

RADIOTECHNIQUES

PO Box 367 402 Tenth Avenue Haddon Heights, NJ 08035

856-546-8008 fax 856-546-1841

Exhibit 15 Figure 2A, Page 1
Ground Conductivity Data - WCTN
WCTN - Potomac-Cabin John, MD
March 2005

Sources of Measured Conductivity:

Summary of WCTN measured conductivity data

Bearing	Cond.	Dist.	Cond.	Dist.	Cond.	Dist.	Cond.	Dist.	Cond.	Dist.	Cond.	Dist.
30*	2.0	79.3	1.5	110								
50	4.0	1.5	1.5	7.1	2.0	13.9	1.0	67.8				
70	2.0	2.37	1.5	8.74	1.0	24.15	0.5	32.92	1.0	39.21		
85*	2.0	102.1	3.0	124.8	2.0	142.8						
170	1.5	13.7	1.0	27.6	1.5	36.5						
180	1.5	1.93	2.0	3.07	1.5	10.07	1.0	41.67				
295	1.0	2.6	2.0	8.2	1.5	20.7						
325	1.5	1.63	1.0	3.06	1.5	9.88	1.0	25.87	0.5	38.65	1.5	58.6
	0.5	66.85										

Note: The above conductivity supporting data is from BP-20050323AAW. * Indicates that the conductivity originated with the WPEN application BP-990521AC. The graphing program rounds the end distance of the radial to the nearest 0.1 km. All other conductivity values from FCC figure M-3.

GROUND CONDUCTIVITY REPORT

Lat : 39-02-12.0 N

Lon : 77-12-09.0 W

Radius : 500

* Includes measured conductivity data

0 deg:	0.00,	0.1*	71.90,	2.0	89.50,	4.0	255.34,	2.0				
	474.00,	4.0	499.94,	8.0								
5 deg:	0.00,	0.1*	68.45,	2.0	101.92,	4.0	255.44,	2.0				
	485.21,	4.0	500.09,	8.0								
10 deg:	0.00,	0.1*	68.27,	2.0	121.88,	4.0	255.60,	2.0				
	499.77,	4.0										
15 deg:	69.66,	2.0	151.24,	4.0	251.22,	2.0	499.70,	4.0				
20 deg:	79.30,	2.0*	110.00,	1.5*	172.30,	4.0	243.63,	2.0				
	499.76,	4.0										
25 deg:	79.30,	2.0*	110.00,	1.5*	182.02,	4.0	245.65,	2.0				
	499.95,	4.0										
30 deg:	79.30,	2.0*	110.00,	1.5*	198.04,	4.0	198.40,	2.0				
	199.20,	4.0	268.44,	2.0	500.00,	4.0						
35 deg:	79.30,	2.0*	110.00,	1.5*	232.87,	4.0	305.17,	2.0				
	499.95,	4.0										
40 deg:	1.50,	4.0*	7.10,	1.5*	13.90,	2.0*	41.90,	1.5*				
	58.30,	2.0*	67.80,	1.0*	79.30,	2.0*	110.00,	1.5*	284.28,	4.0		
	353.16,	2.0	499.67,	4.0								
45 deg:	1.50,	4.0*	7.10,	1.5*	13.90,	2.0*	41.90,	1.5*				
	58.30,	2.0*	67.80,	1.0*	78.24,	2.0	286.07,	4.0	351.16,	2.0		
	444.35,	4.0	444.98,	1.0	445.49,	4.0	499.98,	1.0				

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Exhibit 15 Figure 2A, Page 2 Ground Conductivity Data - WCTN WCTN - Potomac-Cabin John, MD March 2005

