

# STATE OF COLORADO

## DIVISION OF RECLAMATION, MINING AND SAFETY ✓

Department of Natural Resources

1313 Sherman St., Room 215  
Denver, Colorado 80203  
Phone: (303) 866-3567  
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ACS ✓

Non-Conf



July 22, 2008 ✓

Mr. Richard Blubaugh  
Powertech (USA) Inc. ✓  
5575 DTC Parkway, Suite 140  
Greenwood Village, CO 80111

Bill Ritter, Jr.  
Governor

Harris D. Sherman  
Executive Director

Ronald W. Cattany  
Division Director  
Natural Resource Trustee

**RE: Centennial Project, Receipt of Notice of Intent, File No. P-2008-043 ✓**

Dear Mr. Blubaugh:

The Colorado Division of Reclamation, Mining, and Safety (DRMS) has received your Notice of Intent to Conduct Prospecting (NOI). Our initial review indicates that it is incomplete. Please address the following items at your earliest convenience bearing in mind that if you have not addressed these items within sixty days of the date of this letter the DRMS may terminate this NOI (rule 5.1.3 of the Mineral Rules and Regulations of the Mined Land Reclamation Board).

Section III, item 6 of the NOI indicates that the proposed drill holes may be up to 12 inches in diameter, It is subsequently stated that the proposed exploration boreholes will be 6.5 inches and the proposed monitoring well holes will be 8.75 inches in diameter. The DRMS has used the specific smaller diameters for the purpose of estimating borehole plugging and abandonment costs (see enclosed cost estimate spreadsheets). If you want the flexibility to drill holes up to 12 inches diameter, you must notify the DRMS so that plugging and abandonment costs can be re-estimated and the correct amount for the reclamation bond can be established.

DRMS has implemented changes to the Mined Land Reclamation Act relative to confidentiality of NOIs since Senate Bill 2008-228 (SB-228) was enacted on June 2, 2008. Until rule making for SB-228 is complete, it is anticipated that there will be some difficulties trying to tailor pre-SB-228 forms and procedures to the new law. One of these affects section IV, item 2 of your NOI requiring you to provide a description of the native vegetation in the areas to be disturbed by prospecting activities. DRMS recognizes that the NOI form states that you are allowed to use color photographs in lieu of written descriptions, and that you have provided color photographs (as well as a general written description) in the confidential section of the NOI. DRMS further recognizes that the color photographs can be designated confidential as they may disclose proposed drilling and thus mineral deposit location information. However, vegetation description information may not be confidential under the terms of SB-228. Therefore, you must either provide photographs that can be part of the public NOI file or a written description of the vegetation, or a combination of both. Be advised that the photographs and general vegetation description that have thus far been provided in the confidential portion of the NOI are insufficient. In your forthcoming submittal, please provide photos and/or descriptions of tree shrub and grass communities that identify plant species in the affected areas. This will facilitate review of your proposed revegetation plan. You may wish to contact the Natural Resource Conservation Service and/or the local Soil Conservation District for assistance with the plant descriptions.

You have placed the details of the proposed ground water monitoring wells in the confidential section of the NOI. Please provide your reasoning and rationale, in terms of SB-228, for excluding this information from the public record. The DRMS is sending you a review of the NOI's confidential portions under separate cover. That review will not be placed in the public record at this time, but depending on your rationale relative to confidentiality of the monitoring wells, portions of the DRMS separate review may be placed into the public record at a future date. In accordance with SB-228, you will be notified in advance of information DRMS intends to transfer from the confidential file into the public record, and have the opportunity to appeal the DRMS determination to the Mined Land Reclamation Board prior to the transfer.

Section III, item 3 of the NOI states that approximately 52.2 cubic yards of earth will be moved in the conduct of the proposed prospecting. DRMS has estimated that 170 bank cubic yards of material will be excavated from the proposed mud pits based on the mud pit sizing information provided in section III, item 6 of the NOI. The 170 cubic yard amount was used by DRMS in estimating earth moving costs for reclamation. Please provide an explanation of the derivation of the 52.5 cubic yard amount or agree to the larger amount determined by DRMS.

