

**APPENDIX 3.6-A**

**Alluvial Drill Hole Logs**

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POWERTECH (USA) INC.

# PowerTech (USA) Inc.

DRILLED WITH: AIR  NA WATER  NA HOLE NO. DB11-15-ALLUV-1

T.D. 31' LOCATION: 42714507, 1027972.135 State Plane NAD83

BIT SIZE 4" FA

SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock

DATE 5/4/11 COUNTY Fall River STATE SD

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 Cht = Chert
					Primary Oxidation	Reduction		
0							L = Limonite (Lmn) SOX Surf. Oxidation Rd. Reduced Rdt. Reduction P = Pyrite (Pyr) PT = Pyrite Tarnish	
0-17.5'							POX = Primary Oxid. BSOX = Base of Surf. Oxid. 2OX = Secondary Oxid. Tn = Transition Zone fid = Feldspar	
10								
17.5-18.5'								
18.5-28.0'								
28.0-34.0'								
30								
34.0'								
40								
50								
60								
70								

# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB11-15-ALLUV-2

T.D. 34' LOCATION: 427342.717 1029544.69 State Plane NAD 27

BIT SIZE 4 1/2"

SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock

DATE 5/11/11 COUNTY Fall River STATE SD

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %	SAMPLE DESCRIPTION			
						L = Limonite (Lmn)	SOX Surf. Oxidation	T = Trace	(Amounts in Percent, %)
0-30'						Rd. Reduced	POX = Primary Oxid.	1 = Minor	
						Rdt. Reduction	BSOX = Base of Surf. Oxid.	2 = Moderate	
						P = Pyrite (Pyr)	2OX = Secondary Oxid.	3 = Abundant	
						P <sub>T</sub> = Pyrite Tarnish	Tn = Transition Zone	C = Carbon	B = Bleached
							fd = Feldspar	K = Kaolin	Chf = Chert
0-30'						Water Level - DRY -			
0-30'						silty, sandy, CLAY, 4" med brown, dry, sat. roots (Alluvium)			
30-34'						silty CLAY/SHALE, brownish gray, damp, (weathered contact of granitic)			
TO @ 34'						hole backfilled w/ cuttings			















# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB11-3-ALLUV-2  
 T.D. 33' LOCATION: 432708.096 1031223.363 Vale Plant, NAD27  
 BIT SIZE 4" FA  
 SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock  
 DATE 5/4/11 COUNTY Fall River STATE SD

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Primary Oxidation	Reduction	Secondary Oxidation	Alteration %	SAMPLE DESCRIPTION		
									L=Limonite (Lmn)	SOX Surf. Oxidation	T=Trace
0-22.5'									POX = Primary Oxid.	1 = Minor	
									BSOX = Base of Surf. Oxid.	2 = Moderate	
									2OX = Secondary Oxid.	3 = Abundant	
									Tn = Transition Zone	C=Carbon	B=Bleached
									fid = Feldspar	K=Kaolin	Ch=Chert
10											
20											
30											
40											
50											
60											
70											



# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB11-30-ALLUV-1

T.D. 22' LOCATION: 446030.785, 1015233.937, NAD83

BIT SIZE 4" FA

SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock

DATE 5/11/11 COUNTY Custer STATE SD

DEPTH	LITHOLOGY	CARBON PYRITE OTHER	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		
						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	
			Water Level - DRY -			0-13'	
						silty CLAY, med. brown, wet roots, dry	
10							
						13-17'	
						silty clayey SAND red-fine gr., med. brown, wet gravel, dry	
20							
						17-22'	
						silty CLAY / silty sand, brown gray, highly weathered BK, dry	
30							
						top of 22' = compact BK	
						hole was backfilled w/ cuttings.	
40							
50							
60							
70							











# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB11-32 ALLUV-3

T.D. 23' LOCATION: 439392.15, 1027300.41 Hole Plan NAD27

BIT SIZE 4" FA

SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock

DATE 5/11 COUNTY Leahurst STATE SD

DEPTH	LITHOLOGY	CARBON	PYRITE	Other Alteration	Alteration %			SAMPLE DESCRIPTION				T = Trace						
					Primary Oxidation	Reduction	Secondary Oxidation	(Amounts in Percent, %)				1 = Minor	2 = Moderate	3 = Abundant				
								L = Limonite (Lmn)	SOX = Surf. Oxidation	POX = Primary Oxid.	SSOX = Base of Surf. Oxid.	2OX = Secondary Oxid.	Tn = Transition Zone	fld = Feldspar	C = Carbon	B = Bleached	K = Kaolin	Ch = Chert
0-20'								Rd. Reduced	Rdt. Reduction	P = Pyrite (Pyr)	P <sub>T</sub> = Pyrite Tarnish							
10																		
20																		
20-23'																		
30																		
40																		
50																		
60																		
70																		

# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB11-34-ALLUV-1

T.D. 40' LOCATION: 440 777 307, 10281555 567 Sula Pt. (COP)

BIT SIZE 4" PA

SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock

DATE 5/5/11 COUNTY Custer STATE SD

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %	SAMPLE DESCRIPTION		T = Trace 1 = Minor 2 = Moderate 3 = Abundant
						L = Limonite (Lmn) SOX Surf. Oxidation	(Amounts in Percent, %)	
						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	C = Carbon B = Bleached K = Kaolin Cht = Chert
					Water Level - DRY -		0-32'	
10							silty CLAY, H. brown, wet, red, dry	
20								
30							- 31-32 reddish brown	
35							31-35'	
40							silty CLAY, med. H. brown, wet, gravel, dry	
45							35-40'	
50							silty CLAY, coarse (2-4") dry weathered if.	
55							TD @ 40' (complete) (P/R/P/O) 240'	
60							* hole was backfilled w/ cuttings.	
65								
70								

# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB11-34-ALLUV-2  
 T.D. 24' LOCATION: 14126TT, 466, 1029716.071, S. 20' Block NAD 2-1  
 BIT SIZE 4" FA  
 SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock  
 DATE 5/5/11 COUNTY Custer STATE SD

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER Alteration	Alteration %		SAMPLE DESCRIPTION				T = Trace			
					Primary Oxidation	Reduction	L = Limonite (Lmn)	SOX = Surf. Oxidation	(Amounts in Percent, %)	1 = Minor	2 = Moderate	3 = Abundant		
0-15'														
10-12'														
15-24'														
24-24'														

# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB 34-ALLUV-3

T.D. 45' LOCATION: 440600.525, 1032523.83 State Plane NAD 27

BIT SIZE 4" FA

SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock

DATE 5/4/11 COUNTY Custer STATE SD

DEPTH	LITHOLOGY	CARBON PYRITE OTHER	Alteration % Primary Oxidation Reduction Secondary Oxidation	SAMPLE DESCRIPTION (Amounts in Percent, %)		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>T</sub> = Pyrite Tarnish	POX = Primary Oxid. BSOX = Base of Surf. Oxid. 2OX = Secondary Oxid. Tn = Transition Zone fd = Feldspar	
0-33'				Water Level - DRY -		
0-33'				silty CLAY / clayey SILT, H brown, dry, soil roots.		
33-43'				silty GRAVEL whites/pinks/reds/grays, pea-nickel sized angular quartzites & cherts, dry		
43-45'				silty CLAY brownish gray-gray, weathered GRANULOS, dry		
45'				TO a 45' * hole back filled w/ cuttings		

# PowerTech (USA) Inc.

DRILLED WITH: AIR  WATER  HOLE NO. DB11-34-ALLUV-4  
 T.D. 45' LOCATION: 441812.501, 1932063.537 Site Plate 1/10/27  
 BIT SIZE 4" FA  
 SAMPLE LOG BY LE LEASE: (PROJECT) Dewey Burdock  
 DATE 5/5/11 COUNTY Luster STATE SD

DEPTH	LITHOLOGY	CARBON	PYRITE	OTHER	Alteration %	SAMPLE DESCRIPTION			T = Trace 1 = Minor 2 = Moderate 3 = Abundant
						L = Limonite (Lmn)	SOX Surf. Oxidation	(Amounts in Percent, %)	
0-24.5'						Rd. Reduced	POX = Primary Oxid.		
						Rdt. Reduction	BSOX = Base of Surf. Oxid.		
						P = Pyrite (Pyr)	2OX = Secondary Oxid.		
						Pt = Pyrite Tarnish	Tn = Transition Zone		
							fd = Feldspar		
								C = Carbon	B = Bleached
								K = Kaolin	Ch = Chert
24.5-35'									
35-44'									
44-45'									