50 deg:	1.50,	4.0*	7.10,	1.5*	13.90,	2.0*	41.90,	1.5*		
	58.30,	2.0*	67.80,	1.0*	68.64,	2.0	301.77,	4.0	315.19,	2.0
	377.15,	4.0	454.45,	1.0	500.45,	2.0				
55 deg:	1.50,	4.0*	7.10,	1.5*	13.90,	2.0*	41.90,	1.5*		
	58.30,	2.0*	67.80,	1.0*	322.70,	4.0	332.79,	5000.0	344.57,	4.0
	345.16,	5000.0	347.93,	4.0	354.66,	5000.0	361.38,	4.0	366.42,	5000.0
	373.13,	4.0	374.31,	5000.0	374.81,	4.0	379.35,	5000.0	379.85,	4.0
	444.20,	5000.0	500.00,	2.0						
60 deg:	1.50,	4.0*	2.37,	2.0*	7.10,	1.5*	8.74,	1.5*		
	13.90,	2.0*	24.15,	1.0*	32.92,	0.5*	39.21,	1.0*	41.90,	1.5*
	58.30,	2.0*	67.80,	1.0*	91.06,	4.0	93.39,	8.0	106.54,	4.0
	119.68,	40.0	122.46,	8.0	173.42,	4.0	189.28,	8.0	314.67,	4.0
	385.64,	5000.0	386.27,	0.5	387.94,	5000.0	456.14,	0.5	457.19,	5000.0
	457.81,	0.5	500.24,	5000.0						
65 deg:	2.37,	2.0*	8.74,	1.5*	24.15,	1.0*	32.92,	0.5*		
	39.21,	1.0*	39.67,	2.0	40.06,	4.0	40.71,	2.0	54.77,	4.0
	60.49,	8.0	68.17,	4.0	69.86,	8.0	74.54,	4.0	76.88,	40.0
	79.22,	4.0	83.25,	40.0	87.28,	4.0	89.62,	8.0	93.26,	4.0
	93.64,	40.0	96.63,	4.0	112.35,	40.0	121.69,	8.0	122.73,	4.0
	124.03,	8.0	149.71,	4.0	156.71,	8.0	298.58,	4.0	499.91,	5000.0
70 deg:	2.37,	2.0*	8.74,	1.5*	24.15,	1.0*	32.92,	0.5*		
	39.21,	1.0*	53.70,	4.0	57.39,	8.0	57.70,	4.0	58.38,	8.0
	59.05,	4.0	66.07,	8.0	69.76,	4.0	71.11,	8.0	93.19,	40.0
	110.89,	4.0	115.93,	8.0	146.99,	4.0	153.98,	5000.0	280.90,	4.0
	499.64,	5000.0								
75 deg:	2.37,	2.0*	8.74,	1.5*	24.15,	1.0*	32.92,	0.5*		
	39.21,	1.0*	102.10,	2.0*	124.80,	3.0*	142.80,	2.0*	152.11,	4.0
	159.51,	5000.0	259.46,	4.0	259.67,	5000.0	260.37,	4.0	499.90,	5000.0
80 deg:	2.37,	2.0*	8.74,	1.5*	24.15,	1.0*	32.92,	0.5*		
	39.21,	1.0*	102.10,	2.0*	124.80,	3.0*	142.80,	2.0*	156.08,	4.0