The NOI proposes to seal the upper portions of the holes using bentonite chips. In accordance with rule 5.4.2(5), the DRMS will instead require that the upper ten feet of each hole be filled with Portland cement grout. Since the lands to be drilled at least have the potential to be cropped, DRMS will require that any casing be cut off and removed and that the top of the cement plugs be completed three feet below ground surface, with the upper three feet backfilled with native soil and mounded. DRMS has incorporated the cement plugging into the estimated reclamation costs.

DRMS requires that Powertech commit to the following procedure and requirement for this NOI:

The surface of the backfilled mud pits will not exceed the following limits:

1. The concentration of radium-226 or radium-228 in soil may not exceed the background level by more than 5 picocuries per gram (pCi/g) or 0.185 becquerels per gram (Bq/g), averaged over the first 15 centimeters (cm) of soil below the surface; and
2. The concentration of natural uranium in soil, with no radioactive decay products present may not exceed the background level by more than 30 pCi/g or 1.11 Bq/g, averaged over the top 15 cm of soil below the surface; and 150 pCi/g or 5.55 Bq/g, average concentration at depths greater than 15 cm below the surface, so that no individual member of the public will receive an effective dose equivalent in excess of 100 mrem per year or 1 millisievert (mSv) per year.

The DRMS will require test results demonstrating that these limits have not been exceeded; the tests are to be conducted during or immediately following the reclamation of the mud pits. If these limits are exceeded, DRMS may require appropriate off site disposal of mud pit contents.

DRMS has estimated the costs to reclaim your proposed prospecting disturbances, including plugging and abandonment of all drill holes, at \$55,000.00 (see enclosed reclamation cost estimate). Bond in this amount must be provided. Prospecting bond forms are available online at <http://mining.state.co.us/ProspectingForms.htm>. You may not commence prospecting operations until the

bond has been submitted and you have been notified in writing that the bond has been accepted by the DRMS. Please note that costs to plug and abandon the proposed ground water monitoring wells have been included in the estimate as discussed in the separate DRMS review of the confidential portions of the NOI. Further note that the estimated costs may change depending on your responses to this and to the confidential review letter.

In accordance with rule 5.7, you must file hole abandonment, and in the case of the monitoring wells hole completion reports with the DRMS. An abandonment form is available online via the link provided above. If you believe that any of the information to be included in these reports may be held confidential under SB-228, then provide complete reports for the confidential file, and separate reports with confidential information redacted for the public file. If you believe that any of the information you provide in response to this letter is confidential under SB-228, please place that information on sheets separate from the public information and clearly mark those sheets as confidential.

If you have any questions, please contact me at 303-866-4063.

Sincerely,



Allen C. Sorenson  
Reclamation Specialist

enclosure(s)

cc: Michael Beshore, Powertech, via email and w/ enclosures



**CIRCES Cost Estimating Software**  
**EQUIPMENT MOBILIZATION / DEMOBILIZATION**

**PROJECT IDENTIFICATION**

sheet 1 of 2

Agency or organization name : Colorado Division Of Reclamation, Mining, And Safety  
 Task # : 001 State : Colorado Permit/job # : P-2008-043  
 Date : 07/22/2008 County : Weld Abbreviation : none  
 User : ACS Site : Centennial Project Filename : P043-001

Permit or other job action : New Prospecting Notice

Task description : **Mobilize and demobilize equipment needed for reclamation**

**EQUIPMENT TRANSPORT RIG COST**

Shift basis : 1 per day

Cost data source : CRG Data

Truck tractor description : Generic on-highway truck tractor, 6x4, diesel powered, 400 HP (2nd half, 2006)

Truck trailer description : Generic folding gooseneck, drop deck equipment trailer (25T, 50T, and 100T)

Available rig capacities :	0-25 Tons	26-50 Tons	51+ Tons
Cost Breakdown :			
Ownership cost/hour :	\$16.63	\$18.37	\$22.33
Operating cost/hour :	\$44.38	\$46.13	\$50.07
Operator cost/hour :	\$27.66	\$27.66	\$27.66
Helper cost/hour :	\$0.00	\$25.39	\$25.39
Total Unit Cost/hour :	\$88.67	\$117.55	\$125.45

