LEGEND

★ LOCATION OF RELEASE POINT

× LOCATION OF EM38-MK2 GROUND CONDUCTIVITY MEASUREMENT IN mmhos/m

APPROVED
By Olivia Yu at 10:36 am, Mar 09, 2018

NMOCD approves of the proposed delineation plan for 1RP-4599.

APPARENT GROUND CONDUCTIVITIES

Minimum mmhos/m	Maximum mmhos/m	Color
0	60	
60	120	
120	180	
180	240	
240	300	
300	360+	

N

75 0 75 150
SCALE FEET

NOTES:

1) EM SURVEY PERFORMED BY ENVIRO CLEAN CARDINAL, LLC ON FEBRUARY 28, 2017.
2) EM SURVEY CONDUCTED BY GEORGE H. (BUDDY) RICHARDSON, P.G. USING GEONICS EM38-MK2 GROUND CONDUCTIVITY METER.
3) AERIAL PHOTOGRAPH DATED NOVEMBER 22, 2016, GEOREFERENCED FROM GOOGLE EARTH IMAGE SERVICES.

ENVIRO CLEAN CARDINAL
Enviro Clean Cardinal, LLC
7060 South Yale Avenue, Suite 603
Tulsa, Oklahoma 74136
918.794.7828
www.EnviroCleanPS.com

DOCUMENT TITLE: EM38 SURVEY RESULTS

FIGURE TITLE: ***EM38 1.0-METER VERTICAL DIPOLE SURVEY RESULTS***

CLIENT: RAM ENERGY RESOURCES TULSA, OKLAHOMA

LOCATION: WEST DOLLARHIDE QUEEN SAND UNIT SATELLITE 3 SECTION 31, T24S, R38E, LEA COUNTY, NEW MEXICO

DESIGNED BY	GHR		
APPROVED BY	GHR	SCALE	1"= 150'
DRAWN BY	SKG	DATE	2/28/2017

PROJECT NUMBER: RAMRNM0001

FIGURE NUMBER:

D:\Projects\RamEnergy\RAMRNM0001_DollarhideEMsurvey\04_CAD\20170228_Dollarhide_EM38_1m_VD.dwg on Mar 01, 2017-2:28pm

LEGEND

★ LOCATION OF RELEASE POINT

× LOCATION OF EM38-MK2 GROUND CONDUCTIVITY MEASUREMENT IN mmhos/m

APPARENT GROUND CONDUCTIVITIES

Minimum mmhos/m	Maximum mmhos/m	Color
0	60	
60	120	
120	180	
180	240	
240	300	
300	360+	

N

75 0 75 150

SCALE FEET

NOTES:

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DOCUMENT TITLE: EM38 SURVEY RESULTS

FIGURE TITLE: ***EM38 0.50-METER VERTICAL DIPOLE SURVEY RESULTS***

CLIENT: RAM ENERGY RESOURCES
TULSA, OKLAHOMA

LOCATION: WEST DOLLARHIDE QUEEN SAND UNIT SATELLITE 3
SECTION 31, T24S, R38E, LEA COUNTY, NEW MEXICO

DESIGNED BY	GHR		
APPROVED BY	GHR	SCALE	1"= 150'
DRAWN BY	SKG	DATE	2/28/2017

PROJECT NUMBER	FIGURE NUMBER
RAMRNM0001	

D:\Projects\RamEnergy\RAMRNM0001_DollarhideEMsurvey\04_CAD\20170228_Dollarhide_EM38_05m_VD.dwg on Mar 07, 2017-11:09am

LEGEND

- ★ LOCATION OF RELEASE POINT
- × LOCATION OF EM38-MK2 GROUND CONDUCTIVITY MEASUREMENT IN mmhos/m
- ● DELINEATION SAMPLE LOCATION

APPARENT GROUND CONDUCTIVITIES

Minimum mmhos/m	Maximum mmhos/m	Color
0	60	
60	120	
120	180	
180	240	
240	300	
300	360+	

N

75 0 75 150

SCALE FEET

NOTES:

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DOCUMENT TITLE: RESPONSE TO COMMENTS ON REMEDIATION WORKPLAN

FIGURE TITLE: ***EM38 0.50-METER VERTICAL DIPOLE SURVEY RESULTS WITH DELINEATION SAMPLE LOCATIONS SHOWN***

CLIENT: RAM ENERGY RESOURCES TULSA, OKLAHOMA

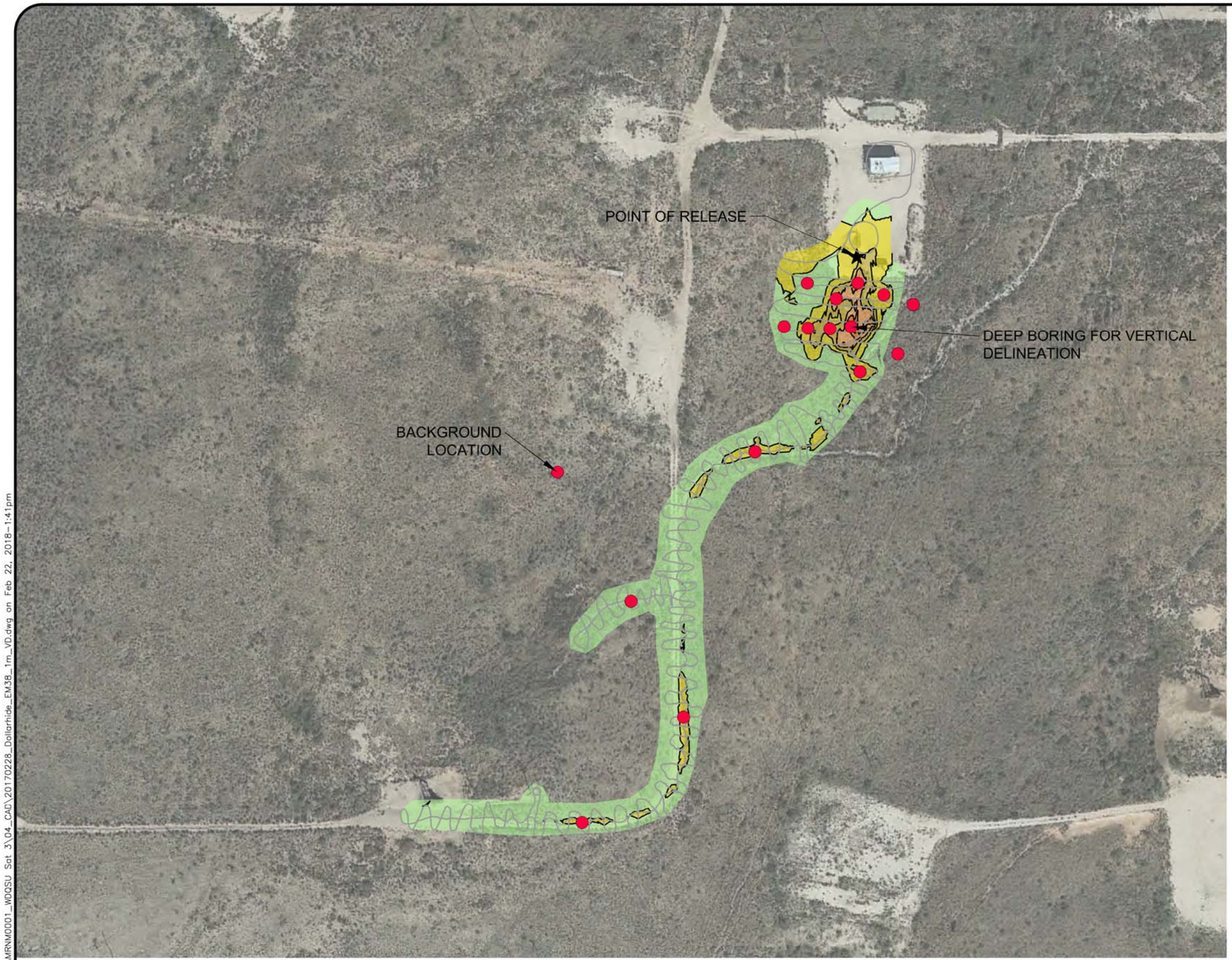
LOCATION: WEST DOLLARHIDE QUEEN SAND UNIT SATELLITE 3 SECTION 31, T24S, R38E, LEA COUNTY, NEW MEXICO

DESIGNED BY	GHR		
APPROVED BY	GHR	SCALE	1"= 150'
DRAWN BY	SKG	DATE	2/22/2018

PROJECT NUMBER: RAMRNM0001

FIGURE NUMBER:

D:\Projects\RamEnergy\RAMRNM0001_WDQSU Sat 3\04_CAD\20170228_Dollarhide_EM38_05m_VD.dwg on Feb 22, 2018-1:39pm



LEGEND

- ★ LOCATION OF RELEASE POINT
- × LOCATION OF EM38-MK2 GROUND CONDUCTIVITY MEASUREMENT IN mmhos/m
- ● DELINEATION SAMPLE LOCATION

APPARENT GROUND CONDUCTIVITIES

Minimum mmhos/m	Maximum mmhos/m	Color
0	60	
60	120	
120	180	
180	240	
240	300	
300	360+	

N

75 0 75 150
SCALE FEET

NOTES:

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DOCUMENT TITLE: RESPONSE TO COMMENTS ON REMEDIATION WORKPLAN

FIGURE TITLE: ***EM38 1.0-METER VERTICAL DIPOLE SURVEY RESULTS WITH DELINEATION SAMPLE LOCATIONS SHOWN***

CLIENT: RAM ENERGY RESOURCES TULSA, OKLAHOMA

LOCATION: WEST DOLLARHIDE QUEEN SAND UNIT SATELLITE 3 SECTION 31, T24S, R38E, LEA COUNTY, NEW MEXICO

DESIGNED BY	GHR		
APPROVED BY	GHR	SCALE	1"= 150'
DRAWN BY	SKG	DATE	2/22/2018

PROJECT NUMBER: RAMRNM0001

FIGURE NUMBER:

D:\Projects\RamEnergy\RAMRNM0001_WDQSU Sat 3\04_CAD\20170228_Dollarhide_EM38_1m_VD.dwg on Feb 22, 2018-1:41pm

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1	0.00	32.17281440	-103.09215821	18.83	16.95	0.05	0.16
2	0.52	32.17281446	-103.09215815	19.02	16.60	0.05	0.16
3	1.04	32.17281446	-103.09215813	18.79	16.80	0.05	0.15
4	1.57	32.17281441	-103.09215816	18.87	16.48	0.05	0.15
5	2.09	32.17281438	-103.09215819	18.79	16.29	0.05	0.16
6	2.61	32.17281437	-103.09215821	18.91	16.45	0.05	0.15
7	3.13	32.17281397	-103.09215810	18.83	16.45	0.06	0.18
8	3.66	32.17281342	-103.09215794	18.56	16.52	0.06	0.19
9	4.18	32.17281301	-103.09215789	18.79	16.80	0.06	0.18
10	4.70	32.17281263	-103.09215786	18.83	16.95	0.06	0.17
11	5.22	32.17281153	-103.09215906	18.87	16.99	0.06	0.17
12	5.73	32.17281034	-103.09216040	19.38	17.03	0.06	0.17
13	6.26	32.17281020	-103.09216060	19.45	16.72	0.06	0.18
14	6.79	32.17281019	-103.09216068	19.53	17.03	0.06	0.19
15	7.31	32.17281141	-103.09215963	19.14	17.23	0.05	0.19
16	7.83	32.17281225	-103.09215857	17.89	15.12	-0.01	0.14
17	8.36	32.17281096	-103.09215742	16.25	14.06	-0.04	0.10
18	8.88	32.17280927	-103.09215594	15.94	13.56	-0.05	0.06
19	9.40	32.17280622	-103.09215338	15.94	13.56	-0.05	0.09
20	9.92	32.17280415	-103.09215003	16.45	13.59	-0.04	0.13
21	10.45	32.17280421	-103.09214496	15.94	13.13	-0.05	0.12
22	10.97	32.17280488	-103.09213977	16.76	13.28	-0.03	0.21
23	11.49	32.17280645	-103.09213438	16.68	12.97	-0.03	0.26
24	12.01	32.17280761	-103.09212896	14.06	12.07	-0.03	0.27
25	12.54	32.17280836	-103.09212350	14.14	12.50	0.01	0.32
26	13.06	32.17280859	-103.09211800	15.35	12.70	-0.01	0.31
27	13.58	32.17280846	-103.09211246	16.29	13.05	-0.01	0.36
28	14.10	32.17280807	-103.09210695	16.48	13.20	0.02	0.44
29	14.62	32.17280754	-103.09210145	15.39	12.85	0.01	0.51
30	15.15	32.17280706	-103.09209594	15.55	13.20	0.03	0.62
31	15.67	32.17280659	-103.09209045	15.55	12.54	0.05	0.73
32	16.19	32.17280598	-103.09208434	15.78	13.63	0.08	0.85
33	16.71	32.17280534	-103.09207810	21.76	12.07	0.11	0.91
34	17.23	32.17280448	-103.09207218	40.63	18.28	0.28	1.32
35	17.76	32.17280361	-103.09206628	31.60	19.96	0.25	1.68
36	18.28	32.17280315	-103.09206003	50.08	37.97	0.47	2.43
37	18.80	32.17280268	-103.09205381	156.25	54.61	1.63	1.48
38	19.32	32.17280208	-103.09204810	501.13	104.57	9.22	12.15
39	19.87	32.17280153	-103.09204209	501.64	262.62	9.22	36.89
40	20.37	32.17280132	-103.09203632	541.95	385.70	9.22	36.89
41	20.89	32.17280098	-103.09203018	283.44	252.81	5.22	20.93
42	21.41	32.17280030	-103.09202364	102.42	103.01	1.71	7.38
43	21.93	32.17279944	-103.09201724	39.84	52.34	0.59	4.28
44	22.46	32.17279826	-103.09201119	23.91	28.36	0.36	2.96
45	22.98	32.17279697	-103.09200535	20.31	20.94	0.29	2.58
46	23.50	32.17279552	-103.09199976	19.06	19.49	0.29	2.54
47	24.02	32.17279429	-103.09199405	18.83	20.08	0.29	2.50
48	24.55	32.17279326	-103.09198824	18.56	19.22	0.25	2.33
49	25.07	32.17279268	-103.09198260	18.24	18.36	0.21	2.02
50	25.59	32.17279238	-103.09197707	17.81	16.45	0.15	1.61
51	26.11	32.17279166	-103.09197147	16.95	15.27	0.10	1.23
52	26.63	32.17279073	-103.09196585	16.06	13.44	0.05	0.91
53	27.16	32.17278797	-103.09196089	15.39	12.42	0.02	0.70
54	27.68	32.17278467	-103.09195616	15.43	11.80	0.04	0.58
55	28.20	32.17278085	-103.09195308	14.88	11.52	0.02	0.53
56	28.72	32.17277696	-103.09195029	14.14	11.60	0.05	0.53
57	29.25	32.17277251	-103.09194797	14.18	10.82	0.03	0.51
58	29.77	32.17276801	-103.09194571	13.83	11.06	0.01	0.49
59	30.29	32.17276286	-103.09194447	14.81	11.29	0.02	0.50
60	30.81	32.17275767	-103.09194338	14.92	12.15	0.00	0.52
61	31.33	32.17275201	-103.09194354	15.86	12.89	0.01	0.54
62	31.86	32.17274646	-103.09194377	16.09	13.13	0.01	0.56
63	32.38	32.17274154	-103.09194431	16.56	13.83	0.02	0.62
64	32.90	32.17273659	-103.09194507	16.45	14.26	0.02	0.63
65	33.43	32.17273173	-103.09194637	16.64	14.45	0.02	0.66

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
66	33.95	32.17272685	-103.09194752	17.58	15.55	0.03	0.71
67	34.47	32.17272196	-103.09194838	17.11	16.52	0.02	0.68
68	34.99	32.17271707	-103.09194911	18.01	17.58	0.02	0.67
69	35.51	32.17271215	-103.09194968	18.13	18.24	0.01	0.57
70	36.04	32.17270726	-103.09195066	19.49	19.34	-0.01	0.49
71	36.56	32.17270237	-103.09195198	19.73	17.81	-0.02	0.38
72	37.08	32.17269780	-103.09195424	23.83	20.70	-0.04	0.35
73	37.60	32.17269343	-103.09195706	29.69	31.91	-0.02	0.35
74	38.13	32.17269025	-103.09196146	35.70	43.05	-0.02	0.34
75	38.65	32.17268756	-103.09196653	45.55	45.98	0.05	0.39
76	39.17	32.17268583	-103.09197254	40.55	-5.20	0.14	0.16
77	39.69	32.17268435	-103.09197882	50.82	-3.87	0.11	0.26
78	40.21	32.17268340	-103.09198484	39.57	41.68	0.05	0.54
79	40.73	32.17268254	-103.09199082	28.59	39.88	0.02	0.59
80	41.26	32.17268167	-103.09199671	22.97	30.39	0.02	0.62
81	41.78	32.17268084	-103.09200262	19.06	23.13	0.01	0.64
82	42.30	32.17268084	-103.09200882	17.93	18.98	0.03	0.69
83	42.82	32.17268091	-103.09201502	16.80	16.84	0.04	0.73
84	43.35	32.17268138	-103.09202133	15.35	15.31	0.05	0.80
85	43.87	32.17268180	-103.09202764	15.55	14.69	0.05	0.87
86	44.39	32.17268201	-103.09203395	14.45	14.10	0.04	0.86
87	44.92	32.17268185	-103.09204017	14.84	13.67	0.05	0.87
88	45.43	32.17268085	-103.09204605	14.57	13.36	0.08	0.96
89	45.96	32.17267997	-103.09205164	13.95	12.58	0.11	1.21
90	46.48	32.17267928	-103.09205673	14.38	12.62	0.23	1.56
91	47.00	32.17267839	-103.09206212	17.15	14.88	0.30	2.31
92	47.52	32.17267728	-103.09206781	37.34	29.84	1.28	5.97
93	48.05	32.17267671	-103.09207368	205.16	84.65	5.48	16.10
94	48.57	32.17267656	-103.09207970	148.48	129.88	9.22	36.89
95	49.09	32.17267655	-103.09208577	81.52	96.09	9.22	36.89
96	49.61	32.17267660	-103.09209188	139.96	96.80	9.22	36.89
97	50.13	32.17267663	-103.09209720	102.07	88.36	9.22	36.89
98	50.66	32.17267665	-103.09210224	144.77	109.06	9.22	36.89
99	51.18	32.17267736	-103.09210761	331.29	123.83	9.22	36.89
100	51.70	32.17267824	-103.09211306	186.33	135.90	7.91	36.28
101	52.22	32.17268089	-103.09211857	62.46	82.46	2.63	20.58
102	52.73	32.17268375	-103.09212409	28.52	36.56	0.81	7.92
103	53.26	32.17268687	-103.09212911	20.08	21.64	0.28	3.06
104	53.79	32.17269001	-103.09213410	19.02	18.01	0.11	1.47
105	54.31	32.17269342	-103.09213923	21.95	18.59	0.07	0.94
106	54.83	32.17269683	-103.09214424	23.83	21.52	0.08	0.78
107	55.36	32.17270023	-103.09214859	19.96	19.30	0.03	0.61
108	55.88	32.17270374	-103.09215275	18.75	17.27	0.00	0.46
109	56.40	32.17270765	-103.09215627	18.20	16.84	-0.01	0.39
110	56.92	32.17271196	-103.09215939	17.58	15.78	-0.02	0.34
111	57.45	32.17271710	-103.09216163	18.32	16.29	0.00	0.33
112	57.97	32.17272233	-103.09216328	17.27	15.63	-0.02	0.31
113	58.49	32.17272769	-103.09216407	17.93	16.21	0.00	0.34
114	59.01	32.17273295	-103.09216441	17.85	16.21	-0.01	0.33
115	59.54	32.17273811	-103.09216429	18.63	16.09	-0.02	0.35
116	60.06	32.17274332	-103.09216382	11.64	15.82	0.05	0.39
117	60.58	32.17274857	-103.09216311	16.60	15.63	0.01	0.41
118	61.10	32.17275373	-103.09216218	18.67	16.88	0.02	0.40
119	61.62	32.17275887	-103.09216113	15.63	15.98	0.00	0.37
120	62.15	32.17276389	-103.09215975	15.43	15.12	0.01	0.39
121	62.67	32.17276885	-103.09215826	16.52	15.35	-0.02	0.34
122	63.19	32.17277394	-103.09215512	15.86	15.12	-0.01	0.38
123	63.71	32.17277906	-103.09215165	9.57	12.97	0.21	0.65
124	64.24	32.17278378	-103.09214758	15.43	13.28	0.02	0.70
125	64.76	32.17278845	-103.09214347	16.21	14.02	0.02	0.48
126	65.28	32.17279243	-103.09213890	15.98	14.02	-0.02	0.41
127	65.80	32.17279632	-103.09213428	17.23	13.79	0.00	0.44
128	66.32	32.17279926	-103.09212913	16.45	13.91	0.00	0.43
129	66.85	32.17280217	-103.09212382	16.56	13.40	-0.01	0.43
130	67.37	32.17280460	-103.09211844	16.60	13.59	-0.01	0.43

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
131	67.89	32.17280704	-103.09211279	15.66	13.13	-0.01	0.44
132	68.41	32.17280933	-103.09210660	16.09	13.36	-0.01	0.45
133	68.93	32.17281143	-103.09210028	14.41	12.50	-0.01	0.41
134	69.45	32.17281313	-103.09209372	15.63	12.58	-0.01	0.40
135	69.98	32.17281445	-103.09208721	14.57	12.03	-0.03	0.36
136	70.50	32.17281521	-103.09208076	15.12	12.85	-0.02	0.36
137	71.02	32.17281552	-103.09207437	15.66	12.66	-0.01	0.38
138	71.54	32.17281539	-103.09206806	17.07	15.39	-0.01	0.43
139	72.07	32.17281486	-103.09206183	21.91	21.06	0.03	0.56
140	72.59	32.17281404	-103.09205566	37.89	37.15	0.10	0.97
141	73.11	32.17281348	-103.09204982	43.83	14.92	0.24	1.51
142	73.63	32.17281304	-103.09204413	77.89	-12.85	0.46	2.38
143	74.15	32.17281284	-103.09203811	63.56	59.88	0.51	3.58
144	74.68	32.17281272	-103.09203199	45.00	66.41	0.36	3.19
145	75.20	32.17281255	-103.09202528	29.34	43.56	0.17	2.00
146	75.72	32.17281238	-103.09201844	20.55	26.02	0.06	1.11
147	76.24	32.17281179	-103.09201193	17.38	17.85	0.02	0.70
148	76.77	32.17281114	-103.09200546	16.48	15.12	0.01	0.56
149	77.29	32.17280960	-103.09199970	15.08	13.16	-0.01	0.47
150	77.81	32.17280798	-103.09199398	15.43	12.62	0.00	0.46
151	78.33	32.17280565	-103.09198862	15.47	12.70	0.01	0.50
152	78.86	32.17280321	-103.09198334	14.88	12.15	0.02	0.57
153	79.38	32.17280031	-103.09197848	14.84	12.50	0.06	0.65
154	79.90	32.17279700	-103.09197372	14.92	12.66	0.05	0.79
155	80.42	32.17279266	-103.09196927	16.13	13.95	0.08	0.97
156	80.94	32.17278802	-103.09196549	16.52	14.65	0.09	1.11
157	81.47	32.17278283	-103.09196288	17.03	15.16	0.15	1.34
158	81.99	32.17277765	-103.09196096	17.38	15.55	0.21	1.69
159	82.51	32.17277245	-103.09195989	17.62	16.33	0.26	2.14
160	83.03	32.17276719	-103.09195908	18.87	18.01	0.32	2.59
161	83.56	32.17276186	-103.09195850	19.45	20.00	0.33	2.88
162	84.08	32.17275659	-103.09195801	20.94	22.62	0.36	3.10
163	84.60	32.17275134	-103.09195757	22.15	24.88	0.34	3.09
164	85.12	32.17274580	-103.09195736	21.33	27.38	0.40	3.26
165	85.65	32.17274013	-103.09195725	23.32	27.54	0.40	3.36
166	86.17	32.17273462	-103.09195765	22.81	28.56	0.42	3.53
167	86.69	32.17272914	-103.09195819	23.44	29.02	0.43	3.71
168	87.22	32.17272356	-103.09195878	23.09	28.24	0.38	3.46
169	87.74	32.17271797	-103.09195937	22.77	26.48	0.30	2.85
170	88.26	32.17271297	-103.09196011	21.76	24.57	0.18	2.06
171	88.78	32.17270800	-103.09196082	21.95	23.91	0.08	1.40
172	89.30	32.17270327	-103.09196098	22.19	21.52	0.05	0.96
173	89.83	32.17269853	-103.09196112	27.66	24.88	-0.01	0.69
174	90.35	32.17269375	-103.09196111	38.09	41.13	0.00	0.50
175	90.87	32.17268884	-103.09196128	40.16	35.39	0.01	0.34
176	91.39	32.17268353	-103.09196212	34.53	-20.55	0.05	-0.10
177	91.91	32.17267838	-103.09196305	43.44	-17.34	0.03	-0.07
178	92.43	32.17267358	-103.09196420	35.66	38.44	-0.02	0.21
179	92.95	32.17266884	-103.09196509	28.71	38.52	-0.03	0.24
180	93.48	32.17266415	-103.09196557	23.20	30.04	-0.05	0.19
181	94.00	32.17265953	-103.09196593	22.03	23.91	-0.04	0.17
182	94.52	32.17265498	-103.09196614	20.04	21.37	-0.03	0.18
183	95.04	32.17265023	-103.09196689	19.10	20.51	-0.05	0.15
184	95.57	32.17264533	-103.09196807	19.14	19.69	-0.03	0.15
185	96.09	32.17264079	-103.09196985	18.09	18.63	-0.03	0.16
186	96.61	32.17263646	-103.09197198	18.44	18.13	-0.04	0.18
187	97.13	32.17263220	-103.09197417	18.24	17.11	-0.03	0.22
188	97.66	32.17262797	-103.09197639	18.05	17.31	-0.04	0.21
189	98.18	32.17262389	-103.09197839	18.13	17.03	-0.03	0.21
190	98.70	32.17261984	-103.09198033	17.38	17.42	-0.03	0.17
191	99.22	32.17261609	-103.09198361	17.62	17.81	-0.04	0.13
192	99.73	32.17261237	-103.09198705	18.05	18.32	-0.04	0.10
193	100.26	32.17260962	-103.09199152	18.09	18.83	-0.06	0.08
194	100.79	32.17260694	-103.09199601	19.30	20.12	-0.05	0.08
195	101.31	32.17260446	-103.09200049	19.34	20.43	-0.05	0.09

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
196	101.83	32.17260204	-103.09200498	20.16	22.07	-0.05	0.08
197	102.36	32.17260002	-103.09200959	21.17	23.20	-0.04	0.12
198	102.88	32.17259828	-103.09201449	20.94	23.52	-0.05	0.10
199	103.40	32.17259748	-103.09202042	21.64	23.98	-0.05	0.13
200	103.92	32.17259697	-103.09202638	21.02	24.06	-0.05	0.11
201	104.44	32.17259708	-103.09203238	21.60	24.61	-0.05	0.11
202	104.97	32.17259694	-103.09203844	21.72	24.41	-0.04	0.12
203	105.49	32.17259643	-103.09204454	21.02	23.67	-0.05	0.12
204	106.01	32.17259535	-103.09205009	21.17	23.67	-0.05	0.13
205	106.53	32.17259369	-103.09205507	21.06	23.95	-0.05	0.11
206	107.06	32.17259175	-103.09206027	20.94	24.38	-0.06	0.10
207	107.58	32.17258963	-103.09206561	21.56	25.12	-0.05	0.14
208	108.10	32.17258782	-103.09207111	22.19	25.78	-0.02	0.16
209	108.62	32.17258619	-103.09207669	23.01	26.80	-0.03	0.20
210	109.14	32.17258472	-103.09208219	22.73	25.74	-0.04	0.16
211	109.66	32.17258331	-103.09208765	23.20	26.25	-0.04	0.13
212	110.19	32.17258151	-103.09209291	22.81	25.66	-0.04	0.14
213	110.71	32.17257962	-103.09209813	23.24	26.29	-0.05	0.13
214	111.23	32.17257712	-103.09210292	24.73	27.50	-0.03	0.14
215	111.75	32.17257457	-103.09210767	26.45	27.73	-0.05	0.12
216	112.27	32.17257182	-103.09211330	32.19	30.51	0.00	0.19
217	112.80	32.17256911	-103.09211888	35.35	34.84	0.01	0.23
218	113.32	32.17256681	-103.09212376	36.02	40.04	-0.02	0.21
219	113.86	32.17256437	-103.09212877	39.61	40.94	-0.03	0.19
220	114.37	32.17256177	-103.09213343	43.71	41.45	-0.04	0.17
221	114.89	32.17255910	-103.09213821	49.57	47.54	-0.03	0.17
222	115.41	32.17255642	-103.09214297	52.66	54.22	-0.02	0.21
223	115.93	32.17255369	-103.09214799	53.09	55.59	-0.03	0.20
224	116.45	32.17255086	-103.09215350	52.85	60.23	-0.02	0.20
225	116.98	32.17254815	-103.09215906	51.45	59.77	-0.04	0.19
226	117.50	32.17254563	-103.09216470	52.31	63.83	-0.03	0.17
227	118.02	32.17254296	-103.09217041	46.91	57.89	-0.03	0.18
228	118.54	32.17254014	-103.09217619	48.24	55.20	-0.03	0.17
229	119.07	32.17253714	-103.09218140	45.82	56.29	-0.03	0.17
230	119.59	32.17253402	-103.09218621	45.51	56.29	-0.04	0.17
231	120.11	32.17253071	-103.09219055	43.91	56.56	-0.03	0.19
232	120.63	32.17252730	-103.09219469	41.06	53.16	-0.04	0.17
233	121.15	32.17252338	-103.09219890	41.17	54.65	-0.03	0.18
234	121.68	32.17251930	-103.09220315	38.40	54.65	-0.03	0.17
235	122.20	32.17251502	-103.09220774	38.75	55.43	-0.03	0.18
236	122.72	32.17251070	-103.09221238	40.43	57.46	-0.03	0.18
237	123.24	32.17250654	-103.09221659	42.50	58.13	-0.03	0.18
238	123.77	32.17250239	-103.09222077	46.09	59.65	-0.02	0.21
239	124.29	32.17249803	-103.09222451	45.20	58.67	-0.03	0.20
240	124.81	32.17249363	-103.09222813	45.39	59.84	-0.02	0.20
241	125.33	32.17248904	-103.09223065	44.06	61.99	-0.03	0.21
242	125.85	32.17248437	-103.09223309	44.26	64.45	-0.02	0.25
243	126.38	32.17247926	-103.09223523	45.27	66.09	-0.01	0.27
244	126.90	32.17247405	-103.09223730	48.28	67.73	-0.04	0.27
245	127.42	32.17246851	-103.09223922	55.63	70.04	-0.06	0.32
246	127.95	32.17246305	-103.09224098	52.70	66.60	-0.05	0.51
247	128.47	32.17245769	-103.09224244	55.51	74.41	-0.03	0.29
248	128.99	32.17245234	-103.09224364	57.66	77.66	-0.03	0.25
249	129.51	32.17244700	-103.09224449	60.90	81.76	-0.03	0.25
250	130.03	32.17244177	-103.09224477	61.80	84.84	-0.02	0.30
251	130.56	32.17243663	-103.09224453	61.76	87.54	-0.01	0.32
252	131.08	32.17243178	-103.09224320	64.49	88.13	-0.02	0.32
253	131.60	32.17242710	-103.09224119	61.48	84.26	-0.03	0.28
254	132.12	32.17242212	-103.09223843	62.62	87.42	-0.02	0.28
255	132.64	32.17241704	-103.09223537	61.02	88.98	-0.01	0.29
256	133.17	32.17241227	-103.09223165	60.12	89.34	-0.01	0.30
257	133.69	32.17240760	-103.09222775	61.29	90.00	-0.01	0.33
258	134.21	32.17240309	-103.09222348	59.30	86.64	-0.02	0.32
259	134.73	32.17239862	-103.09221918	60.35	86.84	-0.01	0.32
260	135.26	32.17239546	-103.09221348	58.59	83.16	-0.02	0.31

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
261	135.78	32.17239241	-103.09220772	61.21	84.34	-0.01	0.32
262	136.30	32.17239061	-103.09220190	63.48	87.54	-0.02	0.34
263	136.82	32.17238884	-103.09219605	71.56	92.58	-0.02	0.37
264	137.34	32.17238716	-103.09218993	87.19	103.20	-0.01	0.39
265	137.86	32.17238564	-103.09218368	106.64	98.32	-0.02	0.38
266	138.39	32.17238472	-103.09217696	136.17	104.61	0.02	0.44
267	138.92	32.17238411	-103.09217033	154.18	130.27	0.02	0.44
268	139.43	32.17238424	-103.09216434	172.15	141.33	-0.05	0.21
269	139.95	32.17238515	-103.09215817	135.70	136.45	-0.15	0.34
270	140.48	32.17238732	-103.09215185	190.82	142.27	-0.09	-0.03
271	141.00	32.17239010	-103.09214628	202.11	173.83	-0.03	0.32
272	141.52	32.17239358	-103.09214157	167.81	149.14	-0.02	0.35
273	142.04	32.17239750	-103.09213712	155.51	137.85	0.00	0.42
274	142.56	32.17240180	-103.09213289	130.90	132.85	0.00	0.42
275	143.09	32.17240622	-103.09212898	109.10	114.73	0.00	0.42
276	143.61	32.17241071	-103.09212525	94.45	108.56	0.00	0.45
277	144.13	32.17241548	-103.09212216	86.68	104.88	-0.01	0.42
278	144.65	32.17242036	-103.09211931	83.87	103.79	0.01	0.46
279	145.18	32.17242581	-103.09211744	78.20	103.36	0.00	0.49
280	145.70	32.17243138	-103.09211582	75.35	105.86	0.01	0.53
281	146.22	32.17243696	-103.09211565	74.61	104.96	0.02	0.55
282	146.73	32.17244253	-103.09211567	71.52	101.25	0.03	0.57
283	147.26	32.17244785	-103.09211615	69.10	97.31	0.05	0.59
284	147.79	32.17245319	-103.09211669	61.88	91.76	0.03	0.62
285	148.31	32.17245892	-103.09211781	60.70	89.22	0.03	0.58
286	148.83	32.17246466	-103.09211898	58.09	86.41	0.02	0.58
287	149.35	32.17247048	-103.09212046	55.78	83.91	0.05	0.64
288	149.88	32.17247619	-103.09212215	55.00	79.38	0.11	0.70
289	150.40	32.17248156	-103.09212458	51.21	74.45	0.02	0.61
290	150.92	32.17248658	-103.09212764	52.81	73.56	0.02	0.55
291	151.44	32.17249082	-103.09213205	49.84	69.88	0.01	0.47
292	151.97	32.17249469	-103.09213676	50.08	68.44	0.01	0.46
293	152.49	32.17249796	-103.09214190	47.97	66.41	0.01	0.44
294	153.01	32.17250079	-103.09214777	47.54	66.33	0.00	0.40
295	153.53	32.17250315	-103.09215442	47.81	68.09	0.00	0.37
296	154.05	32.17250501	-103.09216130	47.03	66.64	-0.02	0.30
297	154.58	32.17250646	-103.09216830	48.95	67.38	-0.02	0.28
298	155.10	32.17250718	-103.09217507	46.13	64.02	-0.03	0.22
299	155.62	32.17250752	-103.09218171	45.86	61.37	-0.03	0.22
300	156.14	32.17250672	-103.09218836	44.18	60.39	-0.03	0.21
301	156.66	32.17250550	-103.09219506	43.52	60.12	-0.03	0.21
302	157.19	32.17250354	-103.09220109	42.34	60.66	-0.03	0.20
303	157.71	32.17250141	-103.09220699	41.84	60.35	-0.04	0.18
304	158.23	32.17249892	-103.09221281	43.63	60.82	-0.02	0.19
305	158.75	32.17249640	-103.09221862	43.36	59.34	-0.03	0.18
306	159.27	32.17249254	-103.09222358	45.39	60.47	-0.02	0.19
307	159.80	32.17248858	-103.09222844	44.81	62.15	-0.02	0.21
308	160.32	32.17248379	-103.09223248	44.81	64.65	-0.02	0.25
309	160.85	32.17247889	-103.09223654	45.31	65.82	-0.02	0.25
310	161.36	32.17247423	-103.09224021	48.09	68.52	-0.04	0.25
311	161.89	32.17246951	-103.09224373	52.15	71.37	-0.02	0.25
312	162.41	32.17246491	-103.09224655	51.02	71.06	-0.04	0.22
313	162.93	32.17246034	-103.09224890	56.29	71.60	-0.03	0.24
314	163.45	32.17245576	-103.09225030	59.96	76.17	-0.04	0.26
315	163.97	32.17245095	-103.09225160	61.99	80.63	-0.03	0.23
316	164.50	32.17244580	-103.09225275	62.27	80.63	-0.02	0.26
317	165.02	32.17244067	-103.09225452	61.02	82.89	-0.03	0.26
318	165.54	32.17243553	-103.09225692	61.21	84.73	-0.02	0.30
319	166.06	32.17243076	-103.09225962	58.48	84.26	-0.03	0.26
320	166.59	32.17242623	-103.09226254	59.73	86.37	-0.02	0.26
321	167.11	32.17242215	-103.09226569	58.40	84.41	-0.02	0.26
322	167.63	32.17241829	-103.09226898	58.28	83.91	-0.02	0.26
323	168.15	32.17241437	-103.09227196	57.85	82.34	-0.01	0.30
324	168.68	32.17241044	-103.09227485	53.20	77.77	-0.02	0.26
325	169.20	32.17240665	-103.09227831	52.11	74.84	-0.02	0.24

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
326	169.72	32.17240290	-103.09228186	50.12	72.54	-0.02	0.28
327	170.24	32.17239931	-103.09228551	49.49	71.72	-0.02	0.28
328	170.76	32.17239576	-103.09228917	47.34	67.34	-0.02	0.27
329	171.29	32.17239372	-103.09229269	42.89	59.96	-0.03	0.24
330	171.81	32.17239190	-103.09229589	41.88	57.62	-0.03	0.22
331	172.33	32.17239206	-103.09229622	39.53	56.95	-0.04	0.23
332	172.85	32.17239214	-103.09229649	38.28	55.78	-0.04	0.20
333	173.37	32.17239188	-103.09229644	37.31	55.00	-0.04	0.20
334	173.90	32.17239148	-103.09229652	40.94	56.33	-0.03	0.21
335	174.42	32.17239071	-103.09229695	43.13	56.95	-0.02	0.22
336	174.94	32.17238951	-103.09229763	42.58	58.28	-0.03	0.23
337	175.46	32.17238749	-103.09229877	40.00	56.45	-0.03	0.24
338	175.99	32.17238536	-103.09229989	39.84	57.93	-0.02	0.23
339	176.51	32.17238307	-103.09230097	39.92	59.61	-0.03	0.25
340	177.03	32.17238089	-103.09230354	38.44	57.93	-0.04	0.25
341	177.55	32.17237881	-103.09230744	41.09	57.89	-0.02	0.25
342	178.07	32.17237683	-103.09231189	40.31	57.07	-0.03	0.27
343	178.60	32.17237491	-103.09231671	39.10	55.43	-0.03	0.28
344	179.12	32.17237347	-103.09232093	38.24	52.54	-0.02	0.26
345	179.64	32.17237226	-103.09232488	35.63	50.31	-0.04	0.25
346	180.16	32.17237200	-103.09232661	34.57	49.34	-0.04	0.22
347	180.68	32.17237201	-103.09232772	36.52	50.63	-0.03	0.25
348	181.21	32.17237070	-103.09233050	38.36	51.33	-0.01	0.27
349	181.73	32.17236919	-103.09233355	37.97	51.45	-0.02	0.27
350	182.25	32.17236684	-103.09233697	36.56	50.70	-0.02	0.30
351	182.78	32.17236447	-103.09234046	34.92	48.16	-0.03	0.27
352	183.30	32.17236232	-103.09234521	36.17	48.63	-0.03	0.26
353	183.82	32.17236031	-103.09235005	36.29	49.57	-0.01	0.28
354	184.34	32.17235922	-103.09235544	35.90	49.81	-0.04	0.27
355	184.86	32.17235819	-103.09236082	37.03	49.45	-0.03	0.26
356	185.39	32.17235739	-103.09236622	37.66	51.06	-0.03	0.25
357	185.92	32.17235674	-103.09237150	38.24	52.11	-0.02	0.25
358	186.43	32.17235647	-103.09237618	38.56	54.49	-0.03	0.29
359	186.95	32.17235635	-103.09238135	36.25	57.85	-0.04	0.27
360	187.47	32.17235646	-103.09238725	43.67	60.31	-0.03	0.28
361	188.00	32.17235652	-103.09239291	46.37	64.49	-0.02	0.28
362	188.52	32.17235652	-103.09239827	47.93	67.34	-0.01	0.31
363	189.04	32.17235653	-103.09240388	50.90	72.50	-0.02	0.35
364	189.56	32.17235655	-103.09240969	52.11	78.40	-0.04	0.34
365	190.08	32.17235582	-103.09241494	57.31	82.62	-0.01	0.35
366	190.61	32.17235467	-103.09241988	57.42	86.45	-0.01	0.36
367	191.13	32.17235420	-103.09242549	60.66	91.17	-0.01	0.35
368	191.65	32.17235401	-103.09243136	64.88	95.00	-0.01	0.40
369	192.18	32.17235440	-103.09243633	63.40	95.00	-0.02	0.39
370	192.70	32.17235492	-103.09244109	63.67	93.95	-0.01	0.38
371	193.22	32.17235511	-103.09244596	62.73	96.02	-0.01	0.40
372	193.73	32.17235527	-103.09245085	64.14	100.12	-0.03	0.41
373	194.26	32.17235563	-103.09245625	67.38	102.27	-0.01	0.43
374	194.79	32.17235604	-103.09246169	67.03	103.59	-0.01	0.45
375	195.31	32.17235699	-103.09246733	67.85	103.98	-0.01	0.43
376	195.83	32.17235787	-103.09247293	69.26	103.71	0.00	0.46
377	196.35	32.17235837	-103.09247824	66.21	102.85	-0.01	0.45
378	196.88	32.17235861	-103.09248330	66.64	103.67	0.00	0.48
379	197.40	32.17235796	-103.09248744	65.90	104.14	0.00	0.50
380	197.92	32.17235766	-103.09249194	64.69	103.40	0.00	0.50
381	198.44	32.17235816	-103.09249727	66.48	102.19	0.01	0.49
382	198.96	32.17235907	-103.09250240	64.73	100.70	0.01	0.49
383	199.49	32.17236062	-103.09250725	63.32	100.35	-0.01	0.46
384	200.01	32.17236190	-103.09251164	65.31	99.38	0.02	0.50
385	200.53	32.17236289	-103.09251555	60.66	94.81	0.00	0.48
386	201.05	32.17236411	-103.09251988	60.74	95.23	0.00	0.49
387	201.57	32.17236549	-103.09252454	62.15	96.60	0.00	0.51
388	202.10	32.17236682	-103.09252969	61.37	96.76	-0.01	0.47
389	202.62	32.17236813	-103.09253511	63.16	99.06	0.01	0.51
390	203.14	32.17236845	-103.09254071	63.05	100.51	0.00	0.48

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
391	203.66	32.17236842	-103.09254639	65.66	103.79	-0.02	0.48
392	204.19	32.17236663	-103.09255100	72.38	109.92	0.00	0.49
393	204.71	32.17236447	-103.09255536	67.50	102.97	-0.01	0.44
394	205.22	32.17236111	-103.09255953	63.44	97.07	-0.01	0.43
395	205.74	32.17235762	-103.09256369	58.48	90.47	-0.01	0.41
396	206.27	32.17235222	-103.09256533	52.85	82.97	-0.02	0.37
397	206.80	32.17234687	-103.09256662	51.52	79.88	-0.02	0.35
398	207.32	32.17234266	-103.09256485	49.65	77.46	-0.02	0.31
399	207.84	32.17233855	-103.09256283	51.25	79.96	-0.01	0.33
400	208.36	32.17233499	-103.09255953	54.41	81.17	-0.01	0.38
401	208.89	32.17233149	-103.09255602	54.34	82.11	-0.02	0.34
402	209.41	32.17232814	-103.09255189	55.55	83.05	-0.01	0.36
403	209.93	32.17232492	-103.09254765	54.53	81.72	-0.02	0.35
404	210.45	32.17232193	-103.09254320	53.36	80.51	-0.01	0.35
405	210.97	32.17231949	-103.09253868	53.05	78.48	0.00	0.40
406	211.50	32.17231782	-103.09253407	49.65	76.09	-0.01	0.37
407	212.02	32.17231606	-103.09252958	46.99	74.49	-0.01	0.36
408	212.54	32.17231422	-103.09252520	45.12	71.52	-0.01	0.36
409	213.06	32.17231206	-103.09252079	43.95	68.44	0.00	0.35
410	213.58	32.17230967	-103.09251635	43.20	68.28	-0.02	0.33
411	214.11	32.17230784	-103.09251141	41.80	66.17	0.00	0.39
412	214.63	32.17230628	-103.09250622	38.01	61.13	-0.02	0.31
413	215.15	32.17230521	-103.09250109	36.56	56.99	-0.01	0.30
414	215.68	32.17230430	-103.09249600	35.12	53.83	-0.02	0.33
415	216.20	32.17230347	-103.09249109	33.59	52.31	-0.03	0.29
416	216.72	32.17230266	-103.09248622	34.18	51.17	-0.01	0.29
417	217.24	32.17230176	-103.09248117	33.56	50.12	-0.02	0.28
418	217.76	32.17230087	-103.09247612	33.20	49.02	-0.02	0.26
419	218.29	32.17230013	-103.09247114	32.77	48.20	-0.02	0.29
420	218.81	32.17229935	-103.09246613	32.11	48.09	-0.03	0.27
421	219.33	32.17229821	-103.09246079	32.50	47.62	-0.02	0.27
422	219.85	32.17229708	-103.09245550	31.72	46.52	-0.03	0.29
423	220.37	32.17229607	-103.09245054	32.34	46.48	-0.01	0.29
424	220.90	32.17229523	-103.09244556	31.76	45.39	0.00	0.29
425	221.42	32.17229488	-103.09244055	30.82	43.44	0.01	0.27
426	221.94	32.17229465	-103.09243568	28.95	41.29	0.00	0.26
427	222.46	32.17229465	-103.09243107	27.77	40.43	-0.02	0.25
428	222.98	32.17229478	-103.09242640	28.28	39.65	-0.02	0.24
429	223.51	32.17229506	-103.09242167	27.70	39.18	-0.02	0.24
430	224.03	32.17229511	-103.09241649	26.45	38.16	-0.03	0.23
431	224.55	32.17229494	-103.09241094	26.91	36.88	-0.01	0.25
432	225.07	32.17229484	-103.09240548	26.48	36.09	-0.02	0.26
433	225.59	32.17229477	-103.09240006	26.33	35.86	-0.03	0.25
434	226.12	32.17229511	-103.09239465	26.56	35.04	-0.02	0.25
435	226.64	32.17229562	-103.09238927	25.23	33.52	-0.01	0.25
436	227.16	32.17229604	-103.09238523	24.34	31.95	0.01	0.25
437	227.69	32.17229644	-103.09238156	24.22	32.34	-0.02	0.25
438	228.21	32.17229642	-103.09237655	24.65	32.07	-0.03	0.22
439	228.73	32.17229633	-103.09237128	26.17	32.77	-0.03	0.22
440	229.25	32.17229661	-103.09236659	25.90	33.56	-0.03	0.22
441	229.78	32.17229691	-103.09236191	26.88	35.27	-0.03	0.22
442	230.30	32.17229702	-103.09235697	28.75	37.54	-0.02	0.25
443	230.82	32.17229701	-103.09235189	29.77	39.34	-0.02	0.21
444	231.34	32.17229608	-103.09234594	31.76	41.76	-0.02	0.23
445	231.86	32.17229514	-103.09234012	33.95	45.12	-0.03	0.24
446	232.39	32.17229417	-103.09233482	36.02	48.01	-0.03	0.23
447	232.92	32.17229333	-103.09232955	38.87	51.60	-0.03	0.26
448	233.43	32.17229283	-103.09232471	38.40	52.77	-0.03	0.24
449	233.95	32.17229251	-103.09231949	39.61	55.23	-0.02	0.24
450	234.47	32.17229248	-103.09231378	40.82	56.76	-0.01	0.28
451	235.00	32.17229215	-103.09230825	40.70	57.89	-0.01	0.31
452	235.52	32.17229146	-103.09230290	40.70	58.09	-0.01	0.29
453	236.04	32.17229045	-103.09229764	40.27	58.05	-0.02	0.28
454	236.56	32.17228918	-103.09229245	41.60	60.90	-0.02	0.30
455	237.08	32.17228834	-103.09228737	43.36	62.46	-0.01	0.31