	169.83,	5000.0	240.09,	4.0	240.22,	5000.0	241.64,	4.0	500.21,	5000.0
85 deg:	102.10,	2.0*	124.80,	3.0*	142.80,	2.0*	155.26,	4.0		
	197.74,	5000.0	220.80,	4.0	500.17,	5000.0				
90 deg:	102.10,	2.0*	124.80,	3.0*	142.80,	2.0*	162.15,	4.0		
	196.72,	5000.0	209.69,	4.0	500.34,	5000.0				
95 deg:	102.10,	2.0*	124.80,	3.0*	142.80,	2.0*	171.80,	4.0		
	499.98,	5000.0								
100 deg:	21.48,	2.0	63.91,	4.0	87.27,	40.0	89.57,	4.0		
	97.71,	8.0	188.07,	4.0	500.33,	5000.0				
105 deg:	21.91,	2.0	61.44,	4.0	83.09,	40.0	86.11,	4.0		
	91.48,	8.0	94.51,	4.0	96.60,	8.0	167.27,	4.0	192.98,	2.0
	499.87,	5000.0								
110 deg:	20.82,	2.0	63.82,	4.0	81.65,	40.0	83.33,	4.0		
	84.68,	40.0	87.03,	4.0	93.10,	40.0	93.42,	4.0	94.10,	40.0
	135.20,	4.0	193.94,	2.0	499.98,	5000.0				
115 deg:	20.19,	2.0	64.63,	4.0	108.90,	40.0	114.67,	4.0		
	198.35,	2.0	499.59,	5000.0						
120 deg:	20.44,	2.0	65.92,	4.0	66.39,	40.0	67.02,	4.0		
	100.89,	40.0	103.23,	5000.0	194.34,	2.0	500.40,	5000.0		
125 deg:	19.75,	2.0	72.77,	4.0	88.76,	40.0	99.61,	5000.0		
	128.20,	2.0	128.79,	5000.0	136.80,	2.0	140.24,	5000.0	195.25,	2.0
	500.15,	5000.0								
130 deg:	19.74,	2.0	77.91,	4.0	79.07,	40.0	100.77,	5000.0		
	113.36,	2.0	116.78,	5000.0	132.24,	2.0	145.40,	5000.0	153.44,	2.0
	156.31,	5000.0	198.79,	2.0	499.97,	5000.0				
135 deg:	20.43,	2.0	85.40,	4.0	86.57,	5000.0	87.08,	4.0		
	87.74,	5000.0	97.45,	4.0	98.11,	5000.0	99.79,	4.0	165.65,	5000.0
	172.02,	2.0	188.82,	5000.0	203.27,	2.0	499.83,	5000.0		
140 deg:	21.29,	2.0	88.47,	4.0	92.47,	5000.0	93.18,	4.0		
	99.53,	5000.0	100.24,	4.0	100.70,	5000.0	101.42,	4.0	105.41,	5000.0
	110.12,	4.0	190.53,	5000.0	211.80,	2.0	500.37,	5000.0		