**NON-ROADABLE EQUIPMENT**

Machine Description	Weight/unit (Tons)	Ownership Cost/hr/unit	Haul Rig Cost/hr/unit	Fleet Size (No. units)	Haul Trip Cost/hr/fleet	Return Trip Cost/hr/fleet	DOT permit Cost/fleet
-Cat 311C U	13.16	\$17.55	\$88.67	1	\$106.22	\$88.67	\$0.00
<b>Subtotals :</b>					<b>\$106.22</b>	<b>\$88.67</b>	<b>\$0.00</b>

**ROADABLE EQUIPMENT**

sheet 2 of 2

Machine Description	Total Cost/hour/unit	Fleet Size (No. units)	Haul Trip Cost/hr/fleet	Return Trip Cost/hr/fleet
-Drill Rig	\$244.00	1	\$244.00	\$244.00
-Light Duty Pickup, 4x4, 1 T. Crew	\$41.06	2	\$82.12	\$82.12
<b>Subtotals :</b>			<b>\$326.12</b>	<b>\$326.12</b>

**EQUIPMENT HAUL DISTANCE and TIME**

			Nearest major city or town within project area region :	<u>Fort Collins</u>
<u>Transportation Cycle Time :</u>	Non-Roadable Equipment	Roadable Equipment	Total one-way travel distance :	<u>30.0</u> miles
			Average travel speed :	<u>35.0</u> mph
Haul time (hours) =	<u>0.86</u>	<u>0.86</u>	Total non-roadable mob/demob cost * :	<u>\$652.78</u>
Return time (hours) =	<u>0.86</u>	<u>0.86</u>	* two round trips with haul rig	
Loading time (hours) =	<u>0.75</u>	<u>NA</u>	Total roadable mob/demob cost ** :	<u>\$559.07</u>
Unloading time (hours) =	<u>0.75</u>	<u>NA</u>	** one round trip, no haul rig	
Subtotals =	<u>3.21</u>	<u>1.71</u>		

**JOB TIME AND COST**

Total job time : 6.43 hours  
Total job cost : \$1,212

**CIRCES Cost Estimating Software  
BOREHOLE SEALING WORK**

**PROJECT IDENTIFICATION**

Task # : 002 State : *Colorado* Permit/job # : P-2008-043  
 Date : 07/22/2008 County : *Weld* Abbreviation : *none*  
 User : ACS Site : *Centennial Project* Filename : P043-002  
 Agency or organization name : *Colorado Division Of Reclamation, Mining, And Safety*  
 Permit or other job action : *New Prospecting Notice*  
 Task description : **Plug and abandon bore holes**

**UNIT COSTS**

BOREHOLE DESCRIPTION	SEALING ITEM / METHOD	DIAMETER	Equipment cost data source : <i>NA</i>		Shift basis : <i>NA</i>		TOTAL COST
			LENGTH	QUANTITY	UNIT	UNIT COST	
<i>Hours per hole rig time includes set up, break down, and rig travel between holes.</i>							
-6 holes, 500-650 feet deep at 9 hours per hole	<i>Drill rig and crew</i>	<i>6.5</i>	<i>NA</i>	<i>54.00</i>	<i>HRS</i>	<i>\$435.00</i>	<i>\$23,490.00</i>
-1 hole, 900 feet deep	<i>Drill rig and crew</i>	<i>6.5</i>	<i>900</i>	<i>12.00</i>	<i>HRS</i>	<i>\$435.00</i>	<i>\$5,220.00</i>
-1 hole 300 feet deep	<i>Drill rig and crew</i>	<i>6.5</i>	<i>300</i>	<i>5.00</i>	<i>HRS</i>	<i>\$435.00</i>	<i>\$2,175.00</i>
-2 holes, 160 feet deep at 3.5 hours per hole	<i>Drill rig and crew</i>	<i>8.75</i>	<i>160</i>	<i>7.00</i>	<i>HRS</i>	<i>\$435.00</i>	<i>\$3,045.00</i>
-8 holes 6.5" diameter	<i>Bentonite, 16 lb. per ft.</i>	<i>6.5</i>	<i>4530</i>	<i>1,043.88</i>	<i>CF</i>	<i>\$5.11</i>	<i>\$5,334.23</i>
-2 holes 8.75" diameter	<i>Bentonite, 29 lb. per ft.</i>	<i>8.75</i>	<i>300</i>	<i>125.28</i>	<i>CF</i>	<i>\$5.11</i>	<i>\$640.18</i>
-8 holes 6.5" diameter	<i>Portland cement grout</i>	<i>6.5</i>	<i>80</i>	<i>18.44</i>	<i>CF</i>	<i>\$11.50</i>	<i>\$212.06</i>
-2 holes 8.75" diameter	<i>Portland cement grout</i>	<i>8.75</i>	<i>20</i>	<i>8.35</i>	<i>CF</i>	<i>\$11.50</i>	<i>\$96.02</i>

