophysical logs – A standard suite of three geophysical logs was run on each exploration drill hole. This included a resistivity log, a self-potential log and a natural gamma radiation log. The resistivity log measures conductivity of saturated, subsurface sediments and provides a good interpretation of subsurface lithology (i.e., sandstone, siltstone, clay, lignite, etc.). The self-potential logs provide an indication of the porosity of subsurface sediments and help to define rock types. The gamma radiation log will show the presence of uranium minerals in the subsurface, but is also used to help define lithology. As an example, coal beds are recognizable in electric logs due to their low-gamma response. On Cross Section A-A', the trace of the resistivity curve of each drill hole is illustrated.

Geologic logs - All exploratory drilling was performed using mud-rotary drilling techniques. As subsurface cuttings were brought to the surface, samples were collected. These samples were taken at 5-foot intervals and recorded by the on-site geologist. These geologic logs, when used in conjunction with the electric logs, present an excellent representation of the subsurface lithology. The geologic logs are particularly important in the identification of oxidized sediments and the presence of coal beds.

The profile of each cross section was obtained using USGS topographic maps. Each drill hole has been surveyed by a licensed, professional land surveyor and has State plane coordinates and a collar elevation. Using this survey data, each drill hole (and its corresponding resistivity curve) was placed on the profile. After applying all available geophysical and geologic characteristics to individual sandstones, clay intervals, lignites, etc. within each drill hole, correlations were drawn and the cross section was developed. There is not a lot of technology involved in this type of cross section development, instead, it is a time-tested, scientific process that has been used in the petroleum industry for decades. This process relies on data gathering through sound and accepted subsurface

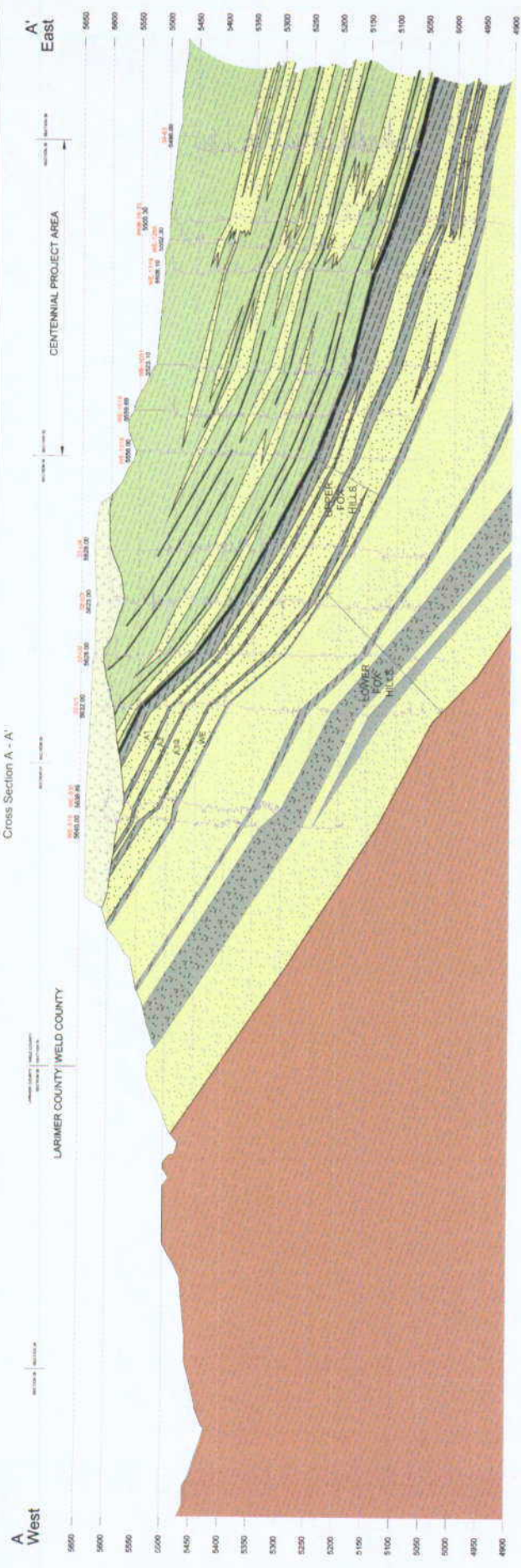
exploration practices and interpretation of this data by experienced and professional geologists.

There was a constant examination of “ground truths” during the development of these cross sections:

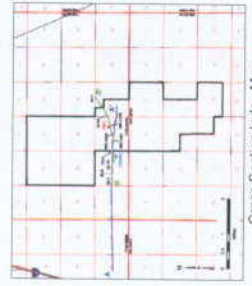
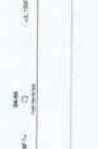
1. One of the “ground truths” utilized throughout the Centennial Project was the surface geologic mapping conducted in 1972 by the USGS. An important aspect of this 1972 surface mapping (USGS Map I-687) was the identification of northwesterly trending piedmont gravels within the project area. These elevated, unsaturated, Quaternary-age gravels are interpreted as glacial outwash from the Rocky Mountains. Exploratory drilling not only confirmed the presence of these piedmont gravels, but provided thicknesses of these sediments – allowing a three dimensional presentation of this geologic event.
2. Another “ground truth” used in each of the project-wide cross sections, is the incorporation of recently-collected core to provide a higher level of confidence in subsurface stratigraphic interpretations. For each cross section, Powertech collected a continuous 230-foot core of the lower portion of the Laramie Formation and the entire Upper Fox Hills Sandstone. Drill hole IN08-14-33 represents the continuous core interval for cross section A-A’. These cores provided a valuable visual examination of lithologies to help improve subsurface interpretations, as well as actual core samples to conduct physical analyses for porosities, permeabilities, densities, etc. of sands and confining units.