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Exhibit 15 Figure 2A, Page 3
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145 deg:	21.87, 2.0	25.39, 4.0	27.74, 5000.0	132.04, 4.0	
	198.64, 5000.0	215.09, 2.0	500.15, 5000.0		
150 deg:	21.88, 2.0	29.30, 4.0	31.63, 5000.0	109.42, 4.0	
	135.68, 5000.0	150.93, 4.0	152.10, 5000.0	152.91, 4.0	154.07, 5000.0
	159.55, 4.0	216.83, 5000.0	228.61, 2.0	499.94, 5000.0	
155 deg:	23.70, 2.0	34.23, 4.0	37.36, 5000.0	95.34, 4.0	
	109.56, 5000.0	171.60, 4.0	178.72, 5000.0	179.02, 2.0	179.86, 5000.0
	183.85, 2.0	190.97, 5000.0	191.27, 2.0	192.11, 5000.0	196.40, 2.0
	500.50, 5000.0				
160 deg:	13.70, 1.5*	27.60, 1.0*	36.50, 1.5*	37.70, 4.0	
	40.81, 5000.0	80.34, 4.0	82.08, 5000.0	82.33, 4.0	102.85, 5000.0
	151.01, 4.0	152.13, 5000.0	153.00, 4.0	164.71, 5000.0	164.95, 2.0
	165.83, 5000.0	195.22, 2.0	195.46, 5000.0	196.34, 2.0	202.07, 5000.0
	202.31, 2.0	203.19, 5000.0	208.05, 2.0	221.75, 5000.0	222.00, 2.0
	223.74, 5000.0	237.45, 2.0	247.42, 5000.0	296.54, 4.0	300.28, 5000.0
	302.53, 4.0	303.40, 5000.0	326.85, 4.0	362.29, 5000.0	395.50, 4.0
	500.32, 5000.0				
165 deg:	13.70, 1.5*	27.60, 1.0*	36.50, 1.5*	39.72, 4.0	
	40.62, 5000.0	81.91, 4.0	98.26, 5000.0	125.91, 4.0	133.64, 5000.0
	192.03, 2.0	201.55, 5000.0	201.74, 2.0	202.63, 5000.0	225.64, 2.0
	248.65, 5000.0	331.91, 4.0	332.80, 5000.0	336.58, 4.0	337.66, 5000.0
	338.56, 4.0	350.97, 5000.0	382.45, 4.0	385.33, 5000.0	414.13, 4.0
	499.99, 5000.0				
170 deg:	1.93, 1.5*	3.07, 2.0*	10.07, 1.5*	13.70, 1.5*	
	27.60, 1.0*	36.50, 1.5*	41.67, 1.0*	48.32, 5000.0	68.11, 4.0
	72.79, 5000.0	115.12, 4.0	205.39, 2.0	210.08, 5000.0	249.56, 2.0
	341.69, 4.0	350.16, 5000.0	407.40, 4.0	453.42, 5000.0	462.81, 4.0
	500.37, 5000.0				
175 deg:	1.93, 1.5*	3.07, 2.0*	10.07, 1.5*	13.70, 1.5*	
	27.60, 1.0*	36.50, 1.5*	41.67, 1.0*	45.93, 4.0	49.68, 5000.0
	69.19, 4.0	73.87, 5000.0	101.75, 4.0	349.07, 2.0	399.30, 4.0
	406.75, 5000.0	453.23, 4.0	461.60, 5000.0	481.12, 4.0	499.71, 5000.0
180 deg:	1.93, 1.5*	3.07, 2.0*	10.07, 1.5*	13.70, 1.5*	
	27.60, 1.0*	36.50, 1.5*	41.67, 1.0*	45.77, 4.0	51.33, 5000.0
	73.56, 4.0	77.27, 5000.0	91.17, 4.0	383.94, 2.0	490.49, 4.0
	499.75, 5000.0				
185 deg:	1.93, 1.5*	3.07, 2.0*	10.07, 1.5*	41.67, 1.0*	
	52.48, 4.0	58.94, 5000.0	59.93, 4.0	60.85, 5000.0	61.77, 4.0
	77.59, 5000.0	81.28, 4.0	414.16, 2.0	499.67, 4.0	
190 deg:	1.93, 1.5*	2.00, 1.0*	3.07, 2.0*	4.70, 1.5*	
	10.07, 1.5*	16.30, 1.0*	26.20, 1.5*	37.40, 1.0*	41.67, 1.0*
	54.90, 0.5*	64.38, 4.0	405.62, 2.0	500.42, 4.0	
195 deg:	2.00, 1.0*	4.70, 1.5*	16.30, 1.0*	26.20, 1.5*	
	37.40, 1.0*	54.90, 0.5*	395.84, 2.0	445.70, 4.0	500.06, 2.0
	500.06, 4.0				
200 deg:	2.00, 1.0*	4.70, 1.5*	16.30, 1.0*	26.20, 1.5*	
	37.40, 1.0*	54.90, 0.5*	388.73, 2.0	427.06, 4.0	500.42, 2.0
205 deg:	2.00, 1.0*	4.70, 1.5*	16.30, 1.0*	26.20, 1.5*	
	37.40, 1.0*	54.90, 0.5*	325.41, 2.0	427.67, 4.0	500.31, 2.0
210 deg:	2.00, 1.0*	4.70, 1.5*	16.30, 1.0*	26.20, 1.5*	
	37.40, 1.0*	54.90, 0.5*	298.38, 2.0	487.42, 4.0	488.60, 2.0
	489.41, 4.0	500.09, 2.0			
215 deg:	286.71, 2.0	499.90, 4.0			
220 deg:	284.20, 2.0	373.24, 4.0	500.09, 2.0		
225 deg:	500.04, 2.0				
230 deg:	500.19, 2.0				
235 deg:	499.79, 2.0				
240 deg:	434.33, 2.0	500.02, 4.0			
245 deg:	499.85, 2.0				
250 deg:	500.25, 2.0				
255 deg:	500.15, 2.0				
260 deg:	499.90, 2.0				