**JOB COST** Total Cost : **\$40,212**

**CIRCES Cost Estimating Software**  
**HYDRAULIC EXCAVATOR WORK**

**PROJECT IDENTIFICATION**

Task # : 003 State : Colorado Permit/job # : P-2008-043  
 Date : 07/22/2008 County : Weld Abbreviation : none  
 User : ACS Site : Centennial Project Filename : P043-003

Agency or organization name : Colorado Division Of Reclamation, Mining, And Safety  
 Permit or other job action : New Prospecting Notice  
 Task description : **Backfill and replace topsoil in mud pits**

**HOURLY EQUIPMENT COST**

Machine description : Cat 311C U Horsepower : 79  
 Weight (MT) : 11.94  
 Cost Breakdown : Utilization %  
 Ownership cost/hour : \$17.55 NA Shift basis : 1 per day  
 Operating cost/hour : \$20.47 100 Data source : (CRG)  
 Operator cost/hour : \$32.96 NA  
 Total unit cost/hour : \$70.99 Total fleet cost/hour : **\$70.99**

**MATERIAL QUANTITIES**

Initial Swell Loose  
 volume : 170 BCY factor : 1.250 volume : **212** LCY  
 Source of estimated volume : 10 pits @ 5' x 15' x 6'  
 Source of estimated swell factor : Swell table, earth dry packed

**HOURLY PRODUCTION**

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty)  
 Basic job condition description : SEVERE  
 Secondary job condition within basic description : SEVERE  
 Cycle time value : 0.33 minutes  
 Bucket Capacity  
 Rated bucket capacity : 0.68 LCY (heaped) Bucket size class : medium  
 Bucket fill factor : 0.50 USER-PROVIDED BUCKET FILL FACTOR  
 Adjusted bucket capacity : 0.34 LCY  
 Job Condition Correction Factors  
 Site altitude : 5,000 feet Altitude adjustment : 1.00 Source : (Cat HB)  
 Job efficiency adjustment : 0.83 Source : (1 shift/day)  
 Net job correction : 0.83 multiplier  
 Unadjusted hourly unit production : 62.77 LCY/hour  
 Adjusted hourly unit production : 52.10 LCY/hour  
 Adjusted hourly fleet production : **52.10** LCY/hour

**JOB TIME AND COST**

Fleet size : 1 excavator(s) Total job time : **4.08** hours  
 Unit cost : \$1.363 per LCY Total job cost : **\$290**



**CIRCES Cost Estimating Software**

**HYDRAULIC EXCAVATOR COST AND PERFORMANCE DATA WORKSHEET**

**DATA SOURCES :**

Machine make and model : Cat 311C U  
 Base costs : Cost Reference Guide (CRG)  
 Operator costs : Colorado Department of Transportation  
 Labor overhead : Colorado Department of Transportation  
 Specifications : Caterpillar Performance Handbook