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
456	237.61	32.17228775	-103.09228234	42.66	62.62	-0.02	0.31
457	238.13	32.17228711	-103.09227717	45.31	66.88	-0.01	0.33
458	238.65	32.17228646	-103.09227195	46.99	69.34	-0.01	0.33
459	239.17	32.17228599	-103.09226661	49.49	73.98	0.00	0.33
460	239.70	32.17228557	-103.09226124	53.71	80.23	0.00	0.38
461	240.21	32.17228504	-103.09225624	59.18	85.94	-0.01	0.36
462	240.73	32.17228449	-103.09225128	70.78	95.35	0.00	0.39
463	241.26	32.17228428	-103.09224577	87.97	101.88	0.00	0.41
464	241.78	32.17228411	-103.09224025	127.46	118.20	0.00	0.42
465	242.31	32.17228426	-103.09223490	177.70	142.34	-0.01	0.44
466	242.83	32.17228430	-103.09222956	215.39	141.76	-0.02	0.41
467	243.35	32.17228373	-103.09222433	278.98	160.70	-0.01	0.43
468	243.87	32.17228310	-103.09221918	300.43	231.02	-0.01	0.48
469	244.40	32.17228227	-103.09221433	273.71	257.46	-0.02	0.50
470	244.92	32.17228176	-103.09220954	268.83	251.88	0.00	0.51
471	245.44	32.17228193	-103.09220485	244.57	247.58	0.00	0.49
472	245.96	32.17228181	-103.09220009	224.22	230.66	0.00	0.48
473	246.49	32.17228126	-103.09219519	232.62	216.52	-0.01	0.51
474	247.01	32.17228057	-103.09219066	214.81	208.24	0.00	0.46
475	247.53	32.17227973	-103.09218650	214.14	196.91	0.00	0.47
476	248.05	32.17227961	-103.09218224	218.67	187.58	0.00	0.48
477	248.57	32.17228003	-103.09217789	202.85	188.28	-0.02	0.39
478	249.10	32.17228035	-103.09217317	205.08	187.97	-0.01	0.41
479	249.62	32.17228060	-103.09216824	199.14	168.48	-0.01	0.40
480	250.14	32.17228029	-103.09216312	183.20	148.75	-0.03	0.37
481	250.66	32.17227978	-103.09215793	177.54	149.18	-0.02	0.38
482	251.18	32.17227917	-103.09215287	161.21	154.88	-0.02	0.34
483	251.71	32.17227854	-103.09214784	149.69	145.63	-0.02	0.34
484	252.23	32.17227858	-103.09214301	140.00	123.91	-0.01	0.34
485	252.75	32.17227868	-103.09213819	99.57	94.61	-0.02	0.28
486	253.27	32.17227852	-103.09213285	79.77	86.29	-0.02	0.29
487	253.79	32.17227833	-103.09212750	66.41	96.02	0.00	0.33
488	254.32	32.17227783	-103.09212231	55.31	89.49	-0.01	0.34
489	254.84	32.17227746	-103.09211717	48.20	76.56	-0.01	0.32
490	255.36	32.17227785	-103.09211231	43.16	65.74	-0.02	0.27
491	255.88	32.17227815	-103.09210725	40.31	58.52	-0.02	0.25
492	256.41	32.17227813	-103.09210156	38.71	55.16	-0.01	0.24
493	256.93	32.17227795	-103.09209600	34.96	49.73	-0.02	0.20
494	257.45	32.17227742	-103.09209072	33.67	47.38	-0.02	0.22
495	257.97	32.17227693	-103.09208542	32.03	45.08	-0.02	0.23
496	258.50	32.17227651	-103.09208015	30.59	42.81	0.00	0.23
497	259.02	32.17227641	-103.09207485	31.06	42.23	0.00	0.25
498	259.54	32.17227662	-103.09206953	29.34	39.06	-0.02	0.20
499	260.06	32.17227643	-103.09206402	28.36	36.88	-0.02	0.18
500	260.58	32.17227596	-103.09205840	27.89	35.04	-0.03	0.18
501	261.11	32.17227547	-103.09205381	28.01	34.69	-0.03	0.16
502	261.63	32.17227498	-103.09204973	27.58	32.66	-0.03	0.17
503	262.15	32.17227494	-103.09204446	26.80	31.33	-0.03	0.15
504	262.67	32.17227505	-103.09203878	25.00	29.22	-0.03	0.14
505	263.20	32.17227587	-103.09203652	22.81	26.88	-0.03	0.12
506	263.72	32.17227682	-103.09203491	22.42	25.82	-0.04	0.09
507	264.24	32.17227666	-103.09203139	23.40	26.80	-0.03	0.10
508	264.76	32.17227641	-103.09202771	23.56	26.72	-0.04	0.10
509	265.28	32.17227581	-103.09202384	21.45	24.73	-0.04	0.08
510	265.81	32.17227526	-103.09201996	22.31	25.47	-0.05	0.06
511	266.33	32.17227520	-103.09201615	23.56	26.09	-0.06	0.07
512	266.85	32.17227474	-103.09201221	23.44	26.17	-0.06	0.05
513	267.37	32.17227249	-103.09200773	25.31	27.50	-0.05	0.05
514	267.90	32.17226996	-103.09200400	23.95	26.64	-0.04	0.10
515	268.42	32.17226666	-103.09200233	21.84	24.34	-0.05	0.07
516	268.94	32.17226344	-103.09200097	20.43	22.77	-0.06	0.01
517	269.46	32.17226041	-103.09200023	21.45	13.40	-0.01	-0.66
518	269.98	32.17225745	-103.09200120	2.70	15.04	-0.15	-0.30
519	270.51	32.17225460	-103.09200439	4.65	14.18	-0.38	-0.44
520	271.03	32.17225276	-103.09200863	17.03	4.30	-0.10	-1.48

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
521	271.55	32.17225186	-103.09201386	20.78	19.69	-0.05	-0.15
522	272.07	32.17225103	-103.09201888	22.62	24.88	-0.04	0.11
523	272.60	32.17225025	-103.09202378	24.02	27.81	-0.04	0.14
524	273.12	32.17224947	-103.09202890	27.81	32.73	-0.03	0.16
525	273.64	32.17224869	-103.09203412	31.33	37.58	-0.03	0.16
526	274.16	32.17224838	-103.09203960	36.68	45.63	-0.02	0.17
527	274.68	32.17224821	-103.09204516	40.00	51.48	-0.02	0.17
528	275.21	32.17224858	-103.09205018	41.45	55.78	-0.04	0.16
529	275.73	32.17224904	-103.09205512	44.30	59.02	-0.03	0.17
530	276.25	32.17224956	-103.09206034	50.47	68.16	-0.04	0.18
531	276.77	32.17225007	-103.09206556	62.50	80.74	-0.03	0.19
532	277.29	32.17224987	-103.09207050	74.57	58.24	-0.02	0.22
533	277.82	32.17224970	-103.09207543	99.92	59.02	-0.03	0.22
534	278.34	32.17224972	-103.09208025	98.13	78.13	-0.02	0.24
535	278.86	32.17224989	-103.09208498	82.11	74.45	-0.02	0.26
536	279.38	32.17225061	-103.09208936	83.71	76.48	-0.03	0.23
537	279.91	32.17225113	-103.09209392	88.87	88.98	-0.02	0.26
538	280.43	32.17225114	-103.09209884	88.32	88.98	-0.03	0.23
539	280.95	32.17225137	-103.09210373	122.73	90.04	-0.02	0.23
540	281.47	32.17225197	-103.09210856	138.52	93.28	-0.01	0.27
541	282.00	32.17225238	-103.09211331	150.98	84.45	-0.02	0.28
542	282.52	32.17225254	-103.09211796	155.78	81.60	-0.03	0.29
543	283.04	32.17225281	-103.09212295	165.08	97.46	-0.04	0.27
544	283.56	32.17225315	-103.09212821	183.44	127.58	-0.04	0.28
545	284.08	32.17225334	-103.09213329	177.23	128.16	-0.02	0.29
546	284.61	32.17225343	-103.09213827	180.39	144.06	-0.03	0.29
547	285.13	32.17225350	-103.09214306	183.75	184.02	-0.03	0.32
548	285.65	32.17225357	-103.09214780	159.49	158.40	-0.02	0.31
549	286.17	32.17225383	-103.09215270	164.30	120.51	-0.02	0.32
550	286.70	32.17225414	-103.09215763	172.85	142.81	-0.02	0.36
551	287.22	32.17225476	-103.09216254	169.88	160.55	-0.03	0.36
552	287.73	32.17225543	-103.09216744	177.19	156.84	-0.03	0.36
553	288.26	32.17225536	-103.09217231	192.70	153.40	-0.02	0.39
554	288.78	32.17225529	-103.09217723	202.11	171.84	-0.03	0.39
555	289.31	32.17225568	-103.09218277	207.19	188.01	-0.01	0.42
556	289.83	32.17225609	-103.09218823	210.08	187.31	-0.02	0.43
557	290.35	32.17225666	-103.09219340	242.42	213.63	-0.02	0.46
558	290.88	32.17225713	-103.09219857	258.40	239.61	-0.01	0.49
559	291.40	32.17225729	-103.09220358	252.42	217.97	-0.02	0.47
560	291.92	32.17225730	-103.09220846	302.89	220.35	-0.01	0.51
561	292.44	32.17225697	-103.09221298	326.41	250.43	-0.01	0.52
562	292.96	32.17225690	-103.09221778	328.20	250.70	-0.02	0.52
563	293.48	32.17225723	-103.09222299	352.62	261.37	-0.01	0.54
564	294.01	32.17225743	-103.09222810	350.27	288.67	-0.01	0.52
565	294.53	32.17225749	-103.09223313	309.30	264.49	-0.01	0.50
566	295.05	32.17225721	-103.09223794	284.53	216.21	-0.01	0.47
567	295.57	32.17225668	-103.09224259	228.87	189.81	-0.01	0.47
568	296.10	32.17225666	-103.09224762	207.19	182.23	0.00	0.45
569	296.62	32.17225692	-103.09225281	184.38	180.04	0.00	0.49
570	297.14	32.17225753	-103.09225814	161.37	183.75	0.00	0.47
571	297.66	32.17225827	-103.09226350	167.31	184.88	0.00	0.46
572	298.18	32.17225831	-103.09226891	196.95	166.60	-0.02	0.43
573	298.71	32.17225820	-103.09227430	191.68	167.11	-0.02	0.40
574	299.23	32.17225844	-103.09227953	183.59	151.60	0.00	0.42
575	299.75	32.17225872	-103.09228475	157.23	148.48	-0.01	0.39
576	300.27	32.17225921	-103.09229053	127.77	151.91	-0.01	0.37
577	300.79	32.17225972	-103.09229628	106.37	128.71	0.00	0.40
578	301.32	32.17226032	-103.09230164	84.14	111.33	-0.01	0.37
579	301.84	32.17226081	-103.09230689	74.18	105.90	-0.01	0.37
580	302.36	32.17226075	-103.09231157	64.96	100.39	-0.01	0.35
581	302.89	32.17226079	-103.09231635	58.56	90.20	-0.02	0.33
582	303.41	32.17226118	-103.09232142	54.77	83.20	-0.01	0.34
583	303.93	32.17226179	-103.09232641	51.95	78.40	-0.01	0.32
584	304.45	32.17226286	-103.09233122	50.00	75.20	-0.02	0.29
585	304.97	32.17226349	-103.09233599	48.95	71.25	-0.01	0.31

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
586	305.49	32.17226350	-103.09234072	43.05	62.85	-0.01	0.29
587	306.02	32.17226356	-103.09234563	41.56	58.98	-0.01	0.27
588	306.54	32.17226367	-103.09235073	38.71	54.77	-0.01	0.29
589	307.06	32.17226403	-103.09235580	34.53	49.22	-0.02	0.26
590	307.58	32.17226458	-103.09236086	32.07	45.55	-0.02	0.25
591	308.11	32.17226487	-103.09236625	30.23	43.44	-0.01	0.27
592	308.63	32.17226503	-103.09237180	28.59	40.74	-0.01	0.24
593	309.15	32.17226468	-103.09237693	27.50	38.32	-0.01	0.26
594	309.67	32.17226415	-103.09238192	25.70	36.06	-0.02	0.25
595	310.20	32.17226387	-103.09238750	25.82	35.63	-0.02	0.23
596	310.72	32.17226362	-103.09239320	26.37	35.55	-0.02	0.25
597	311.24	32.17226403	-103.09239844	25.20	35.08	-0.02	0.23
598	311.76	32.17226448	-103.09240365	25.47	34.61	-0.01	0.25
599	312.28	32.17226385	-103.09240893	25.08	33.52	-0.02	0.24
600	312.81	32.17226324	-103.09241419	25.43	33.95	-0.02	0.24
601	313.33	32.17226282	-103.09241927	25.66	34.22	-0.01	0.26
602	313.85	32.17226250	-103.09242441	25.04	33.56	-0.02	0.24
603	314.37	32.17226260	-103.09242966	25.55	34.34	-0.01	0.24
604	314.90	32.17226299	-103.09243495	25.31	34.02	-0.02	0.24
605	315.42	32.17226419	-103.09244021	24.77	33.52	-0.03	0.20
606	315.94	32.17226518	-103.09244513	25.47	33.75	-0.02	0.24
607	316.46	32.17226578	-103.09244941	25.43	34.22	-0.02	0.23
608	316.98	32.17226616	-103.09245390	25.74	35.27	-0.03	0.23
609	317.51	32.17226626	-103.09245869	26.60	36.68	-0.03	0.24
610	318.03	32.17226621	-103.09246385	27.38	39.02	-0.03	0.24
611	318.55	32.17226603	-103.09246935	28.98	40.94	-0.02	0.27
612	319.07	32.17226471	-103.09247496	30.00	43.16	-0.02	0.25
613	319.60	32.17226266	-103.09248065	31.37	46.06	-0.03	0.25
614	320.12	32.17225991	-103.09248479	34.14	49.57	-0.02	0.26
615	320.64	32.17225684	-103.09248826	37.46	55.00	-0.03	0.26
616	321.16	32.17225264	-103.09249084	39.88	60.12	-0.04	0.24
617	321.68	32.17224812	-103.09249317	41.09	62.15	-0.03	0.22
618	322.21	32.17224411	-103.09249197	37.15	58.16	-0.03	0.18
619	322.73	32.17224018	-103.09249021	34.26	53.75	-0.03	0.17
620	323.25	32.17223863	-103.09248541	32.34	51.25	-0.03	0.16
621	323.77	32.17223724	-103.09248047	29.45	47.03	-0.04	0.17
622	324.29	32.17223617	-103.09247631	29.06	45.59	-0.03	0.19
623	324.82	32.17223515	-103.09247203	30.08	44.88	-0.02	0.22
624	325.34	32.17223458	-103.09246688	28.98	43.20	-0.03	0.23
625	325.86	32.17223397	-103.09246178	27.93	42.11	-0.03	0.20
626	326.38	32.17223324	-103.09245691	27.97	40.90	-0.03	0.22
627	326.90	32.17223233	-103.09245212	28.09	40.74	-0.04	0.19
628	327.43	32.17223093	-103.09244746	30.27	42.34	-0.02	0.21
629	327.95	32.17222947	-103.09244250	32.38	45.43	-0.02	0.23
630	328.47	32.17222791	-103.09243701	33.48	46.72	-0.03	0.23
631	328.99	32.17222683	-103.09243186	35.98	48.91	-0.01	0.26
632	329.51	32.17222633	-103.09242713	36.41	49.84	-0.01	0.26
633	330.04	32.17222551	-103.09242194	36.76	51.99	-0.01	0.28
634	330.56	32.17222441	-103.09241640	37.85	53.44	0.01	0.30
635	331.08	32.17222336	-103.09241131	37.03	52.54	-0.01	0.25
636	331.61	32.17222233	-103.09240650	36.48	51.68	-0.01	0.25
637	332.13	32.17222229	-103.09240193	36.06	50.63	0.00	0.25
638	332.65	32.17222264	-103.09239749	34.61	48.40	-0.02	0.23
639	333.17	32.17222269	-103.09239210	34.96	48.67	-0.01	0.25
640	333.69	32.17222267	-103.09238646	34.81	49.22	-0.01	0.27
641	334.21	32.17222215	-103.09238130	34.45	50.39	-0.02	0.24
642	334.73	32.17222155	-103.09237618	35.55	51.52	-0.01	0.26
643	335.26	32.17222159	-103.09237160	36.29	52.93	-0.01	0.28
644	335.78	32.17222167	-103.09236705	38.36	55.74	0.00	0.31
645	336.31	32.17222187	-103.09236252	41.29	58.52	-0.01	0.32
646	336.83	32.17222200	-103.09235796	42.07	61.17	0.01	0.31
647	337.35	32.17222159	-103.09235298	49.34	70.78	0.01	0.34
648	337.87	32.17222129	-103.09234795	62.19	84.81	0.01	0.37
649	338.39	32.17222138	-103.09234270	83.20	97.46	-0.01	0.33
650	338.92	32.17222165	-103.09233767	116.02	103.71	-0.01	0.34

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
651	339.44	32.17222232	-103.09233314	150.27	107.81	-0.01	0.40
652	339.96	32.17222252	-103.09232810	176.29	147.15	-0.02	0.39
653	340.48	32.17222199	-103.09232226	185.23	191.21	0.00	0.45
654	341.01	32.17222114	-103.09231683	179.81	214.14	0.01	0.50
655	341.53	32.17221997	-103.09231190	179.18	217.85	0.01	0.53
656	342.05	32.17221915	-103.09230702	180.47	215.59	0.02	0.55
657	342.57	32.17221863	-103.09230218	178.75	214.22	0.01	0.54
658	343.09	32.17221826	-103.09229763	175.82	205.47	0.02	0.54
659	343.62	32.17221799	-103.09229325	184.41	193.79	0.01	0.56
660	344.14	32.17221722	-103.09228882	170.74	181.25	0.00	0.54
661	344.66	32.17221628	-103.09228437	189.26	196.45	0.02	0.54
662	345.18	32.17221632	-103.09227986	198.48	218.83	0.02	0.56
663	345.70	32.17221659	-103.09227533	196.29	211.64	0.00	0.54
664	346.22	32.17221616	-103.09227015	216.21	197.15	0.00	0.52
665	346.74	32.17221566	-103.09226488	233.79	199.38	-0.03	0.50
666	347.27	32.17221484	-103.09226030	208.24	188.91	0.59	1.37
667	347.79	32.17221407	-103.09225579	207.97	182.73	0.61	1.74
668	348.32	32.17221404	-103.09225225	209.26	186.91	0.03	1.73
669	348.84	32.17221400	-103.09224870	202.19	202.46	0.00	0.68
670	349.36	32.17221385	-103.09224507	195.86	200.16	-0.01	0.53
671	349.88	32.17221353	-103.09224131	184.06	186.17	-0.01	0.52
672	350.40	32.17221270	-103.09223725	193.59	191.13	-0.01	0.52
673	350.93	32.17221217	-103.09223283	193.24	205.78	-0.01	0.52
674	351.45	32.17221225	-103.09222772	181.17	199.18	-0.01	0.50
675	351.97	32.17221214	-103.09222271	192.85	201.80	-0.02	0.49
676	352.49	32.17221178	-103.09221779	197.23	211.80	-0.01	0.50
677	353.02	32.17221127	-103.09221294	169.18	187.66	-0.02	0.45
678	353.54	32.17221062	-103.09220813	168.13	179.10	-0.02	0.45
679	354.06	32.17221041	-103.09220316	159.77	190.66	-0.02	0.45
680	354.58	32.17221052	-103.09219807	143.83	173.36	-0.02	0.42
681	355.11	32.17221067	-103.09219331	138.40	148.20	-0.02	0.41
682	355.63	32.17221084	-103.09218873	142.46	140.12	-0.03	0.41
683	356.15	32.17221014	-103.09218413	147.19	146.80	-0.02	0.39
684	356.67	32.17220915	-103.09217951	146.68	144.22	-0.02	0.39
685	357.19	32.17220840	-103.09217475	143.40	133.67	-0.02	0.39
686	357.71	32.17220769	-103.09216995	149.69	135.35	-0.02	0.35
687	358.23	32.17220731	-103.09216486	152.15	134.02	-0.02	0.36
688	358.76	32.17220696	-103.09215974	126.80	98.91	-0.03	0.30
689	359.28	32.17220599	-103.09215445	105.86	85.04	-0.02	0.30
690	359.81	32.17220500	-103.09214925	89.69	109.26	-0.01	0.30
691	360.33	32.17220370	-103.09214477	71.06	115.90	-0.03	0.26
692	360.85	32.17220259	-103.09214023	62.77	104.14	-0.01	0.27
693	361.37	32.17220243	-103.09213572	54.30	89.38	-0.02	0.26
694	361.89	32.17220232	-103.09213105	48.48	79.10	-0.02	0.25
695	362.42	32.17220234	-103.09212602	46.64	73.95	-0.01	0.25
696	362.94	32.17220211	-103.09212102	43.52	69.73	-0.03	0.19
697	363.46	32.17220141	-103.09211606	40.66	69.81	-0.09	0.20
698	363.98	32.17220107	-103.09211122	49.61	70.63	-0.02	0.15
699	364.51	32.17220118	-103.09210650	54.92	76.84	-0.04	0.20
700	365.03	32.17220113	-103.09210162	64.73	82.58	-0.03	0.20
701	365.55	32.17220095	-103.09209661	94.77	85.98	-0.03	0.23
702	366.07	32.17220026	-103.09209161	118.67	90.98	-0.03	0.20
703	366.59	32.17219924	-103.09208661	154.38	101.02	-0.03	0.22
704	367.11	32.17219839	-103.09208155	177.03	120.43	-0.03	0.23
705	367.64	32.17219762	-103.09207646	152.15	118.91	-0.03	0.20
706	368.16	32.17219728	-103.09207199	118.13	108.32	-0.04	0.16
707	368.68	32.17219706	-103.09206772	92.58	108.87	-0.04	0.15
708	369.20	32.17219691	-103.09206366	65.39	99.45	-0.04	0.13
709	369.72	32.17219678	-103.09205965	48.20	78.91	-0.04	0.15
710	370.25	32.17219624	-103.09205579	39.38	64.57	-0.05	0.13
711	370.77	32.17219565	-103.09205199	34.30	54.81	-0.04	0.11
712	371.29	32.17219453	-103.09204897	29.14	45.66	-0.04	0.12
713	371.82	32.17219318	-103.09204610	24.77	36.41	-0.04	0.11
714	372.34	32.17219003	-103.09204440	22.31	30.78	-0.04	0.08
715	372.86	32.17218698	-103.09204295	20.31	25.20	-0.04	0.06

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
716	373.38	32.17218438	-103.09204254	18.56	21.48	-0.03	0.06
717	373.90	32.17218206	-103.09204141	16.95	19.65	-0.03	0.06
718	374.43	32.17218045	-103.09203845	15.43	17.66	-0.04	0.03
719	374.95	32.17217877	-103.09203604	14.49	14.88	-0.04	0.02
720	375.47	32.17217698	-103.09203457	14.69	13.67	-0.04	0.04
721	375.99	32.17217456	-103.09203398	14.57	13.40	-0.04	0.07
722	376.51	32.17217139	-103.09203445	14.41	12.93	-0.05	0.07
723	377.04	32.17216867	-103.09203636	15.23	12.97	-0.04	0.08
724	377.56	32.17216636	-103.09203951	16.72	14.41	-0.04	0.12
725	378.08	32.17216621	-103.09204341	19.06	17.77	-0.05	0.10
726	378.60	32.17216737	-103.09204777	22.81	21.29	-0.04	0.11
727	379.13	32.17216886	-103.09205212	29.18	27.89	-0.04	0.12
728	379.65	32.17217048	-103.09205645	42.54	40.78	-0.05	0.12
729	380.17	32.17217114	-103.09206075	62.89	47.97	-0.04	0.15
730	380.69	32.17217156	-103.09206503	86.13	44.73	-0.04	0.16
731	381.21	32.17217199	-103.09206897	103.95	48.67	-0.04	0.12
732	381.73	32.17217242	-103.09207288	100.00	53.79	-0.03	0.12
733	382.26	32.17217209	-103.09207749	74.49	51.02	-0.04	0.15
734	382.78	32.17217174	-103.09208214	63.36	57.93	-0.03	0.15
735	383.30	32.17217173	-103.09208669	52.93	72.23	-0.01	0.20
736	383.83	32.17217180	-103.09209121	43.98	69.10	-0.02	0.19
737	384.35	32.17217238	-103.09209544	40.63	63.28	-0.03	0.19
738	384.87	32.17217292	-103.09209977	40.00	61.52	-0.01	0.21
739	385.39	32.17217335	-103.09210445	40.20	59.65	-0.02	0.19
740	385.92	32.17217353	-103.09210904	42.34	61.09	-0.02	0.20
741	386.44	32.17217310	-103.09211334	45.98	66.17	-0.02	0.22
742	386.96	32.17217295	-103.09211801	54.92	77.15	-0.02	0.25
743	387.48	32.17217325	-103.09212324	75.12	98.67	-0.01	0.28
744	388.00	32.17217396	-103.09212852	96.21	115.66	-0.02	0.27
745	388.53	32.17217512	-103.09213382	123.40	90.00	-0.02	0.28
746	389.05	32.17217575	-103.09213880	193.40	98.91	-0.02	0.30
747	389.57	32.17217596	-103.09214352	194.57	170.00	-0.02	0.32
748	390.09	32.17217634	-103.09214840	197.66	175.51	-0.01	0.36
749	390.61	32.17217682	-103.09215336	200.86	159.61	0.00	0.40
750	391.14	32.17217758	-103.09215766	173.36	155.04	0.01	0.40
751	391.66	32.17217843	-103.09216173	156.41	152.38	0.00	0.41
752	392.18	32.17217912	-103.09216670	154.18	164.96	0.00	0.43
753	392.70	32.17217977	-103.09217192	154.26	191.06	0.01	0.45
754	393.22	32.17217986	-103.09217631	158.44	189.69	0.02	0.47
755	393.75	32.17217988	-103.09218060	157.73	175.16	0.01	0.48
756	394.27	32.17218080	-103.09218546	178.87	171.06	0.01	0.49
757	394.79	32.17218169	-103.09219028	184.57	182.54	0.01	0.52
758	395.32	32.17218177	-103.09219457	170.12	188.67	0.01	0.52
759	395.84	32.17218182	-103.09219894	186.17	209.22	0.01	0.54
760	396.36	32.17218171	-103.09220379	183.75	231.25	0.01	0.55
761	396.88	32.17218179	-103.09220860	176.91	221.64	0.00	0.53
762	397.40	32.17218247	-103.09221327	177.31	198.16	0.01	0.56
763	397.93	32.17218298	-103.09221783	163.91	146.91	0.04	0.59
764	398.45	32.17218314	-103.09222221	147.31	156.37	0.01	0.56
765	398.97	32.17218297	-103.09222635	129.84	191.13	0.02	0.56
766	399.49	32.17218231	-103.09223018	113.95	192.77	0.02	0.58
767	400.01	32.17218239	-103.09223442	99.61	174.53	0.01	0.56
768	400.54	32.17218322	-103.09223909	91.76	158.83	0.03	0.57
769	401.06	32.17218349	-103.09224363	84.77	144.41	0.04	0.59
770	401.58	32.17218334	-103.09224810	77.73	131.41	0.02	0.55
771	402.10	32.17218336	-103.09225274	75.55	126.13	0.02	0.55
772	402.63	32.17218345	-103.09225748	73.95	122.89	0.02	0.53
773	403.15	32.17218430	-103.09226191	71.99	121.91	0.01	0.52
774	403.67	32.17218540	-103.09226625	72.77	121.29	0.01	0.52
775	404.19	32.17218600	-103.09227066	74.45	120.39	0.03	0.53
776	404.71	32.17218651	-103.09227508	77.34	124.14	0.04	0.55
777	405.23	32.17218656	-103.09227966	84.30	131.68	0.02	0.55
778	405.76	32.17218657	-103.09228426	93.28	140.12	0.01	0.51
779	406.28	32.17218694	-103.09228945	104.69	139.45	0.01	0.50
780	406.80	32.17218732	-103.09229460	119.06	129.14	0.05	0.53

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
781	407.33	32.17218779	-103.09229927	133.09	156.84	0.00	0.52
782	407.85	32.17218810	-103.09230386	145.31	188.16	0.01	0.54
783	408.37	32.17218772	-103.09230778	176.21	203.87	0.01	0.56
784	408.89	32.17218756	-103.09231197	189.10	233.09	0.00	0.52
785	409.41	32.17218805	-103.09231689	208.32	233.40	0.01	0.53
786	409.94	32.17218862	-103.09232162	229.45	214.02	0.02	0.51
787	410.46	32.17218933	-103.09232596	204.14	196.02	0.01	0.48
788	410.98	32.17218977	-103.09233047	162.77	156.68	0.02	0.45
789	411.50	32.17218984	-103.09233519	122.42	142.38	0.01	0.42
790	412.03	32.17218986	-103.09233996	93.16	142.97	0.01	0.38
791	412.55	32.17218982	-103.09234481	71.99	127.11	-0.01	0.37
792	413.07	32.17219024	-103.09234972	58.32	102.93	-0.01	0.35
793	413.59	32.17219098	-103.09235463	51.02	86.41	0.00	0.35
794	414.11	32.17219163	-103.09235949	45.12	75.04	0.00	0.33
795	414.64	32.17219225	-103.09236432	40.90	66.29	-0.01	0.32
796	415.16	32.17219235	-103.09236913	38.05	59.57	-0.01	0.32
797	415.68	32.17219231	-103.09237394	35.66	54.45	-0.01	0.31
798	416.20	32.17219249	-103.09237925	35.31	52.27	-0.01	0.29
799	416.73	32.17219271	-103.09238465	34.84	51.02	-0.01	0.30
800	417.25	32.17219371	-103.09238957	34.61	50.51	-0.02	0.26
801	417.77	32.17219474	-103.09239446	34.41	48.98	-0.01	0.29
802	418.29	32.17219468	-103.09239905	33.95	48.32	-0.01	0.33
803	418.82	32.17219457	-103.09240372	34.77	48.01	-0.02	0.30
804	419.34	32.17219404	-103.09240913	34.53	48.48	-0.01	0.27
805	419.86	32.17219362	-103.09241455	33.01	46.99	-0.02	0.25
806	420.38	32.17219360	-103.09241997	33.13	46.76	-0.01	0.26
807	420.90	32.17219349	-103.09242546	33.24	47.50	-0.01	0.26
808	421.43	32.17219311	-103.09243114	32.58	46.91	-0.02	0.24
809	421.95	32.17219269	-103.09243658	32.58	47.03	-0.01	0.23
810	422.47	32.17219219	-103.09244157	32.70	47.58	-0.02	0.24
811	422.99	32.17219186	-103.09244682	33.13	47.62	-0.03	0.22
812	423.51	32.17219172	-103.09245240	34.30	48.09	-0.02	0.21
813	424.04	32.17219242	-103.09245777	32.73	47.50	-0.03	0.18
814	424.56	32.17219383	-103.09246296	35.47	50.70	-0.03	0.19
815	425.08	32.17219440	-103.09246780	37.81	53.28	-0.03	0.19
816	425.60	32.17219444	-103.09247242	39.34	55.90	-0.03	0.19
817	426.13	32.17219461	-103.09247732	40.98	58.01	-0.03	0.20
818	426.65	32.17219483	-103.09248233	43.56	60.98	-0.02	0.21
819	427.17	32.17219558	-103.09248589	43.71	61.76	-0.02	0.20
820	427.69	32.17219648	-103.09248908	44.41	63.32	-0.02	0.24
821	428.21	32.17219846	-103.09249267	44.34	62.27	-0.02	0.22
822	428.73	32.17220060	-103.09249632	45.23	63.13	-0.02	0.21
823	429.26	32.17220061	-103.09250097	46.29	64.96	-0.02	0.21
824	429.78	32.17220056	-103.09250567	44.53	63.56	-0.03	0.19
825	430.30	32.17220118	-103.09251051	43.83	63.20	-0.02	0.20
826	430.83	32.17220195	-103.09251534	42.97	62.73	-0.03	0.20
827	431.35	32.17220370	-103.09252006	41.68	61.41	-0.04	0.16
828	431.87	32.17220556	-103.09252466	42.34	60.66	-0.03	0.17
829	432.39	32.17220783	-103.09252880	42.11	62.97	-0.03	0.19
830	432.92	32.17221029	-103.09253316	41.21	63.98	-0.04	0.20
831	433.44	32.17221316	-103.09253786	41.41	62.89	-0.02	0.23
832	433.96	32.17221507	-103.09254246	39.34	60.27	-0.02	0.21
833	434.48	32.17221549	-103.09254689	35.82	56.09	-0.02	0.21
834	435.00	32.17221477	-103.09255081	32.11	50.04	-0.01	0.19
835	435.53	32.17221279	-103.09255418	29.73	45.20	-0.01	0.18
836	436.05	32.17221113	-103.09255808	26.33	39.77	-0.02	0.14
837	436.57	32.17220970	-103.09256239	25.08	37.23	-0.03	0.15
838	437.09	32.17220863	-103.09256669	23.91	35.31	-0.03	0.18
839	437.61	32.17220776	-103.09257097	22.85	33.71	-0.02	0.16
840	438.14	32.17220654	-103.09257520	22.46	32.19	-0.02	0.14
841	438.66	32.17220519	-103.09257942	20.27	28.67	-0.04	0.10
842	439.18	32.17220263	-103.09258341	19.34	26.68	-0.03	0.10
843	439.70	32.17219980	-103.09258734	18.24	25.04	-0.04	0.10
844	440.22	32.17219600	-103.09258955	16.72	23.67	-0.04	0.08
845	440.75	32.17219210	-103.09259155	16.52	21.80	-0.04	0.11

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
846	441.27	32.17218845	-103.09258950	16.41	21.13	-0.04	0.07
847	441.79	32.17218483	-103.09258728	16.99	21.72	-0.04	0.09
848	442.31	32.17218154	-103.09258397	17.42	21.76	-0.03	0.05
849	442.84	32.17217834	-103.09258090	17.15	21.06	-0.03	0.09
850	443.36	32.17217553	-103.09257909	17.07	21.25	-0.03	0.08
851	443.88	32.17217264	-103.09257697	16.95	20.04	-0.03	0.07
852	444.40	32.17216942	-103.09257384	16.84	20.82	-0.04	0.07
853	444.93	32.17216659	-103.09257021	16.88	21.09	-0.04	0.09
854	445.45	32.17216454	-103.09256554	17.11	21.37	-0.03	0.11
855	445.97	32.17216254	-103.09256088	16.95	21.13	-0.04	0.09
856	446.49	32.17216061	-103.09255625	18.13	22.58	-0.03	0.12
857	447.01	32.17215911	-103.09255209	18.52	23.20	-0.02	0.13
858	447.54	32.17215803	-103.09254844	18.67	22.38	-0.01	0.12
859	448.06	32.17215752	-103.09254526	18.98	22.11	-0.02	0.13
860	448.58	32.17215741	-103.09254243	18.63	22.15	-0.02	0.14
861	449.10	32.17215695	-103.09253915	19.34	23.32	-0.01	0.14
862	449.62	32.17215632	-103.09253564	18.59	23.01	-0.03	0.11
863	450.15	32.17215601	-103.09253236	18.01	22.77	-0.04	0.14
864	450.67	32.17215582	-103.09252916	19.69	24.81	-0.04	0.12
865	451.19	32.17215602	-103.09252532	20.51	26.06	-0.03	0.14
866	451.71	32.17215631	-103.09252135	21.45	27.15	-0.03	0.14
867	452.23	32.17215581	-103.09251739	21.52	28.16	-0.03	0.16
868	452.76	32.17215523	-103.09251341	21.33	27.93	-0.03	0.16
869	453.28	32.17215466	-103.09250935	21.76	28.16	-0.03	0.16
870	453.80	32.17215412	-103.09250522	23.20	29.38	-0.03	0.15
871	454.33	32.17215395	-103.09250060	23.79	30.74	-0.02	0.16
872	454.86	32.17215356	-103.09249581	23.32	30.74	-0.03	0.14
873	455.37	32.17215233	-103.09249093	24.06	31.52	-0.02	0.15
874	455.89	32.17215120	-103.09248595	24.57	32.93	-0.02	0.19
875	456.41	32.17215043	-103.09248104	25.31	33.83	-0.03	0.17
876	456.93	32.17214986	-103.09247614	27.42	36.13	-0.02	0.18
877	457.46	32.17214967	-103.09247128	28.36	38.20	-0.02	0.18
878	457.98	32.17214940	-103.09246651	30.23	41.06	-0.03	0.19
879	458.50	32.17214901	-103.09246186	31.95	43.09	-0.03	0.18
880	459.03	32.17214848	-103.09245733	33.20	44.38	-0.04	0.18
881	459.55	32.17214781	-103.09245290	35.86	47.58	-0.04	0.19
882	460.07	32.17214731	-103.09244836	38.79	50.74	-0.03	0.20
883	460.59	32.17214693	-103.09244377	39.18	52.46	-0.02	0.18
884	461.11	32.17214609	-103.09243931	41.84	56.68	-0.02	0.20
885	461.64	32.17214504	-103.09243492	42.97	57.62	-0.01	0.23
886	462.16	32.17214357	-103.09243055	45.63	55.39	-0.03	0.19
887	462.68	32.17214199	-103.09242619	55.74	60.59	-0.02	0.20
888	463.20	32.17214070	-103.09242167	62.50	73.67	-0.03	0.22
889	463.72	32.17213946	-103.09241713	61.25	84.14	-0.02	0.24
890	464.25	32.17213884	-103.09241252	64.02	88.36	-0.01	0.26
891	464.77	32.17213824	-103.09240788	62.85	92.81	-0.02	0.27
892	465.29	32.17213710	-103.09240335	63.28	98.32	-0.01	0.29
893	465.81	32.17213601	-103.09239880	65.35	100.70	0.01	0.36
894	466.33	32.17213530	-103.09239411	68.48	103.91	0.01	0.33
895	466.86	32.17213470	-103.09238943	82.46	118.24	0.00	0.32
896	467.38	32.17213458	-103.09238485	95.23	118.56	-0.01	0.31
897	467.90	32.17213426	-103.09238015	112.66	110.82	-0.02	0.28
898	468.42	32.17213340	-103.09237512	141.88	123.24	-0.02	0.27
899	468.95	32.17213244	-103.09237035	151.60	139.61	-0.01	0.31
900	469.47	32.17213129	-103.09236606	145.20	141.17	-0.01	0.35
901	469.99	32.17213046	-103.09236185	139.49	132.23	0.01	0.36
902	470.51	32.17213002	-103.09235772	111.06	127.15	0.00	0.37
903	471.04	32.17212931	-103.09235337	97.27	132.31	0.00	0.38
904	471.56	32.17212835	-103.09234882	85.55	132.03	0.01	0.41
905	472.08	32.17212757	-103.09234424	74.65	118.05	0.00	0.38
906	472.60	32.17212690	-103.09233966	70.35	114.45	-0.01	0.37
907	473.12	32.17212718	-103.09233492	63.91	105.08	0.00	0.37
908	473.65	32.17212787	-103.09233011	58.95	97.81	0.00	0.37
909	474.17	32.17212808	-103.09232513	56.95	94.61	0.00	0.39
910	474.69	32.17212817	-103.09232011	55.63	91.13	0.00	0.41

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
911	475.21	32.17212732	-103.09231542	55.00	90.31	0.00	0.41
912	475.73	32.17212635	-103.09231081	57.27	92.66	0.01	0.43
913	476.26	32.17212625	-103.09230624	59.77	96.45	0.02	0.47
914	476.78	32.17212617	-103.09230170	60.82	97.77	0.01	0.46
915	477.30	32.17212563	-103.09229710	63.87	100.98	0.02	0.48
916	477.82	32.17212506	-103.09229247	67.70	106.37	0.02	0.48
917	478.35	32.17212428	-103.09228763	76.06	116.68	0.01	0.48
918	478.87	32.17212369	-103.09228273	93.52	136.17	0.02	0.50
919	479.39	32.17212378	-103.09227769	107.97	144.18	0.02	0.54
920	479.92	32.17212377	-103.09227249	153.83	150.27	0.01	0.56
921	480.44	32.17212352	-103.09226711	200.63	190.16	0.03	0.62
922	480.96	32.17212313	-103.09226234	223.36	233.13	0.02	0.64
923	481.48	32.17212250	-103.09225857	261.64	271.37	0.03	0.71
924	482.00	32.17212227	-103.09225476	303.16	298.56	0.04	0.77
925	482.53	32.17212249	-103.09225092	296.45	301.76	0.03	0.75
926	483.05	32.17212264	-103.09224873	296.68	301.13	0.04	0.79
927	483.57	32.17212274	-103.09224785	289.73	295.43	0.04	0.79
928	484.09	32.17212332	-103.09224717	293.67	290.27	0.05	0.76
929	484.61	32.17212417	-103.09224661	294.61	288.56	0.06	0.78
930	485.14	32.17212453	-103.09224660	285.12	285.86	0.06	0.75
931	485.66	32.17212472	-103.09224679	282.66	286.17	0.05	0.76
932	486.18	32.17212460	-103.09224666	286.21	285.04	0.06	0.77
933	486.70	32.17212441	-103.09224646	288.13	285.23	0.06	0.77
934	487.22	32.17212420	-103.09224634	289.57	287.23	0.06	0.77
935	487.75	32.17212400	-103.09224624	292.34	288.28	0.06	0.77
936	488.27	32.17212357	-103.09224569	296.21	287.97	0.06	0.78
937	488.79	32.17212314	-103.09224518	295.70	288.56	0.06	0.78
938	489.31	32.17212284	-103.09224526	303.01	291.91	0.05	0.78
939	489.83	32.17212267	-103.09224487	308.32	291.52	0.06	0.79
940	490.36	32.17212326	-103.09224184	313.95	289.34	0.07	0.78
941	490.88	32.17212360	-103.09223847	280.31	278.36	0.04	0.72
942	491.40	32.17212312	-103.09223397	260.43	275.47	0.04	0.72
943	491.93	32.17212257	-103.09222931	222.19	253.36	0.03	0.72
944	492.45	32.17212190	-103.09222433	211.76	268.75	0.00	0.69
945	492.97	32.17212147	-103.09221925	212.93	303.52	0.01	0.65
946	493.49	32.17212143	-103.09221401	192.46	257.85	0.02	0.65
947	494.01	32.17212136	-103.09220845	214.57	217.19	0.01	0.65
948	494.54	32.17212126	-103.09220259	224.26	228.71	0.02	0.65
949	495.06	32.17212091	-103.09219716	210.43	218.63	0.00	0.59
950	495.58	32.17212038	-103.09219203	212.38	208.36	0.00	0.58
951	496.10	32.17211984	-103.09218708	209.77	209.57	0.00	0.57
952	496.62	32.17211928	-103.09218224	205.82	227.15	-0.02	0.57
953	497.15	32.17211949	-103.09217778	220.78	251.95	0.01	0.59
954	497.67	32.17211997	-103.09217345	226.95	257.19	0.01	0.57
955	498.19	32.17211999	-103.09216859	246.52	258.67	0.01	0.57
956	498.71	32.17211993	-103.09216360	252.07	248.87	0.02	0.56
957	499.23	32.17211957	-103.09215940	235.66	249.18	-0.01	0.48
958	499.76	32.17211919	-103.09215529	259.34	257.46	0.00	0.48
959	500.28	32.17212025	-103.09215153	284.10	248.56	0.00	0.48
960	500.80	32.17212134	-103.09214797	268.59	264.34	-0.02	0.42
961	501.32	32.17212291	-103.09214652	264.49	287.19	-0.02	0.41
962	501.85	32.17212420	-103.09214535	259.53	289.73	-0.01	0.39
963	502.37	32.17212408	-103.09214552	283.56	287.42	0.00	0.40
964	502.89	32.17212391	-103.09214567	292.19	283.01	0.01	0.41
965	503.41	32.17212360	-103.09214576	288.95	287.54	0.00	0.41
966	503.94	32.17212299	-103.09214505	291.84	293.48	0.00	0.41
967	504.46	32.17212178	-103.09214285	305.74	298.01	0.00	0.44
968	504.98	32.17212109	-103.09213975	290.55	289.22	-0.01	0.40
969	505.50	32.17212110	-103.09213544	243.75	232.58	-0.03	0.34
970	506.02	32.17212170	-103.09213126	198.67	173.36	-0.02	0.29
971	506.55	32.17212286	-103.09212718	144.61	140.51	-0.02	0.23
972	507.07	32.17212363	-103.09212290	112.85	115.82	-0.03	0.20
973	507.59	32.17212415	-103.09211848	80.70	91.25	-0.02	0.20
974	508.11	32.17212427	-103.09211411	62.54	73.91	-0.03	0.17
975	508.63	32.17212420	-103.09210976	55.43	75.74	-0.03	0.14

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
976	509.16	32.17212455	-103.09210576	48.75	73.01	-0.02	0.15
977	509.68	32.17212502	-103.09210185	40.47	60.35	-0.02	0.15
978	510.20	32.17212511	-103.09209779	34.73	49.96	-0.01	0.14
979	510.72	32.17212515	-103.09209369	30.16	42.54	-0.01	0.15
980	511.25	32.17212494	-103.09209032	26.13	35.31	-0.03	0.13
981	511.77	32.17212476	-103.09208702	23.98	31.68	-0.02	0.14
982	512.29	32.17212666	-103.09208506	21.68	27.23	-0.02	0.12
983	512.81	32.17212807	-103.09208342	20.27	26.09	-0.04	0.09
984	513.33	32.17212557	-103.09208434	22.66	27.66	-0.04	0.09
985	513.86	32.17212314	-103.09208569	23.98	28.95	-0.04	0.09
986	514.38	32.17212108	-103.09208883	26.21	30.35	-0.04	0.10
987	514.90	32.17211906	-103.09209216	27.27	33.20	-0.04	0.11
988	515.42	32.17211710	-103.09209602	28.28	35.39	-0.05	0.10
989	515.94	32.17211453	-103.09209931	30.55	37.23	-0.03	0.09
990	516.47	32.17211084	-103.09210162	31.88	40.66	-0.05	0.08
991	516.99	32.17210724	-103.09210389	32.34	42.50	-0.05	0.10
992	517.51	32.17210372	-103.09210612	32.38	42.93	-0.04	0.11
993	518.03	32.17210048	-103.09210864	31.60	41.80	-0.04	0.09
994	518.56	32.17209750	-103.09211141	31.09	39.88	-0.03	0.09
995	519.08	32.17209486	-103.09211436	31.02	40.20	-0.03	0.13
996	519.60	32.17209242	-103.09211743	31.64	40.66	-0.04	0.12
997	520.12	32.17209016	-103.09212053	33.44	42.54	-0.03	0.13
998	520.65	32.17208798	-103.09212365	37.15	47.03	-0.03	0.15
999	521.17	32.17208725	-103.09212729	41.48	52.89	-0.04	0.17
1000	521.69	32.17208692	-103.09213109	45.04	57.85	-0.03	0.16
1001	522.21	32.17208593	-103.09213516	50.63	68.13	-0.03	0.17
1002	522.73	32.17208484	-103.09213927	55.43	74.96	-0.03	0.16
1003	523.25	32.17208405	-103.09214375	66.84	87.77	-0.02	0.19
1004	523.78	32.17208333	-103.09214824	84.10	109.61	-0.02	0.22
1005	524.30	32.17208367	-103.09215284	107.46	130.90	-0.03	0.23
1006	524.82	32.17208394	-103.09215741	142.70	159.73	-0.02	0.30
1007	525.35	32.17208372	-103.09216172	187.11	177.19	-0.02	0.33
1008	525.87	32.17208350	-103.09216623	245.94	185.55	-0.01	0.37
1009	526.39	32.17208327	-103.09217150	286.95	212.34	0.00	0.42
1010	526.92	32.17208340	-103.09217670	262.42	231.91	0.01	0.45
1011	527.43	32.17208434	-103.09218157	253.59	254.73	0.01	0.48
1012	527.96	32.17208516	-103.09218645	248.16	286.52	0.02	0.54
1013	528.48	32.17208576	-103.09219132	225.59	270.94	-0.01	0.53
1014	529.00	32.17208574	-103.09219596	234.84	254.77	0.01	0.54
1015	529.52	32.17208503	-103.09220032	233.20	255.00	0.01	0.56
1016	530.04	32.17208484	-103.09220457	229.18	258.79	0.01	0.57
1017	530.57	32.17208505	-103.09220875	225.47	253.05	0.02	0.59
1018	531.09	32.17208543	-103.09221326	236.09	245.43	0.01	0.59
1019	531.61	32.17208590	-103.09221798	244.57	247.62	0.02	0.63
1020	532.13	32.17208548	-103.09222213	229.57	234.34	0.02	0.66
1021	532.65	32.17208471	-103.09222605	219.18	228.28	0.02	0.62
1022	533.18	32.17208438	-103.09223105	216.29	242.34	0.02	0.62
1023	533.70	32.17208415	-103.09223630	212.77	268.67	0.03	0.64
1024	534.22	32.17208447	-103.09224117	196.64	263.63	0.01	0.60
1025	534.75	32.17208486	-103.09224599	193.63	248.44	0.02	0.60
1026	535.27	32.17208464	-103.09225048	200.43	225.23	0.02	0.60
1027	535.79	32.17208439	-103.09225497	212.77	220.51	0.01	0.62
1028	536.31	32.17208387	-103.09225969	200.39	212.62	0.02	0.62
1029	536.83	32.17208347	-103.09226442	179.41	198.79	0.01	0.60
1030	537.36	32.17208377	-103.09226900	181.68	199.02	0.01	0.58
1031	537.88	32.17208401	-103.09227359	185.86	192.89	0.02	0.58
1032	538.40	32.17208406	-103.09227821	185.90	186.02	0.01	0.54
1033	538.92	32.17208412	-103.09228299	210.27	187.58	0.01	0.52
1034	539.45	32.17208418	-103.09228808	226.68	191.91	0.01	0.50
1035	539.97	32.17208443	-103.09229328	210.00	213.95	-0.01	0.46
1036	540.49	32.17208495	-103.09229862	191.41	195.86	0.01	0.46
1037	541.01	32.17208545	-103.09230389	187.34	177.27	0.00	0.47
1038	541.53	32.17208593	-103.09230907	206.17	178.01	-0.01	0.46
1039	542.06	32.17208586	-103.09231383	194.84	173.40	0.02	0.46
1040	542.58	32.17208539	-103.09231825	166.88	162.27	0.01	0.45

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1041	543.10	32.17208529	-103.09232332	159.96	155.70	0.00	0.43
1042	543.62	32.17208538	-103.09232873	154.53	155.16	0.02	0.43
1043	544.14	32.17208564	-103.09233395	121.80	157.54	0.01	0.40
1044	544.67	32.17208596	-103.09233912	105.16	154.30	0.00	0.36
1045	545.19	32.17208598	-103.09234413	91.17	148.91	-0.01	0.35
1046	545.71	32.17208594	-103.09234913	83.48	138.09	-0.01	0.35
1047	546.22	32.17208575	-103.09235348	80.43	129.73	-0.01	0.35
1048	546.73	32.17208555	-103.09235776	82.46	129.30	-0.01	0.34
1049	547.27	32.17208556	-103.09236303	85.94	127.07	-0.01	0.33
1050	547.80	32.17208557	-103.09236833	86.80	128.71	0.00	0.35
1051	548.32	32.17208561	-103.09237372	87.23	129.30	-0.01	0.33
1052	548.85	32.17208565	-103.09237911	91.21	134.02	0.00	0.33
1053	549.37	32.17208567	-103.09238405	98.24	150.47	-0.01	0.31
1054	549.89	32.17208576	-103.09238904	114.69	160.59	-0.01	0.33
1055	550.41	32.17208607	-103.09239393	142.23	145.12	-0.01	0.35
1056	550.93	32.17208663	-103.09239880	178.75	158.83	-0.02	0.32
1057	551.46	32.17208766	-103.09240367	203.24	185.59	-0.02	0.30
1058	551.98	32.17208831	-103.09240853	215.04	185.04	-0.01	0.31
1059	552.50	32.17208844	-103.09241336	202.81	176.99	-0.02	0.26
1060	553.02	32.17208846	-103.09241787	171.80	150.35	-0.02	0.24
1061	553.54	32.17208836	-103.09242207	125.90	120.78	-0.01	0.25
1062	554.07	32.17208853	-103.09242679	89.84	114.30	-0.02	0.24
1063	554.59	32.17208888	-103.09243187	71.09	111.64	-0.01	0.23
1064	555.11	32.17208917	-103.09243685	56.33	100.47	-0.01	0.26
1065	555.63	32.17208944	-103.09244177	50.70	89.41	-0.03	0.23
1066	556.15	32.17208864	-103.09244554	49.49	82.77	-0.03	0.22
1067	556.68	32.17208750	-103.09244896	49.73	78.75	-0.03	0.20
1068	557.20	32.17208727	-103.09245296	57.31	82.46	-0.02	0.16
1069	557.72	32.17208720	-103.09245704	67.11	74.02	-0.03	0.18
1070	558.25	32.17208833	-103.09246122	82.31	67.11	-0.04	0.17
1071	558.77	32.17208951	-103.09246541	103.91	76.60	-0.02	0.18
1072	559.29	32.17208918	-103.09246935	111.06	94.18	-0.02	0.18
1073	559.81	32.17208894	-103.09247339	97.27	97.15	-0.03	0.14
1074	560.33	32.17208942	-103.09247838	86.25	93.79	-0.03	0.12
1075	560.86	32.17208999	-103.09248318	65.90	75.78	-0.03	0.12
1076	561.38	32.17209087	-103.09248716	41.25	48.44	-0.04	0.09
1077	561.90	32.17209142	-103.09249112	29.81	32.46	-0.03	0.12
1078	562.42	32.17209107	-103.09249503	23.98	28.20	-0.04	0.13
1079	562.95	32.17209100	-103.09249930	20.35	26.68	-0.05	0.12
1080	563.47	32.17209145	-103.09250423	19.10	24.10	-0.03	0.12
1081	563.99	32.17209205	-103.09250908	17.77	21.13	-0.04	0.10
1082	564.51	32.17209284	-103.09251383	16.76	19.81	-0.05	0.09
1083	565.03	32.17209340	-103.09251855	16.60	18.40	-0.04	0.11
1084	565.56	32.17209374	-103.09252325	15.86	17.07	-0.04	0.12
1085	566.08	32.17209392	-103.09252766	15.86	16.91	-0.03	0.11
1086	566.60	32.17209400	-103.09253189	15.20	16.17	-0.03	0.13
1087	567.12	32.17209448	-103.09253592	14.18	14.65	-0.05	0.11
1088	567.64	32.17209513	-103.09253985	15.59	15.12	-0.03	0.09
1089	568.17	32.17209509	-103.09254417	15.12	14.69	-0.03	0.11
1090	568.69	32.17209487	-103.09254857	13.79	13.79	-0.05	0.10
1091	569.21	32.17209257	-103.09255210	13.83	13.44	-0.04	0.08
1092	569.73	32.17208997	-103.09255552	13.28	12.19	-0.04	0.07
1093	570.25	32.17208500	-103.09255699	13.40	12.03	-0.04	0.09
1094	570.78	32.17207990	-103.09255827	12.93	11.84	-0.04	0.10
1095	571.30	32.17207495	-103.09255697	13.32	12.27	-0.04	0.09
1096	571.82	32.17207028	-103.09255543	13.48	13.05	-0.05	0.10
1097	572.34	32.17206749	-103.09255228	13.91	13.20	-0.04	0.07
1098	572.86	32.17206466	-103.09254903	13.28	12.77	-0.06	0.05
1099	573.39	32.17206170	-103.09254542	15.12	14.84	-0.04	0.10
1100	573.92	32.17205895	-103.09254151	15.86	15.94	-0.03	0.12
1101	574.43	32.17205683	-103.09253714	16.09	16.99	-0.05	0.10
1102	574.96	32.17205540	-103.09253267	17.46	18.16	-0.02	0.11
1103	575.48	32.17205512	-103.09252814	17.31	17.89	-0.03	0.11
1104	576.00	32.17205517	-103.09252338	16.95	18.36	-0.04	0.11
1105	576.52	32.17205559	-103.09251833	16.99	18.91	-0.04	0.10

