

APPENDIX B - SURVEY PARAMETERS

Table 17. GPR survey parameters.

<b>GPR - General Data Acquisition Parameters</b>			
Samples/Scan	1024		
Bits/Sample	16		
Scans/Meter	40*wheel mode only		
Scans/Second	32*automatic mode only		
M/Mark	5		
Dielectric Constant	6		
<b>Golden Dome Cave</b>			
Wheel Mode	Antenna Frequency		
	100 MHz	200 MHz	400 MHz
Range	500 nanoseconds (ns)	300ns	150ns
Vertical LowPass Filter	675 MHz	690 MHz	1460 MHz
Vertical HighPass Filter	40 MHz	40 MHz	90 MHz
Horizontal Stacking	3	3	5
Range Gain	-1,5,10,22,49,58,63,67	1,40,49,58,61,64,70,72	-4,31,46,55,59,59,59,61
<b>Hercules Leg Cave</b>			
Wheel/Automatic Mode	Antenna Frequency		
	100 MHz	200 MHz	400 MHz
Range	500ns	300ns	150ns
Vertical LowPass Filter	590 MHz	980 MHz	1460 MHz
Vertical HighPass Filter	35 MHz	60 MHz	90 MHz
Horizontal Stacking	3	3	5
Range Gain	-5,4,20,32,40,50,55,60	1,40,49,58,61,64,70,72	-4,31,46,55,59,59,59,61
<b>Indian Well Cave</b>			
Wheel Mode	Antenna Frequency		
	100 MHz	200 MHz	400 MHz
Range	500ns	300ns	150ns
Vertical LowPass Filter	590 MHz	980 MHz	1460 MHz
Vertical HighPass Filter	35 MHz	60 MHz	90 MHz
Horizontal Stacking	3	3	5
Range Gain	-1,8,32,43,52,58,63,67	1,40,49,58,61,64,70,72	-4,31,46,55,59,59,59,61
<b>Monument Road Cave</b>			
Automatic Mode	Antenna Frequency		
	200 MHz	400 MHz	
Range	300ns	150ns	
Vertical LowPass Filter	975 MHz	1240 MHz	
Vertical HighPass Filter	60 MHz	75 MHz	
Horizontal Stacking	3	5	
Range Gain	1,36,53,65,70,70,71,72	-4,35,52,65,70,70,71,72	

**Table 18. Geometrics OhmMapper TR2 array parameters.**

	Line #	Receiver #	F	P	S	C	N	spacing	Rope Length
Hercules Leg Cave South to North	0	2	3.2	10	10	10		1	5
	0	1	8.2	10	5	10		0.5	5
	2	2	3.2	10	15	10		1.5	10
	2	1	8.2	10	10	10		1	10
Hercules Leg Cave North to South	1	2	3.2	10	10	10		1	5
	1	1	8.2	10	5	10		0.5	5
	3	2	3.2	10	15	10		1.5	10
	3	1	8.2	10	10	10		1	10
Indian Well Cave South to North	1	2	3.2	10	10	10		1	5
	1	1	8.2	10	5	10		0.5	5
	3	2	3.2	10	15	10		1.5	10
	3	1	8.2	10	10	10		1	10
Indian Well Cave North to South	0	2	3.2	10	10	10		1	5
	0	1	8.2	10	5	10		0.5	5
	4	2	3.2	10	15	10		1.5	10
	4	1	8.2	10	10	10		1	10
Monument Road Cave South to North	2	2	3.2	10	15	10		1.5	10
	2	1	8.2	10	10	10		1	10
	4	2	3.2	10	10	10		1	5
	4	1	8.2	10	5	10		0.5	5
Monument Road Cave North to South	1	2	3.2	10	15	10		1.5	10
	1	1	8.2	10	10	10		1	10
	3	2	3.2	10	10	10		1	5
	3	1	8.2	10	5	10		0.5	5
Bearpaw Bridge East to West	1	2	3.2	10	15	10		1.5	10
	1	1	8.2	10	10	10		1	10
	3	2	3.2	10	10	10		1	5
	3	1	8.2	10	5	10		0.5	5
Bearpaw Bridge West to East	0	2	3.2	10	15	10		1.5	10
	0	1	8.2	10	10	10		1	10
	2	2	3.2	10	10	10		1	5
	2	1	8.2	10	5	10		0.5	5

F = Operator offset, P = Receiver Dipole  
S = Rope Length For Calculations, C = Transmitter Dipole

**Table 19. High Resolution Shear Wave reflection survey parameters.**

Shot Spacing	.61 m (2 ft)
Geophone Group Interval	.61 m (2 ft)
Nominal CDP Fold	48
Maximum Offset	29.0 m (95 ft)
Minimum Offset	.305 m (1 ft)
Spread Geometry	Symmetric Split Spread 48/48 – (57.9 meter total active array)
Seismograph	2 OYO DAS-1 Recorders (Master/Slave)
Number of Channels	96
Sample Rate	0.25 ms
Record Length	0.25 second
Field Filters	3/18 – Out Hz/dB
Seismic Source	Bay MicroVib, - 136 kilogram of peak ground force 20 to 450 Hz, Linear, 4 second sweep, 4 to 6 sweep/station
Geophones	1 X 40 OYO SMC70 40 Hz Shear Wave phone
Cables	96-channel Land Streamer
Rollbox	I/O Inc. RLS-240M