CRG data update : Second Half, 2007  
 Labor data update : 04-06-07

BASE COSTS (CRG data)	Ownership Costs				Overhaul and Operating Costs								
	Depreciation	CFC	Overhead		Labor	Parts	Field Repair	Labor	Parts	Fuel	Lube	Tires	G.E.C.
Machine :	\$7.36	\$2.13	\$1.99		\$3.22	\$2.51	\$3.92	\$2.57	\$7.65	\$1.76	\$0.00	\$0.00	\$0.41
Attachment no. 1 :	\$0.00	\$0.00	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Attachment no. 2 :	\$0.00	\$0.00	\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

**COST ADJUSTMENT FACTORS**

Factor Description	Base Value	Adj. Value	Multiplier	Factor	Adj. Cost
Acquisition cost :	\$116,309.00	\$90,545.28	0.778		\$116,309.00
Economic life hours - Excavator :	8,300	8,300	1.000	0.093	\$10,874.89
-Attachment no. 1 :	NA	NA	1.000	0.022	\$2,616.95
-Attachment no. 2 :	NA	NA	1.000	0.005	\$581.54
Annual use hours :	2,112	1,185	1.782		
Mechanic's labor cost :	\$42.50	\$33.15	0.780		
Fuel cost per gal. -gasoline :	\$2.56	\$2.56	1.000	0.029	\$3,150.35
-diesel :	\$2.69	\$2.69	1.000	0.000	\$0.00
Lube cost :	\$1.50	\$1.50	1.000		\$0.00
Tire life hours :	NA	NA	1.000	0.196	\$21,237.67
Tire factor :	NA	NA	1.000		
Tire cost :	NA	NA	1.000		
				Net acquisition cost :	\$90,545.28

**ACQUISITION COST BREAKDOWN**

Cost Elements	Factor	Adj. Cost
Base purchase price :		\$116,309.00
Less dealer discount * :	0.093	\$10,874.89
Plus freight * :	0.022	\$2,616.95
Plus dealer charges :	0.005	\$581.54
* 2005 CECG (guide discontinued at end of 2005)		
Adjusted purchase price :		\$108,632.61
Plus taxes: State Sales @ 2.9% (rental only)	0.029	\$3,150.35
SMM @ 2% (rental only)	0.000	\$0.00
Less tire cost :		\$0.00
Less salvage value * :	0.196	\$21,237.67
	Net acquisition cost :	\$90,545.28

	Ownership Costs			Overhaul and Operating Costs							
	Depreciation	CFC	Overhead	Overhaul Labor	Overhaul Parts	Field Repair Labor	Field Repair Parts	Fuel	Lube	Tires	G.E.C.
Acquisition cost :	\$5.73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Economic life - Excavator/ROPS :	\$5.73	NA	NA	\$3.22	\$2.51	\$3.92	\$2.57	NA	NA	NA	NA
- Attachment no. 2 :	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Annual usage :	\$10.21	\$3.80	\$3.55	NA	NA	NA	NA	NA	NA	NA	NA
Double shifts :	\$7.66	\$1.90	\$1.77	NA	NA	NA	NA	NA	NA	NA	NA
Triple shifts :	\$6.81	\$1.26	\$1.18	NA	NA	NA	NA	NA	NA	NA	NA
Mechanic Labor - Excavator/ROPS :	NA	NA	NA	\$2.51	NA	\$3.06	NA	NA	NA	NA	NA
-Attachment no. 2 :	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuel/lube - Excavator :	NA	NA	NA	NA	NA	NA	NA	\$7.65	\$1.76	\$0.00	\$0.41
-Attachment no. 2 :	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**ADJUSTED COST SUBTOTALS**

Excavator and ROPS :	Ownership Costs			Overhaul and Operating Costs							
	Depreciation	CFC	Overhead	Overhaul Labor	Overhaul Parts	Field Repair Labor	Field Repair Parts	Fuel	Lube	Tires	G.E.C.
Single shifts :	\$10.21	\$3.80	\$3.55	\$2.51	\$2.51	\$3.06	\$2.57	\$7.65	\$1.76	\$0.00	\$0.41
Double shifts :	\$7.66	\$1.90	\$1.77	Attachment no. 2 :							
Triple shifts :	\$6.81	\$1.26	\$1.18	NA	NA	NA	NA	NA	NA	NA	NA