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1106	577.04	32.17205589	-103.09251374	17.07	18.40	-0.04	0.07
1107	577.57	32.17205609	-103.09250954	17.50	19.61	-0.04	0.07
1108	578.09	32.17205635	-103.09250445	19.10	21.37	-0.03	0.10
1109	578.61	32.17205664	-103.09249886	20.12	24.10	-0.03	0.12
1110	579.13	32.17205670	-103.09249413	23.56	29.30	-0.03	0.13
1111	579.65	32.17205666	-103.09248971	27.38	34.45	-0.04	0.13
1112	580.18	32.17205571	-103.09248508	31.52	40.08	-0.04	0.14
1113	580.70	32.17205455	-103.09248039	37.03	43.95	-0.01	0.15
1114	581.22	32.17205325	-103.09247617	41.17	47.89	-0.01	0.14
1115	581.75	32.17205194	-103.09247202	47.46	53.28	-0.02	0.14
1116	582.27	32.17205162	-103.09246778	53.16	63.48	-0.01	0.17
1117	582.79	32.17205129	-103.09246351	56.64	73.40	-0.01	0.17
1118	583.31	32.17205063	-103.09245885	61.91	84.65	-0.02	0.18
1119	583.83	32.17205006	-103.09245420	69.77	88.09	-0.01	0.21
1120	584.36	32.17205002	-103.09244968	75.63	94.84	-0.02	0.21
1121	584.88	32.17205001	-103.09244520	87.66	106.76	-0.02	0.21
1122	585.40	32.17205011	-103.09244089	97.38	99.53	-0.01	0.22
1123	585.92	32.17204992	-103.09243650	116.72	91.17	-0.02	0.22
1124	586.45	32.17204906	-103.09243194	126.25	107.77	-0.01	0.23
1125	586.97	32.17204817	-103.09242744	121.09	123.16	0.00	0.24
1126	587.49	32.17204721	-103.09242301	119.38	134.18	-0.01	0.24
1127	588.01	32.17204649	-103.09241866	120.59	143.91	0.00	0.26
1128	588.53	32.17204600	-103.09241434	123.16	156.37	0.00	0.28
1129	589.06	32.17204529	-103.09241065	127.89	165.70	-0.01	0.28
1130	589.58	32.17204441	-103.09240743	141.88	173.05	0.00	0.27
1131	590.10	32.17204398	-103.09240329	169.96	180.86	0.00	0.29
1132	590.62	32.17204379	-103.09239867	198.98	181.29	-0.01	0.30
1133	591.15	32.17204422	-103.09239417	204.53	161.52	0.00	0.28
1134	591.67	32.17204485	-103.09238970	176.56	145.70	-0.01	0.29
1135	592.19	32.17204453	-103.09238509	139.61	140.78	-0.01	0.27
1136	592.71	32.17204401	-103.09238044	98.87	130.51	0.01	0.31
1137	593.22	32.17204322	-103.09237621	68.67	108.98	-0.01	0.29
1138	593.73	32.17204240	-103.09237203	56.45	95.90	0.00	0.28
1139	594.27	32.17204209	-103.09236792	49.30	83.71	0.01	0.29
1140	594.80	32.17204170	-103.09236379	43.36	72.03	-0.01	0.27
1141	595.32	32.17204014	-103.09235918	41.91	66.88	0.00	0.25
1142	595.85	32.17203869	-103.09235454	41.56	63.36	0.01	0.26
1143	596.36	32.17203788	-103.09235016	42.11	61.06	-0.01	0.24
1144	596.89	32.17203729	-103.09234582	45.70	64.77	-0.01	0.24
1145	597.41	32.17203739	-103.09234181	52.07	71.17	-0.01	0.27
1146	597.93	32.17203729	-103.09233778	57.77	78.83	-0.02	0.25
1147	598.46	32.17203678	-103.09233367	67.15	87.85	-0.01	0.26
1148	598.98	32.17203615	-103.09232959	76.21	93.67	-0.01	0.28
1149	599.50	32.17203535	-103.09232559	97.81	108.48	-0.02	0.30
1150	600.02	32.17203522	-103.09232131	117.97	128.67	-0.01	0.30
1151	600.54	32.17203574	-103.09231681	134.41	133.32	0.00	0.30
1152	601.07	32.17203604	-103.09231185	177.27	146.37	0.00	0.34
1153	601.59	32.17203617	-103.09230658	201.09	181.72	0.00	0.38
1154	602.11	32.17203611	-103.09230162	195.66	192.34	0.00	0.40
1155	602.64	32.17203596	-103.09229680	222.38	214.88	0.00	0.40
1156	603.16	32.17203630	-103.09229211	227.23	235.78	0.00	0.44
1157	603.68	32.17203680	-103.09228746	217.77	237.66	-0.01	0.44
1158	604.20	32.17203734	-103.09228259	220.43	237.11	0.00	0.43
1159	604.72	32.17203788	-103.09227769	220.47	248.05	0.01	0.45
1160	605.24	32.17203808	-103.09227303	198.63	247.03	0.00	0.44
1161	605.77	32.17203828	-103.09226838	163.48	215.47	0.01	0.43
1162	606.29	32.17203979	-103.09226352	153.87	207.77	0.01	0.42
1163	606.81	32.17204131	-103.09225872	154.49	228.56	-0.01	0.44
1164	607.33	32.17204289	-103.09225421	163.71	230.55	0.01	0.46
1165	607.85	32.17204424	-103.09224959	166.80	216.48	0.00	0.45
1166	608.38	32.17204458	-103.09224439	174.53	217.27	0.01	0.46
1167	608.90	32.17204483	-103.09223925	178.01	218.91	0.02	0.45
1168	609.42	32.17204485	-103.09223435	168.32	223.05	-0.01	0.45
1169	609.94	32.17204490	-103.09222945	152.58	217.66	0.00	0.41
1170	610.47	32.17204499	-103.09222453	130.66	196.52	-0.01	0.38

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1171	610.99	32.17204488	-103.09221947	126.72	188.01	-0.01	0.38
1172	611.51	32.17204453	-103.09221426	122.07	184.14	0.00	0.37
1173	612.03	32.17204393	-103.09220955	111.45	171.88	-0.01	0.33
1174	612.56	32.17204311	-103.09220527	105.59	161.06	-0.01	0.32
1175	613.08	32.17204272	-103.09220098	95.78	137.93	-0.01	0.29
1176	613.60	32.17204260	-103.09219669	91.33	118.05	-0.02	0.25
1177	614.12	32.17204254	-103.09219254	96.06	116.60	-0.02	0.25
1178	614.64	32.17204251	-103.09218847	88.56	117.15	-0.02	0.23
1179	615.17	32.17204151	-103.09218464	81.99	105.70	-0.03	0.21
1180	615.69	32.17204024	-103.09218087	79.14	92.31	-0.02	0.21
1181	616.21	32.17203950	-103.09217765	67.73	80.35	-0.02	0.19
1182	616.73	32.17203883	-103.09217450	58.32	69.96	-0.02	0.17
1183	617.25	32.17203892	-103.09217307	51.99	63.20	-0.01	0.19
1184	617.78	32.17203904	-103.09217172	47.34	59.45	-0.01	0.17
1185	618.30	32.17203876	-103.09217055	40.98	53.52	-0.03	0.13
1186	618.82	32.17203866	-103.09216911	37.50	48.16	-0.03	0.10
1187	619.34	32.17203978	-103.09216576	31.99	41.56	-0.03	0.10
1188	619.87	32.17204074	-103.09216240	28.05	36.99	-0.03	0.10
1189	620.39	32.17204112	-103.09215899	24.73	32.42	-0.03	0.10
1190	620.91	32.17204106	-103.09215593	21.52	29.14	-0.03	0.11
1191	621.43	32.17204001	-103.09215375	19.61	25.43	-0.03	0.11
1192	621.96	32.17203924	-103.09215053	18.05	22.34	-0.03	0.06
1193	622.48	32.17203895	-103.09214560	17.23	20.31	-0.03	0.08
1194	623.00	32.17203834	-103.09214119	16.13	18.32	-0.04	0.09
1195	623.52	32.17203736	-103.09213736	16.02	17.66	-0.03	0.07
1196	624.04	32.17203734	-103.09213371	15.27	16.91	-0.03	0.09
1197	624.57	32.17203810	-103.09213019	14.88	16.25	-0.03	0.10
1198	625.09	32.17203809	-103.09212717	14.84	15.74	-0.03	0.12
1199	625.61	32.17203766	-103.09212445	14.38	14.57	-0.03	0.10
1200	626.13	32.17203719	-103.09212131	13.91	13.98	-0.04	0.11
1201	626.66	32.17203670	-103.09211801	13.98	13.87	-0.04	0.10
1202	627.18	32.17203443	-103.09211505	15.23	14.77	-0.03	0.12
1203	627.70	32.17203173	-103.09211217	20.16	16.60	-0.02	0.12
1204	628.22	32.17202882	-103.09211187	37.42	17.50	-0.03	0.05
1205	628.74	32.17202587	-103.09211188	44.22	16.02	0.02	-0.10
1206	629.27	32.17202306	-103.09211374	33.44	-7.77	0.06	-0.49
1207	629.79	32.17202025	-103.09211573	20.43	-55.00	-0.02	-0.45
1208	630.31	32.17201707	-103.09211918	17.62	4.96	-0.02	0.03
1209	630.83	32.17201399	-103.09212262	16.56	15.43	-0.03	0.09
1210	631.36	32.17201151	-103.09212604	17.15	17.23	-0.02	0.09
1211	631.88	32.17200886	-103.09212908	17.54	18.32	-0.02	0.12
1212	632.40	32.17200565	-103.09213085	17.27	18.36	-0.02	0.13
1213	632.92	32.17200271	-103.09213212	17.70	18.36	-0.02	0.10
1214	633.44	32.17200038	-103.09213227	17.46	19.49	-0.03	0.11
1215	633.96	32.17199921	-103.09213251	17.66	19.81	-0.03	0.12
1216	634.49	32.17199979	-103.09213288	18.20	20.20	-0.02	0.10
1217	635.01	32.17199993	-103.09213330	19.06	19.81	-0.01	0.11
1218	635.53	32.17199960	-103.09213377	18.67	20.08	-0.01	0.11
1219	636.06	32.17199779	-103.09213480	18.67	20.70	-0.01	0.11
1220	636.58	32.17199487	-103.09213626	18.52	20.39	-0.02	0.13
1221	637.10	32.17199206	-103.09213919	18.83	21.17	-0.02	0.12
1222	637.62	32.17198931	-103.09214292	19.73	23.01	-0.02	0.11
1223	638.14	32.17198624	-103.09214642	19.77	23.75	-0.02	0.13
1224	638.67	32.17198306	-103.09214984	20.39	23.71	-0.03	0.13
1225	639.19	32.17198009	-103.09215344	21.45	23.95	-0.02	0.11
1226	639.71	32.17197717	-103.09215706	21.45	25.39	-0.02	0.14
1227	640.22	32.17197612	-103.09216174	22.23	26.84	-0.01	0.14
1228	640.73	32.17197527	-103.09216651	22.03	26.52	0.00	0.14
1229	641.26	32.17197550	-103.09217055	21.84	27.73	-0.02	0.12
1230	641.80	32.17197578	-103.09217457	21.99	28.16	-0.04	0.08
1231	642.32	32.17197589	-103.09217883	22.70	29.41	-0.03	0.10
1232	642.85	32.17197615	-103.09218300	23.63	30.27	-0.03	0.14
1233	643.36	32.17197702	-103.09218632	25.00	32.50	-0.03	0.13
1234	643.89	32.17197749	-103.09218986	26.80	35.31	-0.03	0.15
1235	644.41	32.17197676	-103.09219388	28.36	38.13	-0.03	0.16

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1236	644.93	32.17197608	-103.09219773	32.73	45.12	-0.02	0.20
1237	645.45	32.17197551	-103.09220124	36.41	50.08	-0.03	0.19
1238	645.98	32.17197583	-103.09220452	38.67	53.05	-0.02	0.20
1239	646.50	32.17197738	-103.09220747	43.20	58.67	-0.02	0.18
1240	647.02	32.17197891	-103.09221049	48.52	65.43	-0.02	0.20
1241	647.54	32.17198041	-103.09221356	54.69	72.23	-0.02	0.21
1242	648.06	32.17198232	-103.09221659	72.46	82.81	-0.02	0.23
1243	648.59	32.17198453	-103.09221959	88.67	81.88	-0.03	0.23
1244	649.11	32.17198678	-103.09222135	109.92	85.43	-0.03	0.23
1245	649.63	32.17198903	-103.09222251	145.12	102.70	-0.03	0.24
1246	650.15	32.17199083	-103.09222458	162.97	125.70	-0.03	0.24
1247	650.68	32.17199250	-103.09222694	169.84	141.88	-0.03	0.24
1248	651.20	32.17199480	-103.09222817	172.38	148.71	-0.01	0.26
1249	651.72	32.17199723	-103.09222920	167.46	149.45	-0.02	0.26
1250	652.24	32.17199832	-103.09223094	162.15	144.34	-0.02	0.25
1251	652.76	32.17199932	-103.09223273	148.98	136.99	-0.01	0.26
1252	653.29	32.17200140	-103.09223392	139.61	131.25	-0.01	0.28
1253	653.81	32.17200323	-103.09223513	133.13	128.98	-0.02	0.28
1254	654.33	32.17200271	-103.09223644	131.72	127.58	-0.02	0.29
1255	654.85	32.17200234	-103.09223778	132.85	123.63	-0.01	0.28
1256	655.38	32.17200260	-103.09223923	119.14	128.20	0.00	0.31
1257	655.90	32.17200275	-103.09224035	110.16	138.48	-0.01	0.32
1258	656.42	32.17200260	-103.09224057	110.70	137.81	-0.01	0.32
1259	656.94	32.17200200	-103.09224142	109.02	135.31	0.01	0.32
1260	657.46	32.17200056	-103.09224342	103.16	143.48	0.01	0.35
1261	657.99	32.17200015	-103.09224634	92.46	147.58	-0.01	0.35
1262	658.51	32.17200104	-103.09225040	91.13	143.05	0.01	0.34
1263	659.03	32.17200166	-103.09225463	83.52	133.98	0.01	0.36
1264	659.55	32.17200203	-103.09225899	68.67	114.14	0.00	0.34
1265	660.08	32.17200192	-103.09226280	58.32	98.52	0.01	0.32
1266	660.60	32.17200150	-103.09226626	54.18	89.06	0.01	0.34
1267	661.12	32.17200170	-103.09227032	48.98	80.43	-0.01	0.32
1268	661.64	32.17200216	-103.09227463	47.07	75.94	0.01	0.32
1269	662.17	32.17200218	-103.09227870	43.01	69.02	0.01	0.33
1270	662.69	32.17200209	-103.09228270	38.52	61.84	0.00	0.31
1271	663.21	32.17200152	-103.09228709	37.07	56.72	0.01	0.31
1272	663.73	32.17200089	-103.09229155	34.26	51.52	0.02	0.30
1273	664.25	32.17200146	-103.09229629	31.06	46.68	0.00	0.30
1274	664.78	32.17200211	-103.09230103	30.94	44.22	0.01	0.30
1275	665.30	32.17200295	-103.09230532	29.88	42.73	0.01	0.30
1276	665.82	32.17200378	-103.09230974	29.06	42.42	-0.01	0.29
1277	666.34	32.17200463	-103.09231508	29.84	41.88	0.01	0.29
1278	666.86	32.17200566	-103.09232036	27.77	39.14	0.01	0.28
1279	667.39	32.17200742	-103.09232550	27.54	37.89	0.01	0.28
1280	667.92	32.17200951	-103.09233049	27.93	38.13	0.02	0.31
1281	668.43	32.17201224	-103.09233487	28.32	40.00	0.01	0.29
1282	668.95	32.17201483	-103.09233926	28.63	40.70	0.02	0.29
1283	669.48	32.17201710	-103.09234360	27.46	39.02	0.01	0.29
1284	670.00	32.17201947	-103.09234799	28.56	40.82	0.01	0.27
1285	670.52	32.17202198	-103.09235246	30.00	42.31	0.01	0.30
1286	671.04	32.17202441	-103.09235741	31.37	45.23	-0.01	0.30
1287	671.57	32.17202679	-103.09236275	34.96	48.95	0.00	0.28
1288	672.09	32.17202892	-103.09236758	39.81	55.16	0.00	0.28
1289	672.61	32.17203091	-103.09237210	49.53	66.68	-0.01	0.28
1290	673.13	32.17203200	-103.09237680	70.23	81.17	0.00	0.30
1291	673.65	32.17203274	-103.09238156	100.74	99.22	-0.01	0.32
1292	674.18	32.17203325	-103.09238683	143.05	119.61	0.00	0.32
1293	674.70	32.17203370	-103.09239223	145.12	119.30	0.00	0.31
1294	675.22	32.17203463	-103.09239730	127.54	125.55	-0.01	0.34
1295	675.74	32.17203563	-103.09240233	114.53	136.91	0.01	0.34
1296	676.26	32.17203667	-103.09240713	98.75	128.28	0.01	0.33
1297	676.79	32.17203770	-103.09241193	98.87	124.18	0.01	0.34
1298	677.31	32.17203834	-103.09241680	101.48	123.09	0.01	0.33
1299	677.83	32.17203900	-103.09242177	105.70	117.03	0.00	0.32
1300	678.35	32.17203980	-103.09242724	97.07	102.23	0.01	0.32

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1301	678.88	32.17204052	-103.09243262	81.25	88.52	0.00	0.30
1302	679.40	32.17204099	-103.09243775	68.28	86.64	0.00	0.29
1303	679.92	32.17204117	-103.09244288	57.97	82.38	0.02	0.30
1304	680.44	32.17204073	-103.09244805	46.52	71.56	0.01	0.29
1305	680.97	32.17204023	-103.09245316	42.19	64.88	0.00	0.28
1306	681.49	32.17203965	-103.09245822	37.89	58.32	0.00	0.27
1307	682.01	32.17203934	-103.09246327	34.10	51.88	-0.01	0.26
1308	682.53	32.17203930	-103.09246829	32.15	46.68	0.00	0.25
1309	683.05	32.17203960	-103.09247371	30.04	43.59	0.00	0.26
1310	683.57	32.17204015	-103.09247941	28.01	40.98	0.00	0.25
1311	684.10	32.17204037	-103.09248460	26.84	37.46	0.01	0.24
1312	684.62	32.17204041	-103.09248951	23.16	32.38	-0.01	0.23
1313	685.14	32.17204072	-103.09249492	21.64	28.59	0.00	0.23
1314	685.66	32.17204113	-103.09250051	20.39	26.48	0.01	0.23
1315	686.19	32.17204157	-103.09250622	18.79	23.98	-0.01	0.22
1316	686.71	32.17204201	-103.09251196	18.48	21.84	0.00	0.21
1317	687.22	32.17204248	-103.09251692	16.41	19.02	0.00	0.20
1318	687.74	32.17204294	-103.09252181	16.37	18.59	0.00	0.21
1319	688.27	32.17204353	-103.09252676	16.09	17.58	0.00	0.22
1320	688.80	32.17204391	-103.09253172	15.51	16.60	-0.02	0.20
1321	689.32	32.17204175	-103.09253667	14.88	15.78	-0.01	0.19
1322	689.84	32.17203947	-103.09254122	13.48	13.83	0.00	0.17
1323	690.36	32.17203657	-103.09254354	12.93	13.16	0.00	0.19
1324	690.89	32.17203335	-103.09254522	13.05	12.50	0.01	0.17
1325	691.41	32.17202914	-103.09254502	12.54	11.68	0.01	0.18
1326	691.93	32.17202501	-103.09254422	13.56	13.36	0.00	0.17
1327	692.45	32.17202106	-103.09254227	14.38	13.87	0.00	0.20
1328	692.97	32.17201711	-103.09253966	14.61	14.26	-0.01	0.16
1329	693.50	32.17201315	-103.09253612	15.00	15.94	-0.01	0.16
1330	694.02	32.17201080	-103.09253222	15.90	17.50	-0.01	0.18
1331	694.54	32.17201004	-103.09252796	16.13	18.24	-0.01	0.19
1332	695.07	32.17200913	-103.09252320	17.62	20.23	0.00	0.19
1333	695.59	32.17200814	-103.09251810	17.70	20.63	0.01	0.22
1334	696.11	32.17200701	-103.09251383	18.13	21.29	-0.01	0.20
1335	696.63	32.17200582	-103.09250995	18.98	22.54	-0.01	0.20
1336	697.15	32.17200490	-103.09250541	20.16	24.02	0.00	0.23
1337	697.68	32.17200405	-103.09250066	20.66	25.04	-0.01	0.22
1338	698.20	32.17200331	-103.09249551	21.52	26.52	0.01	0.22
1339	698.72	32.17200258	-103.09249028	22.15	28.48	0.02	0.25
1340	699.24	32.17200108	-103.09248597	22.93	28.98	0.01	0.25
1341	699.76	32.17199951	-103.09248173	24.26	31.33	0.01	0.25
1342	700.29	32.17199678	-103.09247789	24.69	33.71	0.00	0.23
1343	700.81	32.17199421	-103.09247399	26.13	35.90	-0.01	0.19
1344	701.33	32.17199322	-103.09246978	27.31	36.95	-0.01	0.20
1345	701.85	32.17199200	-103.09246585	26.80	36.52	-0.01	0.19
1346	702.38	32.17198984	-103.09246310	29.34	39.65	-0.01	0.20
1347	702.90	32.17198768	-103.09246006	30.27	41.25	-0.01	0.21
1348	703.42	32.17198553	-103.09245625	32.34	44.57	-0.02	0.20
1349	703.94	32.17198375	-103.09245223	35.12	48.71	0.00	0.20
1350	704.46	32.17198263	-103.09244781	35.90	49.69	0.00	0.24
1351	704.99	32.17198148	-103.09244342	38.01	52.97	0.00	0.23
1352	705.51	32.17198027	-103.09243906	39.84	55.12	0.00	0.24
1353	706.03	32.17197876	-103.09243518	38.67	55.74	-0.03	0.16
1354	706.55	32.17197698	-103.09243174	39.81	56.88	-0.01	0.16
1355	707.08	32.17197588	-103.09242754	40.12	57.77	-0.02	0.14
1356	707.60	32.17197521	-103.09242286	39.88	58.83	-0.03	0.13
1357	708.12	32.17197446	-103.09241812	41.56	59.41	-0.02	0.13
1358	708.64	32.17197368	-103.09241333	38.67	56.52	-0.02	0.14
1359	709.16	32.17197238	-103.09240837	36.33	54.77	-0.02	0.17
1360	709.68	32.17197093	-103.09240334	35.27	51.99	-0.01	0.16
1361	710.21	32.17196971	-103.09239938	32.31	46.80	-0.02	0.13
1362	710.73	32.17196853	-103.09239561	29.22	42.81	-0.02	0.12
1363	711.25	32.17196830	-103.09239289	28.16	40.23	-0.03	0.12
1364	711.78	32.17196815	-103.09239018	27.03	37.27	-0.03	0.08
1365	712.30	32.17196901	-103.09238581	25.98	35.82	-0.02	0.10

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1366	712.82	32.17196982	-103.09238144	23.09	32.58	-0.02	0.08
1367	713.34	32.17197032	-103.09237687	22.27	29.92	-0.02	0.12
1368	713.86	32.17197065	-103.09237226	22.31	28.87	-0.03	0.11
1369	714.39	32.17197026	-103.09236751	20.12	26.45	-0.03	0.08
1370	714.92	32.17196977	-103.09236284	19.84	24.88	-0.03	0.09
1371	715.43	32.17196907	-103.09235863	19.81	24.14	-0.03	0.09
1372	715.95	32.17196783	-103.09235461	19.22	23.44	-0.03	0.10
1373	716.47	32.17196573	-103.09235100	18.32	22.62	-0.04	0.10
1374	717.00	32.17196411	-103.09234709	18.71	23.09	-0.02	0.11
1375	717.52	32.17196306	-103.09234284	17.93	21.64	-0.03	0.10
1376	718.04	32.17196188	-103.09233890	18.48	21.37	-0.02	0.12
1377	718.56	32.17196058	-103.09233521	18.48	21.45	-0.03	0.11
1378	719.09	32.17195895	-103.09233146	18.13	21.06	-0.02	0.11
1379	719.61	32.17195711	-103.09232769	17.50	20.70	-0.03	0.10
1380	720.13	32.17195646	-103.09232355	17.85	20.12	-0.03	0.11
1381	720.65	32.17195628	-103.09231924	18.63	20.59	-0.03	0.11
1382	721.18	32.17195570	-103.09231441	18.32	20.82	-0.04	0.11
1383	721.70	32.17195502	-103.09230946	18.75	21.91	-0.03	0.11
1384	722.22	32.17195416	-103.09230509	18.87	22.03	-0.03	0.12
1385	722.74	32.17195328	-103.09230078	20.08	23.16	-0.03	0.11
1386	723.26	32.17195377	-103.09229703	20.70	24.34	-0.02	0.09
1387	723.79	32.17195425	-103.09229328	21.45	24.38	-0.03	0.07
1388	724.31	32.17195398	-103.09228909	22.85	26.45	-0.02	0.08
1389	724.83	32.17195365	-103.09228485	24.81	30.08	-0.03	0.09
1390	725.35	32.17195294	-103.09228031	27.31	34.26	-0.04	0.08
1391	725.87	32.17195251	-103.09227599	32.19	40.23	-0.03	0.10
1392	726.40	32.17195308	-103.09227237	36.76	46.88	-0.04	0.13
1393	726.92	32.17195301	-103.09226865	41.02	53.28	-0.05	0.10
1394	727.44	32.17195158	-103.09226467	50.70	63.98	-0.04	0.13
1395	727.96	32.17195043	-103.09226083	58.52	72.46	-0.04	0.14
1396	728.48	32.17194972	-103.09225721	65.43	81.13	-0.04	0.13
1397	729.01	32.17194952	-103.09225395	72.62	89.96	-0.04	0.13
1398	729.53	32.17194987	-103.09225108	79.53	96.76	-0.04	0.13
1399	730.05	32.17194974	-103.09224789	89.65	107.77	-0.03	0.14
1400	730.58	32.17194924	-103.09224445	104.02	128.36	-0.04	0.16
1401	731.10	32.17194947	-103.09224098	109.26	138.75	-0.03	0.16
1402	731.62	32.17195009	-103.09223751	114.73	134.38	-0.04	0.18
1403	732.14	32.17194921	-103.09223482	119.65	134.81	-0.04	0.16
1404	732.66	32.17194776	-103.09223241	130.12	139.30	-0.03	0.19
1405	733.18	32.17194792	-103.09222969	135.16	138.36	-0.04	0.17
1406	733.71	32.17194841	-103.09222689	143.56	142.19	-0.04	0.17
1407	734.22	32.17194754	-103.09222416	156.13	151.56	-0.03	0.20
1408	734.73	32.17194651	-103.09222143	149.18	152.27	-0.03	0.21
1409	735.26	32.17194572	-103.09221834	147.07	150.70	-0.03	0.19
1410	735.80	32.17194491	-103.09221523	149.22	153.59	-0.04	0.21
1411	736.32	32.17194385	-103.09221206	151.52	161.76	-0.02	0.21
1412	736.84	32.17194290	-103.09220894	140.39	153.36	-0.02	0.22
1413	737.36	32.17194249	-103.09220624	122.15	136.91	-0.03	0.16
1414	737.89	32.17194198	-103.09220354	124.69	136.88	-0.03	0.18
1415	738.41	32.17194115	-103.09220090	137.81	151.64	-0.02	0.18
1416	738.93	32.17194078	-103.09219798	138.36	162.97	-0.03	0.19
1417	739.45	32.17194133	-103.09219449	137.42	158.83	-0.03	0.16
1418	739.97	32.17194183	-103.09219076	131.80	144.53	-0.04	0.15
1419	740.50	32.17194228	-103.09218667	123.01	127.70	-0.02	0.15
1420	741.02	32.17194208	-103.09218253	110.90	117.58	-0.03	0.12
1421	741.54	32.17194123	-103.09217832	104.92	119.53	-0.04	0.13
1422	742.06	32.17194150	-103.09217448	89.14	115.66	-0.04	0.10
1423	742.58	32.17194255	-103.09217089	79.73	110.23	-0.05	0.10
1424	743.11	32.17194215	-103.09216790	67.81	93.28	-0.04	0.09
1425	743.63	32.17194104	-103.09216521	68.63	88.13	-0.06	0.09
1426	744.15	32.17194012	-103.09216193	69.81	81.95	-0.05	0.08
1427	744.67	32.17193927	-103.09215846	69.53	78.79	-0.05	0.10
1428	745.20	32.17193732	-103.09215792	69.45	76.99	-0.05	0.08
1429	745.72	32.17193516	-103.09215794	62.62	75.59	-0.04	0.07
1430	746.24	32.17193445	-103.09215594	57.70	73.71	-0.04	0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1431	746.76	32.17193384	-103.09215377	53.28	72.85	-0.05	0.03
1432	747.29	32.17193257	-103.09215048	58.71	76.25	-0.04	0.07
1433	747.81	32.17193159	-103.09214731	63.40	76.13	-0.05	0.09
1434	748.33	32.17193337	-103.09214527	61.99	73.98	-0.05	0.10
1435	748.86	32.17193484	-103.09214292	57.38	73.98	-0.05	0.07
1436	749.37	32.17193494	-103.09213950	57.58	76.48	-0.05	0.08
1437	749.90	32.17193482	-103.09213621	54.77	71.95	-0.05	0.08
1438	750.42	32.17193412	-103.09213344	53.98	68.44	-0.05	0.08
1439	750.94	32.17193357	-103.09213111	59.49	70.00	-0.05	0.06
1440	751.46	32.17193330	-103.09212960	60.00	69.57	-0.05	0.05
1441	751.98	32.17193235	-103.09212849	56.91	65.04	-0.05	0.07
1442	752.51	32.17193049	-103.09212788	55.55	59.65	-0.05	0.07
1443	753.03	32.17192800	-103.09212731	55.74	56.02	-0.05	0.07
1444	753.55	32.17192494	-103.09212677	51.88	54.77	-0.04	0.08
1445	754.07	32.17192144	-103.09212651	41.76	52.19	-0.05	0.08
1446	754.60	32.17191766	-103.09212642	33.09	45.98	-0.05	0.10
1447	755.12	32.17191522	-103.09212452	29.69	40.39	-0.04	0.09
1448	755.64	32.17191337	-103.09212183	26.88	36.21	-0.05	0.10
1449	756.16	32.17191233	-103.09211895	25.90	33.98	-0.03	0.13
1450	756.68	32.17191152	-103.09211603	24.73	31.60	-0.03	0.10
1451	757.21	32.17191142	-103.09211343	23.63	30.35	-0.04	0.11
1452	757.73	32.17191143	-103.09211088	23.75	30.43	-0.04	0.09
1453	758.25	32.17191045	-103.09210685	23.24	30.94	-0.04	0.12
1454	758.77	32.17190939	-103.09210295	22.15	29.14	-0.04	0.10
1455	759.30	32.17190788	-103.09210464	22.07	26.91	-0.04	0.10
1456	759.82	32.17190644	-103.09210658	21.60	26.68	-0.04	0.11
1457	760.34	32.17190550	-103.09211037	21.72	26.45	-0.05	0.13
1458	760.86	32.17190467	-103.09211425	22.11	25.59	-0.04	0.11
1459	761.39	32.17190419	-103.09211846	22.93	27.15	-0.04	0.10
1460	761.91	32.17190414	-103.09212241	23.13	27.11	-0.04	0.13
1461	762.43	32.17190511	-103.09212572	23.32	27.34	-0.04	0.10
1462	762.95	32.17190604	-103.09212888	25.47	29.92	-0.05	0.09
1463	763.47	32.17190688	-103.09213178	27.93	32.97	-0.04	0.09
1464	764.00	32.17190805	-103.09213462	30.74	36.56	-0.04	0.10
1465	764.52	32.17190958	-103.09213737	34.38	42.27	-0.03	0.14
1466	765.04	32.17191101	-103.09214071	37.50	45.00	-0.03	0.13
1467	765.56	32.17191236	-103.09214454	40.55	48.48	-0.04	0.13
1468	766.08	32.17191277	-103.09214792	43.87	56.21	-0.04	0.12
1469	766.61	32.17191263	-103.09215104	46.84	61.21	-0.04	0.13
1470	767.13	32.17191333	-103.09215477	47.54	61.33	-0.04	0.11
1471	767.65	32.17191435	-103.09215873	52.77	67.11	-0.04	0.09
1472	768.17	32.17191434	-103.09216176	57.73	73.95	-0.04	0.11
1473	768.70	32.17191407	-103.09216455	62.31	79.14	-0.05	0.14
1474	769.22	32.17191462	-103.09216759	71.21	86.09	-0.05	0.13
1475	769.74	32.17191527	-103.09217068	80.70	89.96	-0.05	0.13
1476	770.26	32.17191634	-103.09217464	90.55	89.69	-0.05	0.12
1477	770.79	32.17191743	-103.09217861	101.91	93.28	-0.05	0.11
1478	771.31	32.17191868	-103.09218212	115.35	123.44	-0.04	0.13
1479	771.83	32.17191997	-103.09218559	120.78	169.38	-0.04	0.16
1480	772.35	32.17192148	-103.09218874	116.06	173.83	-0.04	0.16
1481	772.87	32.17192257	-103.09219204	125.23	170.98	-0.03	0.17
1482	773.40	32.17192219	-103.09219580	140.39	166.17	-0.03	0.18
1483	773.92	32.17192186	-103.09219955	139.88	157.70	-0.03	0.17
1484	774.44	32.17192163	-103.09220329	120.78	145.23	-0.03	0.14
1485	774.96	32.17192107	-103.09220696	106.48	128.52	-0.03	0.12
1486	775.49	32.17191999	-103.09221053	91.17	110.86	-0.03	0.13
1487	776.01	32.17191988	-103.09221447	84.77	109.57	-0.03	0.15
1488	776.53	32.17192080	-103.09221883	79.53	110.43	-0.03	0.16
1489	777.05	32.17192179	-103.09222291	77.62	114.92	-0.02	0.17
1490	777.57	32.17192282	-103.09222679	70.51	111.56	-0.02	0.18
1491	778.10	32.17192320	-103.09223024	64.14	103.75	-0.03	0.17
1492	778.62	32.17192321	-103.09223346	60.90	95.20	-0.03	0.15
1493	779.14	32.17192430	-103.09223698	56.80	86.52	-0.04	0.15
1494	779.66	32.17192579	-103.09224060	56.48	84.61	-0.03	0.16
1495	780.18	32.17192625	-103.09224446	53.40	78.28	-0.03	0.17

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1496	780.71	32.17192647	-103.09224837	46.37	64.96	-0.03	0.16
1497	781.22	32.17192790	-103.09225267	44.22	58.87	-0.03	0.13
1498	781.73	32.17192946	-103.09225703	40.90	55.23	-0.03	0.15
1499	782.26	32.17193099	-103.09226037	34.10	49.10	-0.03	0.15
1500	782.79	32.17193242	-103.09226363	29.77	43.13	-0.03	0.13
1501	783.32	32.17193274	-103.09226655	27.31	39.49	-0.03	0.16
1502	783.84	32.17193324	-103.09226954	24.69	34.41	-0.03	0.14
1503	784.36	32.17193467	-103.09227283	23.52	31.80	-0.02	0.12
1504	784.88	32.17193562	-103.09227639	22.50	30.70	-0.03	0.12
1505	785.41	32.17193507	-103.09228079	20.74	27.54	-0.03	0.13
1506	785.93	32.17193406	-103.09228489	19.49	24.61	-0.03	0.14
1507	786.45	32.17193210	-103.09228839	18.32	22.73	-0.03	0.14
1508	786.97	32.17192994	-103.09229130	17.54	20.98	-0.02	0.13
1509	787.50	32.17192752	-103.09229341	17.15	19.88	-0.03	0.11
1510	788.02	32.17192481	-103.09229366	16.76	18.91	-0.02	0.13
1511	788.54	32.17192182	-103.09229205	17.77	19.22	-0.01	0.13
1512	789.06	32.17191949	-103.09228925	17.70	19.69	-0.02	0.09
1513	789.58	32.17191764	-103.09228561	18.56	20.31	-0.03	0.12
1514	790.11	32.17191580	-103.09228240	17.81	20.74	-0.04	0.09
1515	790.63	32.17191397	-103.09227943	19.02	21.60	-0.04	0.10
1516	791.15	32.17191190	-103.09227659	19.22	22.93	-0.02	0.15
1517	791.67	32.17190976	-103.09227380	19.30	23.16	-0.03	0.12
1518	792.19	32.17190722	-103.09227048	20.39	24.14	-0.03	0.12
1519	792.72	32.17190459	-103.09226704	21.17	25.63	-0.03	0.13
1520	793.24	32.17190183	-103.09226422	21.72	26.95	-0.05	0.09
1521	793.76	32.17189908	-103.09226145	24.10	29.81	-0.03	0.08
1522	794.28	32.17189717	-103.09225842	25.47	31.52	-0.03	0.06
1523	794.81	32.17189531	-103.09225536	27.66	34.69	-0.04	0.05
1524	795.33	32.17189401	-103.09225207	31.56	39.45	-0.03	0.03
1525	795.85	32.17189259	-103.09224900	35.35	44.14	-0.04	0.04
1526	796.37	32.17189075	-103.09224694	42.11	50.63	-0.04	0.06
1527	796.89	32.17188957	-103.09224452	48.40	55.39	-0.04	0.07
1528	797.42	32.17189023	-103.09224112	53.87	58.01	-0.04	0.07
1529	797.94	32.17189051	-103.09223809	55.43	53.01	-0.04	0.06
1530	798.46	32.17189008	-103.09223573	61.21	49.38	-0.04	0.08
1531	798.98	32.17188965	-103.09223257	59.18	47.34	-0.04	0.06
1532	799.51	32.17188921	-103.09222840	53.71	50.12	-0.04	0.05
1533	800.03	32.17188850	-103.09222466	49.49	56.52	-0.03	0.06
1534	800.55	32.17188755	-103.09222134	42.58	58.71	-0.02	0.08
1535	801.07	32.17188634	-103.09221832	35.08	51.88	-0.04	0.08
1536	801.59	32.17188498	-103.09221548	31.84	44.65	-0.03	0.06
1537	802.12	32.17188432	-103.09221205	29.38	39.84	-0.03	0.05
1538	802.64	32.17188398	-103.09220836	25.51	33.59	-0.04	0.03
1539	803.16	32.17188286	-103.09220490	23.63	30.35	-0.04	0.02
1540	803.68	32.17188151	-103.09220151	22.93	27.89	-0.04	0.01
1541	804.20	32.17187954	-103.09219829	20.86	25.23	-0.04	0.02
1542	804.73	32.17187747	-103.09219510	19.45	22.27	-0.04	0.02
1543	805.25	32.17187726	-103.09219183	18.32	21.13	-0.04	0.03
1544	805.77	32.17187711	-103.09218857	17.81	19.81	-0.04	0.02
1545	806.29	32.17187526	-103.09218548	16.56	18.44	-0.07	0.01
1546	806.82	32.17187359	-103.09218239	16.95	17.38	-0.05	0.01
1547	807.34	32.17187325	-103.09217935	16.45	17.27	-0.05	0.02
1548	807.86	32.17187280	-103.09217675	16.25	16.56	-0.05	0.05
1549	808.38	32.17187190	-103.09217586	16.56	16.13	-0.04	0.03
1550	808.91	32.17187105	-103.09217449	16.02	15.98	-0.04	0.03
1551	809.43	32.17187040	-103.09217211	15.55	15.12	-0.05	0.04
1552	809.95	32.17186900	-103.09217069	15.47	14.45	-0.05	0.02
1553	810.47	32.17186636	-103.09217096	15.31	13.75	-0.04	0.04
1554	810.99	32.17186377	-103.09217189	14.65	13.13	-0.05	0.05
1555	811.52	32.17186123	-103.09217361	14.26	13.13	-0.05	0.02
1556	812.04	32.17185850	-103.09217445	14.65	13.09	-0.04	-0.04
1557	812.56	32.17185558	-103.09217454	14.38	12.81	-0.05	-0.03
1558	813.08	32.17185257	-103.09217560	13.98	12.46	-0.06	-0.01
1559	813.61	32.17184949	-103.09217725	14.92	13.13	-0.05	0.03
1560	814.13	32.17184729	-103.09218025	15.43	14.26	-0.05	0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1561	814.65	32.17184544	-103.09218380	15.35	13.91	-0.06	0.04
1562	815.17	32.17184471	-103.09218753	16.25	14.73	-0.04	0.03
1563	815.70	32.17184427	-103.09219130	16.45	15.78	-0.04	0.05
1564	816.22	32.17184558	-103.09219457	16.45	16.21	-0.05	0.05
1565	816.74	32.17184713	-103.09219778	17.42	16.68	-0.03	0.06
1566	817.26	32.17184728	-103.09220081	17.89	18.13	-0.04	0.07
1567	817.78	32.17184749	-103.09220385	18.09	18.67	-0.04	0.05
1568	818.31	32.17184948	-103.09220720	18.95	19.41	-0.03	0.09
1569	818.83	32.17185134	-103.09221041	20.31	21.25	-0.03	0.10
1570	819.35	32.17185235	-103.09221270	20.39	21.64	-0.04	0.07
1571	819.87	32.17185332	-103.09221517	21.91	23.95	-0.03	0.10
1572	820.39	32.17185415	-103.09221824	23.71	26.37	-0.04	0.11
1573	820.92	32.17185524	-103.09222132	25.59	29.69	-0.04	0.09
1574	821.44	32.17185691	-103.09222439	28.67	33.59	-0.05	0.07
1575	821.96	32.17185801	-103.09222747	35.04	41.37	-0.05	0.09
1576	822.48	32.17185823	-103.09223056	41.21	48.44	-0.05	0.10
1577	823.01	32.17185894	-103.09223295	44.92	48.16	-0.04	0.10
1578	823.53	32.17186020	-103.09223456	48.56	40.00	-0.04	0.06
1579	824.05	32.17186132	-103.09223709	58.67	29.18	-0.05	0.08
1580	824.57	32.17186234	-103.09224034	67.19	19.69	-0.05	0.09
1581	825.10	32.17186395	-103.09224292	64.34	25.16	-0.03	0.07
1582	825.62	32.17186587	-103.09224513	58.52	43.79	-0.03	0.08
1583	826.14	32.17186743	-103.09224715	50.90	53.16	-0.02	0.11
1584	826.66	32.17186885	-103.09224910	43.63	56.95	-0.02	0.09
1585	827.18	32.17187007	-103.09225237	38.16	55.23	-0.03	0.09
1586	827.71	32.17187125	-103.09225592	33.79	49.45	-0.03	0.08
1587	828.22	32.17187235	-103.09225811	29.73	42.58	-0.03	0.09
1588	828.73	32.17187344	-103.09226016	26.13	36.99	-0.03	0.09
1589	829.26	32.17187196	-103.09226283	24.77	34.14	-0.03	0.08
1590	829.79	32.17187045	-103.09226549	23.28	31.06	-0.04	0.04
1591	830.32	32.17187010	-103.09226782	22.50	28.16	-0.04	0.03
1592	830.84	32.17186989	-103.09226981	21.02	26.52	-0.04	0.03
1593	831.36	32.17187041	-103.09226999	20.94	25.78	-0.03	0.01
1594	831.88	32.17187129	-103.09227061	20.66	25.66	-0.04	-0.05
1595	832.40	32.17187328	-103.09227260	20.00	24.30	-0.04	-0.05
1596	832.93	32.17187559	-103.09227470	19.06	22.85	-0.05	-0.09
1597	833.45	32.17187857	-103.09227704	18.91	21.56	-0.04	-0.10
1598	833.97	32.17188160	-103.09227908	18.75	20.39	-0.03	-0.08
1599	834.49	32.17188470	-103.09228070	17.11	19.65	-0.05	-0.07
1600	835.02	32.17188725	-103.09228325	17.19	20.23	-0.04	0.01
1601	835.54	32.17188924	-103.09228672	17.66	19.84	-0.04	0.04
1602	836.06	32.17189023	-103.09229075	17.19	19.84	-0.04	0.06
1603	836.58	32.17189049	-103.09229516	17.58	20.90	-0.04	0.10
1604	837.11	32.17188893	-103.09229830	18.05	21.17	-0.04	0.08
1605	837.63	32.17188646	-103.09230082	18.67	21.52	-0.04	0.08
1606	838.15	32.17188384	-103.09230294	19.14	22.15	-0.03	0.08
1607	838.67	32.17188117	-103.09230492	19.18	22.38	-0.03	0.08
1608	839.19	32.17187969	-103.09230871	19.38	22.23	-0.03	0.07
1609	839.72	32.17187844	-103.09231286	19.96	23.40	-0.04	0.06
1610	840.24	32.17187651	-103.09231519	21.29	20.78	-0.03	-0.15
1611	840.76	32.17187450	-103.09231736	20.86	24.61	-0.03	0.02
1612	841.28	32.17187010	-103.09231890	21.17	26.45	-0.04	0.07
1613	841.80	32.17186583	-103.09232005	21.09	26.33	-0.03	0.09
1614	842.33	32.17186283	-103.09231732	20.51	25.08	-0.03	0.08
1615	842.86	32.17185995	-103.09231447	20.20	25.04	-0.03	0.07
1616	843.37	32.17185779	-103.09231126	20.16	23.48	-0.02	0.09
1617	843.89	32.17185573	-103.09230821	19.73	23.09	-0.03	0.09
1618	844.41	32.17185401	-103.09230570	19.45	23.56	-0.03	0.10
1619	844.94	32.17185247	-103.09230305	19.77	23.09	-0.02	0.09
1620	845.46	32.17185128	-103.09230014	19.96	23.95	-0.03	0.08
1621	845.98	32.17184964	-103.09229745	20.23	24.53	-0.04	0.07
1622	846.50	32.17184741	-103.09229507	21.76	26.60	-0.03	0.10
1623	847.03	32.17184567	-103.09229289	22.73	27.70	-0.03	0.09
1624	847.55	32.17184441	-103.09229091	24.10	29.61	-0.04	0.08
1625	848.07	32.17184323	-103.09228868	27.73	33.36	-0.03	0.09