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Exhibit 15 Figure 2A, Page 4
Ground Conductivity Data - WCTN
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265 deg:	500.26,	2.0																		
270 deg:	499.91,	2.0																		
275 deg:	146.95,	2.0	284.37,	4.0	499.74,	2.0														
280 deg:	130.98,	2.0	268.67,	4.0	399.26,	2.0	433.02,	4.0												
	441.64,	2.0	499.78,	8.0																
285 deg:	120.01,	2.0	252.58,	4.0	317.77,	2.0	407.94,	4.0												
	500.18,	8.0																		
290 deg:	114.17,	2.0	382.70,	4.0	499.91,	8.0														
295 deg:	111.96,	2.0	365.97,	4.0	500.17,	8.0														
300 deg:	110.19,	2.0	351.80,	4.0	499.87,	8.0														
305 deg:	108.62,	2.0	340.85,	4.0	500.23,	8.0														
310 deg:	109.07,	2.0	333.30,	4.0	500.12,	8.0														
315 deg:	1.63,	1.5*	3.06,	1.0*	9.88,	1.5*	25.87,	1.0*												
	38.65,	0.5*	58.60,	1.5*	66.85,	0.5*	110.32,	2.0	183.01,	4.0										
	238.34,	2.0	238.98,	4.0	241.79,	2.0	242.94,	4.0	243.45,	2.0										
	245.74,	4.0	246.25,	2.0	246.89,	4.0	247.40,	2.0	334.60,	4.0										
	496.28,	8.0	500.18,	10.0																
320 deg:	1.63,	1.5*	3.06,	1.0*	9.88,	1.5*	25.87,	1.0*												
	38.65,	0.5*	58.60,	1.5*	66.85,	0.5*	111.34,	2.0	180.98,	4.0										
	348.73,	2.0	475.78,	8.0	499.86,	10.0														
325 deg:	1.63,	1.5*	3.06,	1.0*	9.88,	1.5*	25.87,	1.0*												
	38.65,	0.5*	58.60,	1.5*	66.85,	0.5*	116.31,	2.0	186.17,	4.0										
	368.58,	2.0	372.05,	8.0	418.25,	4.0	455.14,	8.0	488.93,	10.0										
	489.35,	8.0	490.09,	10.0	499.70,	8.0														
330 deg:	1.63,	1.5*	3.06,	1.0*	9.88,	1.5*	25.87,	1.0*												
	38.65,	0.5*	58.60,	1.5*	66.85,	0.5*	122.58,	2.0	195.08,	4.0										
	359.24,	2.0	359.60,	4.0	360.40,	2.0	420.02,	4.0	442.26,	8.0										
	486.76,	10.0	499.79,	8.0																
335 deg:	1.63,	1.5*	3.06,	1.0*	9.88,	1.5*	25.87,	1.0*												
	38.65,	0.5*	58.60,	1.5*	66.85,	0.5*	129.76,	2.0	204.78,	4.0										
	324.00,	2.0	402.38,	4.0	440.68,	8.0	469.67,	10.0	499.77,	8.0										
340 deg:	142.66,	2.0	210.92,	4.0	301.12,	2.0	416.25,	4.0												
	446.11,	8.0	451.78,	10.0	452.03,	8.0	452.89,	20.0	495.67,	8.0										
	499.61,	15.0																		
345 deg:	161.89,	2.0	201.13,	4.0	201.32,	2.0	202.21,	4.0												
	283.88,	2.0	433.99,	4.0	499.58,	8.0														
350 deg:	0.00,	0.1*	270.73,	2.0	419.55,	4.0	499.70,	8.0												
355 deg:	0.00,	0.1*	261.00,	2.0	417.32,	4.0	500.12,	8.0												