In the development of an overall geologic and hydrologic database for the Centennial Project, a computer-generated geologic model is being developed. This model is being constructed by a consulting hydrology firm (Petrotek, Inc.) using proprietary software and will be capable of generating project-wide cross sections as well as isopach and structure contour maps. The same lithologic and formation “picks” as used in the hand-drawn, geologic cross sections will be selected by Powertech geologists and incorporated into the geologic model. The hand-drawn project-wide cross sections will provide a baseline for subsurface stratigraphy, against which the computer-generated cross sections will be calibrated, ensuring the accuracy of all computer-generated geologic maps.

Cross Section A - A'



Detail Cross Section B - B'



Cross Section Index Map

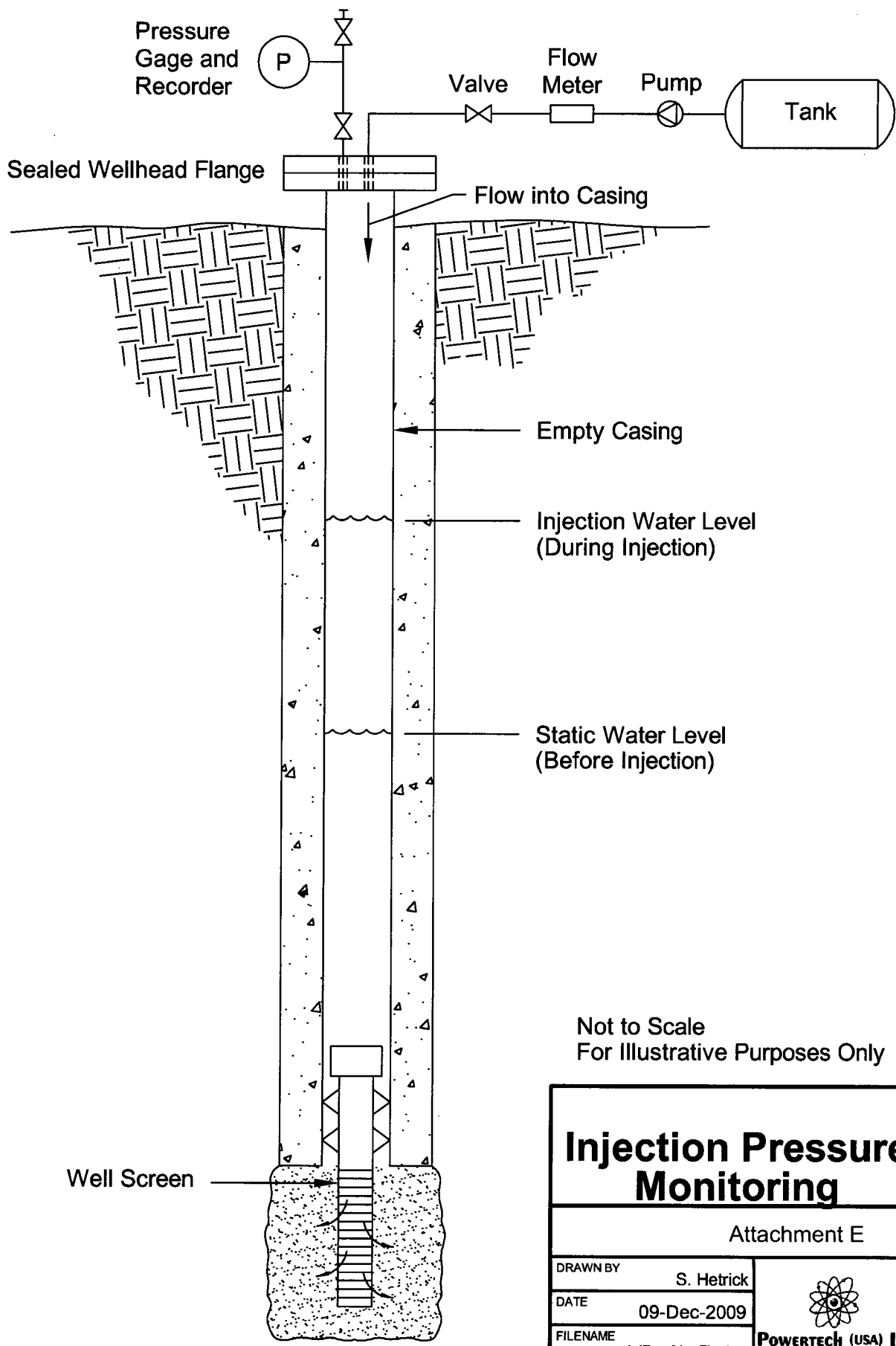
Note: Section B - B' Generated from Petra Computer Model

**PetraTech Inc.**  
 Centennial Geologic  
 Cross Sections  
 A - A' and B - B'

Project Name	Centennial Geologic Cross Sections
Client	Centennial Geologic Cross Sections
Scale	1" = 100'
Date	10/15/2010
Author	John D. ...
Checked	...
Approved	...



Attachment E



Not to Scale  
For Illustrative Purposes Only

# Injection Pressure Monitoring

Attachment E

DRAWN BY	S. Hetrick
DATE	09-Dec-2009
FILENAME	InjPresMonFig.dwg