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1626	848.59	32.17184212	-103.09228628	31.56	37.31	-0.03	0.08
1627	849.12	32.17184064	-103.09228340	36.13	40.70	-0.03	0.09
1628	849.64	32.17183901	-103.09228031	44.53	47.19	-0.04	0.09
1629	850.16	32.17183818	-103.09227772	60.90	55.00	-0.04	0.09
1630	850.68	32.17183758	-103.09227528	81.06	65.47	-0.04	0.08
1631	851.20	32.17183564	-103.09227330	97.54	73.98	-0.04	0.10
1632	851.73	32.17183347	-103.09227139	117.07	87.50	-0.03	0.11
1633	852.25	32.17183311	-103.09227123	131.48	97.89	-0.03	0.11
1634	852.77	32.17183285	-103.09227116	132.81	97.81	-0.03	0.10
1635	853.29	32.17183237	-103.09227070	121.91	95.16	-0.07	0.06
1636	853.82	32.17183175	-103.09227031	117.46	96.52	-0.05	0.06
1637	854.34	32.17183006	-103.09227052	123.20	101.25	-0.05	0.07
1638	854.88	32.17182883	-103.09227010	135.63	107.89	-0.05	0.09
1639	855.38	32.17182933	-103.09226772	149.10	115.47	-0.05	0.10
1640	855.90	32.17182928	-103.09226562	145.51	121.72	-0.05	0.10
1641	856.43	32.17182781	-103.09226449	152.27	126.52	-0.04	0.13
1642	856.95	32.17182688	-103.09226368	159.57	128.71	-0.05	0.15
1643	857.47	32.17182686	-103.09226338	162.38	129.34	-0.05	0.13
1644	857.99	32.17182717	-103.09226254	165.00	129.96	-0.05	0.12
1645	858.52	32.17182788	-103.09226103	150.63	122.07	-0.05	0.09
1646	859.04	32.17182782	-103.09225845	118.40	105.47	-0.05	0.06
1647	859.56	32.17182709	-103.09225497	103.67	85.94	-0.05	0.08
1648	860.08	32.17182680	-103.09225169	68.16	57.58	-0.04	0.06
1649	860.60	32.17182675	-103.09224854	45.55	48.59	-0.05	0.07
1650	861.13	32.17182564	-103.09224518	38.16	47.97	-0.03	0.07
1651	861.65	32.17182408	-103.09224173	32.03	43.32	-0.02	0.08
1652	862.17	32.17182214	-103.09223884	25.55	35.63	-0.04	0.06
1653	862.69	32.17182011	-103.09223609	22.89	30.39	-0.03	0.09
1654	863.22	32.17181834	-103.09223326	20.90	26.72	-0.03	0.10
1655	863.74	32.17181661	-103.09223043	19.81	23.98	-0.04	0.08
1656	864.26	32.17181421	-103.09222793	19.06	22.19	-0.04	0.06
1657	864.78	32.17181173	-103.09222546	19.10	20.98	-0.03	0.07
1658	865.31	32.17180830	-103.09222331	18.48	20.47	-0.04	0.07
1659	865.83	32.17180488	-103.09222123	18.16	19.69	-0.04	0.08
1660	866.35	32.17180150	-103.09221951	18.59	19.84	-0.03	0.07
1661	866.87	32.17179812	-103.09221824	18.01	19.02	-0.04	0.03
1662	867.39	32.17179472	-103.09221853	17.58	18.32	-0.05	0.03
1663	867.92	32.17179178	-103.09221976	17.85	18.95	-0.04	0.03
1664	868.44	32.17178990	-103.09222306	17.54	18.48	-0.05	0.05
1665	868.96	32.17178838	-103.09222666	18.01	18.52	-0.04	0.05
1666	869.48	32.17178746	-103.09223070	18.28	19.10	-0.04	0.06
1667	870.01	32.17178784	-103.09223452	18.36	19.18	-0.05	0.04
1668	870.53	32.17178965	-103.09223808	19.22	21.06	-0.04	0.06
1669	871.05	32.17179123	-103.09224159	20.04	22.31	-0.04	0.07
1670	871.57	32.17179263	-103.09224508	20.66	23.44	-0.05	0.05
1671	872.09	32.17179411	-103.09224813	21.80	25.16	-0.05	0.05
1672	872.61	32.17179564	-103.09225092	23.01	26.60	-0.04	0.05
1673	873.14	32.17179738	-103.09225363	24.69	29.73	-0.04	0.06
1674	873.66	32.17179919	-103.09225632	29.30	34.45	-0.05	0.06
1675	874.18	32.17180019	-103.09225912	36.41	42.07	-0.05	0.07
1676	874.71	32.17180101	-103.09226195	43.91	45.63	-0.05	0.09
1677	875.22	32.17180259	-103.09226378	58.56	43.95	-0.05	0.10
1678	875.73	32.17180426	-103.09226550	79.88	42.19	-0.05	0.09
1679	876.26	32.17180462	-103.09226839	100.55	50.08	-0.05	0.09
1680	876.79	32.17180501	-103.09227129	115.51	69.49	-0.05	0.06
1681	877.32	32.17180642	-103.09227351	119.84	83.98	-0.04	0.06
1682	877.84	32.17180773	-103.09227574	109.26	82.85	-0.04	0.07
1683	878.36	32.17180845	-103.09227804	86.88	72.50	-0.04	0.08
1684	878.88	32.17180922	-103.09228047	77.42	66.33	-0.03	0.07
1685	879.40	32.17181009	-103.09228327	67.93	63.98	-0.02	0.08
1686	879.93	32.17181108	-103.09228646	51.56	63.79	-0.03	0.08
1687	880.45	32.17181233	-103.09229046	42.23	61.64	-0.03	0.10
1688	880.97	32.17181333	-103.09229439	36.29	53.52	-0.03	0.09
1689	881.49	32.17181399	-103.09229822	30.20	45.86	-0.03	0.07
1690	882.01	32.17181556	-103.09230104	26.17	37.27	-0.04	0.02

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1691	882.54	32.17181803	-103.09230282	23.79	31.95	-0.03	-0.01
1692	883.06	32.17182010	-103.09230483	22.27	29.61	-0.03	0.05
1693	883.58	32.17182187	-103.09230698	20.51	26.09	-0.03	0.07
1694	884.10	32.17182293	-103.09230938	19.77	25.08	-0.04	0.09
1695	884.63	32.17182364	-103.09231191	19.88	24.53	-0.04	0.07
1696	885.15	32.17182382	-103.09231638	20.04	24.10	-0.04	0.08
1697	885.67	32.17182383	-103.09232150	20.23	24.61	-0.04	0.09
1698	886.19	32.17182155	-103.09232412	20.70	25.55	-0.04	0.11
1699	886.72	32.17181882	-103.09232626	20.86	24.61	-0.04	0.07
1700	887.24	32.17181528	-103.09232708	20.82	25.78	-0.04	0.07
1701	887.76	32.17181167	-103.09232778	21.37	27.42	-0.04	0.08
1702	888.28	32.17180929	-103.09232624	22.70	28.75	-0.04	0.09
1703	888.80	32.17180701	-103.09232465	23.48	29.77	-0.04	0.11
1704	889.33	32.17180578	-103.09232269	25.39	32.23	-0.03	0.10
1705	889.85	32.17180442	-103.09232072	27.70	35.43	-0.03	0.11
1706	890.37	32.17180255	-103.09231888	31.21	39.22	-0.04	0.10
1707	890.89	32.17180092	-103.09231690	36.60	44.34	-0.03	0.10
1708	891.42	32.17180000	-103.09231458	40.31	45.35	-0.04	0.07
1709	891.94	32.17179853	-103.09231235	47.03	45.94	-0.04	0.09
1710	892.46	32.17179604	-103.09231026	64.57	39.53	-0.05	0.10
1711	892.98	32.17179410	-103.09230768	84.02	35.70	-0.04	0.11
1712	893.50	32.17179291	-103.09230447	97.54	60.78	-0.04	0.10
1713	894.03	32.17179176	-103.09230245	96.25	96.72	-0.04	0.08
1714	894.55	32.17179066	-103.09230156	98.98	122.85	-0.04	0.09
1715	895.07	32.17178975	-103.09229959	102.85	128.16	-0.04	0.07
1716	895.59	32.17178898	-103.09229693	99.22	120.43	-0.04	0.08
1717	896.11	32.17178759	-103.09229543	92.81	98.87	-0.04	0.05
1718	896.64	32.17178592	-103.09229447	88.75	76.13	-0.05	0.07
1719	897.16	32.17178464	-103.09229244	75.00	56.88	-0.05	0.07
1720	897.68	32.17178348	-103.09229010	55.82	44.34	-0.05	0.05
1721	898.20	32.17178196	-103.09228913	46.64	36.68	-0.04	0.02
1722	898.72	32.17178038	-103.09228839	42.97	33.13	-0.04	0.02
1723	899.25	32.17177818	-103.09228644	34.69	34.45	-0.05	0.01
1724	899.77	32.17177594	-103.09228442	28.87	37.81	-0.04	0.03
1725	900.29	32.17177330	-103.09228215	25.78	35.04	-0.04	0.03
1726	900.81	32.17177076	-103.09228000	22.97	30.78	-0.04	0.05
1727	901.34	32.17176896	-103.09227884	20.35	26.41	-0.04	0.04
1728	901.86	32.17176704	-103.09227756	20.08	24.77	-0.03	0.05
1729	902.38	32.17176472	-103.09227580	20.00	23.28	-0.05	0.04
1730	902.90	32.17176241	-103.09227481	19.45	22.73	-0.04	0.06
1731	903.43	32.17176009	-103.09227578	19.10	21.88	-0.05	0.05
1732	903.95	32.17175758	-103.09227678	19.57	21.72	-0.04	0.06
1733	904.47	32.17175469	-103.09227785	18.83	21.21	-0.05	0.06
1734	904.99	32.17175264	-103.09227985	18.67	20.59	-0.04	0.05
1735	905.51	32.17175161	-103.09228298	19.84	21.80	-0.04	0.06
1736	906.04	32.17175091	-103.09228580	19.88	22.85	-0.04	0.07
1737	906.56	32.17175047	-103.09228833	20.90	23.59	-0.04	0.09
1738	907.08	32.17175047	-103.09229068	21.37	23.98	-0.03	0.06
1739	907.60	32.17175074	-103.09229292	24.02	27.38	-0.03	0.08
1740	908.13	32.17175156	-103.09229481	25.86	30.23	-0.04	0.08
1741	908.65	32.17175259	-103.09229654	28.95	33.44	-0.03	0.10
1742	909.17	32.17175276	-103.09229827	32.07	37.31	-0.04	0.12
1743	909.69	32.17175270	-103.09230001	35.39	41.80	-0.04	0.10
1744	910.22	32.17175376	-103.09230118	40.23	45.39	-0.04	0.11
1745	910.74	32.17175497	-103.09230227	41.72	43.32	-0.04	0.13
1746	911.26	32.17175481	-103.09230553	42.15	39.02	-0.04	0.12
1747	911.78	32.17175469	-103.09230882	43.71	26.60	-0.04	0.11
1748	912.30	32.17175642	-103.09231108	47.46	11.91	-0.04	0.11
1749	912.83	32.17175808	-103.09231344	48.48	13.87	-0.03	0.11
1750	913.35	32.17175935	-103.09231647	47.42	28.09	-0.03	0.11
1751	913.87	32.17176066	-103.09231932	42.97	45.47	-0.03	0.09
1752	914.39	32.17176209	-103.09232156	38.52	54.02	-0.03	0.12
1753	914.92	32.17176346	-103.09232390	34.49	50.86	-0.03	0.10
1754	915.44	32.17176465	-103.09232641	31.41	45.86	-0.03	0.11
1755	915.96	32.17176541	-103.09232903	30.12	42.77	-0.01	0.14

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1756	916.48	32.17176549	-103.09233182	28.87	40.55	-0.03	0.13
1757	917.00	32.17176593	-103.09233525	27.81	37.27	-0.04	0.11
1758	917.53	32.17176676	-103.09233935	27.77	37.11	-0.04	0.10
1759	918.05	32.17176740	-103.09234232	28.40	36.52	-0.02	0.12
1760	918.57	32.17176787	-103.09234438	27.38	36.09	-0.04	0.13
1761	919.09	32.17176855	-103.09234685	27.85	35.59	-0.04	0.11
1762	919.61	32.17176934	-103.09234954	27.77	35.23	-0.03	0.11
1763	920.14	32.17177128	-103.09235230	28.71	36.41	-0.03	0.11
1764	920.66	32.17177365	-103.09235510	29.10	38.01	-0.03	0.12
1765	921.18	32.17177626	-103.09235691	29.34	39.65	-0.03	0.11
1766	921.70	32.17177892	-103.09235849	29.65	40.35	-0.03	0.13
1767	922.22	32.17178063	-103.09236156	30.51	41.29	-0.03	0.13
1768	922.73	32.17178223	-103.09236478	30.16	41.02	-0.04	0.11
1769	923.26	32.17178396	-103.09236915	30.90	41.25	-0.03	0.12
1770	923.79	32.17178557	-103.09237358	31.56	42.34	-0.03	0.14
1771	924.31	32.17178537	-103.09237814	30.74	41.64	-0.03	0.12
1772	924.83	32.17178495	-103.09238236	32.19	45.00	-0.03	0.13
1773	925.36	32.17178329	-103.09238466	33.01	46.68	-0.03	0.14
1774	925.88	32.17178146	-103.09238708	33.59	46.84	-0.03	0.15
1775	926.40	32.17177911	-103.09238990	35.04	49.57	-0.03	0.15
1776	926.93	32.17177678	-103.09239164	36.52	51.13	-0.03	0.13
1777	927.45	32.17177448	-103.09239118	37.97	52.50	-0.02	0.14
1778	927.97	32.17177198	-103.09239072	38.13	52.62	-0.03	0.13
1779	928.49	32.17176918	-103.09239028	41.09	55.94	-0.03	0.14
1780	929.01	32.17176617	-103.09238904	42.27	57.54	-0.02	0.15
1781	929.54	32.17176294	-103.09238700	42.03	57.27	-0.04	0.16
1782	930.06	32.17176032	-103.09238434	43.87	60.12	-0.03	0.17
1783	930.58	32.17175815	-103.09238122	42.97	59.81	-0.03	0.14
1784	931.10	32.17175546	-103.09237832	39.88	55.70	-0.04	0.14
1785	931.63	32.17175251	-103.09237551	39.22	53.75	-0.03	0.14
1786	932.15	32.17175009	-103.09237225	36.72	50.98	-0.04	0.14
1787	932.67	32.17174785	-103.09236883	33.16	48.16	-0.04	0.14
1788	933.19	32.17174643	-103.09236509	32.07	45.70	-0.03	0.13
1789	933.71	32.17174517	-103.09236127	28.91	42.85	-0.03	0.12
1790	934.24	32.17174373	-103.09235790	27.38	38.71	-0.05	0.05
1791	934.76	32.17174227	-103.09235456	28.01	38.59	-0.03	0.11
1792	935.28	32.17174148	-103.09235098	28.01	38.32	-0.04	0.09
1793	935.80	32.17174067	-103.09234750	29.02	39.57	-0.04	0.11
1794	936.32	32.17173964	-103.09234501	30.90	41.52	-0.03	0.12
1795	936.85	32.17173844	-103.09234267	32.73	44.88	-0.04	0.10
1796	937.37	32.17173660	-103.09234118	35.20	47.31	-0.04	0.11
1797	937.89	32.17173486	-103.09233952	40.23	51.99	-0.04	0.11
1798	938.41	32.17173345	-103.09233738	44.61	55.66	-0.05	0.12
1799	938.94	32.17173175	-103.09233573	45.00	48.40	-0.05	0.12
1800	939.46	32.17172951	-103.09233497	47.73	36.52	-0.04	0.11
1801	939.98	32.17172707	-103.09233374	52.93	25.51	-0.04	0.10
1802	940.50	32.17172435	-103.09233190	49.81	19.34	-0.04	0.09
1803	941.03	32.17172136	-103.09232984	46.37	26.88	-0.04	0.10
1804	941.55	32.17171811	-103.09232757	41.41	39.57	-0.04	0.10
1805	942.07	32.17171550	-103.09232636	32.81	40.04	-0.04	0.07
1806	942.59	32.17171333	-103.09232586	27.93	37.31	-0.03	0.07
1807	943.11	32.17171089	-103.09232437	24.65	32.70	-0.04	0.07
1808	943.64	32.17170833	-103.09232244	21.52	28.13	-0.05	0.04
1809	944.16	32.17170505	-103.09232087	20.86	25.74	-0.05	0.04
1810	944.68	32.17170157	-103.09231942	19.84	23.95	-0.04	0.04
1811	945.20	32.17169792	-103.09231871	18.87	20.70	-0.04	0.05
1812	945.72	32.17169424	-103.09231814	17.97	19.10	-0.05	0.05
1813	946.25	32.17169145	-103.09231683	16.91	17.81	-0.04	0.05
1814	946.77	32.17168874	-103.09231554	15.43	15.31	-0.04	0.03
1815	947.29	32.17168654	-103.09231627	15.63	15.16	-0.04	0.05
1816	947.81	32.17168442	-103.09231710	15.94	15.90	-0.05	0.08
1817	948.34	32.17168291	-103.09231883	16.13	16.13	-0.04	0.09
1818	948.86	32.17168161	-103.09232088	17.23	16.60	-0.04	0.09
1819	949.38	32.17168110	-103.09232428	17.81	17.54	-0.04	0.08
1820	949.90	32.17168122	-103.09232745	18.24	18.87	-0.04	0.10

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1821	950.43	32.17168295	-103.09233003	20.04	20.31	-0.03	0.10
1822	950.95	32.17168460	-103.09233274	21.33	22.70	-0.04	0.10
1823	951.47	32.17168612	-103.09233568	22.07	24.10	-0.05	0.09
1824	951.99	32.17168735	-103.09233858	25.27	27.93	-0.03	0.11
1825	952.51	32.17168824	-103.09234144	28.32	33.63	-0.04	0.13
1826	953.04	32.17168954	-103.09234317	32.03	37.58	-0.04	0.14
1827	953.56	32.17169120	-103.09234392	38.91	44.84	-0.03	0.16
1828	954.08	32.17169230	-103.09234536	42.34	48.16	-0.03	0.14
1829	954.60	32.17169305	-103.09234722	48.01	52.27	-0.03	0.17
1830	955.13	32.17169478	-103.09234807	54.61	56.80	-0.04	0.16
1831	955.65	32.17169690	-103.09234851	58.48	50.82	-0.04	0.15
1832	956.17	32.17169877	-103.09235123	62.70	41.64	-0.04	0.16
1833	956.69	32.17170056	-103.09235457	65.08	42.73	-0.04	0.15
1834	957.21	32.17170304	-103.09235663	63.91	60.63	-0.03	0.14
1835	957.74	32.17170560	-103.09235851	53.79	66.76	-0.03	0.12
1836	958.26	32.17170780	-103.09236076	45.20	61.84	-0.03	0.14
1837	958.78	32.17170998	-103.09236300	42.11	59.14	-0.01	0.14
1838	959.30	32.17171217	-103.09236483	39.02	54.96	-0.02	0.13
1839	959.83	32.17171445	-103.09236666	36.17	51.37	-0.03	0.15
1840	960.35	32.17171721	-103.09236849	34.92	49.10	-0.02	0.13
1841	960.87	32.17172019	-103.09237036	34.69	47.23	-0.03	0.17
1842	961.39	32.17172395	-103.09237239	34.77	48.52	-0.04	0.15
1843	961.92	32.17172740	-103.09237456	36.95	50.20	-0.03	0.16
1844	962.44	32.17173007	-103.09237701	38.91	52.62	-0.03	0.18
1845	962.96	32.17173296	-103.09237966	40.27	55.20	-0.04	0.18
1846	963.48	32.17173619	-103.09238260	44.06	57.73	-0.03	0.17
1847	964.00	32.17173941	-103.09238610	46.64	61.06	-0.03	0.22
1848	964.53	32.17174260	-103.09239021	48.40	65.08	-0.04	0.20
1849	965.05	32.17174544	-103.09239405	48.28	65.04	-0.03	0.20
1850	965.57	32.17174800	-103.09239768	44.77	62.54	-0.03	0.16
1851	966.09	32.17175085	-103.09240016	41.80	58.91	-0.02	0.15
1852	966.61	32.17175388	-103.09240202	40.63	56.76	-0.02	0.16
1853	967.14	32.17175678	-103.09240436	38.01	53.32	-0.02	0.17
1854	967.66	32.17175964	-103.09240688	36.95	52.89	-0.02	0.18
1855	968.18	32.17176126	-103.09241082	36.76	52.46	-0.02	0.19
1856	968.70	32.17176261	-103.09241511	35.74	50.31	-0.02	0.19
1857	969.22	32.17176427	-103.09241878	34.49	49.34	-0.02	0.16
1858	969.73	32.17176597	-103.09242238	33.91	47.81	-0.01	0.18
1859	970.26	32.17176820	-103.09242624	32.15	46.13	-0.01	0.18
1860	970.79	32.17177040	-103.09243015	31.95	45.63	-0.01	0.19
1861	971.31	32.17177181	-103.09243443	31.95	44.65	-0.01	0.21
1862	971.83	32.17177342	-103.09243862	30.12	42.73	-0.02	0.20
1863	972.36	32.17177607	-103.09244225	29.73	42.27	-0.02	0.20
1864	972.88	32.17177869	-103.09244588	30.04	41.06	-0.01	0.20
1865	973.40	32.17178123	-103.09244953	29.18	40.12	-0.03	0.16
1866	973.93	32.17178333	-103.09245299	29.81	39.26	-0.02	0.17
1867	974.45	32.17178447	-103.09245607	29.88	40.55	-0.02	0.19
1868	974.97	32.17178585	-103.09245879	29.45	41.45	-0.02	0.18
1869	975.49	32.17178758	-103.09246101	30.66	42.62	-0.01	0.18
1870	976.01	32.17178931	-103.09246446	31.29	43.24	-0.02	0.19
1871	976.53	32.17179104	-103.09246920	31.02	42.89	-0.03	0.18
1872	977.06	32.17179260	-103.09247353	30.63	42.81	-0.02	0.18
1873	977.58	32.17179401	-103.09247755	29.69	42.89	-0.02	0.22
1874	978.10	32.17179594	-103.09248147	28.40	40.55	-0.03	0.19
1875	978.62	32.17179814	-103.09248533	27.23	37.66	-0.02	0.15
1876	979.15	32.17179988	-103.09248934	25.66	36.68	-0.03	0.18
1877	979.67	32.17180147	-103.09249339	24.65	34.53	-0.03	0.17
1878	980.19	32.17180278	-103.09249757	24.61	33.52	-0.02	0.14
1879	980.71	32.17180404	-103.09250175	24.30	32.66	-0.02	0.17
1880	981.24	32.17180463	-103.09250720	23.59	30.98	-0.03	0.16
1881	981.76	32.17180515	-103.09251276	22.38	30.00	-0.02	0.19
1882	982.28	32.17180262	-103.09251754	21.13	27.58	-0.03	0.14
1883	982.80	32.17179999	-103.09252213	20.55	26.72	-0.03	0.13
1884	983.33	32.17179641	-103.09252502	19.69	24.92	-0.03	0.15
1885	983.86	32.17179265	-103.09252743	18.40	23.36	-0.04	0.12

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1886	984.37	32.17178860	-103.09252754	19.10	23.01	-0.03	0.12
1887	984.89	32.17178445	-103.09252728	18.83	22.93	-0.03	0.13
1888	985.41	32.17178025	-103.09252597	18.24	22.89	-0.03	0.15
1889	985.93	32.17177676	-103.09252340	19.26	23.67	-0.02	0.16
1890	986.46	32.17177458	-103.09251844	19.10	23.56	-0.02	0.18
1891	986.98	32.17177227	-103.09251384	19.81	24.41	-0.02	0.20
1892	987.50	32.17176979	-103.09250975	20.23	25.12	-0.01	0.20
1893	988.02	32.17176707	-103.09250654	20.31	25.16	-0.02	0.18
1894	988.54	32.17176411	-103.09250419	20.82	26.76	-0.02	0.17
1895	989.07	32.17176122	-103.09250194	21.76	28.20	-0.02	0.18
1896	989.59	32.17175840	-103.09249978	22.42	29.81	-0.03	0.17
1897	990.11	32.17175562	-103.09249764	23.91	31.17	-0.02	0.19
1898	990.64	32.17175288	-103.09249551	24.57	32.23	-0.02	0.19
1899	991.16	32.17174997	-103.09249337	26.17	34.41	-0.02	0.18
1900	991.68	32.17174702	-103.09249123	28.48	37.73	-0.02	0.17
1901	992.20	32.17174357	-103.09248845	28.63	37.93	-0.02	0.18
1902	992.72	32.17174002	-103.09248556	30.94	42.58	-0.02	0.19
1903	993.25	32.17173609	-103.09248258	31.95	43.44	-0.01	0.21
1904	993.77	32.17173214	-103.09247963	31.72	43.44	0.00	0.22
1905	994.29	32.17172861	-103.09247811	30.78	41.88	0.01	0.23
1906	994.81	32.17172518	-103.09247665	29.10	39.61	0.02	0.25
1907	995.33	32.17172259	-103.09247569	28.09	37.81	0.00	0.23
1908	995.86	32.17171985	-103.09247451	27.54	37.54	-0.01	0.23
1909	996.38	32.17171664	-103.09247248	27.07	37.19	-0.01	0.22
1910	996.90	32.17171332	-103.09247045	27.54	38.32	-0.02	0.24
1911	997.42	32.17170976	-103.09246841	28.24	38.95	-0.02	0.20
1912	997.95	32.17170642	-103.09246688	28.24	39.18	-0.03	0.16
1913	998.47	32.17170348	-103.09246625	29.22	40.16	-0.04	0.08
1914	998.99	32.17170061	-103.09246517	29.88	40.55	-0.03	0.09
1915	999.51	32.17169786	-103.09246356	29.84	40.51	-0.03	0.08
1916	1,000.03	32.17169498	-103.09246200	30.20	41.91	-0.05	0.11
1917	1,000.56	32.17169197	-103.09246049	30.66	41.68	-0.04	0.12
1918	1,001.08	32.17168920	-103.09245910	29.14	39.57	-0.05	0.09
1919	1,001.60	32.17168657	-103.09245779	29.22	38.83	-0.05	0.08
1920	1,002.12	32.17168330	-103.09245596	29.41	39.57	-0.04	0.09
1921	1,002.65	32.17167975	-103.09245391	29.22	39.38	-0.04	0.09
1922	1,003.17	32.17167559	-103.09245327	28.67	38.56	-0.04	0.10
1923	1,003.69	32.17167127	-103.09245300	28.36	38.56	-0.02	0.12
1924	1,004.21	32.17166769	-103.09245325	26.99	37.03	-0.04	0.09
1925	1,004.73	32.17166423	-103.09245358	28.32	38.36	-0.03	0.08
1926	1,005.26	32.17166103	-103.09245265	28.87	38.52	-0.03	0.10
1927	1,005.78	32.17165789	-103.09245170	29.41	39.65	-0.03	0.08
1928	1,006.30	32.17165586	-103.09245162	32.23	41.95	-0.02	0.09
1929	1,006.82	32.17165376	-103.09245149	33.75	44.84	-0.03	0.11
1930	1,007.35	32.17165116	-103.09245106	36.06	47.23	-0.04	0.08
1931	1,007.87	32.17164857	-103.09245049	41.95	53.83	-0.04	0.08
1932	1,008.39	32.17164598	-103.09244938	46.64	57.42	-0.04	0.05
1933	1,008.92	32.17164353	-103.09244873	53.75	58.83	-0.05	0.04
1934	1,009.44	32.17164156	-103.09244911	71.88	64.61	-0.04	0.05
1935	1,009.96	32.17163900	-103.09244873	85.78	70.12	-0.07	-0.01
1936	1,010.48	32.17163554	-103.09244712	26.52	41.56	0.09	0.37
1937	1,011.00	32.17163243	-103.09244634	-43.52	31.68	0.31	0.31
1938	1,011.52	32.17162973	-103.09244651	51.88	24.53	-0.03	0.29
1939	1,012.05	32.17162770	-103.09244694	47.46	21.21	-0.06	0.25
1940	1,012.57	32.17162618	-103.09244756	39.96	31.95	-0.06	0.09
1941	1,013.09	32.17162328	-103.09244760	34.45	44.53	-0.05	-0.01
1942	1,013.61	32.17161961	-103.09244730	28.63	41.99	-0.06	-0.05
1943	1,014.14	32.17161583	-103.09244686	25.82	36.02	-0.05	-0.05
1944	1,014.66	32.17161202	-103.09244636	23.24	31.13	-0.06	-0.08
1945	1,015.18	32.17160937	-103.09244567	21.64	26.29	-0.05	-0.08
1946	1,015.70	32.17160700	-103.09244493	19.73	22.62	-0.04	-0.07
1947	1,016.22	32.17160508	-103.09244286	18.44	21.41	-0.04	-0.04
1948	1,016.73	32.17160322	-103.09244064	17.66	19.34	-0.04	-0.03
1949	1,017.26	32.17160022	-103.09244089	16.48	18.20	-0.06	-0.04
1950	1,017.79	32.17159710	-103.09244137	16.60	17.62	-0.05	-0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
1951	1,018.31	32.17159300	-103.09244343	16.52	17.31	-0.05	-0.04
1952	1,018.84	32.17158906	-103.09244549	17.03	17.34	-0.06	-0.01
1953	1,019.36	32.17158603	-103.09244756	17.31	17.70	-0.05	-0.03
1954	1,019.88	32.17158380	-103.09245032	17.50	18.75	-0.06	-0.02
1955	1,020.40	32.17158417	-103.09245534	18.79	19.84	-0.04	-0.01
1956	1,020.92	32.17158503	-103.09245984	19.34	21.56	-0.04	0.03
1957	1,021.45	32.17158694	-103.09246330	19.49	23.01	-0.06	0.03
1958	1,021.97	32.17158869	-103.09246676	20.74	23.44	-0.05	0.04
1959	1,022.49	32.17159021	-103.09247020	21.29	25.59	-0.05	0.08
1960	1,023.01	32.17159208	-103.09247303	21.68	27.03	-0.06	0.07
1961	1,023.54	32.17159433	-103.09247520	23.36	27.66	-0.05	0.05
1962	1,024.06	32.17159667	-103.09247644	23.36	28.20	-0.05	0.06
1963	1,024.58	32.17159908	-103.09247701	23.48	27.42	-0.05	0.03
1964	1,025.10	32.17160193	-103.09247785	24.65	29.45	-0.05	0.02
1965	1,025.62	32.17160501	-103.09247883	25.82	31.88	-0.05	0.04
1966	1,026.15	32.17160833	-103.09247881	28.44	36.29	-0.05	0.03
1967	1,026.67	32.17161172	-103.09247845	30.78	40.27	-0.05	0.05
1968	1,027.19	32.17161482	-103.09247779	32.93	43.52	-0.05	0.05
1969	1,027.71	32.17161783	-103.09247708	37.85	47.11	-0.05	0.05
1970	1,028.23	32.17162103	-103.09247714	42.93	43.13	-0.05	0.05
1971	1,028.76	32.17162424	-103.09247726	53.44	38.44	-0.05	0.06
1972	1,029.28	32.17162767	-103.09247654	60.00	41.60	-0.05	0.07
1973	1,029.80	32.17163104	-103.09247577	61.84	50.00	-0.04	0.09
1974	1,030.32	32.17163397	-103.09247453	56.76	58.40	-0.05	0.07
1975	1,030.86	32.17163691	-103.09247372	50.27	62.85	-0.04	0.04
1976	1,031.37	32.17163949	-103.09247481	44.84	61.06	-0.03	0.06
1977	1,031.89	32.17164220	-103.09247577	38.44	55.12	-0.04	0.07
1978	1,032.41	32.17164507	-103.09247628	35.94	52.27	-0.03	0.09
1979	1,032.94	32.17164756	-103.09247738	33.79	49.45	-0.03	0.10
1980	1,033.46	32.17164933	-103.09247963	31.99	45.00	-0.04	0.10
1981	1,033.98	32.17165151	-103.09248142	30.35	42.85	-0.05	0.10
1982	1,034.50	32.17165422	-103.09248258	30.66	41.02	-0.03	0.13
1983	1,035.02	32.17165665	-103.09248433	31.13	40.70	-0.03	0.14
1984	1,035.55	32.17165881	-103.09248664	30.43	39.73	-0.03	0.13
1985	1,036.07	32.17166082	-103.09248788	30.00	40.12	-0.03	0.13
1986	1,036.59	32.17166272	-103.09248840	30.27	39.81	-0.02	0.14
1987	1,037.11	32.17166428	-103.09249000	30.35	40.51	-0.02	0.14
1988	1,037.64	32.17166568	-103.09249211	29.38	38.20	-0.04	0.11
1989	1,038.16	32.17166776	-103.09249347	30.00	38.09	-0.03	0.13
1990	1,038.68	32.17167006	-103.09249462	29.73	38.83	-0.03	0.14
1991	1,039.20	32.17167277	-103.09249712	29.30	38.56	-0.03	0.14
1992	1,039.72	32.17167555	-103.09249986	29.41	38.98	-0.02	0.15
1993	1,040.25	32.17167784	-103.09250256	29.10	38.79	-0.03	0.12
1994	1,040.77	32.17168013	-103.09250527	29.10	38.36	-0.04	0.13
1995	1,041.29	32.17168360	-103.09250775	29.65	39.34	-0.03	0.12
1996	1,041.81	32.17168706	-103.09251019	29.26	38.95	-0.02	0.16
1997	1,042.33	32.17169037	-103.09251236	28.98	38.28	-0.04	0.13
1998	1,042.86	32.17169363	-103.09251466	29.69	39.92	-0.03	0.12
1999	1,043.38	32.17169671	-103.09251749	30.43	41.41	-0.04	0.10
2000	1,043.90	32.17169985	-103.09252017	31.72	42.73	-0.08	0.08
2001	1,044.42	32.17170318	-103.09252251	32.73	43.48	0.07	0.53
2002	1,044.94	32.17170679	-103.09252465	34.02	44.34	0.28	1.04
2003	1,045.47	32.17171090	-103.09252645	33.52	44.34	-0.03	0.85
2004	1,045.99	32.17171489	-103.09252882	31.52	43.32	-0.04	0.17
2005	1,046.51	32.17171871	-103.09253189	28.79	40.39	-0.05	0.09
2006	1,047.03	32.17172209	-103.09253514	26.68	37.66	-0.04	0.10
2007	1,047.56	32.17172510	-103.09253856	24.96	34.96	-0.02	0.11
2008	1,048.08	32.17172862	-103.09254092	21.48	29.77	-0.06	0.06
2009	1,048.60	32.17173248	-103.09254261	20.47	27.07	-0.05	0.05
2010	1,049.12	32.17173619	-103.09254476	18.87	24.65	-0.04	0.08
2011	1,049.65	32.17173983	-103.09254711	17.15	21.33	-0.06	0.05
2012	1,050.17	32.17174332	-103.09255070	17.50	20.31	-0.05	0.06
2013	1,050.69	32.17174677	-103.09255463	16.21	18.75	-0.04	0.06
2014	1,051.21	32.17174874	-103.09255990	15.12	16.41	-0.05	0.04
2015	1,051.73	32.17175051	-103.09256539	14.18	14.10	-0.05	0.06

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2016	1,052.26	32.17174923	-103.09257116	13.09	13.79	-0.05	0.03
2017	1,052.78	32.17174770	-103.09257676	13.67	14.26	-0.05	0.03
2018	1,053.30	32.17174349	-103.09257844	13.87	14.45	-0.05	0.07
2019	1,053.82	32.17173924	-103.09257986	13.98	15.35	-0.06	0.07
2020	1,054.35	32.17173473	-103.09257949	15.51	16.52	-0.04	0.08
2021	1,054.87	32.17173043	-103.09257914	16.09	17.03	-0.05	0.08
2022	1,055.39	32.17172685	-103.09257886	17.19	17.89	-0.03	0.07
2023	1,055.92	32.17172321	-103.09257876	17.81	19.18	-0.03	0.07
2024	1,056.43	32.17171958	-103.09257910	17.19	19.77	-0.04	0.07
2025	1,056.96	32.17171587	-103.09257938	17.97	21.09	-0.04	0.09
2026	1,057.48	32.17171208	-103.09257956	19.38	22.23	-0.04	0.08
2027	1,058.00	32.17170811	-103.09257909	19.88	23.75	-0.05	0.06
2028	1,058.52	32.17170393	-103.09257789	23.05	27.34	-0.04	0.07
2029	1,059.05	32.17170044	-103.09257594	25.08	30.23	-0.04	0.09
2030	1,059.57	32.17169754	-103.09257339	26.45	32.31	-0.03	0.11
2031	1,060.09	32.17169438	-103.09257165	28.28	34.14	-0.01	0.10
2032	1,060.61	32.17169109	-103.09257037	29.22	37.07	-0.03	0.14
2033	1,061.13	32.17168757	-103.09257036	30.51	39.30	-0.02	0.12
2034	1,061.66	32.17168398	-103.09257082	31.68	40.47	-0.03	0.13
2035	1,062.18	32.17168064	-103.09257137	34.22	42.93	-0.02	0.14
2036	1,062.70	32.17167737	-103.09257193	37.38	47.54	0.02	0.14
2037	1,063.22	32.17167439	-103.09257100	39.61	51.41	-0.02	0.12
2038	1,063.73	32.17167145	-103.09256989	41.33	53.75	-0.04	0.15
2039	1,064.26	32.17166795	-103.09256975	44.14	52.81	-0.04	0.12
2040	1,064.79	32.17166443	-103.09256967	44.88	52.50	-0.04	0.14
2041	1,065.31	32.17166101	-103.09256979	47.19	57.38	-0.04	0.12
2042	1,065.83	32.17165763	-103.09256987	49.65	65.31	-0.04	0.12
2043	1,066.36	32.17165458	-103.09256969	50.78	68.95	-0.03	0.12
2044	1,066.88	32.17165162	-103.09256948	56.64	73.63	-0.03	0.14
2045	1,067.40	32.17164896	-103.09256920	64.45	80.08	-0.03	0.15
2046	1,067.92	32.17164658	-103.09256944	65.20	80.74	-0.04	0.13
2047	1,068.44	32.17164482	-103.09257083	68.20	78.48	-0.04	0.11
2048	1,068.97	32.17164308	-103.09257141	76.37	74.30	-0.03	0.11
2049	1,069.49	32.17164136	-103.09257077	84.14	68.75	0.00	0.12
2050	1,070.01	32.17163900	-103.09257069	80.59	64.41	-0.02	0.10
2051	1,070.53	32.17163597	-103.09257119	83.20	64.45	-0.07	0.09
2052	1,071.06	32.17163338	-103.09257116	78.36	68.59	-0.03	0.11
2053	1,071.58	32.17163113	-103.09257075	59.53	64.84	-0.04	0.07
2054	1,072.10	32.17162776	-103.09257173	52.31	60.55	-0.05	0.04
2055	1,072.62	32.17162384	-103.09257343	46.09	58.75	-0.05	-0.06
2056	1,073.14	32.17162158	-103.09257572	37.19	51.21	-0.03	-0.23
2057	1,073.67	32.17161989	-103.09257821	34.73	48.24	-0.05	-0.13
2058	1,074.19	32.17161729	-103.09257983	34.26	46.80	-0.04	-0.04
2059	1,074.71	32.17161449	-103.09258127	31.41	42.62	-0.04	-0.04
2060	1,075.23	32.17161200	-103.09258316	29.38	41.41	-0.06	0.03
2061	1,075.76	32.17160954	-103.09258509	29.10	40.82	-0.05	0.08
2062	1,076.28	32.17160672	-103.09258521	28.24	40.23	-0.05	0.08
2063	1,076.80	32.17160396	-103.09258549	27.54	38.01	-0.05	0.07
2064	1,077.32	32.17160195	-103.09258768	28.13	38.09	-0.04	0.06
2065	1,077.86	32.17160021	-103.09259040	27.07	36.33	-0.05	0.07
2066	1,078.37	32.17159990	-103.09259509	25.98	33.98	-0.06	0.06
2067	1,078.89	32.17159966	-103.09259948	26.95	35.04	-0.05	0.09
2068	1,079.41	32.17159966	-103.09260267	25.63	35.04	-0.05	0.09
2069	1,079.93	32.17160039	-103.09260540	23.44	34.02	-0.07	0.09
2070	1,080.45	32.17160258	-103.09260724	26.09	35.35	-0.05	0.10
2071	1,080.98	32.17160505	-103.09260866	26.33	36.29	-0.04	0.12
2072	1,081.50	32.17160790	-103.09260950	26.95	36.41	-0.04	0.09
2073	1,082.02	32.17161058	-103.09261052	29.26	38.52	-0.03	0.09
2074	1,082.54	32.17161311	-103.09261172	31.25	41.37	-0.04	0.10
2075	1,083.07	32.17161582	-103.09261255	35.63	45.63	-0.03	0.08
2076	1,083.59	32.17161869	-103.09261312	42.34	53.67	-0.03	0.13
2077	1,084.11	32.17162195	-103.09261386	51.72	56.56	-0.04	0.09
2078	1,084.63	32.17162541	-103.09261468	69.77	68.48	-0.04	0.09
2079	1,085.16	32.17162838	-103.09261521	80.90	90.16	-0.04	0.13
2080	1,085.68	32.17163119	-103.09261565	91.95	98.52	-0.03	0.13

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2081	1,086.20	32.17163261	-103.09261727	96.33	97.38	-0.02	0.14
2082	1,086.72	32.17163378	-103.09261910	96.99	93.91	-0.03	0.16
2083	1,087.24	32.17163523	-103.09261871	100.35	91.41	-0.02	0.16
2084	1,087.77	32.17163668	-103.09261820	106.64	89.73	-0.02	0.14
2085	1,088.29	32.17163770	-103.09261933	102.15	83.01	-0.04	0.14
2086	1,088.81	32.17163885	-103.09262031	87.97	72.81	-0.04	0.14
2087	1,089.33	32.17164113	-103.09262006	67.93	62.34	-0.04	0.13
2088	1,089.85	32.17164344	-103.09261998	57.77	57.70	-0.02	0.11
2089	1,090.38	32.17164585	-103.09262060	51.06	57.15	-0.04	0.08
2090	1,090.90	32.17164847	-103.09262111	43.36	58.32	-0.02	0.09
2091	1,091.42	32.17165167	-103.09262135	36.95	53.75	-0.04	0.06
2092	1,091.94	32.17165468	-103.09262166	33.09	47.38	-0.04	0.06
2093	1,092.47	32.17165737	-103.09262211	30.35	41.99	-0.05	0.05
2094	1,092.99	32.17166026	-103.09262293	28.71	39.69	-0.04	0.04
2095	1,093.51	32.17166343	-103.09262423	28.05	38.79	-0.04	0.06
2096	1,094.03	32.17166645	-103.09262500	26.09	35.39	-0.06	0.05
2097	1,094.56	32.17166933	-103.09262532	25.00	33.05	-0.04	0.05
2098	1,095.08	32.17167285	-103.09262627	23.91	30.66	-0.05	0.06
2099	1,095.60	32.17167676	-103.09262761	22.77	30.35	-0.06	0.05
2100	1,096.12	32.17168008	-103.09262978	22.85	29.45	-0.05	0.04
2101	1,096.64	32.17168314	-103.09263229	22.62	28.28	-0.04	0.06
2102	1,097.17	32.17168742	-103.09263436	22.19	28.63	-0.05	0.06
2103	1,097.69	32.17169204	-103.09263631	21.99	27.23	-0.04	0.08
2104	1,098.21	32.17169657	-103.09263882	20.74	24.84	-0.05	0.07
2105	1,098.73	32.17170109	-103.09264141	20.63	24.30	-0.05	0.06
2106	1,099.26	32.17170328	-103.09264571	20.39	23.56	-0.05	0.06
2107	1,099.78	32.17170526	-103.09265009	20.08	23.52	-0.05	0.05
2108	1,100.30	32.17170513	-103.09265486	21.76	25.39	-0.05	0.05
2109	1,100.82	32.17170471	-103.09265950	23.63	28.24	-0.05	0.04
2110	1,101.34	32.17170225	-103.09266323	24.53	31.76	-0.07	0.04
2111	1,101.87	32.17169956	-103.09266631	30.31	38.05	-0.05	0.05
2112	1,102.39	32.17169608	-103.09266690	35.55	43.71	-0.04	0.08
2113	1,102.92	32.17169256	-103.09266739	41.52	48.01	-0.06	0.08
2114	1,103.43	32.17168920	-103.09266761	52.38	53.09	-0.04	0.11
2115	1,103.96	32.17168561	-103.09266780	60.23	59.96	-0.04	0.10
2116	1,104.48	32.17168180	-103.09266792	61.64	65.59	-0.04	0.12
2117	1,105.00	32.17167836	-103.09266750	62.31	66.95	-0.03	0.12
2118	1,105.52	32.17167534	-103.09266647	57.62	69.26	-0.03	0.12
2119	1,106.04	32.17167206	-103.09266624	51.76	69.53	-0.04	0.12
2120	1,106.57	32.17166858	-103.09266666	48.67	67.31	-0.04	0.11
2121	1,107.09	32.17166564	-103.09266700	44.30	63.79	-0.04	0.11
2122	1,107.61	32.17166300	-103.09266730	43.05	62.50	-0.04	0.11
2123	1,108.13	32.17166097	-103.09266651	43.13	62.97	-0.04	0.12
2124	1,108.65	32.17165919	-103.09266530	44.38	64.34	-0.04	0.14
2125	1,109.18	32.17165737	-103.09266523	45.86	66.72	-0.04	0.15
2126	1,109.70	32.17165554	-103.09266543	48.09	67.97	-0.02	0.16
2127	1,110.22	32.17165359	-103.09266456	49.14	69.34	-0.04	0.15
2128	1,110.73	32.17165162	-103.09266356	50.08	71.48	-0.04	0.13
2129	1,111.26	32.17165004	-103.09266340	54.53	76.64	-0.03	0.15
2130	1,111.79	32.17164841	-103.09266331	58.67	81.56	-0.04	0.15
2131	1,112.31	32.17164555	-103.09266354	63.01	87.23	-0.05	0.14
2132	1,112.83	32.17164269	-103.09266345	75.27	91.52	-0.04	0.16
2133	1,113.35	32.17163980	-103.09266154	82.77	90.31	-0.04	0.12
2134	1,113.88	32.17163702	-103.09266017	76.45	87.54	-0.04	0.10
2135	1,114.40	32.17163454	-103.09266062	78.36	89.06	-0.04	0.10
2136	1,114.92	32.17163201	-103.09266029	88.32	93.98	-0.03	0.12
2137	1,115.44	32.17162939	-103.09265828	85.43	95.43	-0.05	0.11
2138	1,115.97	32.17162610	-103.09265666	65.04	77.38	-0.04	0.09
2139	1,116.49	32.17162184	-103.09265561	51.56	63.09	-0.03	0.05
2140	1,117.01	32.17161927	-103.09265502	43.01	55.20	-0.01	0.06
2141	1,117.53	32.17161850	-103.09265494	38.05	49.88	-0.01	0.08
2142	1,118.05	32.17161671	-103.09265594	36.37	49.88	-0.02	0.06
2143	1,118.58	32.17161415	-103.09265778	34.92	48.91	-0.03	0.07
2144	1,119.10	32.17161241	-103.09265920	30.47	42.31	-0.02	0.07
2145	1,119.62	32.17161109	-103.09266042	26.84	35.70	-0.03	0.07

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2146	1,120.14	32.17160863	-103.09266066	23.83	31.21	-0.02	0.07
2147	1,120.67	32.17160577	-103.09266056	21.99	27.31	-0.02	0.07
2148	1,121.19	32.17160427	-103.09265955	20.16	24.61	-0.03	0.07
2149	1,121.71	32.17160306	-103.09265833	19.30	23.95	-0.04	0.12
2150	1,122.23	32.17160052	-103.09265873	19.57	24.18	-0.04	0.14
2151	1,122.74	32.17159784	-103.09265928	19.73	23.79	-0.03	0.14
2152	1,123.27	32.17159510	-103.09265976	19.06	23.01	-0.03	0.12
2153	1,123.80	32.17159240	-103.09266047	18.13	22.07	-0.04	0.12
2154	1,124.32	32.17159024	-103.09266380	18.91	21.88	-0.03	0.11
2155	1,124.85	32.17158827	-103.09266730	18.56	21.37	-0.03	0.12
2156	1,125.37	32.17158739	-103.09267116	17.81	20.51	-0.04	0.09
2157	1,125.89	32.17158649	-103.09267518	18.67	20.08	-0.02	0.09
2158	1,126.41	32.17158559	-103.09267946	18.28	21.37	-0.03	0.11
2159	1,126.93	32.17158524	-103.09268375	18.09	21.09	-0.04	0.11
2160	1,127.45	32.17158594	-103.09268809	19.38	22.19	-0.03	0.09
2161	1,127.98	32.17158714	-103.09269165	19.22	23.36	-0.04	0.13
2162	1,128.50	32.17158902	-103.09269413	20.00	24.18	-0.03	0.10
2163	1,129.02	32.17159067	-103.09269613	20.31	25.12	-0.03	0.08
2164	1,129.54	32.17159211	-103.09269767	20.82	25.51	-0.03	0.10
2165	1,130.07	32.17159404	-103.09269913	22.97	27.07	-0.02	0.13
2166	1,130.59	32.17159631	-103.09270054	24.38	30.23	-0.03	0.14
2167	1,131.11	32.17159851	-103.09270057	24.77	31.25	-0.03	0.13
2168	1,131.63	32.17160066	-103.09269994	27.70	36.06	-0.04	0.09
2169	1,132.15	32.17160238	-103.09270023	30.74	39.22	-0.03	0.09
2170	1,132.68	32.17160395	-103.09270081	32.97	42.46	-0.03	0.13
2171	1,133.20	32.17160596	-103.09269998	35.55	46.29	-0.02	0.11
2172	1,133.72	32.17160803	-103.09269889	46.72	58.05	-0.03	0.12
2173	1,134.24	32.17161034	-103.09269854	61.56	68.28	-0.04	0.13
2174	1,134.77	32.17161265	-103.09269825	76.37	76.45	-0.04	0.15
2175	1,135.29	32.17161402	-103.09269823	93.36	88.48	-0.04	0.17
2176	1,135.81	32.17161541	-103.09269835	105.90	99.49	-0.03	0.19
2177	1,136.33	32.17161690	-103.09269972	110.51	103.44	-0.03	0.18
2178	1,136.85	32.17161847	-103.09270072	103.59	102.34	-0.04	0.16
2179	1,137.38	32.17162039	-103.09270019	97.77	97.66	-0.02	0.16
2180	1,137.90	32.17162234	-103.09270031	98.36	94.18	-0.03	0.18
2181	1,138.42	32.17162432	-103.09270215	90.16	89.45	-0.04	0.16
2182	1,138.94	32.17162660	-103.09270343	84.81	92.81	-0.03	0.14
2183	1,139.47	32.17162940	-103.09270369	80.16	99.65	-0.04	0.11
2184	1,139.99	32.17163243	-103.09270405	74.02	102.23	-0.04	0.09
2185	1,140.51	32.17163574	-103.09270451	64.30	93.71	-0.15	-0.06
2186	1,141.03	32.17163860	-103.09270589	56.37	81.80	-0.60	-0.10
2187	1,141.55	32.17164105	-103.09270808	48.56	70.35	-0.28	1.27
2188	1,142.08	32.17164412	-103.09270911	44.30	63.75	-0.41	1.64
2189	1,142.60	32.17164758	-103.09270940	41.68	59.73	-0.25	0.99
2190	1,143.12	32.17165083	-103.09271005	38.40	55.12	-0.11	0.12
2191	1,143.64	32.17165402	-103.09271085	37.73	54.10	-0.07	-0.01
2192	1,144.17	32.17165681	-103.09271241	36.41	52.19	-0.05	0.02
2193	1,144.69	32.17165949	-103.09271417	34.34	49.92	-0.05	0.07
2194	1,145.21	32.17166244	-103.09271537	34.14	47.70	-0.05	0.10
2195	1,145.73	32.17166543	-103.09271648	34.02	47.27	-0.05	0.12
2196	1,146.25	32.17166917	-103.09271876	34.96	47.85	-0.05	0.14
2197	1,146.78	32.17167294	-103.09272109	34.57	48.40	-0.04	0.15
2198	1,147.30	32.17167613	-103.09272319	33.63	48.91	-0.04	0.11
2199	1,147.82	32.17167925	-103.09272538	31.45	46.45	-0.05	0.08
2200	1,148.34	32.17168190	-103.09272820	29.88	44.14	-0.04	0.06
2201	1,148.87	32.17168440	-103.09273108	31.72	41.29	0.01	0.03
2202	1,149.39	32.17168629	-103.09273414	28.13	40.20	-0.05	0.11
2203	1,149.92	32.17168747	-103.09273755	28.16	39.77	-0.04	0.08
2204	1,150.43	32.17168695	-103.09274157	28.05	39.45	-0.03	0.07
2205	1,150.96	32.17168595	-103.09274615	26.68	38.05	-0.05	0.07
2206	1,151.48	32.17168417	-103.09275154	26.56	36.33	-0.04	0.09
2207	1,152.00	32.17168175	-103.09275612	25.16	34.96	-0.04	0.10
2208	1,152.52	32.17167860	-103.09275978	25.00	34.34	-0.04	0.08
2209	1,153.04	32.17167493	-103.09276204	25.59	33.98	-0.04	0.08
2210	1,153.57	32.17167084	-103.09276316	24.92	33.40	-0.04	0.07