**HOURLY OPERATOR WAGES**

Excavator - under .75cy	Base Rate	Fringe Benefits	F.I.C.A	Unempl.	Wk. Comp.	Total (\$/hr)	Shift Differential		
							Day :	Swing :	Night :
Excavator - .75cy and over	\$20.82	\$7.22	7.65%	6.20%	9.80%	\$32.96	\$0.00	\$0.30	\$0.25
Mechanic	\$20.97	\$7.22	\$1.60	\$1.30	\$2.06	\$33.15	\$0.45		

**HOURLY EQUIPMENT COST SUMMARY**

	Ownership		Operating and Overhaul		Operator		Total Cost/hr (\$)
	Machine	Attachments	Machine	Operator	Attachments	Operator	
Single shifts :	\$17.55	NA	\$20.47	NA	NA	\$32.96	\$70.99
Double shifts :	\$11.33	NA	\$20.47	NA	NA	\$33.11	\$64.91
Triple shifts :	\$9.25	NA	\$20.47	NA	NA	\$33.21	\$62.94

**EQUIPMENT PERFORMANCE DATA**

Machine description	Weight (UST)	Weight (MT)	Machine length (ft)	Machine width (ft)	Machine height (ft)	Max. reach at ground level (ft)	Maximum digging depth (ft)	Maximum loading height (ft)	Maximum vert. reach height (ft)
Cap 311C U	13.16	11.94	22.67	8.17	9.00	24.83	16.50	17.92	25.58
Max. lift cap. @ opt. lift pt. (lb)	2,600.00	0.39	Medium bucket cap.(cy)	Large bucket cap.(cy)	Maximum speed (mph)	Horsepower (fhp)	Fuel type	Chassis type	Track
13,950.00			0.68	0.97	3.40	79	Diesel		




SHRUBS AND TREES (seed) :


\* TOTAL SEEDS / SQ. FT. : 303.8      \* TOTAL POUNDS PLS / ACRE : 64.00      \* TOTAL SEED MIX COST / ACRE : \$998.10  
 Seed application      - method : *Broadcast, includes travel between pads*      TOTAL SEED APPLICATION COST / ACRE : \$1,000.00

**MULCHING and MISCELLANEOUS**

DESCRIPTION (data source)	UNITS / ACRE	UNIT	COST / UNIT	COST / ACRE
<u>Materials</u> - item no. 1 : <i>Hay, delivered {DMG survey data}</i>	2.00	ton	\$185.60	\$371.20
- item no. 2 :				
- item no. 3 :				
- item no. 4 :				
<b>TOTAL MULCH MATERIALS COST / ACRE :</b>				<b>\$371.20</b>
<u>Application</u> - method no. 1 : <i>Hand spread, 1" deep (MEANS 02910 500 0200)</i>				\$2,226.40
- method no. 2 :				
- method no. 3 :				
<b>TOTAL MULCH APPLICATION COST / ACRE :</b>				<b>\$2,226.40</b>

**NURSERY STOCK PLANTING**

COMMON NAME	NO. / ACRE	TYPE and SIZE (planting cost data source)	MATERIAL COST / PLANT	PLANTING COST / PLANT	COST / FERT. PELLET	TOTAL COST / PLANT	TOTAL COST / ACRE
<i>No nursery stock required</i>							
<b>TOTAL NURSERY STOCK COST / ACRE :</b>						<b>\$0.00</b>	

**JOB COST**

No. of acres :	<u>0.30</u>	Cost / acre :	<u>\$5,597.58</u>	INITIAL JOB COST :	<u>\$1,701.67</u>
Estimated failure rate (percent) :	<u>33.00%</u>	Cost / acre* :	<u>\$4,595.70</u>	RESEEDING JOB COST :	<u>\$461.04</u>
* Selected replanting work items :	<u>S M</u>			<b>TOTAL JOB COST :</b>	<b><u>\$2,163</u></b>