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2211	1,154.09	32.17166769	-103.09276303	25.08	33.98	-0.04	0.10
2212	1,154.61	32.17166508	-103.09276219	25.23	35.27	-0.04	0.12
2213	1,155.13	32.17166273	-103.09276128	25.20	34.53	-0.04	0.11
2214	1,155.66	32.17166047	-103.09276035	26.41	35.59	-0.03	0.11
2215	1,156.18	32.17165888	-103.09275858	26.76	37.46	-0.04	0.11
2216	1,156.70	32.17165745	-103.09275661	27.27	38.01	-0.04	0.13
2217	1,157.22	32.17165522	-103.09275557	29.26	40.27	-0.04	0.11
2218	1,157.73	32.17165288	-103.09275464	31.06	42.58	-0.04	0.10
2219	1,158.26	32.17165058	-103.09275390	32.54	44.57	-0.04	0.10
2220	1,158.79	32.17164826	-103.09275314	34.38	49.14	-0.05	0.10
2221	1,159.31	32.17164554	-103.09275196	36.56	52.46	-0.04	0.10
2222	1,159.83	32.17164281	-103.09275098	39.81	57.31	-0.04	0.12
2223	1,160.35	32.17163993	-103.09275121	42.15	62.73	-0.05	0.11
2224	1,160.88	32.17163710	-103.09275110	46.91	69.73	-0.04	0.11
2225	1,161.40	32.17163444	-103.09274985	53.36	77.07	-0.03	0.12
2226	1,161.92	32.17163195	-103.09274869	61.88	85.16	-0.01	0.13
2227	1,162.44	32.17162981	-103.09274769	68.63	90.35	-0.02	0.14
2228	1,162.96	32.17162756	-103.09274723	71.95	88.20	-0.03	0.15
2229	1,163.49	32.17162516	-103.09274756	78.56	83.01	-0.03	0.16
2230	1,164.01	32.17162314	-103.09274692	89.61	79.18	-0.03	0.17
2231	1,164.53	32.17162154	-103.09274523	102.27	84.22	-0.04	0.17
2232	1,165.05	32.17161941	-103.09274492	108.24	97.54	-0.05	0.17
2233	1,165.58	32.17161689	-103.09274566	114.26	110.39	-0.03	0.17
2234	1,166.10	32.17161442	-103.09274560	113.67	112.42	-0.03	0.16
2235	1,166.62	32.17161200	-103.09274512	102.38	101.72	-0.03	0.16
2236	1,167.14	32.17160915	-103.09274526	85.04	87.70	-0.04	0.14
2237	1,167.66	32.17160617	-103.09274561	65.23	75.82	-0.06	0.08
2238	1,168.19	32.17160271	-103.09274682	46.84	61.88	-0.04	0.04
2239	1,168.71	32.17159915	-103.09274821	37.81	52.42	-0.03	0.00
2240	1,169.23	32.17159727	-103.09274696	31.06	43.36	-0.04	-0.03
2241	1,169.74	32.17159554	-103.09274545	26.33	36.06	-0.04	-0.01
2242	1,170.27	32.17159317	-103.09274490	23.40	30.59	-0.03	-0.02
2243	1,170.80	32.17159080	-103.09274430	21.68	27.77	-0.04	0.03
2244	1,171.32	32.17158867	-103.09274289	19.92	25.39	-0.05	0.03
2245	1,171.84	32.17158670	-103.09274117	19.34	24.14	-0.04	0.03
2246	1,172.36	32.17158555	-103.09273791	17.97	21.41	-0.05	0.00
2247	1,172.89	32.17158389	-103.09273513	17.34	20.04	-0.05	-0.02
2248	1,173.41	32.17158068	-103.09273383	17.66	20.00	-0.06	-0.01
2249	1,173.93	32.17157739	-103.09273225	19.38	20.31	-0.09	-0.01
2250	1,174.45	32.17157392	-103.09273009	17.85	18.56	-0.08	0.05
2251	1,174.97	32.17157053	-103.09272809	16.06	18.05	-0.06	0.01
2252	1,175.50	32.17156724	-103.09272630	14.81	16.48	-0.05	0.03
2253	1,176.02	32.17156376	-103.09272593	14.41	15.63	-0.06	0.03
2254	1,176.54	32.17156015	-103.09272697	14.26	15.16	-0.05	0.03
2255	1,177.06	32.17155698	-103.09272903	14.02	14.96	-0.05	0.04
2256	1,177.59	32.17155414	-103.09273179	13.79	13.52	-0.06	0.05
2257	1,178.11	32.17155214	-103.09273552	14.22	13.87	-0.05	0.05
2258	1,178.63	32.17155056	-103.09273969	14.45	15.04	-0.06	0.07
2259	1,179.15	32.17155117	-103.09274379	14.77	15.12	-0.05	0.02
2260	1,179.67	32.17155245	-103.09274786	14.84	14.73	-0.04	0.01
2261	1,180.20	32.17155440	-103.09275129	15.20	15.31	-0.02	0.03
2262	1,180.72	32.17155648	-103.09275460	15.00	16.13	-0.06	0.03
2263	1,181.24	32.17155819	-103.09275800	16.48	17.42	-0.05	0.04
2264	1,181.76	32.17155989	-103.09276136	16.95	18.48	-0.04	0.06
2265	1,182.29	32.17156272	-103.09276271	17.62	18.87	-0.04	0.04
2266	1,182.81	32.17156543	-103.09276412	18.32	20.04	-0.04	0.06
2267	1,183.33	32.17156697	-103.09276592	19.18	21.76	-0.04	0.05
2268	1,183.85	32.17156854	-103.09276753	20.23	23.59	-0.05	0.05
2269	1,184.37	32.17157011	-103.09276830	21.99	25.27	-0.04	0.07
2270	1,184.90	32.17157197	-103.09276931	22.81	27.42	-0.04	0.08
2271	1,185.42	32.17157457	-103.09277095	24.49	30.55	-0.03	0.06
2272	1,185.94	32.17157711	-103.09277268	26.29	32.03	-0.04	0.06
2273	1,186.46	32.17157954	-103.09277457	29.18	36.88	-0.04	0.09
2274	1,186.99	32.17158215	-103.09277625	32.50	41.45	-0.04	0.09
2275	1,187.51	32.17158498	-103.09277765	35.98	46.68	-0.03	0.10

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2276	1,188.03	32.17158743	-103.09277919	39.65	51.17	-0.03	0.10
2277	1,188.55	32.17158954	-103.09278085	43.71	55.74	-0.05	0.08
2278	1,189.07	32.17159178	-103.09278265	55.20	67.23	-0.05	0.11
2279	1,189.60	32.17159413	-103.09278453	61.37	72.23	-0.05	0.12
2280	1,190.12	32.17159686	-103.09278545	70.94	72.27	-0.05	0.09
2281	1,190.64	32.17159977	-103.09278597	84.26	73.44	-0.04	0.10
2282	1,191.16	32.17160219	-103.09278784	80.66	71.56	-0.04	0.09
2283	1,191.69	32.17160448	-103.09279009	69.88	63.01	-0.04	0.07
2284	1,192.21	32.17160845	-103.09279115	67.42	66.76	-0.06	0.08
2285	1,192.73	32.17161269	-103.09279201	57.77	73.01	-0.05	0.06
2286	1,193.25	32.17161696	-103.09279290	46.52	68.40	-0.04	0.04
2287	1,193.78	32.17162119	-103.09279382	39.96	60.94	-0.04	0.05
2288	1,194.30	32.17162407	-103.09279546	36.60	53.98	-0.04	0.04
2289	1,194.82	32.17162701	-103.09279711	32.70	45.86	-0.04	0.02
2290	1,195.34	32.17163038	-103.09279887	29.92	41.25	-0.04	0.02
2291	1,195.86	32.17163347	-103.09280097	28.24	38.44	-0.03	0.01
2292	1,196.39	32.17163543	-103.09280428	25.74	34.65	-0.04	-0.01
2293	1,196.92	32.17163747	-103.09280788	24.73	32.15	-0.05	-0.02
2294	1,197.43	32.17163956	-103.09281194	23.59	30.20	-0.04	0.00
2295	1,197.95	32.17164159	-103.09281595	21.41	27.07	-0.04	0.03
2296	1,198.48	32.17164347	-103.09281979	20.27	24.88	-0.05	0.02
2297	1,199.00	32.17164503	-103.09282372	19.77	23.91	-0.04	0.09
2298	1,199.52	32.17164621	-103.09282776	19.02	22.46	-0.05	0.05
2299	1,200.04	32.17164615	-103.09283147	17.73	21.13	-0.05	0.05
2300	1,200.56	32.17164507	-103.09283490	17.19	20.35	-0.05	0.06
2301	1,201.09	32.17164307	-103.09283801	17.50	19.92	-0.06	0.01
2302	1,201.61	32.17164053	-103.09284093	17.66	20.55	-0.06	0.02
2303	1,202.13	32.17163773	-103.09284119	19.06	21.76	-0.06	0.02
2304	1,202.65	32.17163483	-103.09284039	20.00	23.28	-0.05	0.04
2305	1,203.18	32.17163300	-103.09283907	21.29	24.92	-0.04	0.02
2306	1,203.70	32.17163143	-103.09283764	22.11	26.17	-0.05	0.02
2307	1,204.21	32.17162899	-103.09283631	22.62	28.01	-0.05	0.03
2308	1,204.73	32.17162642	-103.09283499	25.08	31.25	-0.04	0.06
2309	1,205.26	32.17162487	-103.09283219	26.02	33.20	-0.04	0.04
2310	1,205.79	32.17162338	-103.09282940	27.34	34.69	-0.05	0.02
2311	1,206.31	32.17162180	-103.09282793	29.10	37.81	-0.04	0.04
2312	1,206.83	32.17161999	-103.09282659	30.82	41.06	-0.05	0.06
2313	1,207.35	32.17161677	-103.09282598	31.72	44.30	-0.06	0.03
2314	1,207.88	32.17161349	-103.09282506	36.45	49.73	-0.06	0.03
2315	1,208.40	32.17160996	-103.09282308	41.99	55.04	-0.06	0.04
2316	1,208.92	32.17160631	-103.09282130	49.81	61.56	-0.06	0.02
2317	1,209.44	32.17160238	-103.09281992	57.70	62.97	-0.04	0.03
2318	1,209.96	32.17159840	-103.09281888	68.52	60.27	-0.04	0.04
2319	1,210.49	32.17159437	-103.09281834	64.84	58.59	-0.05	0.06
2320	1,211.01	32.17159060	-103.09281685	59.65	61.64	-0.05	0.08
2321	1,211.53	32.17158711	-103.09281434	49.06	62.46	-0.05	0.04
2322	1,212.05	32.17158353	-103.09281309	40.39	56.84	-0.06	0.02
2323	1,212.57	32.17157989	-103.09281278	35.08	48.87	-0.06	0.02
2324	1,213.10	32.17157715	-103.09281317	32.66	44.49	-0.06	0.03
2325	1,213.62	32.17157489	-103.09281392	29.18	39.84	-0.06	0.03
2326	1,214.14	32.17157180	-103.09281333	28.28	37.31	-0.05	0.04
2327	1,214.66	32.17156842	-103.09281228	26.25	33.67	-0.05	0.04
2328	1,215.19	32.17156468	-103.09281109	24.41	30.98	-0.05	0.02
2329	1,215.71	32.17156084	-103.09280988	22.31	26.60	-0.06	-0.01
2330	1,216.23	32.17155809	-103.09280906	20.51	23.87	-0.04	-0.01
2331	1,216.75	32.17155547	-103.09280827	19.10	21.76	-0.03	-0.01
2332	1,217.27	32.17155321	-103.09280694	17.58	19.69	-0.04	-0.01
2333	1,217.80	32.17155083	-103.09280568	16.60	18.63	-0.05	-0.03
2334	1,218.32	32.17154705	-103.09280527	16.33	16.95	-0.05	0.01
2335	1,218.84	32.17154337	-103.09280535	15.35	16.29	-0.04	-0.01
2336	1,219.36	32.17154033	-103.09280779	15.55	15.78	-0.05	0.01
2337	1,219.89	32.17153778	-103.09281055	15.78	16.06	-0.05	0.00
2338	1,220.41	32.17153673	-103.09281425	15.35	15.23	-0.05	-0.03
2339	1,220.93	32.17153624	-103.09281810	16.17	15.27	-0.04	-0.03
2340	1,221.45	32.17153687	-103.09282222	16.88	16.33	-0.04	-0.02

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2341	1,221.98	32.17153786	-103.09282544	16.52	15.47	-0.04	-0.02
2342	1,222.50	32.17153933	-103.09282744	16.68	16.64	-0.05	-0.01
2343	1,223.02	32.17154089	-103.09283018	16.68	18.36	-0.05	0.03
2344	1,223.54	32.17154252	-103.09283364	17.46	19.61	-0.05	0.04
2345	1,224.06	32.17154353	-103.09283687	19.06	22.19	-0.05	0.04
2346	1,224.59	32.17154411	-103.09283995	19.84	23.09	-0.05	0.04
2347	1,225.11	32.17154487	-103.09284313	20.55	23.87	-0.05	0.05
2348	1,225.63	32.17154572	-103.09284635	23.20	26.91	-0.05	0.05
2349	1,226.15	32.17154653	-103.09284961	25.39	30.94	-0.05	0.06
2350	1,226.68	32.17154734	-103.09285290	26.76	32.73	-0.05	0.05
2351	1,227.20	32.17154909	-103.09285548	29.53	36.29	-0.05	0.02
2352	1,227.72	32.17155103	-103.09285795	31.91	39.88	-0.06	0.04
2353	1,228.24	32.17155406	-103.09285941	34.41	44.53	-0.06	0.05
2354	1,228.76	32.17155715	-103.09286081	40.74	50.59	-0.05	0.06
2355	1,229.29	32.17155925	-103.09286301	45.16	54.84	-0.05	0.06
2356	1,229.81	32.17156146	-103.09286508	49.18	54.26	-0.05	0.07
2357	1,230.33	32.17156465	-103.09286591	56.72	53.16	-0.05	0.05
2358	1,230.85	32.17156762	-103.09286707	56.37	52.11	-0.04	0.03
2359	1,231.37	32.17156948	-103.09286961	56.13	51.68	-0.04	0.04
2360	1,231.90	32.17157167	-103.09287200	54.53	48.91	-0.04	0.05
2361	1,232.42	32.17157476	-103.09287394	48.95	51.68	-0.05	0.03
2362	1,232.94	32.17157788	-103.09287613	41.25	54.77	-0.05	0.03
2363	1,233.46	32.17158108	-103.09287879	35.90	50.43	-0.06	0.04
2364	1,233.98	32.17158373	-103.09288161	33.09	44.41	-0.04	0.02
2365	1,234.51	32.17158567	-103.09288464	30.63	40.51	-0.04	0.04
2366	1,235.03	32.17158771	-103.09288755	26.45	34.69	-0.06	0.03
2367	1,235.55	32.17158984	-103.09289036	23.40	29.45	-0.05	0.01
2368	1,236.07	32.17159122	-103.09289400	22.62	27.31	-0.04	0.05
2369	1,236.60	32.17159212	-103.09289819	20.90	24.88	-0.04	0.04
2370	1,237.12	32.17159322	-103.09290118	19.65	23.59	-0.04	0.03
2371	1,237.64	32.17159441	-103.09290364	19.02	22.31	-0.04	0.04
2372	1,238.16	32.17159626	-103.09290651	18.13	21.25	-0.05	0.06
2373	1,238.69	32.17159830	-103.09290950	18.40	19.84	-0.04	0.04
2374	1,239.21	32.17159697	-103.09291094	17.77	18.98	-0.05	0.00
2375	1,239.73	32.17159512	-103.09291214	17.97	19.69	-0.05	0.01
2376	1,240.25	32.17159162	-103.09291443	18.44	19.73	-0.06	0.00
2377	1,240.77	32.17158803	-103.09291674	19.26	21.21	-0.05	0.00
2378	1,241.30	32.17158466	-103.09291810	19.34	21.56	-0.05	0.00
2379	1,241.82	32.17158136	-103.09291940	18.48	21.68	-0.07	-0.01
2380	1,242.34	32.17157863	-103.09292033	19.96	22.70	-0.05	0.02
2381	1,242.86	32.17157575	-103.09292084	20.47	23.32	-0.05	0.01
2382	1,243.39	32.17157231	-103.09291976	21.29	24.69	-0.06	0.03
2383	1,243.91	32.17156883	-103.09291867	22.81	26.99	-0.06	0.01
2384	1,244.43	32.17156526	-103.09291754	24.81	30.08	-0.06	-0.02
2385	1,244.95	32.17156207	-103.09291642	27.50	34.34	-0.06	0.02
2386	1,245.47	32.17155956	-103.09291534	30.51	38.52	-0.05	0.03
2387	1,246.00	32.17155715	-103.09291327	34.18	43.83	-0.05	0.04
2388	1,246.52	32.17155488	-103.09291003	38.75	49.02	-0.05	0.03
2389	1,247.04	32.17155305	-103.09290719	47.66	56.56	-0.05	0.03
2390	1,247.56	32.17155158	-103.09290466	55.63	63.75	-0.05	0.02
2391	1,248.09	32.17154958	-103.09290293	59.10	63.79	-0.04	0.02
2392	1,248.61	32.17154726	-103.09290168	61.95	57.38	-0.03	0.02
2393	1,249.13	32.17154549	-103.09289959	66.68	50.27	-0.03	0.03
2394	1,249.65	32.17154394	-103.09289716	60.23	48.95	-0.05	0.05
2395	1,250.18	32.17154158	-103.09289506	57.42	54.88	-0.04	0.06
2396	1,250.70	32.17153903	-103.09289304	52.03	59.38	-0.04	0.06
2397	1,251.22	32.17153608	-103.09289058	41.52	54.69	-0.05	0.01
2398	1,251.73	32.17153308	-103.09288807	34.65	48.79	-0.05	0.01
2399	1,252.26	32.17153069	-103.09288521	30.55	42.77	-0.05	0.02
2400	1,252.78	32.17152830	-103.09288235	28.28	38.01	-0.05	0.02
2401	1,253.31	32.17152552	-103.09287990	24.84	32.54	-0.05	-0.01
2402	1,253.83	32.17152269	-103.09287746	22.62	28.09	-0.05	-0.02
2403	1,254.35	32.17151948	-103.09287503	20.39	23.95	-0.04	-0.01
2404	1,254.87	32.17151644	-103.09287257	18.48	21.41	-0.06	-0.03
2405	1,255.40	32.17151399	-103.09287008	17.89	19.88	-0.05	-0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2406	1,255.92	32.17151118	-103.09286770	16.45	17.62	-0.05	-0.02
2407	1,256.44	32.17150756	-103.09286560	15.39	17.03	-0.06	-0.05
2408	1,256.96	32.17150380	-103.09286337	16.09	16.45	-0.05	-0.02
2409	1,257.48	32.17149984	-103.09286096	15.31	15.31	-0.05	-0.02
2410	1,258.01	32.17149618	-103.09285894	15.43	14.53	-0.05	-0.04
2411	1,258.53	32.17149282	-103.09285731	15.12	15.04	-0.04	-0.03
2412	1,259.05	32.17148969	-103.09285826	15.12	14.61	-0.05	-0.02
2413	1,259.57	32.17148676	-103.09286117	15.82	14.69	-0.05	-0.02
2414	1,260.10	32.17148513	-103.09286488	15.74	15.94	-0.04	-0.01
2415	1,260.62	32.17148422	-103.09286902	15.90	16.13	-0.06	-0.01
2416	1,261.14	32.17148391	-103.09287271	16.88	17.03	-0.05	0.01
2417	1,261.66	32.17148382	-103.09287624	17.31	18.36	-0.05	0.03
2418	1,262.19	32.17148477	-103.09287954	17.34	18.83	-0.06	0.00
2419	1,262.71	32.17148594	-103.09288280	19.38	20.47	-0.05	0.03
2420	1,263.23	32.17148591	-103.09288632	20.16	22.62	-0.05	0.04
2421	1,263.75	32.17148576	-103.09288987	21.80	25.20	-0.06	0.04
2422	1,264.27	32.17148650	-103.09289326	24.06	28.48	-0.05	0.03
2423	1,264.79	32.17148737	-103.09289665	26.09	32.19	-0.04	0.04
2424	1,265.32	32.17148956	-103.09290003	27.93	35.04	-0.06	0.03
2425	1,265.84	32.17149153	-103.09290336	32.23	40.08	-0.05	0.02
2426	1,266.36	32.17149231	-103.09290636	36.33	45.74	-0.05	0.05
2427	1,266.88	32.17149344	-103.09290931	40.04	52.54	-0.09	0.02
2428	1,267.41	32.17149565	-103.09291210	52.89	64.81	-0.07	0.05
2429	1,267.93	32.17149767	-103.09291508	65.39	74.77	-0.06	0.05
2430	1,268.45	32.17149927	-103.09291842	78.59	82.46	-0.06	0.07
2431	1,268.97	32.17150039	-103.09292161	89.96	79.45	-0.05	0.07
2432	1,269.50	32.17150084	-103.09292460	100.86	76.48	-0.05	0.07
2433	1,270.02	32.17150205	-103.09292684	100.08	78.91	-0.04	0.07
2434	1,270.54	32.17150404	-103.09292835	96.17	83.05	-0.02	0.08
2435	1,271.06	32.17150488	-103.09292985	85.90	86.29	-0.04	0.09
2436	1,271.58	32.17150492	-103.09293135	84.06	86.41	-0.05	0.07
2437	1,272.11	32.17150492	-103.09293419	84.57	80.12	-0.04	0.06
2438	1,272.63	32.17150490	-103.09293767	75.78	77.89	-0.05	0.05
2439	1,273.15	32.17150465	-103.09294110	62.11	79.18	-0.04	0.06
2440	1,273.67	32.17150433	-103.09294449	50.94	73.16	-0.05	0.05
2441	1,274.20	32.17150617	-103.09294831	43.48	63.13	-0.06	0.04
2442	1,274.72	32.17150843	-103.09295221	40.47	57.66	-0.06	0.02
2443	1,275.24	32.17150986	-103.09295625	35.23	50.27	-0.05	0.01
2444	1,275.76	32.17151124	-103.09296031	28.95	41.13	-0.06	0.02
2445	1,276.28	32.17151293	-103.09296449	27.07	35.12	-0.04	0.01
2446	1,276.81	32.17151464	-103.09296869	24.84	31.06	-0.06	0.00
2447	1,277.33	32.17151645	-103.09297301	22.23	26.99	-0.07	-0.04
2448	1,277.86	32.17151815	-103.09297726	21.37	24.73	-0.06	-0.05
2449	1,278.37	32.17151938	-103.09298107	20.90	23.48	-0.05	-0.01
2450	1,278.89	32.17152085	-103.09298475	17.85	20.43	-0.08	-0.01
2451	1,279.42	32.17152304	-103.09298803	17.89	19.22	-0.06	-0.02
2452	1,279.94	32.17152501	-103.09299142	17.62	18.28	-0.06	0.00
2453	1,280.46	32.17152661	-103.09299500	17.27	18.01	-0.06	-0.01
2454	1,280.98	32.17152739	-103.09299908	18.75	19.14	-0.07	-0.01
2455	1,281.51	32.17152711	-103.09300381	20.66	19.49	-0.07	0.04
2456	1,282.03	32.17152659	-103.09300853	19.49	19.38	-0.06	0.05
2457	1,282.55	32.17152587	-103.09301327	18.75	18.56	-0.06	0.03
2458	1,283.07	32.17152380	-103.09301742	18.56	18.16	-0.06	0.04
2459	1,283.60	32.17152085	-103.09302119	19.22	18.91	-0.06	0.01
2460	1,284.12	32.17151733	-103.09302376	19.45	19.06	-0.06	0.02
2461	1,284.64	32.17151354	-103.09302581	18.87	19.06	-0.07	0.02
2462	1,285.16	32.17151004	-103.09302591	19.96	18.91	-0.06	0.02
2463	1,285.68	32.17150664	-103.09302543	20.35	18.87	-0.06	0.04
2464	1,286.21	32.17150267	-103.09302431	20.43	19.69	-0.07	0.06
2465	1,286.73	32.17149863	-103.09302309	21.95	21.80	-0.05	0.03
2466	1,287.25	32.17149571	-103.09302010	22.31	23.09	-0.06	0.03
2467	1,287.77	32.17149285	-103.09301698	23.36	24.92	-0.06	0.03
2468	1,288.30	32.17149025	-103.09301321	25.08	27.23	-0.05	0.04
2469	1,288.82	32.17148765	-103.09300941	26.72	29.49	-0.06	0.05
2470	1,289.34	32.17148498	-103.09300532	27.31	30.51	-0.06	0.00

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2471	1,289.86	32.17148249	-103.09300145	27.31	32.03	-0.06	0.01
2472	1,290.38	32.17148065	-103.09299845	27.34	32.46	-0.06	-0.01
2473	1,290.91	32.17147944	-103.09299498	28.71	35.04	-0.06	0.00
2474	1,291.43	32.17147977	-103.09299041	31.09	38.28	-0.07	-0.01
2475	1,291.95	32.17148023	-103.09298639	36.68	46.17	-0.04	0.03
2476	1,292.47	32.17148088	-103.09298328	40.20	51.72	-0.04	0.04
2477	1,292.99	32.17148039	-103.09298005	42.93	54.34	-0.04	0.03
2478	1,293.52	32.17147852	-103.09297666	49.96	62.34	-0.06	0.04
2479	1,294.04	32.17147714	-103.09297309	63.16	69.34	-0.04	0.06
2480	1,294.56	32.17147618	-103.09296935	72.42	71.60	-0.04	0.07
2481	1,295.09	32.17147437	-103.09296590	86.33	77.97	-0.04	0.06
2482	1,295.61	32.17147207	-103.09296264	95.51	87.19	-0.03	0.09
2483	1,296.13	32.17146989	-103.09295951	90.27	91.09	-0.05	0.09
2484	1,296.65	32.17146776	-103.09295643	77.11	85.63	-0.05	0.09
2485	1,297.17	32.17146630	-103.09295324	72.81	82.62	-0.04	0.08
2486	1,297.70	32.17146500	-103.09295002	67.77	83.59	-0.04	0.08
2487	1,298.22	32.17146271	-103.09294703	57.11	82.31	-0.06	0.07
2488	1,298.73	32.17146029	-103.09294408	49.02	72.42	-0.04	0.09
2489	1,299.26	32.17145960	-103.09294081	43.52	64.26	-0.05	0.11
2490	1,299.79	32.17145892	-103.09293750	41.76	60.35	-0.05	0.10
2491	1,300.31	32.17145691	-103.09293375	39.26	57.23	-0.06	0.08
2492	1,300.83	32.17145494	-103.09293003	35.35	50.47	-0.05	0.08
2493	1,301.35	32.17145323	-103.09292650	30.55	42.81	-0.06	0.04
2494	1,301.87	32.17145167	-103.09292304	29.18	39.22	-0.06	0.03
2495	1,302.40	32.17145062	-103.09291981	27.54	34.92	-0.03	0.04
2496	1,302.92	32.17144937	-103.09291695	24.26	29.45	-0.04	0.02
2497	1,303.44	32.17144770	-103.09291493	22.77	27.38	-0.04	0.04
2498	1,303.96	32.17144611	-103.09291220	21.91	25.16	-0.04	0.03
2499	1,304.48	32.17144466	-103.09290838	20.08	22.15	-0.04	0.00
2500	1,305.01	32.17144276	-103.09290480	18.98	20.98	-0.05	0.01
2501	1,305.53	32.17144037	-103.09290148	18.09	18.79	-0.05	0.00
2502	1,306.05	32.17143782	-103.09289848	17.50	17.58	-0.05	0.01
2503	1,306.57	32.17143515	-103.09289572	16.29	17.85	-0.07	0.02
2504	1,307.10	32.17143317	-103.09289245	16.80	17.70	-0.06	0.02
2505	1,307.62	32.17143155	-103.09288888	16.76	17.50	-0.06	0.02
2506	1,308.14	32.17142871	-103.09288606	16.41	17.07	-0.06	0.02
2507	1,308.66	32.17142542	-103.09288350	16.56	16.09	-0.05	0.01
2508	1,309.18	32.17142122	-103.09288234	16.29	15.70	-0.05	-0.01
2509	1,309.71	32.17141683	-103.09288148	16.33	15.55	-0.05	0.01
2510	1,310.23	32.17141366	-103.09288188	15.43	14.84	-0.05	0.00
2511	1,310.74	32.17141063	-103.09288241	15.04	15.08	-0.06	-0.01
2512	1,311.27	32.17140805	-103.09288588	15.94	15.63	-0.05	0.01
2513	1,311.79	32.17140571	-103.09288945	16.21	15.51	-0.05	0.00
2514	1,312.32	32.17140632	-103.09289345	15.90	16.06	-0.06	0.02
2515	1,312.84	32.17140690	-103.09289749	16.52	16.72	-0.05	0.03
2516	1,313.36	32.17140736	-103.09290182	16.52	16.60	-0.06	0.02
2517	1,313.88	32.17140800	-103.09290600	16.88	17.31	-0.06	0.02
2518	1,314.41	32.17140922	-103.09290973	17.50	17.34	-0.05	0.02
2519	1,314.93	32.17141048	-103.09291333	17.19	17.38	-0.05	0.03
2520	1,315.45	32.17141184	-103.09291665	16.56	17.58	-0.07	0.02
2521	1,315.97	32.17141265	-103.09292016	17.54	17.54	-0.05	0.03
2522	1,316.49	32.17141267	-103.09292394	17.66	18.75	-0.04	0.02
2523	1,317.02	32.17141313	-103.09292773	17.54	18.40	-0.06	0.02
2524	1,317.54	32.17141404	-103.09293152	19.41	20.04	-0.04	0.03
2525	1,318.06	32.17141486	-103.09293498	20.27	22.81	-0.05	0.07
2526	1,318.58	32.17141562	-103.09293821	20.98	23.95	-0.06	0.04
2527	1,319.11	32.17141580	-103.09294154	22.93	26.13	-0.06	0.05
2528	1,319.63	32.17141568	-103.09294493	23.83	27.89	-0.05	0.06
2529	1,320.15	32.17141638	-103.09294823	24.41	29.41	-0.06	0.06
2530	1,320.67	32.17141733	-103.09295149	26.17	31.02	-0.04	0.05
2531	1,321.19	32.17141693	-103.09295476	26.41	31.52	-0.05	0.08
2532	1,321.72	32.17141626	-103.09295803	26.02	31.17	-0.05	0.07
2533	1,322.24	32.17141741	-103.09296138	26.72	31.68	-0.05	0.05
2534	1,322.76	32.17141870	-103.09296472	27.58	33.32	-0.04	0.06
2535	1,323.28	32.17141924	-103.09296754	28.28	34.77	-0.04	0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2536	1,323.81	32.17141977	-103.09297043	29.26	35.59	-0.05	0.05
2537	1,324.33	32.17142017	-103.09297389	30.23	35.90	-0.04	0.03
2538	1,324.85	32.17142066	-103.09297743	30.47	34.84	-0.05	0.04
2539	1,325.37	32.17142154	-103.09298108	30.51	31.52	-0.05	0.03
2540	1,325.89	32.17142200	-103.09298450	32.15	32.50	-0.04	0.03
2541	1,326.42	32.17142131	-103.09298718	31.95	35.12	-0.05	0.03
2542	1,326.94	32.17142128	-103.09298988	30.47	35.66	-0.06	0.02
2543	1,327.46	32.17142248	-103.09299261	32.15	37.15	-0.04	0.02
2544	1,327.98	32.17142318	-103.09299554	32.46	38.09	-0.05	0.02
2545	1,328.51	32.17142320	-103.09299874	33.32	40.70	-0.05	0.03
2546	1,329.03	32.17142342	-103.09300255	33.52	43.13	-0.06	0.03
2547	1,329.55	32.17142382	-103.09300694	33.59	42.03	-0.04	0.04
2548	1,330.07	32.17142448	-103.09301156	32.07	39.77	-0.05	0.05
2549	1,330.59	32.17142531	-103.09301634	32.23	39.02	-0.05	0.04
2550	1,331.12	32.17142564	-103.09302125	31.64	36.64	-0.04	0.07
2551	1,331.64	32.17142573	-103.09302618	28.24	33.13	-0.05	0.06
2552	1,332.16	32.17142634	-103.09303156	25.12	28.63	-0.05	0.00
2553	1,332.68	32.17142710	-103.09303706	21.29	22.73	-0.04	-0.05
2554	1,333.21	32.17142777	-103.09304077	18.44	18.83	-0.04	-0.07
2555	1,333.73	32.17142843	-103.09304419	17.31	17.07	-0.04	-0.07
2556	1,334.25	32.17142918	-103.09304842	16.84	15.82	-0.04	-0.06
2557	1,334.77	32.17142996	-103.09305270	15.39	13.91	-0.06	-0.06
2558	1,335.29	32.17143123	-103.09305726	15.16	13.63	-0.05	-0.05
2559	1,335.82	32.17143248	-103.09306189	13.98	11.91	-0.06	-0.05
2560	1,336.34	32.17143354	-103.09306705	14.22	11.99	-0.07	-0.03
2561	1,336.86	32.17143420	-103.09307235	13.91	11.21	-0.06	-0.03
2562	1,337.38	32.17143328	-103.09307816	13.20	10.59	-0.07	-0.02
2563	1,337.91	32.17143201	-103.09308360	13.40	10.51	-0.06	-0.03
2564	1,338.43	32.17142988	-103.09308809	13.36	9.65	-0.05	-0.01
2565	1,338.95	32.17142710	-103.09309244	12.66	9.49	-0.05	0.00
2566	1,339.47	32.17142321	-103.09309659	12.81	9.45	-0.05	0.00
2567	1,339.99	32.17141916	-103.09309974	12.66	9.22	-0.06	0.01
2568	1,340.52	32.17141491	-103.09310168	12.70	9.10	-0.05	-0.01
2569	1,341.04	32.17141003	-103.09310282	12.89	9.45	-0.05	-0.01
2570	1,341.56	32.17140461	-103.09310328	13.13	9.57	-0.06	0.00
2571	1,342.08	32.17140007	-103.09310227	14.30	10.12	-0.06	-0.01
2572	1,342.61	32.17139604	-103.09310038	14.69	10.78	-0.06	0.00
2573	1,343.13	32.17139219	-103.09309763	14.92	11.64	-0.05	0.01
2574	1,343.65	32.17138841	-103.09309455	15.27	11.68	-0.05	0.01
2575	1,344.17	32.17138523	-103.09309044	14.81	12.07	-0.06	-0.02
2576	1,344.69	32.17138220	-103.09308608	15.39	12.97	-0.05	-0.01
2577	1,345.21	32.17138118	-103.09308189	15.16	13.32	-0.05	0.01
2578	1,345.73	32.17138044	-103.09307774	14.88	12.66	-0.06	-0.02
2579	1,346.26	32.17137971	-103.09307365	15.12	12.70	-0.05	-0.03
2580	1,346.78	32.17137896	-103.09306954	15.27	13.63	-0.05	-0.02
2581	1,347.30	32.17137786	-103.09306520	15.39	14.61	-0.06	0.00
2582	1,347.83	32.17137698	-103.09306096	16.45	15.55	-0.05	-0.02
2583	1,348.35	32.17137753	-103.09305732	16.84	16.68	-0.05	-0.02
2584	1,348.87	32.17137800	-103.09305373	18.05	18.91	-0.06	-0.02
2585	1,349.39	32.17137819	-103.09305037	21.68	22.11	-0.05	-0.01
2586	1,349.92	32.17137813	-103.09304683	24.77	25.12	-0.06	-0.01
2587	1,350.44	32.17137747	-103.09304287	29.96	26.21	-0.06	0.00
2588	1,350.96	32.17137724	-103.09303944	38.16	24.81	-0.05	0.01
2589	1,351.48	32.17137766	-103.09303682	52.62	25.47	-0.05	0.04
2590	1,352.01	32.17137739	-103.09303438	58.95	30.82	-0.05	0.04
2591	1,352.53	32.17137637	-103.09303211	61.99	34.65	-0.05	0.05
2592	1,353.05	32.17137620	-103.09302959	66.29	35.12	-0.04	0.04
2593	1,353.57	32.17137669	-103.09302687	66.37	34.53	-0.05	0.01
2594	1,354.09	32.17137635	-103.09302399	65.63	33.32	-0.04	0.04
2595	1,354.62	32.17137555	-103.09302104	61.56	32.62	-0.03	0.06
2596	1,355.14	32.17137483	-103.09301778	62.54	36.09	-0.02	0.09
2597	1,355.66	32.17137414	-103.09301440	47.70	36.76	-0.03	0.08
2598	1,356.18	32.17137400	-103.09301114	37.50	35.23	-0.02	0.09
2599	1,356.70	32.17137398	-103.09300791	34.92	36.06	-0.02	0.09
2600	1,357.23	32.17137362	-103.09300493	30.66	36.60	-0.04	0.08

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2601	1,357.74	32.17137323	-103.09300197	29.06	36.56	-0.02	0.06
2602	1,358.27	32.17137425	-103.09299916	26.80	34.30	-0.03	0.05
2603	1,358.79	32.17137516	-103.09299627	24.61	30.78	-0.05	0.05
2604	1,359.32	32.17137438	-103.09299239	24.22	29.06	-0.03	0.06
2605	1,359.84	32.17137360	-103.09298834	23.87	28.32	-0.03	0.05
2606	1,360.36	32.17137284	-103.09298340	22.58	27.07	-0.05	0.04
2607	1,360.88	32.17137234	-103.09297857	22.81	26.25	-0.04	0.02
2608	1,361.40	32.17137269	-103.09297402	21.76	24.49	-0.04	0.03
2609	1,361.93	32.17137262	-103.09296943	21.17	23.13	-0.04	0.04
2610	1,362.45	32.17137170	-103.09296474	20.51	20.78	-0.03	-0.01
2611	1,362.97	32.17137063	-103.09296042	19.30	19.57	-0.04	0.01
2612	1,363.49	32.17136936	-103.09295668	19.26	19.41	-0.03	0.02
2613	1,364.02	32.17136836	-103.09295295	18.91	18.56	-0.04	0.01
2614	1,364.54	32.17136762	-103.09294923	17.23	16.13	-0.04	-0.01
2615	1,365.06	32.17136585	-103.09294587	16.09	14.49	-0.04	-0.05
2616	1,365.58	32.17136333	-103.09294276	15.55	14.22	-0.04	-0.02
2617	1,366.11	32.17136022	-103.09294083	15.08	14.18	-0.05	-0.01
2618	1,366.63	32.17135683	-103.09293948	15.16	14.26	-0.06	0.01
2619	1,367.15	32.17135315	-103.09293812	15.08	14.38	-0.06	0.00
2620	1,367.67	32.17134938	-103.09293675	14.92	13.91	-0.06	-0.02
2621	1,368.19	32.17134550	-103.09293712	15.23	13.05	-0.05	-0.03
2622	1,368.72	32.17134159	-103.09293783	14.77	13.95	-0.05	0.02
2623	1,369.24	32.17133873	-103.09294051	14.84	13.67	-0.06	0.00
2624	1,369.76	32.17133596	-103.09294338	15.59	13.59	-0.05	0.00
2625	1,370.28	32.17133421	-103.09294754	15.23	13.56	-0.05	0.00
2626	1,370.80	32.17133246	-103.09295165	15.47	15.16	-0.06	0.03
2627	1,371.33	32.17133071	-103.09295524	16.09	15.74	-0.05	0.03
2628	1,371.86	32.17132926	-103.09295889	16.29	15.70	-0.05	0.01
2629	1,372.37	32.17132923	-103.09296242	17.07	16.06	-0.05	0.01
2630	1,372.89	32.17132925	-103.09296614	17.42	16.76	-0.05	0.03
2631	1,373.42	32.17132941	-103.09297032	17.23	17.11	-0.05	0.00
2632	1,373.94	32.17132948	-103.09297473	17.62	17.73	-0.05	0.00
2633	1,374.46	32.17132938	-103.09297958	18.44	19.61	-0.05	0.02
2634	1,374.98	32.17132961	-103.09298401	18.71	20.12	-0.05	0.03
2635	1,375.51	32.17133025	-103.09298789	19.34	20.31	-0.04	0.03
2636	1,376.03	32.17133048	-103.09299165	19.88	20.82	-0.05	0.05
2637	1,376.55	32.17133031	-103.09299529	20.66	21.60	-0.05	0.03
2638	1,377.07	32.17133025	-103.09299921	22.58	23.75	-0.05	0.04
2639	1,377.59	32.17133025	-103.09300332	24.81	25.31	-0.05	0.06
2640	1,378.12	32.17133075	-103.09300756	25.74	23.67	-0.05	0.07
2641	1,378.64	32.17133148	-103.09301188	30.82	26.80	-0.04	0.05
2642	1,379.16	32.17133133	-103.09301545	33.63	33.95	-0.04	0.07
2643	1,379.68	32.17133093	-103.09301881	27.58	29.18	-0.06	0.04
2644	1,380.20	32.17133131	-103.09302216	28.83	20.47	-0.04	0.04
2645	1,380.73	32.17133182	-103.09302551	41.64	16.88	-0.04	0.06
2646	1,381.25	32.17133174	-103.09302940	38.28	25.90	-0.04	0.05
2647	1,381.77	32.17133160	-103.09303333	31.91	26.52	-0.04	0.04
2648	1,382.29	32.17133087	-103.09303765	29.49	22.89	-0.02	0.06
2649	1,382.81	32.17133024	-103.09304211	26.06	25.39	-0.04	0.05
2650	1,383.34	32.17133037	-103.09304773	23.05	26.09	-0.05	0.03
2651	1,383.86	32.17133039	-103.09305316	20.12	22.77	-0.04	0.03
2652	1,384.38	32.17133002	-103.09305782	17.50	18.36	-0.04	-0.01
2653	1,384.90	32.17132966	-103.09306198	17.19	16.41	-0.04	0.00
2654	1,385.43	32.17132931	-103.09306482	15.94	15.16	-0.04	0.01
2655	1,385.95	32.17132894	-103.09306851	14.73	13.16	-0.06	-0.02
2656	1,386.47	32.17132854	-103.09307362	15.27	13.98	-0.06	-0.02
2657	1,386.99	32.17132694	-103.09307775	15.51	14.34	-0.05	-0.02
2658	1,387.51	32.17132391	-103.09308070	15.20	14.49	-0.06	-0.03
2659	1,388.04	32.17132046	-103.09308287	16.37	15.04	-0.05	-0.02
2660	1,388.56	32.17131663	-103.09308436	16.13	15.70	-0.05	-0.01
2661	1,389.08	32.17131242	-103.09308566	15.98	16.29	-0.06	-0.02
2662	1,389.60	32.17130797	-103.09308682	17.11	17.66	-0.05	0.02
2663	1,390.13	32.17130535	-103.09308543	17.93	18.87	-0.05	0.04
2664	1,390.65	32.17130346	-103.09308299	18.05	18.56	-0.05	0.03
2665	1,391.17	32.17130107	-103.09308002	18.16	19.53	-0.06	0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2666	1,391.69	32.17129855	-103.09307690	19.10	21.21	-0.05	0.02
2667	1,392.21	32.17129788	-103.09307353	19.88	22.27	-0.06	0.01
2668	1,392.73	32.17129747	-103.09307014	20.27	23.83	-0.06	-0.01
2669	1,393.26	32.17129742	-103.09306733	22.73	25.35	-0.04	0.01
2670	1,393.78	32.17129735	-103.09306450	24.81	28.13	-0.05	0.02
2671	1,394.30	32.17129632	-103.09306078	27.58	30.86	-0.06	0.01
2672	1,394.83	32.17129540	-103.09305698	31.33	31.91	-0.05	0.04
2673	1,395.35	32.17129517	-103.09305262	34.61	31.76	-0.05	0.05
2674	1,395.87	32.17129472	-103.09304841	41.21	42.03	-0.06	0.05
2675	1,396.39	32.17129347	-103.09304469	44.34	49.49	-0.05	0.04
2676	1,396.92	32.17129217	-103.09304115	47.93	49.73	-0.03	0.06
2677	1,397.44	32.17129074	-103.09303808	46.91	38.09	-0.04	0.04
2678	1,397.96	32.17128948	-103.09303479	47.46	22.66	-0.05	0.06
2679	1,398.48	32.17128850	-103.09303119	44.30	20.43	-0.04	0.04
2680	1,399.00	32.17128740	-103.09302771	41.17	28.16	-0.03	0.03
2681	1,399.53	32.17128618	-103.09302438	38.63	38.83	-0.03	0.04
2682	1,400.05	32.17128491	-103.09302066	33.28	40.74	-0.04	0.05
2683	1,400.57	32.17128359	-103.09301662	30.00	38.95	-0.05	0.05
2684	1,401.09	32.17128328	-103.09301220	27.77	33.98	-0.04	0.05
2685	1,401.62	32.17128353	-103.09300759	24.65	29.02	-0.05	0.03
2686	1,402.14	32.17128303	-103.09300315	22.81	26.41	-0.04	0.02
2687	1,402.66	32.17128225	-103.09299878	21.56	24.14	-0.04	0.01
2688	1,403.18	32.17128107	-103.09299599	19.73	21.91	-0.05	0.01
2689	1,403.70	32.17127981	-103.09299358	19.34	20.20	-0.05	-0.03
2690	1,404.23	32.17127928	-103.09298976	18.56	20.23	-0.04	-0.03
2691	1,404.75	32.17127883	-103.09298578	17.93	18.44	-0.04	-0.04
2692	1,405.27	32.17127607	-103.09298289	17.11	17.77	-0.06	-0.04
2693	1,405.79	32.17127324	-103.09298005	17.54	18.05	-0.05	-0.02
2694	1,406.32	32.17127005	-103.09297745	17.77	18.28	-0.06	-0.03
2695	1,406.84	32.17126695	-103.09297487	18.05	18.63	-0.06	-0.02
2696	1,407.36	32.17126429	-103.09297249	18.20	18.91	-0.06	0.01
2697	1,407.88	32.17126144	-103.09297114	17.66	18.83	-0.06	-0.02
2698	1,408.40	32.17125802	-103.09297309	18.59	18.75	-0.05	-0.01
2699	1,408.93	32.17125522	-103.09297533	18.24	19.02	-0.06	-0.01
2700	1,409.45	32.17125371	-103.09297816	19.14	20.08	-0.04	-0.02
2701	1,409.97	32.17125236	-103.09298102	19.77	20.90	-0.05	-0.03
2702	1,410.49	32.17125128	-103.09298389	19.77	21.80	-0.05	0.00
2703	1,411.01	32.17125068	-103.09298713	20.86	23.28	-0.04	0.01
2704	1,411.54	32.17125058	-103.09299075	22.34	25.63	-0.05	0.02
2705	1,412.06	32.17125129	-103.09299413	23.36	26.99	-0.06	0.02
2706	1,412.58	32.17125260	-103.09299731	25.90	29.77	-0.04	0.03
2707	1,413.10	32.17125309	-103.09300106	27.42	31.56	-0.05	0.05
2708	1,413.63	32.17125317	-103.09300509	29.10	33.63	-0.06	0.03
2709	1,414.15	32.17125327	-103.09300937	31.60	37.15	-0.05	0.03
2710	1,414.67	32.17125337	-103.09301374	35.35	42.07	-0.05	0.06
2711	1,415.19	32.17125360	-103.09301785	36.76	43.52	-0.06	0.05
2712	1,415.71	32.17125386	-103.09302191	39.92	42.62	-0.04	0.05
2713	1,416.23	32.17125311	-103.09302524	41.68	37.03	-0.04	0.06
2714	1,416.76	32.17125227	-103.09302850	40.31	35.59	-0.05	0.04
2715	1,417.28	32.17125288	-103.09303196	42.15	38.40	-0.04	0.04
2716	1,417.80	32.17125343	-103.09303542	42.54	46.41	-0.04	0.07
2717	1,418.33	32.17125345	-103.09303896	38.91	49.38	-0.04	0.04
2718	1,418.85	32.17125337	-103.09304270	36.95	50.47	-0.05	0.04
2719	1,419.37	32.17125287	-103.09304707	38.24	51.48	-0.05	0.03
2720	1,419.89	32.17125252	-103.09305156	40.86	52.58	-0.05	0.06
2721	1,420.41	32.17125259	-103.09305627	48.01	53.44	-0.02	0.11
2722	1,420.94	32.17125171	-103.09306048	51.64	38.44	0.03	0.03
2723	1,421.46	32.17124905	-103.09306373	49.30	21.56	0.04	-0.10
2724	1,421.98	32.17124649	-103.09306701	40.55	32.50	-0.02	0.01
2725	1,422.50	32.17124406	-103.09307033	33.20	41.68	-0.04	0.05
2726	1,423.03	32.17124223	-103.09307405	28.71	40.00	-0.05	0.04
2727	1,423.55	32.17124098	-103.09307815	26.64	35.59	-0.05	0.03
2728	1,424.07	32.17123935	-103.09308188	25.23	33.56	-0.05	0.03
2729	1,424.59	32.17123746	-103.09308538	23.83	31.17	-0.06	0.02
2730	1,425.12	32.17123551	-103.09308778	23.13	30.16	-0.06	0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2731	1,425.64	32.17123353	-103.09308969	22.54	29.38	-0.06	0.05
2732	1,426.16	32.17123173	-103.09309158	22.70	28.83	-0.07	0.01
2733	1,426.68	32.17122999	-103.09309347	23.98	29.49	-0.05	0.00
2734	1,427.20	32.17122774	-103.09309609	23.05	29.61	-0.06	0.02
2735	1,427.73	32.17122540	-103.09309883	22.70	29.10	-0.07	0.01
2736	1,428.25	32.17122467	-103.09310183	24.34	30.63	-0.06	0.04
2737	1,428.77	32.17122401	-103.09310475	24.10	30.20	-0.06	0.02
2738	1,429.29	32.17122252	-103.09310456	23.79	29.41	-0.06	0.00
2739	1,429.82	32.17122094	-103.09310414	23.40	29.22	-0.07	-0.01
2740	1,430.34	32.17121866	-103.09310199	24.49	30.39	-0.06	0.02
2741	1,430.86	32.17121676	-103.09309965	25.04	31.60	-0.06	0.02
2742	1,431.38	32.17121640	-103.09309656	24.61	30.23	-0.06	0.02
2743	1,431.90	32.17121624	-103.09309362	25.86	32.11	-0.04	0.04
2744	1,432.43	32.17121657	-103.09309108	26.13	33.36	-0.05	0.06
2745	1,432.95	32.17121632	-103.09308828	26.17	33.52	-0.06	0.05
2746	1,433.47	32.17121505	-103.09308500	27.77	34.06	-0.04	0.03
2747	1,433.99	32.17121389	-103.09308152	28.71	34.77	-0.05	0.04
2748	1,434.51	32.17121289	-103.09307781	29.77	36.33	-0.05	0.03
2749	1,435.04	32.17121224	-103.09307448	32.31	39.14	-0.05	0.04
2750	1,435.56	32.17121189	-103.09307150	33.48	41.41	-0.06	0.06
2751	1,436.08	32.17121097	-103.09306830	35.66	43.71	-0.04	0.07
2752	1,436.60	32.17120972	-103.09306497	34.96	42.27	-0.05	-0.02
2753	1,437.13	32.17120952	-103.09306122	33.75	41.95	-0.02	0.05
2754	1,437.65	32.17120976	-103.09305731	31.91	40.00	-0.04	0.05
2755	1,438.17	32.17120954	-103.09305413	31.60	39.34	-0.04	0.05
2756	1,438.69	32.17120921	-103.09305115	31.37	38.56	-0.05	0.05
2757	1,439.21	32.17120817	-103.09304768	31.13	38.48	-0.04	0.03
2758	1,439.73	32.17120704	-103.09304414	32.62	40.55	-0.04	0.03
2759	1,440.26	32.17120669	-103.09304074	35.66	42.54	-0.04	0.03
2760	1,440.78	32.17120632	-103.09303731	36.56	41.68	-0.04	0.02
2761	1,441.30	32.17120486	-103.09303325	38.91	37.19	-0.04	0.04
2762	1,441.83	32.17120336	-103.09302930	45.90	40.08	-0.04	0.06
2763	1,442.35	32.17120169	-103.09302606	45.23	48.20	-0.04	0.07
2764	1,442.87	32.17120056	-103.09302252	44.77	49.69	-0.04	0.05
2765	1,443.39	32.17120134	-103.09301786	43.40	49.14	-0.04	0.05
2766	1,443.92	32.17120203	-103.09301285	40.23	43.71	-0.04	0.04
2767	1,444.44	32.17120251	-103.09300721	42.15	38.56	0.01	-0.03
2768	1,444.96	32.17120276	-103.09300214	35.12	33.52	0.01	0.04
2769	1,445.48	32.17120267	-103.09299800	30.04	32.89	-0.02	0.06
2770	1,446.00	32.17120245	-103.09299427	27.70	31.64	-0.01	0.12
2771	1,446.53	32.17120210	-103.09299101	24.45	28.20	-0.03	0.09
2772	1,447.05	32.17120156	-103.09298774	23.48	27.34	-0.04	0.09
2773	1,447.57	32.17120085	-103.09298445	23.28	27.15	-0.04	0.10
2774	1,448.09	32.17119932	-103.09298086	21.56	24.92	-0.05	0.07
2775	1,448.61	32.17119732	-103.09297711	21.06	24.57	-0.06	0.03
2776	1,449.14	32.17119620	-103.09297315	21.64	24.84	-0.04	0.02
2777	1,449.66	32.17119543	-103.09296912	20.08	22.81	-0.06	-0.06
2778	1,450.18	32.17119341	-103.09296597	20.82	21.84	-0.05	-0.08
2779	1,450.70	32.17119112	-103.09296300	21.37	22.62	-0.05	-0.07
2780	1,451.22	32.17118842	-103.09296410	21.56	22.62	-0.04	-0.05
2781	1,451.74	32.17118567	-103.09296566	24.49	25.16	-0.01	0.03
2782	1,452.27	32.17118265	-103.09296735	26.52	22.31	0.05	0.08
2783	1,452.79	32.17117973	-103.09296918	26.56	17.27	0.05	0.06
2784	1,453.31	32.17117828	-103.09297276	27.15	19.38	0.03	0.08
2785	1,453.84	32.17117689	-103.09297630	27.15	26.45	-0.02	0.15
2786	1,454.36	32.17117590	-103.09297961	24.53	29.45	-0.04	0.08
2787	1,454.88	32.17117485	-103.09298291	24.57	30.74	-0.04	0.04
2788	1,455.40	32.17117360	-103.09298611	24.84	31.09	-0.05	0.01
2789	1,455.92	32.17117281	-103.09298936	25.70	32.66	-0.06	0.00
2790	1,456.45	32.17117298	-103.09299271	28.16	34.73	-0.05	-0.01
2791	1,456.97	32.17117339	-103.09299675	30.20	36.84	-0.05	-0.01
2792	1,457.49	32.17117415	-103.09300182	32.46	39.22	-0.06	0.00
2793	1,458.01	32.17117400	-103.09300636	36.21	45.00	-0.06	0.02
2794	1,458.54	32.17117291	-103.09301038	40.43	50.16	-0.06	0.05
2795	1,459.06	32.17117239	-103.09301435	46.21	53.05	-0.06	0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2796	1,459.58	32.17117228	-103.09301828	48.44	47.54	-0.05	0.01
2797	1,460.10	32.17117272	-103.09302247	51.68	40.31	-0.05	0.01
2798	1,460.63	32.17117343	-103.09302679	44.22	29.38	-0.06	0.01
2799	1,461.15	32.17117295	-103.09303114	38.09	25.16	-0.04	0.00
2800	1,461.67	32.17117205	-103.09303549	32.31	35.12	-0.04	0.02
2801	1,462.19	32.17117152	-103.09303938	28.48	38.01	-0.04	0.02
2802	1,462.71	32.17117107	-103.09304317	25.66	34.73	-0.05	0.02
2803	1,463.23	32.17117142	-103.09304600	23.67	31.41	-0.06	-0.04
2804	1,463.76	32.17117185	-103.09304873	23.67	29.69	-0.05	-0.02
2805	1,464.28	32.17117092	-103.09305338	24.57	30.16	-0.06	-0.05
2806	1,464.80	32.17117012	-103.09305795	24.34	29.26	-0.06	-0.04
2807	1,465.33	32.17117068	-103.09306185	25.94	32.23	-0.06	0.00
2808	1,465.86	32.17117127	-103.09306564	27.62	33.63	-0.05	0.02
2809	1,466.37	32.17117196	-103.09306859	27.93	34.22	-0.05	0.04
2810	1,466.89	32.17117226	-103.09307148	29.69	35.63	-0.05	0.04
2811	1,467.41	32.17117143	-103.09307406	29.81	35.98	-0.06	0.02
2812	1,467.94	32.17117113	-103.09307687	29.65	36.17	-0.06	0.02
2813	1,468.46	32.17117186	-103.09308013	30.08	36.68	-0.05	0.01
2814	1,468.98	32.17117228	-103.09308389	29.45	35.90	-0.05	0.00
2815	1,469.50	32.17117230	-103.09308831	27.11	33.40	-0.05	0.01
2816	1,470.02	32.17117259	-103.09309259	26.06	31.56	-0.03	0.00
2817	1,470.55	32.17117314	-103.09309674	24.57	28.95	-0.04	0.01
2818	1,471.07	32.17117348	-103.09310033	22.38	26.72	-0.05	0.01
2819	1,471.59	32.17117367	-103.09310353	22.11	26.64	-0.05	0.01
2820	1,472.11	32.17117351	-103.09310725	22.27	26.88	-0.06	0.01
2821	1,472.64	32.17117319	-103.09311122	22.23	27.38	-0.06	0.01
2822	1,473.16	32.17117333	-103.09311506	22.97	27.85	-0.05	0.02
2823	1,473.68	32.17117359	-103.09311885	23.48	28.56	-0.04	0.03
2824	1,474.20	32.17117448	-103.09312334	22.50	28.67	-0.06	0.06
2825	1,474.72	32.17117546	-103.09312794	23.40	29.26	-0.04	0.07
2826	1,475.25	32.17117350	-103.09313092	23.36	28.32	-0.04	0.06
2827	1,475.77	32.17117134	-103.09313375	22.85	27.50	-0.05	0.04
2828	1,476.29	32.17116878	-103.09313579	22.70	27.50	-0.05	0.04
2829	1,476.81	32.17116616	-103.09313744	22.73	27.50	-0.05	0.03
2830	1,477.34	32.17116306	-103.09313576	23.40	26.88	-0.04	0.00
2831	1,477.86	32.17116031	-103.09313372	23.28	27.27	-0.05	0.03
2832	1,478.38	32.17115907	-103.09313016	23.28	27.62	-0.04	0.04
2833	1,478.90	32.17115794	-103.09312641	22.93	26.37	-0.02	0.03
2834	1,479.42	32.17115710	-103.09312217	22.85	25.59	-0.05	0.02
2835	1,479.95	32.17115639	-103.09311806	23.16	27.11	-0.05	0.01
2836	1,480.47	32.17115592	-103.09311421	23.75	28.16	-0.05	0.01
2837	1,480.99	32.17115526	-103.09311038	24.45	28.98	-0.06	0.03
2838	1,481.51	32.17115438	-103.09310661	24.14	28.24	-0.05	0.00
2839	1,482.04	32.17115313	-103.09310232	24.26	28.75	-0.06	0.01
2840	1,482.56	32.17115156	-103.09309758	24.69	29.65	-0.07	0.00
2841	1,483.08	32.17115055	-103.09309383	25.55	29.26	-0.06	0.01
2842	1,483.60	32.17114989	-103.09309067	25.98	30.00	-0.05	0.01
2843	1,484.12	32.17114870	-103.09308656	27.34	30.35	-0.04	0.03
2844	1,484.65	32.17114729	-103.09308204	26.80	32.34	-0.08	0.00
2845	1,485.17	32.17114713	-103.09307750	26.68	32.97	-0.06	0.02
2846	1,485.69	32.17114728	-103.09307296	25.63	32.07	-0.06	0.03
2847	1,486.21	32.17114722	-103.09306900	25.39	31.29	-0.06	0.03
2848	1,486.73	32.17114711	-103.09306511	25.04	30.27	-0.05	0.04
2849	1,487.26	32.17114624	-103.09306180	24.34	29.57	-0.05	0.00
2850	1,487.78	32.17114530	-103.09305851	24.57	29.81	-0.05	0.03
2851	1,488.30	32.17114388	-103.09305488	25.04	29.57	-0.06	0.03
2852	1,488.82	32.17114261	-103.09305122	25.98	31.21	-0.05	0.04
2853	1,489.35	32.17114244	-103.09304727	28.13	33.05	-0.05	0.04
2854	1,489.87	32.17114206	-103.09304331	30.39	36.21	-0.05	0.01
2855	1,490.39	32.17114098	-103.09303932	38.67	43.20	-0.05	0.01
2856	1,490.92	32.17113963	-103.09303531	40.78	40.63	-0.04	0.01
2857	1,491.44	32.17113778	-103.09303146	51.25	32.31	-0.05	0.01
2858	1,491.96	32.17113608	-103.09302765	65.08	32.34	-0.06	0.02
2859	1,492.48	32.17113467	-103.09302398	55.59	32.50	-0.04	0.03
2860	1,493.00	32.17113300	-103.09302060	51.60	41.06	-0.06	0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2861	1,493.53	32.17113104	-103.09301752	49.53	55.12	-0.05	0.05
2862	1,494.05	32.17112938	-103.09301398	44.96	59.57	-0.05	0.04
2863	1,494.57	32.17112798	-103.09301007	40.82	53.79	-0.05	0.02
2864	1,495.09	32.17112714	-103.09300558	36.45	47.89	-0.06	0.02
2865	1,495.61	32.17112662	-103.09300075	30.74	40.47	-0.06	0.01
2866	1,496.14	32.17112685	-103.09299649	26.13	33.59	-0.06	-0.02
2867	1,496.66	32.17112735	-103.09299244	23.98	29.77	-0.06	-0.03
2868	1,497.18	32.17112823	-103.09298862	21.91	26.91	-0.06	-0.03
2869	1,497.70	32.17112918	-103.09298485	20.86	24.92	-0.06	0.00
2870	1,498.22	32.17112978	-103.09298111	20.08	23.40	-0.06	-0.03
2871	1,498.75	32.17113033	-103.09297739	18.87	21.48	-0.06	-0.03
2872	1,499.27	32.17112924	-103.09297391	17.93	20.82	-0.07	-0.02
2873	1,499.79	32.17112821	-103.09297044	18.40	19.88	-0.06	-0.01
2874	1,500.31	32.17112866	-103.09296702	17.81	19.34	-0.07	-0.02
2875	1,500.84	32.17112875	-103.09296350	17.58	18.24	-0.08	-0.06
2876	1,501.36	32.17112691	-103.09295951	18.16	18.91	-0.06	-0.05
2877	1,501.88	32.17112483	-103.09295595	17.19	18.36	-0.05	-0.05
2878	1,502.40	32.17112197	-103.09295376	16.33	17.11	-0.07	-0.06
2879	1,502.92	32.17111874	-103.09295253	16.91	16.37	-0.06	-0.06
2880	1,503.45	32.17111468	-103.09295332	17.11	16.68	-0.06	-0.02
2881	1,503.97	32.17111132	-103.09295517	17.58	16.99	-0.06	-0.02
2882	1,504.49	32.17110899	-103.09295856	17.97	17.54	-0.06	-0.02
2883	1,505.01	32.17110735	-103.09296237	18.05	18.32	-0.06	-0.01
2884	1,505.54	32.17110642	-103.09296662	18.09	18.71	-0.06	-0.02
2885	1,506.06	32.17110463	-103.09297028	18.67	19.61	-0.06	-0.02
2886	1,506.58	32.17110223	-103.09297352	19.22	20.86	-0.06	0.01
2887	1,507.10	32.17110077	-103.09297668	20.31	21.91	-0.06	0.03
2888	1,507.62	32.17109983	-103.09297979	20.51	23.56	-0.06	0.01
2889	1,508.15	32.17109952	-103.09298362	22.81	25.00	-0.05	0.02
2890	1,508.67	32.17109944	-103.09298769	25.00	28.79	-0.06	0.01
2891	1,509.19	32.17109910	-103.09299155	28.36	32.73	-0.05	0.05
2892	1,509.71	32.17109870	-103.09299537	31.25	36.52	-0.06	0.04
2893	1,510.24	32.17109829	-103.09299926	37.38	43.01	-0.05	0.04
2894	1,510.76	32.17109788	-103.09300315	42.62	48.63	-0.05	0.05
2895	1,511.28	32.17109870	-103.09300626	48.56	53.44	-0.06	0.04
2896	1,511.80	32.17109939	-103.09300935	52.58	55.27	-0.05	0.05
2897	1,512.32	32.17109883	-103.09301226	56.02	50.00	-0.04	0.07
2898	1,512.85	32.17109853	-103.09301525	61.25	40.90	-0.05	0.04
2899	1,513.37	32.17109940	-103.09301821	69.10	35.98	-0.04	0.06
2900	1,513.89	32.17109981	-103.09302144	66.68	33.56	-0.04	0.07
2901	1,514.41	32.17109885	-103.09302528	50.86	29.92	-0.05	0.06
2902	1,514.93	32.17109816	-103.09302918	41.64	32.62	-0.04	0.05
2903	1,515.46	32.17109796	-103.09303324	33.83	40.47	-0.04	0.02
2904	1,515.98	32.17109775	-103.09303772	28.28	39.06	-0.04	0.03
2905	1,516.50	32.17109752	-103.09304273	25.90	34.45	-0.04	0.04
2906	1,517.02	32.17109595	-103.09304652	24.22	30.86	-0.03	0.06
2907	1,517.55	32.17109309	-103.09304916	21.56	26.52	-0.05	0.04
2908	1,518.07	32.17108978	-103.09305183	20.86	25.00	-0.06	0.03
2909	1,518.59	32.17108619	-103.09305450	21.21	24.41	-0.05	0.04
2910	1,519.11	32.17108256	-103.09305698	20.39	23.83	-0.05	0.01
2911	1,519.63	32.17107891	-103.09305938	19.65	23.52	-0.06	0.03
2912	1,520.16	32.17107528	-103.09306064	19.69	22.07	-0.05	0.04
2913	1,520.68	32.17107166	-103.09306156	19.41	21.72	-0.05	0.01
2914	1,521.20	32.17106798	-103.09306234	19.53	22.42	-0.06	0.02
2915	1,521.73	32.17106431	-103.09306310	19.14	22.19	-0.06	0.00
2916	1,522.25	32.17106065	-103.09306312	18.56	21.13	-0.06	-0.01
2917	1,522.77	32.17105699	-103.09306308	18.44	20.55	-0.06	0.00
2918	1,523.29	32.17105392	-103.09306260	18.59	20.23	-0.06	-0.01
2919	1,523.81	32.17105090	-103.09306210	18.05	20.20	-0.06	-0.01
2920	1,524.33	32.17104843	-103.09306151	18.13	19.61	-0.06	-0.04
2921	1,524.86	32.17104610	-103.09306126	17.73	19.57	-0.06	-0.05
2922	1,525.38	32.17104443	-103.09306239	17.42	19.14	-0.07	-0.09
2923	1,525.90	32.17104371	-103.09306410	18.16	19.02	-0.06	-0.04
2924	1,526.42	32.17104543	-103.09306728	18.32	19.02	-0.05	-0.02
2925	1,526.95	32.17104779	-103.09306908	18.59	20.12	-0.06	0.00

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2926	1,527.47	32.17105121	-103.09306842	19.65	20.66	-0.05	0.00
2927	1,527.99	32.17105490	-103.09306822	19.61	21.37	-0.05	0.01
2928	1,528.51	32.17105891	-103.09306859	19.53	21.21	-0.05	-0.01
2929	1,529.04	32.17106300	-103.09306864	20.04	21.80	-0.06	0.01
2930	1,529.56	32.17106715	-103.09306841	20.43	23.09	-0.04	0.02
2931	1,530.08	32.17107107	-103.09306783	20.66	23.44	-0.05	0.01
2932	1,530.60	32.17107485	-103.09306704	20.78	22.93	-0.04	0.02
2933	1,531.12	32.17107916	-103.09306688	21.45	24.10	-0.04	0.02
2934	1,531.65	32.17108371	-103.09306699	21.76	24.45	-0.05	0.01
2935	1,532.17	32.17108761	-103.09306792	21.72	25.12	-0.05	0.01
2936	1,532.69	32.17109134	-103.09306907	22.31	25.86	-0.05	0.02
2937	1,533.21	32.17109576	-103.09307016	23.36	27.73	-0.05	0.03
2938	1,533.73	32.17110028	-103.09307124	23.83	28.87	-0.05	0.02
2939	1,534.26	32.17110446	-103.09307195	23.98	28.91	-0.06	0.03
2940	1,534.78	32.17110859	-103.09307268	25.23	30.35	-0.06	0.03
2941	1,535.30	32.17111200	-103.09307419	26.91	31.60	-0.05	0.03
2942	1,535.82	32.17111546	-103.09307568	27.34	32.81	-0.06	0.02
2943	1,536.35	32.17111925	-103.09307698	27.77	32.42	-0.06	0.01
2944	1,536.87	32.17112304	-103.09307819	28.05	33.20	-0.05	0.03
2945	1,537.39	32.17112688	-103.09307911	26.95	31.88	-0.06	0.00
2946	1,537.92	32.17113068	-103.09307980	26.45	30.94	-0.05	0.01
2947	1,538.44	32.17113428	-103.09307993	25.51	29.81	-0.05	0.00
2948	1,538.96	32.17113842	-103.09308056	25.82	30.12	-0.06	0.00
2949	1,539.48	32.17114338	-103.09308200	26.56	31.88	-0.06	0.01
2950	1,540.00	32.17114756	-103.09308315	25.59	30.27	-0.07	-0.01
2951	1,540.52	32.17115085	-103.09308397	25.31	28.24	-0.03	0.00
2952	1,541.05	32.17115370	-103.09308715	24.45	27.31	-0.06	0.00
2953	1,541.57	32.17115618	-103.09309224	25.20	28.83	-0.06	-0.03
2954	1,542.09	32.17115786	-103.09309604	23.05	26.95	-0.06	-0.03
2955	1,542.61	32.17115907	-103.09309913	22.27	27.54	-0.06	0.04
2956	1,543.13	32.17116068	-103.09310198	21.99	27.15	-0.07	0.03
2957	1,543.66	32.17116243	-103.09310474	22.77	27.77	-0.06	0.02
2958	1,544.18	32.17116059	-103.09310789	22.58	27.97	-0.06	-0.01
2959	1,544.70	32.17115788	-103.09311113	22.15	26.84	-0.06	0.00
2960	1,545.22	32.17115486	-103.09311333	22.03	26.52	-0.05	0.02
2961	1,545.75	32.17115180	-103.09311541	21.91	25.94	-0.04	0.02
2962	1,546.27	32.17114831	-103.09311572	22.19	25.74	-0.04	0.01
2963	1,546.79	32.17114485	-103.09311593	22.46	26.25	-0.04	0.03
2964	1,547.31	32.17114193	-103.09311510	23.13	27.46	-0.05	0.02
2965	1,547.83	32.17113894	-103.09311441	22.46	27.03	-0.06	0.02
2966	1,548.36	32.17113539	-103.09311446	23.67	27.89	-0.05	0.01
2967	1,548.88	32.17113193	-103.09311476	23.59	28.40	-0.05	0.00
2968	1,549.40	32.17112878	-103.09311587	23.98	29.02	-0.04	0.01
2969	1,549.92	32.17112581	-103.09311604	24.49	28.79	-0.05	-0.01
2970	1,550.45	32.17112323	-103.09311419	23.44	27.81	-0.06	-0.02
2971	1,550.97	32.17112032	-103.09311272	22.97	28.13	-0.06	-0.02
2972	1,551.49	32.17111693	-103.09311182	23.95	28.28	-0.05	0.00
2973	1,552.01	32.17111345	-103.09311134	23.63	28.36	-0.05	-0.01
2974	1,552.53	32.17110985	-103.09311130	23.28	27.89	-0.06	-0.02
2975	1,553.06	32.17110646	-103.09311092	23.52	27.58	-0.05	-0.01
2976	1,553.58	32.17110322	-103.09311028	23.98	27.97	-0.06	0.00
2977	1,554.10	32.17109958	-103.09311027	24.45	28.79	-0.07	0.03
2978	1,554.62	32.17109575	-103.09311057	25.27	29.18	-0.06	0.01
2979	1,555.14	32.17109171	-103.09311106	25.20	29.45	-0.06	-0.01
2980	1,555.67	32.17108759	-103.09311162	25.23	29.57	-0.06	0.00
2981	1,556.19	32.17108403	-103.09311056	24.49	28.56	-0.05	0.02
2982	1,556.71	32.17108058	-103.09310917	24.26	27.89	-0.05	0.01
2983	1,557.23	32.17107752	-103.09310772	23.32	27.19	-0.07	0.02
2984	1,557.76	32.17107449	-103.09310627	22.70	26.17	-0.06	0.01
2985	1,558.28	32.17107173	-103.09310489	22.46	25.43	-0.06	0.02
2986	1,558.80	32.17106897	-103.09310343	22.23	25.08	-0.06	0.01
2987	1,559.32	32.17106640	-103.09310126	22.15	25.00	-0.05	0.01
2988	1,559.85	32.17106357	-103.09309947	20.94	23.67	-0.05	-0.02
2989	1,560.37	32.17105983	-103.09309959	19.65	22.85	-0.08	-0.03
2990	1,560.89	32.17105611	-103.09310004	19.53	21.21	-0.06	-0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
2991	1,561.41	32.17105262	-103.09310144	18.20	18.56	-0.06	-0.10
2992	1,561.93	32.17104934	-103.09310306	17.19	17.23	-0.08	-0.08
2993	1,562.46	32.17104645	-103.09310510	17.73	16.76	-0.06	-0.05
2994	1,562.98	32.17104451	-103.09310769	17.34	16.60	-0.05	-0.06
2995	1,563.50	32.17104386	-103.09311105	16.41	15.70	-0.08	-0.06
2996	1,564.02	32.17104364	-103.09311459	17.42	15.86	-0.06	-0.05
2997	1,564.55	32.17104384	-103.09311830	17.70	16.41	-0.07	0.02
2998	1,565.07	32.17104606	-103.09312059	17.50	16.37	-0.08	0.01
2999	1,565.59	32.17104965	-103.09312191	18.09	16.80	-0.07	0.01
3000	1,566.11	32.17105286	-103.09312348	19.26	19.22	-0.07	0.01
3001	1,566.63	32.17105588	-103.09312516	20.04	20.47	-0.08	0.03
3002	1,567.16	32.17105825	-103.09312745	21.91	22.54	-0.06	0.01
3003	1,567.68	32.17106042	-103.09312992	21.72	23.56	-0.06	0.00
3004	1,568.20	32.17106315	-103.09313212	22.42	24.34	-0.07	-0.01
3005	1,568.72	32.17106598	-103.09313428	24.10	25.70	-0.06	0.00
3006	1,569.24	32.17106941	-103.09313693	23.95	25.98	-0.06	-0.01
3007	1,569.77	32.17107286	-103.09313957	22.93	24.49	-0.05	0.00
3008	1,570.29	32.17107520	-103.09314017	22.23	23.67	-0.05	-0.01
3009	1,570.81	32.17107773	-103.09314065	21.09	22.89	-0.06	-0.02
3010	1,571.33	32.17108182	-103.09314014	21.29	22.66	-0.07	0.00
3011	1,571.86	32.17108547	-103.09313982	21.56	22.54	-0.03	0.02
3012	1,572.38	32.17108721	-103.09314030	21.17	23.16	-0.04	0.04
3013	1,572.90	32.17108928	-103.09314060	20.59	21.76	-0.05	0.05
3014	1,573.42	32.17109219	-103.09314043	20.86	22.34	-0.04	0.05
3015	1,573.94	32.17109560	-103.09314054	21.37	23.52	-0.06	0.04
3016	1,574.47	32.17109988	-103.09314114	21.45	23.75	-0.07	0.04
3017	1,574.99	32.17110365	-103.09314254	21.29	23.95	-0.07	0.06
3018	1,575.51	32.17110681	-103.09314496	21.13	24.41	-0.06	0.04
3019	1,576.03	32.17110878	-103.09314793	20.20	23.20	-0.07	0.01
3020	1,576.56	32.17110970	-103.09315142	19.02	21.52	-0.06	0.04
3021	1,577.08	32.17110821	-103.09315462	18.32	19.84	-0.06	0.02
3022	1,577.60	32.17110523	-103.09315765	18.71	19.61	-0.06	0.00
3023	1,578.12	32.17110153	-103.09315745	18.48	18.75	-0.07	-0.01
3024	1,578.64	32.17109753	-103.09315589	18.98	18.48	-0.06	-0.01
3025	1,579.17	32.17109389	-103.09315545	17.97	18.09	-0.07	-0.03
3026	1,579.69	32.17109036	-103.09315533	18.56	18.44	-0.06	0.00
3027	1,580.21	32.17108746	-103.09315659	17.89	17.97	-0.06	0.02
3028	1,580.73	32.17108464	-103.09315806	18.67	18.24	-0.06	0.02
3029	1,581.26	32.17108227	-103.09315802	19.38	19.41	-0.06	0.03
3030	1,581.78	32.17107987	-103.09315796	18.95	19.10	-0.07	0.01
3031	1,582.30	32.17107650	-103.09315925	19.96	19.41	-0.06	0.00
3032	1,582.82	32.17107296	-103.09316065	20.12	18.98	-0.06	-0.03
3033	1,583.34	32.17106831	-103.09316276	19.34	18.13	-0.05	-0.02
3034	1,583.87	32.17106406	-103.09316437	18.32	16.64	-0.03	-0.01
3035	1,584.39	32.17106136	-103.09316406	16.45	15.78	-0.06	0.00
3036	1,584.92	32.17105870	-103.09316407	15.63	14.57	-0.06	-0.04
3037	1,585.43	32.17105628	-103.09316484	15.39	13.56	-0.06	-0.03
3038	1,585.96	32.17105403	-103.09316586	15.20	14.53	-0.06	0.00
3039	1,586.48	32.17105215	-103.09316730	15.20	13.75	-0.06	-0.02
3040	1,587.00	32.17105079	-103.09317004	14.88	13.52	-0.06	-0.02
3041	1,587.52	32.17105004	-103.09317428	15.20	13.83	-0.05	0.02
3042	1,588.04	32.17105123	-103.09317742	15.04	12.93	-0.06	-0.01
3043	1,588.57	32.17105399	-103.09317964	16.06	13.79	-0.06	-0.01
3044	1,589.09	32.17105670	-103.09318153	15.74	13.44	-0.06	0.00
3045	1,589.61	32.17105938	-103.09318324	15.66	13.79	-0.06	0.01
3046	1,590.13	32.17106155	-103.09318495	16.09	13.91	-0.06	0.01
3047	1,590.66	32.17106351	-103.09318667	16.13	14.14	-0.06	0.02
3048	1,591.18	32.17106681	-103.09318759	16.95	14.18	-0.06	-0.01
3049	1,591.70	32.17107044	-103.09318832	17.93	15.66	-0.06	0.00
3050	1,592.22	32.17107391	-103.09318792	17.38	15.31	-0.05	-0.04
3051	1,592.74	32.17107737	-103.09318738	16.68	14.61	-0.05	-0.02
3052	1,593.27	32.17108005	-103.09318985	16.17	14.10	-0.06	-0.02
3053	1,593.79	32.17108267	-103.09319235	15.31	13.13	-0.06	-0.04
3054	1,594.31	32.17108472	-103.09319424	14.84	11.95	-0.05	-0.05
3055	1,594.83	32.17108702	-103.09319579	14.92	11.72	-0.05	-0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3056	1,595.36	32.17109077	-103.09319537	13.98	11.29	-0.06	-0.05
3057	1,595.88	32.17109440	-103.09319557	14.22	10.70	-0.07	-0.08
3058	1,596.40	32.17109764	-103.09319779	13.24	10.66	-0.07	-0.06
3059	1,596.92	32.17110086	-103.09320026	13.16	9.92	-0.07	-0.03
3060	1,597.44	32.17110405	-103.09320323	13.01	10.35	-0.07	-0.03
3061	1,597.97	32.17110562	-103.09320587	13.13	9.96	-0.07	-0.01
3062	1,598.49	32.17110481	-103.09320799	14.14	10.35	-0.05	-0.01
3063	1,599.01	32.17110295	-103.09320952	15.59	10.82	-0.03	-0.01
3064	1,599.53	32.17110001	-103.09321042	14.26	10.70	-0.05	-0.01
3065	1,600.06	32.17109694	-103.09321207	14.30	11.06	-0.06	-0.01
3066	1,600.58	32.17109377	-103.09321429	14.81	10.90	-0.06	-0.03
3067	1,601.10	32.17109074	-103.09321628	15.12	10.98	-0.06	0.00
3068	1,601.62	32.17108777	-103.09321817	14.96	11.06	-0.05	-0.01
3069	1,602.14	32.17108495	-103.09321847	15.12	11.56	-0.06	0.02
3070	1,602.67	32.17108219	-103.09321823	15.23	12.15	-0.06	0.01
3071	1,603.19	32.17107861	-103.09321771	16.21	12.89	-0.05	0.00
3072	1,603.71	32.17107486	-103.09321712	16.56	13.36	-0.06	0.00
3073	1,604.22	32.17107134	-103.09321749	15.63	12.97	-0.07	-0.01
3074	1,604.73	32.17106785	-103.09321795	15.59	12.46	-0.04	0.00
3075	1,605.27	32.17106432	-103.09321860	15.00	11.64	-0.04	0.02
3076	1,605.80	32.17106075	-103.09321915	13.75	10.90	-0.07	-0.02
3077	1,606.32	32.17105695	-103.09321852	13.56	10.43	-0.06	0.03
3078	1,606.85	32.17105309	-103.09321803	13.36	9.81	-0.06	0.01
3079	1,607.37	32.17104941	-103.09321817	12.42	9.92	-0.08	-0.01
3080	1,607.89	32.17104587	-103.09321777	13.28	9.96	-0.05	-0.01
3081	1,608.41	32.17104303	-103.09321579	13.28	9.73	-0.05	0.01
3082	1,608.93	32.17104026	-103.09321551	12.81	9.26	-0.06	0.00
3083	1,609.46	32.17103763	-103.09321854	13.13	9.41	-0.04	0.02
3084	1,609.98	32.17103534	-103.09322195	12.85	9.65	-0.03	0.04
3085	1,610.50	32.17103351	-103.09322590	12.46	8.79	-0.05	0.02
3086	1,611.02	32.17103189	-103.09322977	12.73	7.89	-0.05	0.01
3087	1,611.54	32.17103047	-103.09323358	12.19	8.20	-0.06	0.02
3088	1,612.07	32.17103052	-103.09323772	12.03	8.20	-0.06	0.02
3089	1,612.59	32.17103157	-103.09324209	12.54	7.46	-0.06	0.01
3090	1,613.11	32.17103372	-103.09324573	12.15	7.97	-0.06	-0.01
3091	1,613.63	32.17103639	-103.09324900	12.46	7.85	-0.06	-0.03
3092	1,614.16	32.17103931	-103.09325157	12.93	8.48	-0.05	-0.06
3093	1,614.68	32.17104231	-103.09325392	13.01	8.36	-0.05	-0.06
3094	1,615.20	32.17104656	-103.09325534	12.70	8.95	-0.07	-0.03
3095	1,615.72	32.17105103	-103.09325659	13.44	9.30	-0.06	0.02
3096	1,616.24	32.17105417	-103.09325754	13.87	9.38	-0.06	0.01
3097	1,616.77	32.17105722	-103.09325847	14.26	9.34	-0.06	0.01
3098	1,617.29	32.17106047	-103.09326023	14.65	10.35	-0.05	0.00
3099	1,617.81	32.17106394	-103.09326189	14.73	10.82	-0.07	0.01
3100	1,618.33	32.17106937	-103.09326267	15.27	10.98	-0.06	-0.01
3101	1,618.86	32.17107440	-103.09326319	14.81	10.90	-0.05	0.02
3102	1,619.38	32.17107759	-103.09326260	14.14	10.94	-0.06	0.00
3103	1,619.90	32.17108071	-103.09326236	14.26	10.43	-0.06	-0.01
3104	1,620.42	32.17108364	-103.09326302	14.10	10.27	-0.05	0.03
3105	1,620.94	32.17108684	-103.09326311	13.83	10.43	-0.06	0.01
3106	1,621.47	32.17109053	-103.09326218	13.95	9.65	-0.05	0.01
3107	1,621.99	32.17109417	-103.09326121	13.48	9.53	-0.06	0.01
3108	1,622.51	32.17109773	-103.09326021	13.24	8.75	-0.06	-0.01
3109	1,623.03	32.17110097	-103.09326061	13.52	8.87	-0.06	-0.03
3110	1,623.56	32.17110393	-103.09326226	12.97	8.20	-0.07	-0.10
3111	1,624.08	32.17110735	-103.09326413	12.11	7.70	-0.09	-0.15
3112	1,624.60	32.17111106	-103.09326616	13.16	8.40	-0.07	-0.11
3113	1,625.12	32.17111357	-103.09326983	13.13	8.48	-0.06	-0.07
3114	1,625.64	32.17111558	-103.09327421	12.70	9.81	-0.08	-0.06
3115	1,626.17	32.17111548	-103.09327869	13.28	9.49	-0.07	-0.04
3116	1,626.69	32.17111481	-103.09328319	13.28	9.69	-0.07	-0.05
3117	1,627.21	32.17111273	-103.09328765	13.44	10.27	-0.08	-0.06
3118	1,627.73	32.17111044	-103.09329210	14.53	10.98	-0.06	0.00
3119	1,628.26	32.17110693	-103.09329482	14.61	11.41	-0.06	-0.01
3120	1,628.78	32.17110337	-103.09329740	14.88	11.41	-0.06	0.00

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3121	1,629.30	32.17109986	-103.09329910	15.20	11.60	-0.05	0.01
3122	1,629.82	32.17109647	-103.09330092	14.96	11.60	-0.05	0.01
3123	1,630.34	32.17109385	-103.09330360	14.77	11.56	-0.06	0.01
3124	1,630.87	32.17109107	-103.09330597	14.77	11.68	-0.06	-0.02
3125	1,631.39	32.17108773	-103.09330710	14.65	11.48	-0.06	-0.03
3126	1,631.92	32.17108410	-103.09330820	13.87	11.13	-0.08	-0.04
3127	1,632.43	32.17108003	-103.09330921	15.04	11.56	-0.05	-0.03
3128	1,632.96	32.17107641	-103.09331026	14.81	11.80	-0.06	-0.01
3129	1,633.48	32.17107364	-103.09331135	14.69	12.07	-0.05	-0.01
3130	1,634.00	32.17107113	-103.09331141	14.61	11.48	-0.06	0.01
3131	1,634.52	32.17106893	-103.09331027	14.61	11.60	-0.06	-0.01
3132	1,635.04	32.17106679	-103.09330948	14.84	11.99	-0.06	0.00
3133	1,635.56	32.17106471	-103.09330898	15.31	12.81	-0.06	-0.01
3134	1,636.09	32.17106166	-103.09330834	15.08	12.50	-0.07	-0.02
3135	1,636.61	32.17105804	-103.09330762	15.31	11.41	-0.06	-0.01
3136	1,637.13	32.17105602	-103.09330627	14.96	10.82	-0.06	-0.01
3137	1,637.65	32.17105463	-103.09330466	14.92	10.86	-0.06	-0.02
3138	1,638.18	32.17105226	-103.09330473	13.95	10.31	-0.06	-0.02
3139	1,638.70	32.17104965	-103.09330521	14.10	9.61	-0.06	0.00
3140	1,639.22	32.17104688	-103.09330399	13.83	9.53	-0.06	0.01
3141	1,639.74	32.17104409	-103.09330256	13.09	8.71	-0.07	-0.02
3142	1,640.27	32.17104131	-103.09329959	13.32	8.40	-0.06	0.00
3143	1,640.79	32.17103860	-103.09329655	12.73	8.01	-0.06	0.01
3144	1,641.31	32.17103695	-103.09329317	12.19	8.09	-0.07	-0.01
3145	1,641.83	32.17103522	-103.09328972	12.93	7.70	-0.06	-0.02
3146	1,642.36	32.17103293	-103.09328575	12.54	7.42	-0.06	-0.02
3147	1,642.88	32.17103053	-103.09328215	12.31	7.31	-0.06	-0.03
3148	1,643.40	32.17102773	-103.09327967	12.54	7.19	-0.07	-0.05
3149	1,643.92	32.17102472	-103.09327800	12.50	7.15	-0.06	-0.06
3150	1,644.44	32.17102128	-103.09327810	11.72	6.99	-0.08	-0.06
3151	1,644.97	32.17101796	-103.09327942	11.95	6.88	-0.07	-0.05
3152	1,645.49	32.17101485	-103.09328251	11.56	6.17	-0.07	-0.06
3153	1,646.01	32.17101204	-103.09328554	11.72	6.64	-0.06	-0.03
3154	1,646.53	32.17100953	-103.09328849	11.13	6.02	-0.06	-0.04
3155	1,647.05	32.17100726	-103.09329220	10.82	5.86	-0.07	-0.05
3156	1,647.58	32.17100515	-103.09329650	11.72	5.74	-0.06	-0.04
3157	1,648.10	32.17100330	-103.09330050	11.29	5.74	-0.06	-0.05
3158	1,648.62	32.17100159	-103.09330433	11.21	5.08	-0.06	-0.07
3159	1,649.14	32.17099965	-103.09330770	11.41	5.20	-0.06	-0.06
3160	1,649.67	32.17099763	-103.09331091	11.37	5.31	-0.05	-0.04
3161	1,650.18	32.17099811	-103.09331441	11.29	5.27	-0.06	-0.06
3162	1,650.70	32.17099911	-103.09331798	11.91	5.16	-0.05	-0.08
3163	1,651.22	32.17100114	-103.09332044	11.52	5.27	-0.05	-0.07
3164	1,651.73	32.17100327	-103.09332275	11.33	5.51	-0.07	-0.05
3165	1,652.27	32.17100584	-103.09332540	12.07	5.94	-0.06	-0.03
3166	1,652.80	32.17100854	-103.09332802	11.84	6.06	-0.06	-0.03
3167	1,653.32	32.17101238	-103.09333004	11.25	6.09	-0.07	-0.04
3168	1,653.85	32.17101622	-103.09333209	12.11	6.76	-0.05	0.00
3169	1,654.37	32.17101960	-103.09333399	11.17	6.95	-0.07	-0.04
3170	1,654.89	32.17102282	-103.09333614	12.07	6.64	-0.06	-0.04
3171	1,655.41	32.17102537	-103.09333892	12.89	7.15	-0.06	-0.03
3172	1,655.93	32.17102809	-103.09334144	12.89	7.42	-0.07	-0.03
3173	1,656.45	32.17103115	-103.09334346	13.32	8.52	-0.05	-0.01
3174	1,656.98	32.17103372	-103.09334575	13.44	8.91	-0.05	-0.01
3175	1,657.50	32.17103562	-103.09334843	13.24	8.75	-0.06	-0.03
3176	1,658.02	32.17103823	-103.09335139	13.98	10.16	-0.07	-0.02
3177	1,658.54	32.17104151	-103.09335462	14.92	11.02	-0.06	0.00
3178	1,659.06	32.17104456	-103.09335603	15.12	11.45	-0.06	-0.01
3179	1,659.59	32.17104746	-103.09335615	15.39	11.52	-0.06	-0.01
3180	1,660.11	32.17105019	-103.09335734	15.82	11.37	-0.06	0.01
3181	1,660.63	32.17105283	-103.09335903	14.34	11.68	-0.07	-0.04
3182	1,661.15	32.17105582	-103.09336090	14.73	11.68	-0.07	-0.05
3183	1,661.68	32.17105891	-103.09336282	14.81	11.68	-0.07	-0.03
3184	1,662.20	32.17106228	-103.09336479	13.95	10.70	-0.08	-0.06
3185	1,662.72	32.17106569	-103.09336676	14.30	11.88	-0.08	-0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3186	1,663.24	32.17106826	-103.09336916	14.73	11.37	-0.07	-0.03
3187	1,663.76	32.17107078	-103.09337158	15.59	12.03	-0.07	-0.03
3188	1,664.29	32.17107384	-103.09337387	15.12	13.13	-0.08	-0.04
3189	1,664.81	32.17107684	-103.09337629	15.00	12.97	-0.08	-0.03
3190	1,665.33	32.17107921	-103.09337985	14.49	12.81	-0.07	-0.03
3191	1,665.86	32.17108093	-103.09338357	15.74	13.40	-0.06	-0.03
3192	1,666.38	32.17107991	-103.09338775	16.17	13.36	-0.06	-0.03
3193	1,666.90	32.17107846	-103.09339188	15.00	12.89	-0.07	-0.05
3194	1,667.42	32.17107595	-103.09339574	15.51	12.70	-0.06	0.00
3195	1,667.94	32.17107297	-103.09339889	15.08	11.91	-0.06	-0.01
3196	1,668.46	32.17106915	-103.09340073	13.56	11.21	-0.08	-0.03
3197	1,668.99	32.17106539	-103.09340164	14.41	10.55	-0.07	-0.04
3198	1,669.51	32.17106172	-103.09340135	13.67	9.73	-0.06	-0.05
3199	1,670.03	32.17105788	-103.09340154	13.44	9.65	-0.06	-0.08
3200	1,670.55	32.17105389	-103.09340216	13.52	9.18	-0.07	-0.04
3201	1,671.07	32.17104979	-103.09340217	13.13	8.13	-0.07	-0.05
3202	1,671.60	32.17104563	-103.09340181	12.85	8.87	-0.07	-0.05
3203	1,672.12	32.17104191	-103.09340059	12.70	8.75	-0.06	-0.03
3204	1,672.64	32.17103839	-103.09339901	12.46	8.13	-0.08	-0.06
3205	1,673.17	32.17103531	-103.09339753	13.20	8.56	-0.07	-0.04
3206	1,673.69	32.17103235	-103.09339607	13.48	8.40	-0.07	-0.03
3207	1,674.21	32.17102830	-103.09339500	13.56	8.48	-0.07	-0.04
3208	1,674.73	32.17102409	-103.09339399	13.83	9.30	-0.07	-0.05
3209	1,675.25	32.17102090	-103.09339214	13.71	9.22	-0.06	-0.03
3210	1,675.78	32.17101776	-103.09339026	12.85	7.89	-0.07	-0.05
3211	1,676.30	32.17101449	-103.09338889	13.09	7.93	-0.05	-0.05
3212	1,676.82	32.17101120	-103.09338756	13.01	8.36	-0.06	-0.03
3213	1,677.34	32.17100775	-103.09338656	13.40	8.01	-0.07	-0.01
3214	1,677.86	32.17100426	-103.09338522	13.44	7.97	-0.07	-0.03
3215	1,678.39	32.17100062	-103.09338257	13.20	8.32	-0.06	0.01
3216	1,678.92	32.17099692	-103.09338013	12.89	7.93	-0.07	0.01
3217	1,679.43	32.17099329	-103.09337831	13.40	8.13	-0.06	0.01
3218	1,679.95	32.17098962	-103.09337682	12.85	7.34	-0.07	-0.02
3219	1,680.48	32.17098601	-103.09337594	13.32	8.24	-0.07	-0.01
3220	1,681.00	32.17098216	-103.09337496	13.59	8.24	-0.07	-0.01
3221	1,681.52	32.17097803	-103.09337387	12.46	7.73	-0.07	-0.02
3222	1,682.04	32.17097374	-103.09337320	13.16	7.31	-0.05	0.01
3223	1,682.57	32.17096930	-103.09337287	12.85	7.46	-0.05	0.01
3224	1,683.09	32.17096501	-103.09337352	12.93	7.73	-0.05	0.01
3225	1,683.61	32.17096081	-103.09337474	12.77	8.13	-0.04	0.00
3226	1,684.13	32.17095769	-103.09337742	12.34	7.27	-0.06	0.01
3227	1,684.65	32.17095498	-103.09338067	13.05	6.76	-0.05	0.01
3228	1,685.18	32.17095401	-103.09338467	12.58	7.27	-0.06	-0.01
3229	1,685.70	32.17095345	-103.09338884	12.73	8.09	-0.08	-0.01
3230	1,686.22	32.17095480	-103.09339362	13.40	8.20	-0.07	-0.02
3231	1,686.74	32.17095638	-103.09339848	13.56	8.44	-0.07	-0.01
3232	1,687.26	32.17095916	-103.09340158	13.75	8.71	-0.06	-0.06
3233	1,687.79	32.17096197	-103.09340462	13.95	8.95	-0.06	-0.05
3234	1,688.31	32.17096473	-103.09340751	13.20	9.84	-0.09	-0.03
3235	1,688.83	32.17096738	-103.09341057	14.65	10.12	-0.08	0.00
3236	1,689.35	32.17096948	-103.09341465	15.00	10.90	-0.07	-0.01
3237	1,689.88	32.17097177	-103.09341858	15.20	11.95	-0.09	-0.01
3238	1,690.40	32.17097471	-103.09342204	16.64	12.15	-0.07	-0.01
3239	1,690.92	32.17097759	-103.09342494	16.13	12.23	-0.06	0.02
3240	1,691.44	32.17098036	-103.09342657	16.25	12.81	-0.06	0.03
3241	1,691.97	32.17098313	-103.09342828	16.48	12.93	-0.06	0.04
3242	1,692.49	32.17098593	-103.09343009	15.98	12.31	-0.07	0.00
3243	1,693.01	32.17098903	-103.09343231	16.45	13.32	-0.07	0.00
3244	1,693.53	32.17099245	-103.09343496	17.38	15.04	-0.06	0.00
3245	1,694.05	32.17099576	-103.09343739	17.31	14.41	-0.07	0.01
3246	1,694.58	32.17099898	-103.09343964	18.16	14.18	-0.07	0.01
3247	1,695.10	32.17100185	-103.09344276	19.69	14.84	-0.06	0.03
3248	1,695.62	32.17100452	-103.09344632	18.91	14.65	-0.08	0.00
3249	1,696.14	32.17100721	-103.09345021	19.18	14.14	-0.06	0.01
3250	1,696.67	32.17100990	-103.09345422	17.15	14.22	-0.06	0.02

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3251	1,697.19	32.17101183	-103.09345838	16.25	13.59	-0.08	0.00
3252	1,697.71	32.17101360	-103.09346258	15.63	13.16	-0.07	0.03
3253	1,698.22	32.17101173	-103.09346575	15.04	12.97	-0.08	-0.01
3254	1,698.73	32.17100950	-103.09346880	14.77	13.28	-0.09	-0.03
3255	1,699.27	32.17100604	-103.09347105	15.82	14.73	-0.08	0.00
3256	1,699.80	32.17100248	-103.09347319	16.29	15.23	-0.07	0.00
3257	1,700.32	32.17099862	-103.09347446	16.13	14.88	-0.08	-0.02
3258	1,700.84	32.17099499	-103.09347517	16.76	15.78	-0.07	-0.04
3259	1,701.37	32.17099253	-103.09347301	17.66	16.72	-0.07	-0.01
3260	1,701.89	32.17098995	-103.09347107	17.97	16.48	-0.07	-0.04
3261	1,702.41	32.17098700	-103.09346975	18.44	17.23	-0.07	-0.01
3262	1,702.93	32.17098388	-103.09346801	18.71	17.27	-0.06	0.00
3263	1,703.45	32.17098046	-103.09346548	19.30	16.37	-0.06	-0.02
3264	1,703.97	32.17097683	-103.09346305	18.52	16.52	-0.06	-0.04
3265	1,704.50	32.17097289	-103.09346076	18.16	16.56	-0.06	-0.03
3266	1,705.02	32.17096932	-103.09345894	17.31	16.02	-0.07	-0.05
3267	1,705.54	32.17096613	-103.09345755	17.23	16.60	-0.07	-0.04
3268	1,706.06	32.17096266	-103.09345596	17.34	16.56	-0.06	-0.03
3269	1,706.59	32.17095900	-103.09345422	17.19	16.29	-0.07	-0.02
3270	1,707.11	32.17095543	-103.09345221	18.01	15.90	-0.07	0.00
3271	1,707.63	32.17095192	-103.09345007	17.70	16.13	-0.07	-0.02
3272	1,708.15	32.17094901	-103.09344922	17.07	15.47	-0.06	0.00
3273	1,708.67	32.17094629	-103.09344877	16.91	15.27	-0.05	0.00
3274	1,709.20	32.17094404	-103.09344678	17.50	14.84	-0.05	-0.01
3275	1,709.72	32.17094188	-103.09344449	17.03	15.00	-0.07	0.01
3276	1,710.24	32.17093808	-103.09344345	17.03	15.31	-0.09	0.02
3277	1,710.76	32.17093416	-103.09344254	17.97	14.88	-0.07	0.03
3278	1,711.29	32.17093057	-103.09344286	16.72	14.22	-0.07	0.01
3279	1,711.81	32.17092692	-103.09344305	16.72	14.22	-0.07	-0.01
3280	1,712.33	32.17092295	-103.09344197	16.88	14.34	-0.06	-0.01
3281	1,712.85	32.17091933	-103.09344095	15.94	13.63	-0.05	-0.01
3282	1,713.38	32.17091728	-103.09344023	15.35	12.62	-0.06	0.00
3283	1,713.90	32.17091468	-103.09344000	15.66	12.70	-0.06	-0.01
3284	1,714.42	32.17091063	-103.09344107	16.33	14.02	-0.05	0.01
3285	1,714.94	32.17090669	-103.09344230	16.68	14.34	-0.05	0.01
3286	1,715.46	32.17090293	-103.09344384	16.41	14.30	-0.05	0.00
3287	1,715.99	32.17089928	-103.09344504	16.80	14.53	-0.08	0.01
3288	1,716.51	32.17089575	-103.09344581	17.27	15.04	-0.07	0.02
3289	1,717.03	32.17089228	-103.09344646	17.11	14.26	-0.06	0.00
3290	1,717.55	32.17088886	-103.09344701	16.80	14.92	-0.07	-0.02
3291	1,718.07	32.17088594	-103.09344812	16.84	15.55	-0.06	-0.01
3292	1,718.60	32.17088336	-103.09344957	16.17	15.00	-0.08	-0.04
3293	1,719.12	32.17088138	-103.09345276	16.99	14.69	-0.07	-0.03
3294	1,719.64	32.17087967	-103.09345672	17.38	15.63	-0.06	-0.02
3295	1,720.16	32.17088032	-103.09346133	17.50	15.66	-0.07	-0.01
3296	1,720.69	32.17088164	-103.09346612	17.62	15.70	-0.07	-0.03
3297	1,721.21	32.17088331	-103.09347050	16.99	16.29	-0.07	-0.02
3298	1,721.73	32.17088504	-103.09347481	17.85	16.37	-0.07	-0.01
3299	1,722.25	32.17088637	-103.09347901	18.83	17.50	-0.05	0.04
3300	1,722.77	32.17088773	-103.09348320	18.63	16.99	-0.06	0.01
3301	1,723.30	32.17089011	-103.09348714	18.98	18.56	-0.06	0.02
3302	1,723.82	32.17089253	-103.09349103	19.57	19.18	-0.05	0.03
3303	1,724.34	32.17089518	-103.09349472	19.02	18.79	-0.07	0.00
3304	1,724.86	32.17089800	-103.09349827	19.88	19.38	-0.06	0.00
3305	1,725.39	32.17090144	-103.09350126	19.45	19.73	-0.06	0.00
3306	1,725.92	32.17090486	-103.09350396	19.57	19.41	-0.07	-0.01
3307	1,726.43	32.17090803	-103.09350584	19.77	19.57	-0.06	0.00
3308	1,726.95	32.17091131	-103.09350706	19.26	19.53	-0.07	-0.01
3309	1,727.47	32.17091468	-103.09350713	19.53	19.88	-0.07	-0.01
3310	1,728.00	32.17091800	-103.09350673	19.96	18.75	-0.06	-0.05
3311	1,728.52	32.17092128	-103.09350575	20.16	20.08	-0.06	-0.01
3312	1,729.04	32.17092428	-103.09350362	20.43	20.90	-0.06	0.01
3313	1,729.56	32.17092707	-103.09350052	20.78	21.17	-0.05	0.02
3314	1,730.09	32.17092937	-103.09349732	19.45	19.81	-0.08	0.02
3315	1,730.61	32.17093138	-103.09349408	19.77	19.45	-0.07	0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3316	1,731.13	32.17093394	-103.09349091	20.04	19.77	-0.06	0.04
3317	1,731.65	32.17093672	-103.09348777	19.38	19.96	-0.08	0.01
3318	1,732.18	32.17093934	-103.09348458	19.92	19.34	-0.07	0.01
3319	1,732.70	32.17094190	-103.09348138	19.81	19.61	-0.08	0.02
3320	1,733.22	32.17094375	-103.09347838	19.77	19.57	-0.08	0.01
3321	1,733.74	32.17094551	-103.09347540	19.53	19.61	-0.07	0.02
3322	1,734.26	32.17094722	-103.09347277	19.14	18.56	-0.07	0.01
3323	1,734.79	32.17094893	-103.09347014	18.09	17.58	-0.07	-0.02
3324	1,735.31	32.17095068	-103.09346724	18.79	17.27	-0.07	-0.01
3325	1,735.83	32.17095234	-103.09346419	18.56	17.19	-0.07	0.00
3326	1,736.35	32.17095352	-103.09346028	18.79	17.34	-0.06	0.01
3327	1,736.88	32.17095485	-103.09345655	17.85	16.25	-0.07	-0.01
3328	1,737.40	32.17095668	-103.09345342	17.23	14.88	-0.07	-0.01
3329	1,737.92	32.17095845	-103.09345056	16.99	14.65	-0.07	0.00
3330	1,738.44	32.17096010	-103.09344829	16.64	14.81	-0.07	0.00
3331	1,738.96	32.17096174	-103.09344595	16.48	14.88	-0.08	-0.01
3332	1,739.49	32.17096336	-103.09344351	16.68	14.02	-0.07	-0.01
3333	1,740.01	32.17096424	-103.09344190	17.93	14.34	-0.06	0.03
3334	1,740.53	32.17096431	-103.09344121	17.93	15.08	-0.05	0.03
3335	1,741.05	32.17096426	-103.09344078	18.01	14.69	-0.05	0.03
3336	1,741.58	32.17096410	-103.09344055	17.85	14.88	-0.05	0.04
3337	1,742.10	32.17096406	-103.09344085	17.93	15.08	-0.05	0.02
3338	1,742.62	32.17096408	-103.09344145	18.32	15.00	-0.04	0.02
3339	1,743.14	32.17096419	-103.09344130	18.05	15.04	-0.05	0.02
3340	1,743.66	32.17096432	-103.09344088	18.20	15.55	-0.04	0.03
3341	1,744.19	32.17096438	-103.09344085	17.58	15.31	-0.05	0.03
3342	1,744.71	32.17096442	-103.09344090	17.62	14.65	-0.06	0.02
3343	1,745.22	32.17096438	-103.09344088	17.97	15.39	-0.05	0.03
3344	1,745.73	32.17096432	-103.09344085	17.93	15.27	-0.05	0.02
3345	1,746.27	32.17096719	-103.09344009	17.73	14.22	-0.04	-0.02
3346	1,746.80	32.17097012	-103.09343915	16.41	13.20	-0.04	-0.03
3347	1,747.32	32.17097220	-103.09343650	15.94	12.66	-0.07	-0.03
3348	1,747.84	32.17097433	-103.09343374	16.25	13.20	-0.07	-0.01
3349	1,748.36	32.17097669	-103.09343051	16.29	12.58	-0.07	-0.01
3350	1,748.89	32.17097917	-103.09342733	16.48	12.34	-0.07	-0.01
3351	1,749.41	32.17098198	-103.09342435	16.45	12.58	-0.07	0.02
3352	1,749.93	32.17098481	-103.09342128	16.21	12.42	-0.06	0.02
3353	1,750.45	32.17098769	-103.09341805	15.86	11.09	-0.05	0.01
3354	1,750.97	32.17099086	-103.09341492	14.73	10.74	-0.05	0.02
3355	1,751.50	32.17099441	-103.09341194	14.53	10.74	-0.05	0.02
3356	1,752.02	32.17099772	-103.09340937	14.65	10.51	-0.04	0.01
3357	1,752.54	32.17100078	-103.09340721	14.26	10.31	-0.06	0.02
3358	1,753.06	32.17100417	-103.09340527	14.88	10.00	-0.07	0.02
3359	1,753.59	32.17100781	-103.09340348	15.16	10.08	-0.07	0.02
3360	1,754.11	32.17101145	-103.09340034	14.88	10.08	-0.07	0.01
3361	1,754.63	32.17101513	-103.09339652	15.55	10.00	-0.05	0.01
3362	1,755.15	32.17101812	-103.09339259	14.73	10.59	-0.06	-0.01
3363	1,755.67	32.17102090	-103.09338862	14.45	9.73	-0.08	-0.02
3364	1,756.20	32.17102425	-103.09338555	15.66	11.13	-0.06	-0.01
3365	1,756.72	32.17102770	-103.09338266	14.96	10.78	-0.07	-0.01
3366	1,757.24	32.17103047	-103.09337911	15.31	10.86	-0.05	-0.02
3367	1,757.76	32.17103317	-103.09337550	14.81	11.02	-0.05	0.00
3368	1,758.29	32.17103510	-103.09337145	15.70	12.03	-0.05	-0.01
3369	1,758.81	32.17103705	-103.09336736	15.94	11.48	-0.05	0.01
3370	1,759.33	32.17103910	-103.09336294	15.08	11.25	-0.06	-0.03
3371	1,759.85	32.17104127	-103.09335847	15.31	11.33	-0.06	-0.02
3372	1,760.37	32.17104387	-103.09335397	15.08	12.23	-0.04	0.00
3373	1,760.90	32.17104617	-103.09334960	14.06	10.94	-0.07	-0.04
3374	1,761.42	32.17104762	-103.09334568	15.04	11.25	-0.06	-0.03
3375	1,761.94	32.17104920	-103.09334137	15.31	11.09	-0.06	-0.04
3376	1,762.46	32.17105105	-103.09333633	15.35	12.58	-0.08	-0.02
3377	1,762.98	32.17105265	-103.09333137	16.64	13.01	-0.05	-0.01
3378	1,763.51	32.17105391	-103.09332652	15.00	12.34	-0.08	-0.03
3379	1,764.03	32.17105508	-103.09332170	16.41	12.77	-0.06	-0.01
3380	1,764.55	32.17105616	-103.09331692	16.60	13.44	-0.04	0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3381	1,765.07	32.17105694	-103.09331175	16.68	12.85	-0.04	-0.02
3382	1,765.60	32.17105752	-103.09330634	16.06	11.95	-0.06	-0.03
3383	1,766.12	32.17105820	-103.09330071	16.33	12.34	-0.03	-0.03
3384	1,766.64	32.17105892	-103.09329502	15.86	12.03	-0.06	-0.04
3385	1,767.16	32.17106000	-103.09328978	16.33	12.97	-0.04	0.00
3386	1,767.68	32.17106118	-103.09328467	15.16	11.80	-0.07	-0.04
3387	1,768.21	32.17106206	-103.09327941	16.45	11.80	-0.06	-0.03
3388	1,768.73	32.17106288	-103.09327413	15.27	11.60	-0.06	-0.03
3389	1,769.25	32.17106520	-103.09326915	14.81	10.82	-0.07	-0.04
3390	1,769.77	32.17106757	-103.09326417	15.59	10.98	-0.05	-0.03
3391	1,770.30	32.17106941	-103.09325877	14.57	10.39	-0.08	-0.06
3392	1,770.82	32.17107121	-103.09325353	15.31	11.52	-0.07	-0.06
3393	1,771.34	32.17107277	-103.09324926	15.23	11.21	-0.06	-0.05
3394	1,771.86	32.17107403	-103.09324484	15.00	11.09	-0.07	-0.07
3395	1,772.38	32.17107413	-103.09323986	15.51	11.41	-0.06	-0.05
3396	1,772.91	32.17107381	-103.09323457	15.82	12.23	-0.05	-0.03
3397	1,773.43	32.17107248	-103.09322853	16.02	12.50	-0.07	-0.04
3398	1,773.95	32.17107131	-103.09322264	16.60	12.73	-0.05	-0.02
3399	1,774.47	32.17107040	-103.09321697	16.60	13.05	-0.05	-0.01
3400	1,775.00	32.17106990	-103.09321152	16.09	12.54	-0.06	-0.01
3401	1,775.52	32.17106989	-103.09320637	16.48	13.09	-0.05	-0.01
3402	1,776.04	32.17106960	-103.09320099	16.99	13.71	-0.05	-0.04
3403	1,776.56	32.17106907	-103.09319542	17.54	14.53	-0.04	0.01
3404	1,777.09	32.17106842	-103.09319043	17.15	15.23	-0.04	0.03
3405	1,777.61	32.17106770	-103.09318580	18.13	15.20	-0.04	0.01
3406	1,778.13	32.17106806	-103.09318077	18.48	16.06	-0.04	0.00
3407	1,778.65	32.17106886	-103.09317557	17.54	16.91	-0.08	-0.01
3408	1,779.17	32.17107132	-103.09317046	19.30	17.54	-0.06	0.01
3409	1,779.70	32.17107421	-103.09316537	20.16	18.83	-0.07	0.01
3410	1,780.22	32.17107607	-103.09316109	21.13	20.20	-0.05	0.02
3411	1,780.74	32.17107778	-103.09315692	20.55	20.55	-0.03	0.03
3412	1,781.26	32.17107883	-103.09315269	21.60	22.38	-0.04	0.02
3413	1,781.79	32.17107985	-103.09314843	22.46	22.93	-0.05	0.02
3414	1,782.31	32.17108093	-103.09314400	22.38	23.48	-0.04	0.03
3415	1,782.83	32.17108195	-103.09313948	22.77	25.23	-0.05	0.05
3416	1,783.35	32.17108261	-103.09313451	23.98	26.60	-0.06	0.06
3417	1,783.87	32.17108306	-103.09312935	24.38	27.81	-0.06	0.04
3418	1,784.40	32.17108278	-103.09312361	26.56	30.12	-0.07	0.01
3419	1,784.92	32.17108249	-103.09311809	27.23	31.09	-0.05	0.02
3420	1,785.44	32.17108220	-103.09311310	25.86	30.51	-0.06	0.02
3421	1,785.96	32.17108233	-103.09310833	26.60	30.27	-0.05	0.01
3422	1,786.49	32.17108316	-103.09310385	26.21	30.39	-0.05	0.02
3423	1,787.01	32.17108356	-103.09309891	25.12	30.12	-0.07	-0.01
3424	1,787.53	32.17108350	-103.09309344	25.12	29.65	-0.05	0.01
3425	1,788.05	32.17108302	-103.09308872	23.56	28.28	-0.04	0.02
3426	1,788.57	32.17108220	-103.09308457	23.01	27.15	-0.05	0.00
3427	1,789.10	32.17108138	-103.09308024	22.89	25.66	-0.05	0.01
3428	1,789.62	32.17108056	-103.09307580	21.29	24.34	-0.05	0.00
3429	1,790.14	32.17107921	-103.09307187	20.86	23.75	-0.05	0.00
3430	1,790.66	32.17107767	-103.09306812	20.43	22.93	-0.05	0.02
3431	1,791.18	32.17107569	-103.09306498	19.49	22.50	-0.06	0.01
3432	1,791.70	32.17107360	-103.09306197	20.31	21.68	-0.05	0.00
3433	1,792.22	32.17107284	-103.09305883	20.35	21.72	-0.05	0.02
3434	1,792.73	32.17107224	-103.09305568	20.55	22.97	-0.07	0.00
3435	1,793.27	32.17107071	-103.09305168	22.15	25.39	-0.05	0.00
3436	1,793.80	32.17106910	-103.09304768	23.71	28.56	-0.04	0.03
3437	1,794.32	32.17106704	-103.09304418	24.45	30.20	-0.06	-0.01
3438	1,794.84	32.17106524	-103.09304062	28.59	32.66	-0.05	0.01
3439	1,795.36	32.17106480	-103.09303690	31.37	35.74	-0.06	0.03
3440	1,795.89	32.17106456	-103.09303318	30.66	34.81	-0.09	-0.01
3441	1,796.41	32.17106494	-103.09302948	36.41	34.61	-0.06	0.02
3442	1,796.93	32.17106507	-103.09302680	36.21	35.23	-0.04	0.01
3443	1,797.45	32.17106469	-103.09302619	37.93	36.52	-0.04	-0.02
3444	1,797.97	32.17106408	-103.09302612	40.00	37.73	-0.03	-0.03
3445	1,798.50	32.17106317	-103.09302681	40.63	36.95	-0.05	0.00

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3446	1,799.02	32.17106246	-103.09302565	41.29	36.45	-0.06	0.01
3447	1,799.54	32.17106198	-103.09302266	39.10	38.75	-0.06	0.00
3448	1,800.06	32.17106105	-103.09301851	36.56	43.44	-0.06	0.02
3449	1,800.58	32.17105979	-103.09301353	35.08	43.95	-0.06	0.01
3450	1,801.11	32.17105888	-103.09300785	32.50	42.07	-0.06	0.00
3451	1,801.63	32.17105815	-103.09300182	29.69	37.93	-0.05	0.01
3452	1,802.15	32.17105793	-103.09299745	26.80	33.83	-0.05	0.03
3453	1,802.67	32.17105788	-103.09299364	23.67	28.91	-0.05	0.01
3454	1,803.19	32.17105778	-103.09298878	22.07	26.25	-0.06	-0.01
3455	1,803.72	32.17105769	-103.09298372	21.41	23.63	-0.06	-0.02
3456	1,804.24	32.17105712	-103.09297859	18.59	20.74	-0.07	-0.02
3457	1,804.76	32.17105652	-103.09297347	18.56	19.38	-0.07	0.01
3458	1,805.28	32.17105563	-103.09296951	18.28	18.79	-0.06	-0.03
3459	1,805.81	32.17105458	-103.09296560	17.46	17.93	-0.07	-0.03
3460	1,806.33	32.17105190	-103.09296216	17.19	17.31	-0.06	-0.04
3461	1,806.86	32.17104906	-103.09295937	16.84	16.56	-0.06	-0.02
3462	1,807.37	32.17104588	-103.09295947	16.64	15.47	-0.06	-0.05
3463	1,807.89	32.17104280	-103.09296040	17.11	15.12	-0.06	-0.05
3464	1,808.42	32.17104013	-103.09296361	15.47	14.73	-0.07	-0.03
3465	1,808.94	32.17103784	-103.09296685	17.19	16.64	-0.06	-0.04
3466	1,809.46	32.17103627	-103.09297010	18.52	17.62	-0.07	0.00
3467	1,809.98	32.17103529	-103.09297359	18.28	19.41	-0.07	-0.01
3468	1,810.51	32.17103506	-103.09297738	20.12	21.60	-0.06	0.01
3469	1,811.03	32.17103512	-103.09298135	21.02	23.16	-0.06	0.01
3470	1,811.55	32.17103544	-103.09298548	23.16	25.74	-0.06	0.01
3471	1,812.07	32.17103536	-103.09298936	25.23	27.70	-0.05	0.01
3472	1,812.59	32.17103501	-103.09299306	26.68	29.53	-0.06	0.01
3473	1,813.12	32.17103510	-103.09299665	32.46	33.79	-0.06	0.04
3474	1,813.64	32.17103539	-103.09300018	38.44	39.18	-0.06	0.08
3475	1,814.16	32.17103597	-103.09300480	43.67	45.90	-0.06	0.06
3476	1,814.68	32.17103663	-103.09300976	50.08	54.14	-0.04	0.04
3477	1,815.21	32.17103655	-103.09301391	52.07	51.21	-0.04	0.05
3478	1,815.73	32.17103635	-103.09301794	56.84	43.56	-0.04	0.05
3479	1,816.25	32.17103619	-103.09302222	51.25	40.04	-0.04	0.04
3480	1,816.77	32.17103606	-103.09302655	40.90	38.71	-0.05	0.04
3481	1,817.29	32.17103680	-103.09303201	33.75	39.73	-0.05	0.02
3482	1,817.82	32.17103736	-103.09303729	27.81	34.88	-0.05	-0.02
3483	1,818.34	32.17103662	-103.09304118	22.46	27.54	-0.06	-0.03
3484	1,818.86	32.17103602	-103.09304508	20.04	23.63	-0.05	-0.05
3485	1,819.38	32.17103594	-103.09304899	18.56	20.59	-0.06	-0.06
3486	1,819.91	32.17103626	-103.09305267	18.24	19.18	-0.06	-0.06
3487	1,820.43	32.17103755	-103.09305575	16.37	18.44	-0.08	-0.04
3488	1,820.95	32.17103814	-103.09305908	17.66	18.32	-0.06	-0.02
3489	1,821.47	32.17103755	-103.09306284	18.05	18.36	-0.05	-0.02
3490	1,822.00	32.17103612	-103.09306665	17.81	18.59	-0.07	-0.02
3491	1,822.52	32.17103370	-103.09307050	18.01	18.98	-0.07	-0.03
3492	1,823.04	32.17103033	-103.09307338	18.20	19.45	-0.07	-0.03
3493	1,823.56	32.17102616	-103.09307543	18.52	19.02	-0.07	-0.03
3494	1,824.08	32.17102249	-103.09307462	18.56	18.79	-0.06	-0.03
3495	1,824.61	32.17101911	-103.09307209	18.01	17.93	-0.06	-0.05
3496	1,825.13	32.17101681	-103.09306861	17.85	18.05	-0.06	-0.04
3497	1,825.65	32.17101494	-103.09306475	17.85	18.32	-0.05	-0.02
3498	1,826.17	32.17101379	-103.09306162	17.66	17.27	-0.05	-0.01
3499	1,826.70	32.17101281	-103.09305866	16.95	17.93	-0.06	-0.03
3500	1,827.22	32.17101251	-103.09305496	18.71	18.98	-0.05	-0.01
3501	1,827.74	32.17101231	-103.09305116	19.53	21.02	-0.06	-0.01
3502	1,828.26	32.17101129	-103.09304804	21.52	23.98	-0.05	0.01
3503	1,828.78	32.17101026	-103.09304488	24.18	27.03	-0.05	0.00
3504	1,829.31	32.17100973	-103.09304092	27.81	30.66	-0.07	0.00
3505	1,829.83	32.17100932	-103.09303693	35.43	37.89	-0.07	0.01
3506	1,830.35	32.17100963	-103.09303280	45.08	40.35	-0.06	-0.01
3507	1,830.87	32.17100964	-103.09302881	51.41	34.65	-0.07	0.01
3508	1,831.39	32.17100860	-103.09302529	53.83	37.07	-0.06	0.02
3509	1,831.92	32.17100780	-103.09302159	54.38	45.90	-0.05	0.05
3510	1,832.44	32.17100757	-103.09301754	49.61	50.94	-0.05	0.02

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3511	1,832.96	32.17100744	-103.09301281	46.76	55.86	-0.06	0.01
3512	1,833.48	32.17100749	-103.09300704	42.23	53.71	-0.06	0.02
3513	1,834.01	32.17100724	-103.09300208	32.93	40.86	-0.07	0.02
3514	1,834.53	32.17100666	-103.09299799	28.32	32.93	-0.06	-0.03
3515	1,835.05	32.17100625	-103.09299456	26.48	30.82	-0.04	-0.03
3516	1,835.57	32.17100595	-103.09299164	24.57	29.14	-0.04	-0.02
3517	1,836.10	32.17100549	-103.09298846	23.32	26.84	-0.03	-0.02
3518	1,836.62	32.17100495	-103.09298515	20.90	24.06	-0.05	0.00
3519	1,837.14	32.17100338	-103.09298193	20.08	23.24	-0.07	0.00
3520	1,837.66	32.17100143	-103.09297877	20.47	22.77	-0.05	-0.01
3521	1,838.18	32.17099931	-103.09297533	19.73	22.15	-0.06	0.01
3522	1,838.71	32.17099717	-103.09297185	18.67	21.06	-0.07	-0.02
3523	1,839.22	32.17099549	-103.09296861	18.75	20.39	-0.06	-0.01
3524	1,839.73	32.17099387	-103.09296539	18.28	19.02	-0.06	-0.03
3525	1,840.26	32.17099116	-103.09296370	18.83	18.48	-0.05	-0.03
3526	1,840.79	32.17098843	-103.09296242	18.87	18.75	-0.06	-0.01
3527	1,841.32	32.17098618	-103.09296558	18.75	19.06	-0.07	-0.01
3528	1,841.84	32.17098412	-103.09296878	19.49	18.83	-0.07	-0.04
3529	1,842.36	32.17098311	-103.09297222	19.65	20.12	-0.06	-0.06
3530	1,842.88	32.17098246	-103.09297580	19.81	20.82	-0.07	-0.11
3531	1,843.40	32.17098291	-103.09297980	20.47	22.11	-0.07	-0.10
3532	1,843.93	32.17098327	-103.09298366	21.21	23.36	-0.07	-0.11
3533	1,844.45	32.17098346	-103.09298723	23.20	25.31	-0.07	-0.11
3534	1,844.97	32.17098323	-103.09299094	27.89	29.73	-0.07	-0.09
3535	1,845.49	32.17098239	-103.09299482	36.09	39.77	-0.08	-0.04
3536	1,846.01	32.17098177	-103.09299827	38.52	49.34	-0.08	-0.01
3537	1,846.54	32.17098137	-103.09300128	40.90	52.89	-0.07	0.00
3538	1,847.06	32.17098048	-103.09300423	43.98	55.39	-0.06	0.02
3539	1,847.58	32.17097924	-103.09300711	47.89	57.89	-0.06	0.03
3540	1,848.11	32.17097902	-103.09301034	52.27	60.43	-0.07	0.04
3541	1,848.63	32.17097930	-103.09301373	51.88	56.29	-0.05	0.05
3542	1,849.15	32.17097894	-103.09301763	53.40	40.94	-0.05	0.06
3543	1,849.67	32.17097837	-103.09302169	49.61	29.22	-0.05	0.05
3544	1,850.19	32.17097757	-103.09302625	45.35	35.47	-0.05	0.04
3545	1,850.72	32.17097672	-103.09303091	34.57	39.61	-0.05	0.02
3546	1,851.24	32.17097620	-103.09303496	28.36	34.53	-0.06	0.02
3547	1,851.76	32.17097572	-103.09303896	25.23	29.69	-0.05	0.01
3548	1,852.28	32.17097492	-103.09304369	23.44	27.38	-0.05	0.00
3549	1,852.81	32.17097416	-103.09304830	22.31	25.90	-0.05	-0.01
3550	1,853.33	32.17097377	-103.09305175	21.56	22.93	-0.04	-0.02
3551	1,853.86	32.17097357	-103.09305541	20.27	21.21	-0.05	-0.02
3552	1,854.37	32.17097425	-103.09305982	19.26	19.38	-0.04	0.00
3553	1,854.89	32.17097479	-103.09306407	18.56	18.48	-0.04	-0.01
3554	1,855.42	32.17097495	-103.09306778	17.46	17.07	-0.06	-0.02
3555	1,855.94	32.17097539	-103.09307158	17.66	16.72	-0.06	-0.05
3556	1,856.46	32.17097632	-103.09307551	17.31	17.03	-0.06	-0.04
3557	1,856.98	32.17097754	-103.09307987	15.94	16.56	-0.09	-0.06
3558	1,857.50	32.17097914	-103.09308478	17.93	17.73	-0.07	-0.04
3559	1,858.03	32.17098037	-103.09308972	17.66	17.70	-0.07	-0.03
3560	1,858.55	32.17098126	-103.09309473	17.38	17.50	-0.07	-0.04
3561	1,859.07	32.17098097	-103.09309901	17.70	17.11	-0.07	-0.02
3562	1,859.59	32.17097989	-103.09310283	17.89	17.58	-0.06	0.00
3563	1,860.12	32.17097843	-103.09310652	18.52	18.24	-0.05	0.01
3564	1,860.64	32.17097678	-103.09311016	18.44	18.59	-0.05	0.00
3565	1,861.16	32.17097413	-103.09311381	18.13	18.75	-0.05	-0.03
3566	1,861.68	32.17097119	-103.09311746	18.20	18.52	-0.06	-0.03
3567	1,862.21	32.17096785	-103.09311678	18.16	18.67	-0.06	-0.02
3568	1,862.73	32.17096446	-103.09311540	18.63	18.95	-0.06	-0.03
3569	1,863.25	32.17096263	-103.09311158	17.70	18.28	-0.07	-0.03
3570	1,863.77	32.17096093	-103.09310764	17.31	16.84	-0.07	-0.01
3571	1,864.29	32.17096032	-103.09310438	16.17	15.90	-0.07	-0.04
3572	1,864.82	32.17095965	-103.09310110	16.52	15.39	-0.06	-0.05
3573	1,865.34	32.17095856	-103.09309764	16.80	15.59	-0.06	-0.03
3574	1,865.86	32.17095744	-103.09309407	17.15	15.43	-0.07	-0.03
3575	1,866.38	32.17095622	-103.09309008	17.93	15.74	-0.06	-0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3576	1,866.90	32.17095516	-103.09308633	18.13	16.60	-0.06	-0.01
3577	1,867.43	32.17095452	-103.09308324	18.95	16.76	-0.07	-0.13
3578	1,867.95	32.17095381	-103.09307962	15.27	12.50	-0.08	-0.54
3579	1,868.47	32.17095298	-103.09307511	8.75	15.27	-0.39	-0.27
3580	1,868.99	32.17095261	-103.09307095	19.10	10.94	-0.12	-1.05
3581	1,869.52	32.17095278	-103.09306720	20.27	19.49	-0.08	-0.19
3582	1,870.04	32.17095261	-103.09306355	21.41	21.56	-0.07	-0.03
3583	1,870.56	32.17095214	-103.09305996	22.93	22.46	-0.06	0.01
3584	1,871.08	32.17095157	-103.09305629	23.98	23.67	-0.06	0.00
3585	1,871.61	32.17095094	-103.09305256	26.95	26.02	-0.06	0.02
3586	1,872.13	32.17095044	-103.09304857	29.88	28.91	-0.05	0.05
3587	1,872.65	32.17094999	-103.09304449	32.07	31.56	-0.07	0.02
3588	1,873.17	32.17094988	-103.09304062	36.95	36.33	-0.07	0.05
3589	1,873.69	32.17094986	-103.09303682	44.02	41.95	-0.06	0.04
3590	1,874.22	32.17094878	-103.09303280	48.67	46.29	-0.08	0.03
3591	1,874.74	32.17094756	-103.09302875	50.35	40.43	-0.06	0.03
3592	1,875.26	32.17094752	-103.09302519	53.71	33.98	-0.06	0.05
3593	1,875.78	32.17094749	-103.09302162	56.91	49.38	-0.07	0.03
3594	1,876.31	32.17094685	-103.09301788	58.48	64.10	-0.06	0.02
3595	1,876.83	32.17094613	-103.09301416	58.67	70.39	-0.06	0.03
3596	1,877.35	32.17094489	-103.09301058	58.20	66.17	-0.07	0.03
3597	1,877.87	32.17094409	-103.09300688	58.52	59.77	-0.07	0.00
3598	1,878.39	32.17094488	-103.09300266	52.07	52.11	-0.08	-0.04
3599	1,878.92	32.17094480	-103.09299851	38.75	39.61	-0.07	-0.14
3600	1,879.44	32.17094276	-103.09299460	29.49	32.27	-0.06	-0.04
3601	1,879.96	32.17094150	-103.09299187	29.02	31.60	-0.04	0.01
3602	1,880.48	32.17094144	-103.09299100	26.52	28.16	-0.06	-0.01
3603	1,881.01	32.17094131	-103.09298942	23.79	25.12	-0.06	-0.07
3604	1,881.53	32.17094110	-103.09298706	21.41	22.89	-0.07	-0.06
3605	1,882.05	32.17094079	-103.09298430	19.73	20.74	-0.07	-0.08
3606	1,882.57	32.17094042	-103.09298123	18.32	17.93	-0.06	-0.08
3607	1,883.09	32.17094034	-103.09297735	17.34	16.60	-0.07	-0.05
3608	1,883.62	32.17094043	-103.09297302	15.86	15.43	-0.08	-0.05
3609	1,884.14	32.17094034	-103.09296887	15.51	13.01	-0.07	-0.06
3610	1,884.66	32.17094018	-103.09296480	14.57	12.62	-0.07	-0.02
3611	1,885.18	32.17093852	-103.09296144	13.79	11.45	-0.07	-0.05
3612	1,885.71	32.17093651	-103.09295823	13.75	10.27	-0.06	-0.05
3613	1,886.22	32.17093343	-103.09295650	13.83	10.23	-0.07	-0.03
3614	1,886.73	32.17093024	-103.09295493	13.13	9.41	-0.08	-0.03
3615	1,887.26	32.17092639	-103.09295600	13.56	9.88	-0.06	-0.04
3616	1,887.79	32.17092264	-103.09295733	13.28	10.04	-0.07	-0.04
3617	1,888.32	32.17092085	-103.09296042	13.75	10.86	-0.07	-0.02
3618	1,888.84	32.17091905	-103.09296354	14.49	11.72	-0.07	-0.02
3619	1,889.36	32.17091726	-103.09296687	15.23	12.23	-0.06	0.00
3620	1,889.88	32.17091578	-103.09296993	15.23	13.13	-0.07	-0.03
3621	1,890.41	32.17091528	-103.09297212	16.29	14.18	-0.07	-0.01
3622	1,890.93	32.17091506	-103.09297448	16.64	14.73	-0.07	-0.01
3623	1,891.45	32.17091542	-103.09297721	16.91	15.31	-0.06	0.03
3624	1,891.97	32.17091527	-103.09297953	17.85	16.45	-0.06	0.00
3625	1,892.49	32.17091441	-103.09298129	18.05	18.63	-0.06	-0.01
3626	1,893.02	32.17091402	-103.09298295	18.91	19.18	-0.06	0.01
3627	1,893.54	32.17091412	-103.09298453	20.47	21.13	-0.06	0.02
3628	1,894.06	32.17091471	-103.09298607	21.52	23.36	-0.06	0.07
3629	1,894.58	32.17091565	-103.09298758	22.62	23.75	-0.05	0.05
3630	1,895.10	32.17091585	-103.09298994	25.20	25.59	-0.04	0.08
3631	1,895.63	32.17091567	-103.09299272	27.54	27.42	-0.03	0.10
3632	1,896.15	32.17091603	-103.09299646	37.73	37.38	-0.04	0.07
3633	1,896.67	32.17091656	-103.09300052	48.24	52.27	-0.05	0.04
3634	1,897.19	32.17091699	-103.09300343	53.63	57.97	-0.03	0.03
3635	1,897.72	32.17091740	-103.09300612	56.91	61.64	-0.04	0.04
3636	1,898.24	32.17091619	-103.09300869	59.77	65.35	-0.04	0.04
3637	1,898.76	32.17091485	-103.09301127	61.13	70.94	-0.05	0.06
3638	1,899.28	32.17091522	-103.09301467	61.68	70.35	-0.04	0.07
3639	1,899.80	32.17091564	-103.09301812	55.78	52.38	-0.04	0.08
3640	1,900.33	32.17091650	-103.09302200	56.13	39.65	-0.04	0.07

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3641	1,900.86	32.17091701	-103.09302585	57.62	43.36	-0.03	0.10
3642	1,901.37	32.17091599	-103.09302928	51.68	51.13	-0.03	0.10
3643	1,901.89	32.17091507	-103.09303307	42.03	47.58	-0.06	0.06
3644	1,902.42	32.17091444	-103.09303779	37.70	42.66	-0.06	0.03
3645	1,902.94	32.17091387	-103.09304256	31.72	35.08	-0.05	0.04
3646	1,903.46	32.17091340	-103.09304744	28.63	30.94	-0.06	0.03
3647	1,903.98	32.17091260	-103.09305212	27.77	28.79	-0.05	0.04
3648	1,904.51	32.17091136	-103.09305650	25.70	26.68	-0.06	0.02
3649	1,905.03	32.17091058	-103.09306092	24.02	24.69	-0.06	0.03
3650	1,905.55	32.17091022	-103.09306540	22.11	21.76	-0.06	0.05
3651	1,906.07	32.17091012	-103.09307000	20.43	19.45	-0.06	0.01
3652	1,906.59	32.17091019	-103.09307471	19.96	17.97	-0.07	0.00
3653	1,907.12	32.17090950	-103.09307874	18.79	17.89	-0.05	0.02
3654	1,907.64	32.17090848	-103.09308248	17.23	15.78	-0.06	0.02
3655	1,908.16	32.17090768	-103.09308644	16.84	14.38	-0.05	-0.01
3656	1,908.68	32.17090695	-103.09309046	16.02	13.87	-0.05	0.01
3657	1,909.20	32.17090602	-103.09309465	15.90	13.28	-0.03	0.01
3658	1,909.72	32.17090506	-103.09309886	14.81	12.03	-0.03	-0.01
3659	1,910.25	32.17090339	-103.09310159	14.30	11.17	-0.05	-0.02
3660	1,910.77	32.17090164	-103.09310418	14.30	11.25	-0.06	-0.01
3661	1,911.29	32.17089862	-103.09310609	14.30	11.68	-0.06	-0.02
3662	1,911.82	32.17089546	-103.09310805	13.87	11.17	-0.07	-0.03
3663	1,912.34	32.17089126	-103.09311045	14.22	11.88	-0.07	-0.03
3664	1,912.86	32.17088705	-103.09311202	13.95	11.17	-0.07	-0.01
3665	1,913.38	32.17088278	-103.09311032	14.14	10.98	-0.08	-0.04
3666	1,913.90	32.17087919	-103.09310803	14.73	11.41	-0.06	-0.04
3667	1,914.43	32.17087732	-103.09310422	14.61	11.84	-0.06	-0.02
3668	1,914.95	32.17087592	-103.09310035	14.26	11.45	-0.07	-0.02
3669	1,915.47	32.17087533	-103.09309641	14.53	11.33	-0.05	-0.01
3670	1,915.99	32.17087503	-103.09309234	14.61	11.41	-0.05	0.00
3671	1,916.52	32.17087510	-103.09308814	15.04	12.23	-0.07	-0.01
3672	1,917.04	32.17087522	-103.09308454	15.98	13.79	-0.06	-0.01
3673	1,917.56	32.17087540	-103.09308145	16.37	14.34	-0.08	-0.03
3674	1,918.08	32.17087564	-103.09307798	17.81	16.33	-0.07	-0.02
3675	1,918.60	32.17087591	-103.09307426	19.73	17.93	-0.07	-0.03
3676	1,919.13	32.17087552	-103.09307106	21.29	20.74	-0.06	-0.01
3677	1,919.65	32.17087486	-103.09306809	22.73	21.95	-0.07	0.02
3678	1,920.17	32.17087467	-103.09306487	23.98	23.83	-0.06	0.03
3679	1,920.69	32.17087460	-103.09306159	25.04	25.23	-0.09	0.01
3680	1,921.21	32.17087466	-103.09305776	28.75	28.79	-0.07	0.03
3681	1,921.74	32.17087474	-103.09305382	30.74	31.84	-0.06	0.03
3682	1,922.26	32.17087413	-103.09305072	33.01	33.95	-0.08	0.04
3683	1,922.78	32.17087353	-103.09304765	39.14	38.79	-0.05	0.06
3684	1,923.30	32.17087341	-103.09304444	43.52	44.88	-0.05	0.07
3685	1,923.83	32.17087325	-103.09304129	49.30	50.70	-0.05	0.05
3686	1,924.35	32.17087276	-103.09303862	56.41	54.41	-0.05	0.05
3687	1,924.87	32.17087210	-103.09303598	60.12	52.11	-0.05	0.06
3688	1,925.39	32.17087084	-103.09303346	64.49	43.20	-0.05	0.06
3689	1,925.92	32.17086998	-103.09303063	78.01	38.32	-0.06	0.07
3690	1,926.44	32.17087003	-103.09302716	77.81	38.36	-0.05	0.07
3691	1,926.96	32.17086986	-103.09302360	71.80	50.43	-0.06	0.05
3692	1,927.48	32.17086935	-103.09301993	67.19	62.89	-0.05	0.05
3693	1,928.00	32.17086854	-103.09301662	58.32	66.72	-0.05	0.04
3694	1,928.53	32.17086742	-103.09301369	55.47	62.77	-0.05	0.04
3695	1,929.05	32.17086684	-103.09301099	54.61	60.12	-0.03	0.05
3696	1,929.57	32.17086668	-103.09300847	50.98	57.66	-0.03	0.05
3697	1,930.09	32.17086572	-103.09300717	49.73	56.29	-0.03	0.05
3698	1,930.62	32.17086429	-103.09300656	48.95	57.15	-0.03	0.03
3699	1,931.14	32.17086362	-103.09300442	48.01	58.63	-0.03	0.02
3700	1,931.66	32.17086323	-103.09300170	43.83	54.57	-0.05	0.01
3701	1,932.18	32.17086099	-103.09299829	38.98	50.31	-0.07	-0.06
3702	1,932.70	32.17085831	-103.09299472	32.89	41.37	-0.06	-0.13
3703	1,933.22	32.17085784	-103.09299274	25.39	28.98	-0.04	-0.16
3704	1,933.73	32.17085762	-103.09299093	22.81	24.41	-0.04	-0.14
3705	1,934.26	32.17085658	-103.09298841	21.17	21.68	-0.04	-0.11

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3706	1,934.79	32.17085563	-103.09298586	19.45	19.14	-0.05	-0.10
3707	1,935.31	32.17085638	-103.09298338	18.44	17.70	-0.05	-0.07
3708	1,935.84	32.17085690	-103.09298077	17.42	15.59	-0.05	-0.09
3709	1,936.36	32.17085618	-103.09297746	17.15	15.23	-0.05	-0.06
3710	1,936.88	32.17085539	-103.09297441	15.55	14.53	-0.05	-0.02
3711	1,937.40	32.17085437	-103.09297220	15.35	13.48	-0.05	-0.02
3712	1,937.92	32.17085306	-103.09296962	15.12	12.54	-0.04	-0.01
3713	1,938.45	32.17085109	-103.09296623	14.81	12.34	-0.05	-0.01
3714	1,938.97	32.17084870	-103.09296302	14.10	11.80	-0.06	0.00
3715	1,939.49	32.17084570	-103.09296007	13.95	10.82	-0.06	0.00
3716	1,940.01	32.17084257	-103.09295761	13.98	10.23	-0.06	0.00
3717	1,940.54	32.17083929	-103.09295566	13.48	9.96	-0.07	-0.01
3718	1,941.06	32.17083697	-103.09295349	13.48	9.45	-0.06	0.00
3719	1,941.58	32.17083533	-103.09295116	13.40	9.10	-0.07	0.01
3720	1,942.10	32.17083249	-103.09295032	13.20	9.18	-0.07	-0.01
3721	1,942.63	32.17082903	-103.09295024	13.32	8.83	-0.05	-0.01
3722	1,943.15	32.17082544	-103.09295125	13.36	9.38	-0.05	0.01
3723	1,943.67	32.17082179	-103.09295262	13.40	9.41	-0.06	0.03
3724	1,944.19	32.17081833	-103.09295490	14.02	9.14	-0.05	0.05
3725	1,944.71	32.17081491	-103.09295736	14.30	10.43	-0.05	0.07
3726	1,945.24	32.17081366	-103.09295995	14.65	10.35	-0.04	0.07
3727	1,945.76	32.17081260	-103.09296256	14.61	10.66	-0.04	0.07
3728	1,946.28	32.17081161	-103.09296487	14.41	10.94	-0.06	0.06
3729	1,946.80	32.17081057	-103.09296726	14.92	11.95	-0.06	0.05
3730	1,947.32	32.17080908	-103.09297043	15.98	12.42	-0.05	0.03
3731	1,947.86	32.17080786	-103.09297341	16.88	13.63	-0.06	-0.01
3732	1,948.37	32.17080787	-103.09297514	17.34	14.22	-0.06	-0.05
3733	1,948.89	32.17080801	-103.09297703	18.13	15.20	-0.06	-0.01
3734	1,949.41	32.17080846	-103.09297925	18.59	16.80	-0.07	-0.04
3735	1,949.94	32.17080855	-103.09298140	19.88	18.52	-0.06	-0.01
3736	1,950.46	32.17080793	-103.09298344	20.04	19.69	-0.06	0.05
3737	1,950.98	32.17080746	-103.09298582	21.02	20.90	-0.05	0.07
3738	1,951.50	32.17080720	-103.09298865	22.93	23.36	-0.04	0.14
3739	1,952.03	32.17080764	-103.09299018	24.14	26.06	-0.05	0.14
3740	1,952.55	32.17080873	-103.09299052	27.73	30.35	-0.05	0.10
3741	1,953.07	32.17080938	-103.09299183	36.13	38.67	-0.07	0.03
3742	1,953.59	32.17080973	-103.09299380	44.73	47.58	-0.07	0.03
3743	1,954.11	32.17081047	-103.09299561	50.55	52.34	-0.05	0.03
3744	1,954.64	32.17081139	-103.09299735	54.14	53.87	-0.04	0.03
3745	1,955.16	32.17081142	-103.09299873	52.97	53.32	-0.03	0.03
3746	1,955.68	32.17081119	-103.09300000	52.73	54.61	-0.05	0.06
3747	1,956.20	32.17081172	-103.09300056	55.35	57.31	-0.04	0.08
3748	1,956.73	32.17081238	-103.09300100	56.88	58.36	-0.04	0.09
3749	1,957.25	32.17081245	-103.09300155	57.38	57.93	-0.03	0.08
3750	1,957.77	32.17081246	-103.09300213	58.16	58.87	-0.03	0.07
3751	1,958.29	32.17081175	-103.09300355	57.93	60.66	-0.02	0.08
3752	1,958.81	32.17081117	-103.09300477	56.17	64.65	-0.02	0.07
3753	1,959.34	32.17081154	-103.09300434	55.98	66.91	-0.02	0.07
3754	1,959.86	32.17081187	-103.09300414	57.03	64.38	-0.01	0.05
3755	1,960.38	32.17081196	-103.09300488	56.48	64.14	-0.01	0.06
3756	1,960.90	32.17081188	-103.09300581	55.82	67.31	-0.02	0.07
3757	1,961.42	32.17081136	-103.09300722	55.63	68.32	-0.01	0.06
3758	1,961.95	32.17081092	-103.09300890	53.52	66.06	-0.01	0.05
3759	1,962.47	32.17081061	-103.09301100	50.47	63.09	-0.04	0.04
3760	1,962.99	32.17081018	-103.09301283	49.96	63.44	-0.04	0.06
3761	1,963.51	32.17080961	-103.09301433	49.81	62.23	-0.03	0.08
3762	1,964.04	32.17080942	-103.09301652	47.58	58.09	-0.04	0.05
3763	1,964.56	32.17080958	-103.09301933	47.46	55.66	-0.05	0.04
3764	1,965.08	32.17080886	-103.09302291	43.44	47.50	-0.06	-0.01
3765	1,965.60	32.17080763	-103.09302696	38.91	41.72	-0.07	-0.01
3766	1,966.13	32.17080660	-103.09303258	33.52	37.62	-0.05	-0.02
3767	1,966.65	32.17080566	-103.09303885	28.20	31.60	-0.05	-0.03
3768	1,967.17	32.17080608	-103.09304234	24.34	27.93	-0.06	-0.03
3769	1,967.69	32.17080687	-103.09304510	22.54	24.30	-0.07	-0.07
3770	1,968.21	32.17080719	-103.09304963	20.82	22.15	-0.08	-0.04

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3771	1,968.74	32.17080744	-103.09305441	19.61	20.27	-0.08	-0.07
3772	1,969.26	32.17080741	-103.09305868	18.91	18.71	-0.07	-0.06
3773	1,969.78	32.17080737	-103.09306293	17.54	16.52	-0.07	-0.05
3774	1,970.30	32.17080734	-103.09306740	16.95	16.17	-0.08	-0.04
3775	1,970.82	32.17080724	-103.09307193	16.56	15.94	-0.07	-0.03
3776	1,971.35	32.17080672	-103.09307683	14.92	15.12	-0.10	-0.04
3777	1,971.87	32.17080579	-103.09308135	16.02	14.45	-0.08	-0.04
3778	1,972.39	32.17080333	-103.09308458	15.47	14.57	-0.08	-0.02
3779	1,972.92	32.17080032	-103.09308752	14.18	15.04	-0.11	-0.04
3780	1,973.44	32.17079613	-103.09308972	15.98	14.69	-0.08	-0.01
3781	1,973.96	32.17079187	-103.09309135	15.82	14.69	-0.08	-0.02
3782	1,974.48	32.17078752	-103.09309207	14.84	13.98	-0.11	-0.04
3783	1,975.00	32.17078367	-103.09309083	16.29	14.41	-0.08	-0.04
3784	1,975.53	32.17078038	-103.09308741	15.86	14.26	-0.08	-0.05
3785	1,976.05	32.17077761	-103.09308356	16.45	14.84	-0.08	-0.06
3786	1,976.57	32.17077527	-103.09307939	16.72	16.06	-0.07	-0.04
3787	1,977.09	32.17077336	-103.09307490	16.17	15.82	-0.10	-0.04
3788	1,977.61	32.17077169	-103.09307023	17.50	16.68	-0.07	-0.03
3789	1,978.14	32.17077072	-103.09306623	17.97	17.27	-0.08	-0.02
3790	1,978.66	32.17077002	-103.09306248	18.48	18.16	-0.08	-0.02
3791	1,979.18	32.17076966	-103.09305939	19.41	20.16	-0.08	-0.03
3792	1,979.70	32.17076937	-103.09305644	20.86	21.76	-0.08	-0.02
3793	1,980.22	32.17076895	-103.09305331	23.01	24.65	-0.08	-0.02
3794	1,980.73	32.17076853	-103.09305017	25.27	27.97	-0.08	-0.01
3795	1,981.26	32.17076779	-103.09304770	29.69	32.70	-0.08	-0.02
3796	1,981.79	32.17076706	-103.09304518	33.20	37.38	-0.08	-0.01
3797	1,982.31	32.17076662	-103.09304159	41.52	44.34	-0.09	0.00
3798	1,982.84	32.17076616	-103.09303818	51.80	54.18	-0.11	-0.01
3799	1,983.36	32.17076562	-103.09303572	67.70	67.07	-0.08	0.00
3800	1,983.88	32.17076506	-103.09303299	78.67	69.49	-0.06	0.05
3801	1,984.40	32.17076442	-103.09302940	86.37	67.03	-0.07	0.06
3802	1,984.92	32.17076404	-103.09302598	91.84	71.60	-0.06	0.07
3803	1,985.45	32.17076423	-103.09302295	88.01	79.02	-0.05	0.07
3804	1,985.97	32.17076380	-103.09302020	79.34	80.31	-0.06	0.07
3805	1,986.49	32.17076249	-103.09301786	77.93	81.72	-0.05	0.06
3806	1,987.01	32.17076188	-103.09301536	75.59	82.62	-0.06	0.06
3807	1,987.53	32.17076199	-103.09301268	78.24	84.34	-0.06	0.06
3808	1,988.06	32.17076139	-103.09301029	76.06	81.09	-0.05	0.06
3809	1,988.58	32.17076027	-103.09300812	71.52	76.64	-0.04	0.05
3810	1,989.10	32.17075934	-103.09300621	66.95	71.88	-0.04	0.04
3811	1,989.63	32.17075851	-103.09300443	61.37	65.86	-0.05	0.04
3812	1,990.15	32.17075917	-103.09300324	57.62	62.34	-0.07	0.03
3813	1,990.67	32.17076033	-103.09300225	52.11	57.66	-0.07	0.01
3814	1,991.19	32.17075976	-103.09299757	46.13	51.80	-0.09	-0.07
3815	1,991.72	32.17075884	-103.09299218	35.63	39.18	-0.08	-0.17
3816	1,992.24	32.17075861	-103.09299031	24.88	26.25	-0.03	-0.14
3817	1,992.76	32.17075844	-103.09298875	23.13	24.49	-0.06	-0.14
3818	1,993.28	32.17075734	-103.09298601	23.32	24.45	-0.07	-0.09
3819	1,993.80	32.17075622	-103.09298330	21.06	21.37	-0.08	-0.08
3820	1,994.33	32.17075491	-103.09298101	18.95	19.06	-0.08	-0.08
3821	1,994.86	32.17075366	-103.09297845	17.38	15.51	-0.07	-0.08
3822	1,995.37	32.17075283	-103.09297500	16.17	13.32	-0.07	-0.06
3823	1,995.89	32.17075198	-103.09297158	15.43	11.37	-0.06	-0.06
3824	1,996.41	32.17075109	-103.09296840	14.26	10.31	-0.07	-0.08
3825	1,996.94	32.17074952	-103.09296503	13.44	9.81	-0.08	-0.05
3826	1,997.46	32.17074665	-103.09296130	13.48	9.26	-0.08	-0.04
3827	1,997.98	32.17074368	-103.09295820	12.89	8.71	-0.08	-0.03
3828	1,998.50	32.17074059	-103.09295596	12.70	8.05	-0.08	-0.02
3829	1,999.03	32.17073683	-103.09295467	13.13	8.40	-0.08	-0.03
3830	1,999.55	32.17073246	-103.09295428	13.09	8.59	-0.08	-0.02
3831	2,000.07	32.17072922	-103.09295612	13.13	8.56	-0.08	-0.02
3832	2,000.59	32.17072673	-103.09295945	13.87	9.65	-0.08	-0.04
3833	2,001.11	32.17072524	-103.09296282	13.44	9.45	-0.08	-0.03
3834	2,001.64	32.17072421	-103.09296621	13.52	10.08	-0.08	-0.04
3835	2,002.16	32.17072320	-103.09296932	13.95	10.35	-0.07	-0.04

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3836	2,002.68	32.17072219	-103.09297235	14.73	11.72	-0.08	-0.02
3837	2,003.20	32.17072180	-103.09297500	16.37	13.05	-0.07	-0.01
3838	2,003.72	32.17072151	-103.09297758	17.54	14.88	-0.08	0.00
3839	2,004.25	32.17072085	-103.09298023	18.71	18.01	-0.08	0.01
3840	2,004.77	32.17072015	-103.09298286	20.74	20.12	-0.06	0.01
3841	2,005.29	32.17071885	-103.09298435	21.60	21.29	-0.06	0.02
3842	2,005.81	32.17071786	-103.09298581	21.99	22.11	-0.06	0.04
3843	2,006.34	32.17071927	-103.09298714	22.66	22.85	-0.06	0.01
3844	2,006.86	32.17072045	-103.09298880	26.06	25.94	-0.06	0.00
3845	2,007.38	32.17072067	-103.09299182	31.84	32.38	-0.06	0.02
3846	2,007.90	32.17072127	-103.09299452	40.16	38.95	-0.06	-0.05
3847	2,008.42	32.17072288	-103.09299634	52.19	45.43	-0.08	-0.23
3848	2,008.95	32.17072352	-103.09299810	58.09	47.85	-0.18	-0.44
3849	2,009.47	32.17072248	-103.09299973	67.19	54.77	-0.14	-0.23
3850	2,009.99	32.17072201	-103.09300193	62.15	68.98	-0.30	0.18
3851	2,010.51	32.17072226	-103.09300485	79.73	82.46	-0.14	0.26
3852	2,011.03	32.17072152	-103.09300710	84.41	82.19	-0.05	-0.57
3853	2,011.56	32.17071990	-103.09300876	87.31	93.95	-0.06	-0.28
3854	2,012.08	32.17071944	-103.09301085	91.60	104.45	-0.06	0.02
3855	2,012.60	32.17071970	-103.09301323	97.89	106.64	-0.04	0.06
3856	2,013.12	32.17071931	-103.09301427	101.76	105.00	-0.04	0.05
3857	2,013.65	32.17071865	-103.09301477	104.06	103.13	-0.04	0.05
3858	2,014.17	32.17071869	-103.09301479	106.48	104.22	-0.04	0.08
3859	2,014.69	32.17071892	-103.09301469	107.15	105.20	-0.04	0.07
3860	2,015.21	32.17071959	-103.09301465	105.35	104.65	-0.04	0.05
3861	2,015.74	32.17072034	-103.09301463	101.80	102.93	-0.05	0.06
3862	2,016.26	32.17072012	-103.09301488	100.39	100.55	-0.05	0.05
3863	2,016.78	32.17071988	-103.09301513	95.90	98.56	-0.06	0.04
3864	2,017.30	32.17072006	-103.09301509	90.86	97.97	-0.06	0.02
3865	2,017.82	32.17072000	-103.09301498	94.45	100.55	-0.06	0.04
3866	2,018.35	32.17071838	-103.09301448	98.63	101.29	-0.05	0.04
3867	2,018.87	32.17071684	-103.09301480	97.70	100.43	-0.06	0.05
3868	2,019.39	32.17071558	-103.09301810	101.21	98.67	-0.05	0.04
3869	2,019.92	32.17071430	-103.09302234	110.16	95.27	-0.05	0.04
3870	2,020.44	32.17071308	-103.09302844	92.58	84.69	-0.06	0.04
3871	2,020.96	32.17071183	-103.09303408	66.45	68.98	-0.06	-0.08
3872	2,021.48	32.17071057	-103.09303887	47.89	54.61	-0.05	-0.02
3873	2,022.00	32.17070927	-103.09304294	37.54	45.23	-0.05	0.03
3874	2,022.52	32.17070791	-103.09304621	30.43	36.48	-0.06	0.02
3875	2,023.05	32.17070787	-103.09304910	26.33	30.82	-0.04	0.01
3876	2,023.57	32.17070888	-103.09305166	23.40	27.42	-0.04	0.01
3877	2,024.09	32.17070990	-103.09305437	21.13	24.10	-0.06	0.01
3878	2,024.61	32.17071092	-103.09305717	19.30	23.20	-0.08	-0.02
3879	2,025.14	32.17071202	-103.09306113	19.73	21.52	-0.07	-0.02
3880	2,025.66	32.17071315	-103.09306553	18.91	19.81	-0.07	-0.01
3881	2,026.18	32.17071437	-103.09307056	17.62	18.59	-0.08	-0.01
3882	2,026.70	32.17071560	-103.09307574	17.46	17.42	-0.07	0.01
3883	2,027.22	32.17071459	-103.09308131	16.41	15.86	-0.08	-0.01
3884	2,027.73	32.17071331	-103.09308694	16.17	15.51	-0.08	-0.01
3885	2,028.26	32.17071003	-103.09309035	15.39	14.14	-0.08	-0.01
3886	2,028.79	32.17070662	-103.09309358	15.20	14.34	-0.08	-0.01
3887	2,029.31	32.17070258	-103.09309576	15.51	13.95	-0.08	0.01
3888	2,029.83	32.17069853	-103.09309783	15.82	14.14	-0.07	-0.01
3889	2,030.36	32.17069445	-103.09309930	16.02	14.49	-0.08	0.01
3890	2,030.88	32.17069034	-103.09310058	15.86	14.69	-0.07	0.01
3891	2,031.40	32.17068616	-103.09310124	15.70	14.73	-0.08	0.01
3892	2,031.92	32.17068228	-103.09310107	17.31	14.69	-0.06	0.04
3893	2,032.45	32.17067904	-103.09309917	17.07	15.47	-0.07	0.01
3894	2,032.97	32.17067560	-103.09309735	16.60	15.86	-0.08	0.01
3895	2,033.49	32.17067185	-103.09309565	18.36	17.19	-0.07	0.02
3896	2,034.01	32.17066859	-103.09309312	18.59	17.66	-0.07	0.02
3897	2,034.53	32.17066585	-103.09308974	18.56	18.63	-0.08	0.01
3898	2,035.06	32.17066490	-103.09308620	19.53	19.57	-0.07	0.01
3899	2,035.58	32.17066526	-103.09308252	19.84	20.08	-0.07	0.01
3900	2,036.10	32.17066545	-103.09307805	20.90	21.41	-0.06	0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3901	2,036.62	32.17066555	-103.09307317	21.64	21.99	-0.06	0.00
3902	2,037.15	32.17066584	-103.09306882	21.68	22.77	-0.07	0.00
3903	2,037.67	32.17066619	-103.09306465	21.68	23.63	-0.08	0.00
3904	2,038.19	32.17066673	-103.09306152	22.85	25.23	-0.06	0.00
3905	2,038.71	32.17066731	-103.09305861	22.85	25.63	-0.07	-0.01
3906	2,039.23	32.17066728	-103.09305599	22.97	25.31	-0.07	-0.01
3907	2,039.76	32.17066718	-103.09305340	24.22	26.68	-0.06	0.01
3908	2,040.28	32.17066767	-103.09305105	24.22	26.91	-0.05	0.05
3909	2,040.80	32.17066817	-103.09304872	25.04	28.48	-0.04	0.07
3910	2,041.32	32.17066882	-103.09304671	26.88	31.99	-0.02	0.14
3911	2,041.86	32.17066931	-103.09304510	27.66	32.89	-0.03	0.14
3912	2,042.37	32.17066911	-103.09304536	28.98	33.63	-0.04	0.12
3913	2,042.89	32.17066870	-103.09304507	31.29	37.15	-0.05	0.12
3914	2,043.41	32.17066772	-103.09304313	35.98	42.07	-0.05	0.12
3915	2,043.94	32.17066717	-103.09304151	37.85	43.98	-0.05	0.11
3916	2,044.46	32.17066745	-103.09304049	39.02	45.51	-0.05	0.10
3917	2,044.98	32.17066769	-103.09303913	41.95	48.05	-0.05	0.11
3918	2,045.50	32.17066786	-103.09303731	47.42	51.95	-0.05	0.09
3919	2,046.02	32.17066807	-103.09303545	60.94	62.46	-0.05	0.08
3920	2,046.55	32.17066831	-103.09303353	72.85	71.17	-0.06	0.05
3921	2,047.07	32.17066823	-103.09303197	84.22	77.15	-0.06	0.05
3922	2,047.59	32.17066792	-103.09303063	91.48	85.59	-0.06	0.04
3923	2,048.11	32.17066777	-103.09302939	97.77	93.40	-0.05	0.03
3924	2,048.63	32.17066769	-103.09302820	97.46	101.45	-0.05	0.04
3925	2,049.16	32.17066792	-103.09302655	97.19	105.51	-0.05	0.06
3926	2,049.68	32.17066825	-103.09302476	94.84	107.73	-0.04	0.07
3927	2,050.20	32.17066772	-103.09302347	95.20	110.74	-0.03	0.06
3928	2,050.72	32.17066705	-103.09302226	95.78	115.51	-0.04	0.07
3929	2,051.25	32.17066786	-103.09302086	95.63	116.48	-0.04	0.08
3930	2,051.77	32.17066874	-103.09301946	95.20	113.20	-0.04	0.10
3931	2,052.29	32.17066813	-103.09301858	97.54	110.66	-0.03	0.10
3932	2,052.81	32.17066756	-103.09301783	101.09	110.86	-0.02	0.10
3933	2,053.33	32.17066735	-103.09301803	102.50	111.48	-0.02	0.10
3934	2,053.86	32.17066723	-103.09301819	101.64	114.77	-0.01	0.12
3935	2,054.38	32.17066749	-103.09301814	99.22	118.95	-0.01	0.12
3936	2,054.90	32.17066773	-103.09301812	97.03	119.45	-0.01	0.13
3937	2,055.42	32.17066791	-103.09301813	95.16	117.34	-0.02	0.11
3938	2,055.95	32.17066793	-103.09301817	96.52	114.73	-0.02	0.12
3939	2,056.47	32.17066766	-103.09301823	98.98	110.86	-0.02	0.10
3940	2,056.99	32.17066756	-103.09301805	99.18	107.07	-0.02	0.08
3941	2,057.51	32.17066768	-103.09301756	93.05	106.09	-0.04	0.07
3942	2,058.03	32.17066800	-103.09301552	92.03	102.93	-0.04	0.05
3943	2,058.56	32.17066849	-103.09301212	86.02	93.13	-0.06	0.03
3944	2,059.08	32.17066852	-103.09300871	75.86	73.98	-0.06	0.04
3945	2,059.60	32.17066825	-103.09300530	73.91	63.24	-0.06	0.02
3946	2,060.12	32.17066705	-103.09300132	69.06	62.66	-0.06	0.03
3947	2,060.65	32.17066545	-103.09299708	61.95	66.09	-0.06	0.00
3948	2,061.17	32.17066381	-103.09299386	50.86	61.41	-0.04	-0.01
3949	2,061.69	32.17066216	-103.09299092	38.48	48.32	-0.03	0.03
3950	2,062.21	32.17066099	-103.09299081	34.18	42.73	-0.05	0.00
3951	2,062.73	32.17065990	-103.09299111	30.78	39.02	-0.06	-0.01
3952	2,063.26	32.17065745	-103.09298769	30.47	36.91	-0.04	0.02
3953	2,063.78	32.17065499	-103.09298426	26.56	30.82	-0.03	0.03
3954	2,064.30	32.17065398	-103.09298445	23.59	26.88	-0.04	0.05
3955	2,064.82	32.17065322	-103.09298416	22.93	25.98	-0.06	0.03
3956	2,065.34	32.17065423	-103.09298052	21.33	22.77	-0.04	0.02
3957	2,065.87	32.17065472	-103.09297756	19.22	19.18	-0.02	0.06
3958	2,066.39	32.17065331	-103.09297717	17.15	16.33	-0.02	0.06
3959	2,066.92	32.17065238	-103.09297627	15.35	15.78	-0.06	0.05
3960	2,067.43	32.17065258	-103.09297429	16.13	14.61	-0.06	0.02
3961	2,067.96	32.17065303	-103.09297150	16.48	14.10	-0.06	-0.01
3962	2,068.48	32.17065389	-103.09296749	16.37	12.93	-0.07	-0.04
3963	2,069.00	32.17065436	-103.09296314	15.82	13.28	-0.07	-0.04
3964	2,069.52	32.17065439	-103.09295842	15.31	12.50	-0.08	-0.04
3965	2,070.04	32.17065430	-103.09295368	15.43	12.38	-0.07	-0.04

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
3966	2,070.57	32.17065411	-103.09294892	14.88	11.48	-0.08	-0.04
3967	2,071.09	32.17065267	-103.09294439	14.53	11.06	-0.08	-0.09
3968	2,071.61	32.17065051	-103.09293998	14.92	10.78	-0.07	-0.08
3969	2,072.13	32.17064758	-103.09293725	14.53	10.20	-0.08	-0.08
3970	2,072.66	32.17064434	-103.09293516	14.57	9.81	-0.08	-0.08
3971	2,073.18	32.17064022	-103.09293357	14.77	9.73	-0.08	-0.06
3972	2,073.70	32.17063589	-103.09293209	14.18	10.16	-0.08	-0.04
3973	2,074.22	32.17063173	-103.09293286	14.69	10.66	-0.08	-0.05
3974	2,074.73	32.17062758	-103.09293390	14.45	11.06	-0.08	-0.04
3975	2,075.26	32.17062448	-103.09293705	14.73	10.90	-0.09	-0.06
3976	2,075.79	32.17062142	-103.09294034	15.31	11.68	-0.08	-0.05
3977	2,076.31	32.17061802	-103.09294425	15.35	11.84	-0.08	-0.07
3978	2,076.83	32.17061492	-103.09294818	15.04	11.52	-0.09	-0.08
3979	2,077.36	32.17061357	-103.09295222	16.09	12.38	-0.08	-0.06
3980	2,077.88	32.17061259	-103.09295607	15.59	12.50	-0.08	-0.04
3981	2,078.40	32.17061287	-103.09295933	16.56	13.83	-0.08	-0.03
3982	2,078.92	32.17061333	-103.09296250	17.50	15.51	-0.08	0.00
3983	2,079.44	32.17061418	-103.09296548	18.01	16.33	-0.09	-0.02
3984	2,079.97	32.17061432	-103.09296829	19.77	18.87	-0.07	0.00
3985	2,080.49	32.17061343	-103.09297083	20.12	19.22	-0.08	-0.01
3986	2,081.01	32.17061349	-103.09297310	20.20	20.51	-0.08	-0.04
3987	2,081.53	32.17061455	-103.09297511	22.07	21.99	-0.07	-0.03
3988	2,082.06	32.17061459	-103.09297706	23.95	25.00	-0.07	0.03
3989	2,082.58	32.17061386	-103.09297896	24.77	25.47	-0.06	0.02
3990	2,083.10	32.17061385	-103.09298174	28.13	29.41	-0.07	-0.02
3991	2,083.62	32.17061421	-103.09298497	31.91	36.06	-0.06	-0.02
3992	2,084.15	32.17061512	-103.09298830	39.34	44.41	-0.07	-0.02
3993	2,084.67	32.17061621	-103.09299166	54.77	57.66	-0.08	-0.05
3994	2,085.19	32.17061607	-103.09299412	74.96	63.40	-0.07	-0.03
3995	2,085.71	32.17061566	-103.09299639	87.23	58.87	-0.07	-0.01
3996	2,086.23	32.17061643	-103.09299840	94.34	55.12	-0.07	0.01
3997	2,086.76	32.17061730	-103.09300037	103.48	55.86	-0.06	0.06
3998	2,087.28	32.17061652	-103.09300283	106.95	66.52	-0.06	0.06
3999	2,087.80	32.17061589	-103.09300529	103.24	80.23	-0.06	0.03
4000	2,088.32	32.17061692	-103.09300779	99.57	99.14	-0.06	0.05
4001	2,088.86	32.17061764	-103.09301032	92.62	106.80	-0.06	0.04
4002	2,089.37	32.17061696	-103.09301248	89.45	104.88	-0.07	0.04
4003	2,089.89	32.17061662	-103.09301466	89.84	102.54	-0.06	0.04
4004	2,090.41	32.17061730	-103.09301668	93.67	103.32	-0.04	0.06
4005	2,090.93	32.17061724	-103.09301894	95.47	103.32	-0.04	0.05
4006	2,091.46	32.17061572	-103.09302168	89.49	98.91	-0.06	0.03
4007	2,091.98	32.17061491	-103.09302599	76.13	90.23	-0.08	-0.03
4008	2,092.50	32.17061506	-103.09303243	53.28	63.24	-0.07	-0.20
4009	2,093.02	32.17061503	-103.09303692	38.95	46.91	-0.05	-0.10
4010	2,093.54	32.17061482	-103.09303951	31.95	38.20	-0.05	-0.05
4011	2,094.07	32.17061443	-103.09304144	29.49	34.49	-0.05	-0.09
4012	2,094.59	32.17061391	-103.09304290	28.28	32.38	-0.05	-0.05
4013	2,095.11	32.17061419	-103.09304476	25.74	29.14	-0.05	-0.04
4014	2,095.63	32.17061484	-103.09304679	23.59	26.95	-0.06	-0.04
4015	2,096.16	32.17061474	-103.09304958	22.07	25.43	-0.07	-0.04
4016	2,096.68	32.17061441	-103.09305259	20.86	23.05	-0.07	-0.04
4017	2,097.20	32.17061384	-103.09305611	20.20	21.17	-0.06	-0.05
4018	2,097.72	32.17061323	-103.09305972	18.87	19.81	-0.07	-0.05
4019	2,098.25	32.17061188	-103.09306411	17.85	18.95	-0.08	-0.07
4020	2,098.77	32.17061045	-103.09306852	17.70	17.81	-0.08	-0.04
4021	2,099.29	32.17060771	-103.09307106	16.80	17.54	-0.08	-0.05
4022	2,099.81	32.17060490	-103.09307350	16.68	17.15	-0.09	-0.04
4023	2,100.33	32.17060156	-103.09307516	17.54	17.73	-0.07	-0.03
4024	2,100.86	32.17059809	-103.09307657	17.62	18.01	-0.07	-0.01
4025	2,101.38	32.17059408	-103.09307697	16.48	17.97	-0.10	-0.03
4026	2,101.90	32.17059063	-103.09307635	17.89	18.28	-0.07	-0.02
4027	2,102.42	32.17058867	-103.09307308	18.40	17.93	-0.07	-0.02
4028	2,102.94	32.17058672	-103.09306972	18.09	19.10	-0.09	-0.04
4029	2,103.47	32.17058478	-103.09306619	20.27	21.37	-0.07	-0.03
4030	2,103.99	32.17058299	-103.09306274	20.98	22.07	-0.07	-0.02

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4031	2,104.51	32.17058138	-103.09305939	21.29	23.40	-0.08	-0.03
4032	2,105.03	32.17058126	-103.09305657	22.66	25.51	-0.07	-0.01
4033	2,105.56	32.17058244	-103.09305421	22.62	26.80	-0.08	-0.01
4034	2,106.08	32.17058306	-103.09305226	21.80	27.19	-0.08	-0.01
4035	2,106.60	32.17058333	-103.09305056	25.08	29.30	-0.07	0.02
4036	2,107.12	32.17058415	-103.09304877	27.58	30.27	-0.06	0.05
4037	2,107.65	32.17058521	-103.09304693	28.16	30.70	-0.05	0.04
4038	2,108.17	32.17058456	-103.09304507	30.66	35.47	-0.05	0.03
4039	2,108.69	32.17058345	-103.09304322	34.02	38.48	-0.06	0.04
4040	2,109.21	32.17058123	-103.09304047	37.93	43.63	-0.06	0.04
4041	2,109.73	32.17057885	-103.09303760	49.57	53.98	-0.06	0.00
4042	2,110.26	32.17057953	-103.09303432	59.14	65.66	-0.06	-0.02
4043	2,110.78	32.17058029	-103.09303096	63.63	71.76	-0.07	-0.04
4044	2,111.30	32.17057965	-103.09302612	77.89	85.12	-0.08	-0.03
4045	2,111.82	32.17057896	-103.09302147	85.55	97.11	-0.08	0.00
4046	2,112.34	32.17057795	-103.09301822	86.02	102.77	-0.07	0.02
4047	2,112.87	32.17057728	-103.09301511	90.12	103.20	-0.06	0.02
4048	2,113.39	32.17057787	-103.09301252	93.32	98.05	-0.06	0.03
4049	2,113.91	32.17057789	-103.09301013	90.12	86.99	-0.07	0.01
4050	2,114.43	32.17057657	-103.09300820	90.86	75.70	-0.05	0.05
4051	2,114.96	32.17057589	-103.09300601	92.42	67.42	-0.04	0.06
4052	2,115.48	32.17057624	-103.09300342	92.97	67.27	-0.05	0.05
4053	2,116.00	32.17057601	-103.09300083	83.83	67.77	-0.05	0.03
4054	2,116.52	32.17057510	-103.09299823	73.48	66.84	-0.04	0.02
4055	2,117.04	32.17057464	-103.09299490	60.27	62.11	-0.07	-0.01
4056	2,117.57	32.17057454	-103.09299096	49.14	55.90	-0.06	-0.02
4057	2,118.09	32.17057501	-103.09298796	40.16	47.62	-0.05	-0.03
4058	2,118.61	32.17057580	-103.09298547	34.26	41.48	-0.08	-0.05
4059	2,119.13	32.17057615	-103.09298174	29.77	35.08	-0.08	-0.03
4060	2,119.65	32.17057633	-103.09297752	26.37	27.27	-0.04	-0.04
4061	2,120.18	32.17057534	-103.09297541	21.91	23.63	-0.06	-0.03
4062	2,120.70	32.17057406	-103.09297382	19.65	19.69	-0.08	-0.03
4063	2,121.22	32.17057304	-103.09297139	18.83	15.78	-0.06	-0.06
4064	2,121.73	32.17057205	-103.09296887	17.42	14.10	-0.07	-0.06
4065	2,122.26	32.17057168	-103.09296524	16.72	12.73	-0.07	-0.06
4066	2,122.79	32.17057132	-103.09296160	16.52	12.54	-0.07	-0.06
4067	2,123.31	32.17057058	-103.09295854	15.39	11.56	-0.07	-0.11
4068	2,123.83	32.17056953	-103.09295565	14.81	11.52	-0.07	-0.06
4069	2,124.35	32.17056666	-103.09295373	14.81	11.80	-0.08	-0.04
4070	2,124.88	32.17056385	-103.09295183	15.16	11.33	-0.07	-0.03
4071	2,125.40	32.17056122	-103.09295001	14.53	10.70	-0.08	-0.02
4072	2,125.92	32.17055828	-103.09294861	14.10	9.88	-0.08	-0.06
4073	2,126.44	32.17055467	-103.09294815	14.26	9.41	-0.07	-0.08
4074	2,126.97	32.17055101	-103.09294836	13.98	10.04	-0.07	-0.08
4075	2,127.49	32.17054725	-103.09294959	13.83	9.45	-0.09	-0.09
4076	2,128.01	32.17054400	-103.09295057	13.98	9.73	-0.07	-0.05
4077	2,128.53	32.17054127	-103.09295130	14.73	9.81	-0.07	-0.04
4078	2,129.06	32.17053961	-103.09295358	14.65	9.96	-0.08	-0.07
4079	2,129.58	32.17053876	-103.09295703	15.63	10.70	-0.08	-0.05
4080	2,130.10	32.17053786	-103.09295999	16.02	12.50	-0.08	-0.05
4081	2,130.62	32.17053693	-103.09296269	16.99	13.32	-0.08	-0.04
4082	2,131.14	32.17053563	-103.09296537	18.79	14.69	-0.07	-0.03
4083	2,131.67	32.17053419	-103.09296805	19.22	16.48	-0.07	-0.02
4084	2,132.19	32.17053382	-103.09297068	20.31	17.77	-0.08	-0.04
4085	2,132.71	32.17053368	-103.09297331	21.95	20.70	-0.07	-0.04
4086	2,133.23	32.17053324	-103.09297374	21.21	20.20	-0.07	0.00
4087	2,133.74	32.17053278	-103.09297396	21.52	20.16	-0.07	-0.01
4088	2,134.27	32.17053525	-103.09297837	22.62	21.88	-0.07	0.01
4089	2,134.80	32.17053776	-103.09298267	26.95	25.98	-0.06	0.00
4090	2,135.32	32.17053985	-103.09298443	36.09	34.41	-0.07	-0.03
4091	2,135.85	32.17054168	-103.09298649	47.42	44.10	-0.07	-0.06
4092	2,136.37	32.17054210	-103.09298960	62.58	60.78	-0.08	-0.03
4093	2,136.89	32.17054218	-103.09299284	80.43	68.32	-0.07	-0.02
4094	2,137.41	32.17054123	-103.09299628	92.89	62.50	-0.07	0.01
4095	2,137.93	32.17054086	-103.09299955	93.67	63.95	-0.07	0.00

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4096	2,138.46	32.17054165	-103.09300246	95.94	77.31	-0.05	0.01
4097	2,138.98	32.17054151	-103.09300519	92.38	93.79	-0.05	0.03
4098	2,139.50	32.17054011	-103.09300768	85.82	97.54	-0.06	0.03
4099	2,140.02	32.17053945	-103.09301110	81.88	99.84	-0.06	0.03
4100	2,140.54	32.17053954	-103.09301541	83.91	97.38	-0.04	0.04
4101	2,141.07	32.17053969	-103.09301962	83.56	89.73	-0.07	0.03
4102	2,141.59	32.17053990	-103.09302377	88.32	84.41	-0.07	0.04
4103	2,142.11	32.17054067	-103.09302793	87.23	77.70	-0.06	0.02
4104	2,142.63	32.17054171	-103.09303209	68.52	67.23	-0.08	-0.04
4105	2,143.15	32.17054249	-103.09303637	46.84	50.35	-0.06	-0.14
4106	2,143.68	32.17054319	-103.09304071	35.31	40.16	-0.04	-0.06
4107	2,144.20	32.17054440	-103.09304316	30.39	35.35	-0.06	-0.03
4108	2,144.72	32.17054571	-103.09304527	27.34	31.02	-0.07	-0.04
4109	2,145.24	32.17054667	-103.09304783	25.23	28.56	-0.05	-0.04
4110	2,145.76	32.17054758	-103.09305044	22.23	25.51	-0.07	-0.03
4111	2,146.29	32.17054720	-103.09305405	21.09	22.70	-0.07	-0.06
4112	2,146.81	32.17054660	-103.09305756	19.57	21.25	-0.07	-0.03
4113	2,147.33	32.17054419	-103.09306003	19.02	20.82	-0.08	-0.01
4114	2,147.85	32.17054172	-103.09306281	18.20	19.34	-0.08	-0.02
4115	2,148.38	32.17053891	-103.09306694	17.93	19.06	-0.08	-0.01
4116	2,148.90	32.17053593	-103.09307086	17.27	17.77	-0.08	-0.02
4117	2,149.42	32.17053250	-103.09307420	16.48	17.07	-0.09	-0.04
4118	2,149.94	32.17052878	-103.09307673	16.99	16.29	-0.08	-0.03
4119	2,150.47	32.17052456	-103.09307780	17.19	16.37	-0.07	-0.02
4120	2,150.99	32.17052028	-103.09307824	16.68	15.70	-0.09	-0.02
4121	2,151.51	32.17051591	-103.09307789	17.15	15.59	-0.07	0.02
4122	2,152.03	32.17051205	-103.09307649	16.99	15.47	-0.08	-0.01
4123	2,152.55	32.17050866	-103.09307417	17.31	15.98	-0.08	-0.01
4124	2,153.08	32.17050665	-103.09307090	17.70	15.98	-0.08	-0.01
4125	2,153.60	32.17050552	-103.09306704	17.81	16.64	-0.08	-0.04
4126	2,154.12	32.17050388	-103.09306412	17.03	17.19	-0.09	-0.06
4127	2,154.64	32.17050202	-103.09306158	18.24	18.05	-0.08	-0.03
4128	2,155.17	32.17049949	-103.09305969	18.56	18.20	-0.08	-0.02
4129	2,155.69	32.17049679	-103.09305799	17.93	18.09	-0.09	-0.02
4130	2,156.21	32.17049554	-103.09305637	19.10	19.22	-0.08	0.00
4131	2,156.73	32.17049452	-103.09305477	18.59	19.18	-0.08	0.00
4132	2,157.25	32.17049347	-103.09305390	20.98	20.70	-0.07	0.02
4133	2,157.78	32.17049242	-103.09305302	22.62	23.67	-0.05	0.05
4134	2,158.30	32.17049153	-103.09305087	23.05	24.38	-0.03	0.08
4135	2,158.82	32.17049091	-103.09304883	22.46	22.73	-0.04	0.02
4136	2,159.34	32.17049217	-103.09304755	22.70	21.68	-0.04	0.02
4137	2,159.87	32.17049283	-103.09304656	22.50	22.42	-0.04	0.02
4138	2,162.48	32.17049536	-103.09304125	24.14	24.45	-0.05	0.10
4139	2,163.00	32.17049535	-103.09304052	25.82	29.53	-0.02	0.20
4140	2,163.52	32.17049201	-103.09304019	29.34	34.14	0.02	0.24
4141	2,164.04	32.17048970	-103.09303787	40.51	41.13	-0.04	0.06
4142	2,164.57	32.17048824	-103.09303392	51.41	42.03	-0.07	0.02
4143	2,165.09	32.17048706	-103.09302945	58.28	62.93	-0.08	-0.01
4144	2,165.61	32.17048604	-103.09302469	65.90	91.37	-0.08	0.00
4145	2,166.13	32.17048475	-103.09302055	73.16	101.17	-0.06	0.00
4146	2,166.65	32.17048334	-103.09301665	80.51	99.57	-0.05	0.00
4147	2,167.18	32.17048096	-103.09301286	84.96	79.84	-0.07	0.01
4148	2,167.70	32.17047836	-103.09300912	103.56	61.95	-0.06	0.01
4149	2,168.22	32.17047636	-103.09300460	117.54	74.96	-0.08	-0.01
4150	2,168.73	32.17047443	-103.09299998	104.53	92.54	-0.08	-0.01
4151	2,169.26	32.17047375	-103.09299546	81.60	78.40	-0.06	-0.03
4152	2,169.79	32.17047304	-103.09299110	54.38	56.06	-0.07	-0.08
4153	2,170.31	32.17047092	-103.09298892	38.09	39.92	-0.07	-0.09
4154	2,170.83	32.17046879	-103.09298686	28.91	30.39	-0.06	-0.07
4155	2,171.35	32.17046670	-103.09298554	24.73	25.63	-0.08	-0.06
4156	2,171.88	32.17046448	-103.09298391	22.11	22.23	-0.06	-0.04
4157	2,172.40	32.17046187	-103.09298127	22.03	20.39	-0.06	-0.01
4158	2,172.92	32.17045946	-103.09297901	19.57	17.70	-0.08	-0.05
4159	2,173.44	32.17045752	-103.09297759	17.97	15.55	-0.08	-0.05
4160	2,173.97	32.17045528	-103.09297626	15.94	13.83	-0.09	-0.04

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4161	2,174.49	32.17045259	-103.09297508	15.12	12.38	-0.08	-0.09
4162	2,175.01	32.17044957	-103.09297342	15.04	11.68	-0.07	-0.10
4163	2,175.53	32.17044618	-103.09297127	15.39	12.03	-0.08	-0.07
4164	2,176.05	32.17044282	-103.09296980	14.18	11.06	-0.08	-0.08
4165	2,176.58	32.17043949	-103.09296885	14.61	10.35	-0.07	-0.09
4166	2,177.10	32.17043639	-103.09296886	14.06	10.66	-0.08	-0.07
4167	2,177.62	32.17043342	-103.09296936	14.10	10.63	-0.08	-0.06
4168	2,178.14	32.17043029	-103.09297118	15.20	11.45	-0.08	-0.06
4169	2,178.67	32.17042709	-103.09297348	15.98	12.77	-0.08	-0.03
4170	2,179.19	32.17042579	-103.09297692	17.66	14.88	-0.08	-0.05
4171	2,179.71	32.17042487	-103.09298061	19.41	17.42	-0.08	-0.03
4172	2,180.23	32.17042546	-103.09298383	21.17	20.55	-0.08	-0.04
4173	2,180.74	32.17042619	-103.09298700	24.02	24.18	-0.07	-0.01
4174	2,181.27	32.17042720	-103.09299013	26.41	27.11	-0.08	0.01
4175	2,181.80	32.17042816	-103.09299336	33.75	33.98	-0.07	-0.01
4176	2,182.32	32.17042847	-103.09299786	41.21	42.03	-0.07	-0.02
4177	2,182.86	32.17042868	-103.09300253	60.16	59.84	-0.08	-0.02
4178	2,183.37	32.17042840	-103.09300718	76.21	63.59	-0.08	-0.02
4179	2,183.89	32.17042838	-103.09301196	74.26	65.82	-0.07	0.00
4180	2,184.41	32.17042914	-103.09301678	69.96	73.28	-0.08	-0.05
4181	2,184.93	32.17042934	-103.09302108	70.90	79.53	-0.06	-0.03
4182	2,185.45	32.17042845	-103.09302438	70.55	90.23	-0.07	-0.01
4183	2,185.98	32.17042812	-103.09302842	69.34	93.01	-0.08	-0.04
4184	2,186.50	32.17042855	-103.09303349	72.81	88.36	-0.08	-0.04
4185	2,187.02	32.17042938	-103.09303946	75.55	76.95	-0.08	-0.02
4186	2,187.54	32.17043061	-103.09304631	66.48	62.97	-0.08	-0.03
4187	2,188.07	32.17043155	-103.09305235	45.55	49.14	-0.04	-0.09
4188	2,188.59	32.17043231	-103.09305786	33.36	37.15	0.03	0.00
4189	2,189.11	32.17043315	-103.09305893	25.59	28.20	0.01	0.10
4190	2,189.63	32.17043404	-103.09305785	22.46	24.38	-0.01	0.08
4191	2,190.15	32.17043395	-103.09305967	22.27	22.73	0.00	0.07
4192	2,190.68	32.17043356	-103.09306241	21.60	22.46	-0.03	0.08
4193	2,191.20	32.17043362	-103.09306411	20.04	19.81	-0.05	0.07
4194	2,191.72	32.17043376	-103.09306563	19.14	18.71	-0.07	0.01
4195	2,192.24	32.17043475	-103.09306815	17.77	17.54	-0.08	-0.07
4196	2,192.77	32.17043577	-103.09307077	17.93	17.23	-0.08	-0.06
4197	2,193.29	32.17043543	-103.09307520	16.99	15.98	-0.08	-0.07
4198	2,193.81	32.17043506	-103.09307963	16.25	14.81	-0.08	-0.06
4199	2,194.33	32.17043433	-103.09308401	15.66	14.34	-0.07	-0.05
4200	2,194.86	32.17043373	-103.09308848	15.31	13.83	-0.07	-0.04
4201	2,195.38	32.17043371	-103.09309320	15.16	13.24	-0.07	-0.03
4202	2,195.90	32.17043366	-103.09309777	14.81	12.62	-0.06	-0.03
4203	2,196.42	32.17043357	-103.09310187	14.02	11.60	-0.07	-0.03
4204	2,196.94	32.17043338	-103.09310588	13.48	10.63	-0.08	-0.01
4205	2,197.46	32.17043300	-103.09310972	13.75	10.08	-0.07	-0.03
4206	2,197.99	32.17043186	-103.09311383	13.05	9.61	-0.08	-0.04
4207	2,198.51	32.17042976	-103.09311829	13.01	9.18	-0.09	-0.05
4208	2,199.03	32.17042681	-103.09312067	13.95	9.69	-0.07	-0.01
4209	2,199.55	32.17042313	-103.09312124	13.75	9.69	-0.08	-0.02
4210	2,200.07	32.17041923	-103.09312030	13.01	10.16	-0.10	-0.03
4211	2,200.60	32.17041520	-103.09311839	14.77	11.68	-0.07	-0.01
4212	2,201.12	32.17041207	-103.09311531	14.88	11.88	-0.08	-0.04
4213	2,201.64	32.17040934	-103.09311172	14.88	12.77	-0.09	-0.08
4214	2,202.16	32.17040659	-103.09310861	16.29	12.93	-0.06	-0.06
4215	2,202.69	32.17040383	-103.09310563	15.98	13.95	-0.06	-0.05
4216	2,203.21	32.17039998	-103.09310372	16.33	15.00	-0.06	-0.02
4217	2,203.73	32.17039596	-103.09310198	16.45	14.96	-0.05	0.01
4218	2,204.25	32.17039280	-103.09310082	16.41	14.84	-0.07	-0.01
4219	2,204.77	32.17038969	-103.09309965	16.99	14.61	-0.06	-0.01
4220	2,205.30	32.17038687	-103.09309740	17.31	15.66	-0.07	0.00
4221	2,205.82	32.17038411	-103.09309511	18.83	17.93	-0.07	0.01
4222	2,206.34	32.17038166	-103.09309244	20.39	20.82	-0.06	0.01
4223	2,206.86	32.17037949	-103.09308997	21.17	22.66	-0.07	0.00
4224	2,207.39	32.17037842	-103.09308828	22.15	24.49	-0.07	0.02
4225	2,207.92	32.17037733	-103.09308637	21.91	25.04	-0.08	0.00

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4226	2,208.43	32.17037629	-103.09308411	25.31	27.19	-0.07	-0.01
4227	2,208.95	32.17037566	-103.09308083	29.30	31.33	-0.07	-0.05
4228	2,209.47	32.17037573	-103.09307593	36.37	31.52	-0.08	-0.06
4229	2,210.00	32.17037614	-103.09307169	39.41	33.87	-0.06	-0.03
4230	2,210.52	32.17037696	-103.09306825	39.49	40.20	-0.06	-0.02
4231	2,211.04	32.17037660	-103.09306505	39.84	47.27	-0.05	0.01
4232	2,211.56	32.17037528	-103.09306202	39.41	50.82	-0.03	0.01
4233	2,212.09	32.17037433	-103.09305880	38.56	51.33	-0.03	0.02
4234	2,212.61	32.17037360	-103.09305548	36.88	48.28	-0.05	0.00
4235	2,213.13	32.17037264	-103.09305191	38.79	48.71	-0.04	0.01
4236	2,213.65	32.17037160	-103.09304825	39.81	50.20	-0.04	0.01
4237	2,214.17	32.17036965	-103.09304483	41.41	51.45	-0.05	-0.01
4238	2,214.70	32.17036748	-103.09304147	44.22	53.01	-0.04	-0.02
4239	2,215.22	32.17036595	-103.09303697	46.88	52.07	-0.06	-0.04
4240	2,215.73	32.17036453	-103.09303241	48.98	46.52	-0.06	-0.02
4241	2,216.26	32.17036320	-103.09302827	48.75	45.12	-0.06	-0.05
4242	2,216.79	32.17036183	-103.09302423	39.57	40.59	-0.07	-0.07
4243	2,217.31	32.17035991	-103.09302175	35.94	37.66	-0.06	-0.04
4244	2,217.83	32.17035799	-103.09301923	29.77	31.88	-0.07	-0.06
4245	2,218.35	32.17035613	-103.09301653	24.41	25.55	-0.07	-0.09
4246	2,218.88	32.17035418	-103.09301397	23.63	22.93	-0.05	-0.10
4247	2,219.40	32.17035193	-103.09301195	20.98	21.60	-0.08	-0.07
4248	2,219.92	32.17034947	-103.09301019	19.92	19.10	-0.07	-0.07
4249	2,220.44	32.17034655	-103.09300900	19.10	17.42	-0.06	-0.05
4250	2,220.96	32.17034344	-103.09300774	17.77	15.90	-0.07	-0.06
4251	2,221.49	32.17034002	-103.09300634	16.02	13.48	-0.06	-0.06
4252	2,222.01	32.17033672	-103.09300569	15.16	12.19	-0.07	-0.08
4253	2,222.53	32.17033353	-103.09300583	13.20	12.46	-0.10	-0.09
4254	2,223.05	32.17033020	-103.09300672	14.18	12.19	-0.07	-0.09
4255	2,223.58	32.17032675	-103.09300817	14.77	11.52	-0.07	-0.08
4256	2,224.10	32.17032468	-103.09300986	14.30	12.31	-0.07	-0.08
4257	2,224.62	32.17032334	-103.09301169	14.57	12.66	-0.07	-0.08
4258	2,225.14	32.17032145	-103.09301419	14.92	13.01	-0.08	-0.06
4259	2,225.66	32.17031938	-103.09301695	15.35	13.40	-0.08	-0.08
4260	2,226.19	32.17031881	-103.09302051	16.52	15.51	-0.07	-0.07
4261	2,226.71	32.17031855	-103.09302426	16.95	15.27	-0.07	-0.06
4262	2,227.23	32.17031954	-103.09302706	18.44	17.38	-0.07	-0.06
4263	2,227.74	32.17032065	-103.09302977	19.73	19.38	-0.08	-0.02
4264	2,228.27	32.17032240	-103.09303211	21.80	21.25	-0.08	-0.04
4265	2,228.80	32.17032415	-103.09303452	26.45	25.04	-0.08	-0.02
4266	2,229.32	32.17032582	-103.09303779	30.51	30.66	-0.08	-0.01
4267	2,229.84	32.17032738	-103.09304110	32.70	34.49	-0.08	-0.07
4268	2,230.36	32.17032829	-103.09304451	35.74	38.20	-0.08	-0.06
4269	2,230.89	32.17032935	-103.09304779	43.63	45.35	-0.07	-0.02
4270	2,231.41	32.17033085	-103.09305066	49.34	51.80	-0.08	-0.04
4271	2,231.93	32.17033220	-103.09305357	55.04	57.58	-0.07	-0.01
4272	2,232.45	32.17033325	-103.09305654	57.03	62.23	-0.07	0.01
4273	2,232.98	32.17033419	-103.09305912	58.40	62.70	-0.06	0.00
4274	2,233.50	32.17033500	-103.09306115	57.50	61.56	-0.06	0.02
4275	2,234.02	32.17033573	-103.09306309	57.81	62.46	-0.07	0.03
4276	2,234.54	32.17033638	-103.09306492	58.40	61.17	-0.08	0.02
4277	2,235.06	32.17033747	-103.09306625	64.10	64.34	-0.06	0.02
4278	2,235.59	32.17033888	-103.09306722	68.28	71.09	-0.07	0.03
4279	2,236.11	32.17033891	-103.09306881	71.64	74.30	-0.09	0.01
4280	2,236.63	32.17033828	-103.09307071	72.77	73.63	-0.11	-0.02
4281	2,237.15	32.17033950	-103.09307271	72.93	74.57	-0.12	-0.02
4282	2,237.67	32.17034130	-103.09307475	80.00	76.48	-0.09	0.03
4283	2,238.20	32.17034124	-103.09307768	83.56	76.41	-0.09	0.07
4284	2,238.72	32.17034082	-103.09308078	76.52	72.73	-0.08	0.01
4285	2,239.24	32.17034227	-103.09308382	81.72	71.25	-0.05	0.01
4286	2,239.76	32.17034388	-103.09308684	76.91	62.19	-0.05	-0.01
4287	2,240.29	32.17034708	-103.09308940	60.00	46.95	-0.07	-0.03
4288	2,240.81	32.17034999	-103.09309199	48.56	44.10	-0.08	-0.08
4289	2,241.33	32.17035024	-103.09309494	33.75	36.13	-0.06	-0.11
4290	2,241.86	32.17035090	-103.09309748	25.94	29.49	-0.05	-0.13

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4291	2,242.38	32.17035329	-103.09309821	26.80	30.35	-0.07	-0.11
4292	2,242.90	32.17035541	-103.09309901	25.78	30.04	-0.07	-0.10
4293	2,243.42	32.17035674	-103.09310000	21.76	25.20	-0.07	-0.08
4294	2,243.94	32.17035806	-103.09310126	21.06	22.34	-0.04	-0.03
4295	2,244.46	32.17035933	-103.09310297	19.34	18.79	-0.04	-0.02
4296	2,244.99	32.17036051	-103.09310531	17.11	15.47	-0.06	-0.03
4297	2,245.51	32.17036156	-103.09310845	15.59	13.83	-0.07	-0.02
4298	2,246.03	32.17036310	-103.09311206	14.84	13.13	-0.08	-0.05
4299	2,246.55	32.17036509	-103.09311609	15.08	13.24	-0.07	-0.06
4300	2,247.08	32.17036704	-103.09312055	14.41	12.19	-0.08	-0.05
4301	2,247.60	32.17036897	-103.09312528	14.41	11.13	-0.07	-0.05
4302	2,248.12	32.17036851	-103.09312988	14.81	11.37	-0.07	-0.04
4303	2,248.64	32.17036699	-103.09313441	14.49	10.59	-0.07	-0.03
4304	2,249.16	32.17036433	-103.09313891	14.38	11.41	-0.07	-0.03
4305	2,249.69	32.17036135	-103.09314341	14.41	11.41	-0.08	-0.02
4306	2,250.21	32.17035791	-103.09314657	14.06	11.64	-0.09	-0.03
4307	2,250.73	32.17035438	-103.09314953	14.88	11.37	-0.08	-0.04
4308	2,251.25	32.17035054	-103.09314874	15.04	11.99	-0.08	-0.04
4309	2,251.78	32.17034671	-103.09314769	15.59	14.10	-0.09	-0.04
4310	2,252.30	32.17034356	-103.09314500	17.66	15.59	-0.07	-0.05
4311	2,252.82	32.17034044	-103.09314242	17.70	15.59	-0.08	-0.07
4312	2,253.34	32.17033761	-103.09314065	17.77	16.37	-0.08	-0.08
4313	2,253.86	32.17033519	-103.09313854	18.20	16.64	-0.08	-0.04
4314	2,254.39	32.17033436	-103.09313512	18.20	16.56	-0.08	-0.03
4315	2,254.92	32.17033364	-103.09313197	18.52	16.48	-0.07	-0.04
4316	2,255.43	32.17033322	-103.09312968	19.22	18.24	-0.07	-0.03
4317	2,255.95	32.17033226	-103.09312836	18.32	17.31	-0.07	-0.03
4318	2,256.47	32.17033042	-103.09312874	19.53	17.77	-0.06	0.01
4319	2,257.00	32.17032907	-103.09312782	21.25	20.39	-0.04	0.07
4320	2,257.52	32.17032831	-103.09312538	22.85	22.19	-0.02	0.14
4321	2,258.04	32.17032649	-103.09312406	25.04	25.12	-0.02	0.09
4322	2,258.56	32.17032379	-103.09312367	31.09	34.65	-0.04	-0.01
4323	2,259.09	32.17032043	-103.09312262	41.48	47.70	-0.07	-0.02
4324	2,259.61	32.17031667	-103.09312118	43.52	43.44	-0.08	0.00
4325	2,260.13	32.17031353	-103.09311898	45.63	41.99	-0.06	0.03
4326	2,260.65	32.17031062	-103.09311647	43.44	50.27	-0.06	0.01
4327	2,261.17	32.17030767	-103.09311530	41.17	56.95	-0.04	0.00
4328	2,261.70	32.17030470	-103.09311446	39.10	56.99	-0.05	-0.02
4329	2,262.22	32.17030192	-103.09311388	37.11	53.91	-0.05	-0.03
4330	2,262.73	32.17029917	-103.09311332	37.31	53.48	-0.04	-0.02
4331	2,263.26	32.17029658	-103.09311235	38.71	53.67	-0.04	-0.03
4332	2,263.78	32.17029401	-103.09311144	39.22	53.67	-0.05	-0.03
4333	2,264.31	32.17029186	-103.09311187	39.22	52.89	-0.06	-0.02
4334	2,264.83	32.17028980	-103.09311201	37.66	49.92	-0.06	-0.03
4335	2,265.35	32.17028830	-103.09311042	39.53	49.77	-0.06	-0.02
4336	2,265.88	32.17028657	-103.09310933	38.79	46.60	-0.06	-0.01
4337	2,266.40	32.17028400	-103.09310989	42.66	45.47	-0.06	-0.01
4338	2,266.92	32.17028118	-103.09311027	44.96	43.01	-0.05	0.02
4339	2,267.44	32.17027778	-103.09311022	41.21	39.65	-0.07	0.00
4340	2,267.96	32.17027472	-103.09311010	39.69	37.89	-0.06	-0.03
4341	2,268.49	32.17027218	-103.09310988	35.55	35.70	-0.06	-0.02
4342	2,269.01	32.17026969	-103.09311022	30.47	31.68	-0.07	-0.05
4343	2,269.53	32.17026727	-103.09311116	27.23	28.79	-0.07	-0.07
4344	2,270.05	32.17026476	-103.09311145	25.35	27.70	-0.07	-0.06
4345	2,270.58	32.17026217	-103.09311123	22.38	23.28	-0.07	-0.09
4346	2,271.10	32.17025938	-103.09311158	21.37	22.03	-0.06	-0.09
4347	2,271.62	32.17025649	-103.09311223	20.08	19.61	-0.07	-0.09
4348	2,272.14	32.17025446	-103.09311159	18.36	17.11	-0.07	-0.13
4349	2,272.66	32.17025275	-103.09311049	17.07	13.87	-0.05	-0.14
4350	2,273.19	32.17025123	-103.09310771	15.98	13.05	-0.07	-0.11
4351	2,273.71	32.17024977	-103.09310459	15.55	12.15	-0.06	-0.12
4352	2,274.23	32.17024793	-103.09310213	15.47	11.64	-0.05	-0.11
4353	2,274.75	32.17024605	-103.09309974	14.26	10.98	-0.07	-0.11
4354	2,275.27	32.17024358	-103.09309866	13.98	10.12	-0.07	-0.12
4355	2,275.80	32.17024100	-103.09309769	13.79	9.61	-0.07	-0.11

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4356	2,276.32	32.17023734	-103.09309783	13.36	9.81	-0.07	-0.10
4357	2,276.84	32.17023400	-103.09309864	13.16	8.52	-0.07	-0.11
4358	2,277.36	32.17023237	-103.09310297	13.79	9.73	-0.07	-0.10
4359	2,277.88	32.17023106	-103.09310736	13.52	10.23	-0.07	-0.08
4360	2,278.41	32.17023075	-103.09311191	12.89	9.77	-0.07	-0.08
4361	2,278.93	32.17022996	-103.09311607	13.95	9.81	-0.07	-0.08
4362	2,279.45	32.17022820	-103.09311940	13.40	10.78	-0.07	-0.07
4363	2,279.97	32.17022739	-103.09312277	13.48	10.31	-0.08	-0.10
4364	2,280.50	32.17022791	-103.09312618	14.61	11.21	-0.07	-0.09
4365	2,281.02	32.17022882	-103.09312904	14.73	11.72	-0.08	-0.08
4366	2,281.54	32.17023013	-103.09313136	14.65	12.31	-0.08	-0.08
4367	2,282.06	32.17023136	-103.09313375	16.29	13.63	-0.06	-0.08
4368	2,282.59	32.17023254	-103.09313617	16.33	14.73	-0.07	-0.06
4369	2,283.11	32.17023450	-103.09313740	16.91	15.66	-0.07	-0.09
4370	2,283.63	32.17023684	-103.09313804	17.46	16.64	-0.07	-0.08
4371	2,284.15	32.17023945	-103.09313852	18.98	18.28	-0.07	-0.09
4372	2,284.67	32.17024215	-103.09313895	20.70	20.82	-0.07	-0.10
4373	2,285.20	32.17024538	-103.09313941	22.50	24.34	-0.08	-0.08
4374	2,285.72	32.17024871	-103.09313989	24.92	27.62	-0.08	-0.08
4375	2,286.24	32.17025124	-103.09314201	29.53	32.03	-0.08	-0.07
4376	2,286.76	32.17025368	-103.09314427	37.07	37.15	-0.07	-0.03
4377	2,287.28	32.17025516	-103.09314667	41.68	40.00	-0.07	0.00
4378	2,287.81	32.17025672	-103.09314890	41.76	40.74	-0.07	0.01
4379	2,288.33	32.17025905	-103.09314967	41.72	42.19	-0.07	0.02
4380	2,288.85	32.17026113	-103.09315081	42.89	45.51	-0.06	0.01
4381	2,289.37	32.17026203	-103.09315352	42.77	49.96	-0.06	0.01
4382	2,289.89	32.17026348	-103.09315598	41.95	52.50	-0.06	-0.01
4383	2,290.42	32.17026644	-103.09315770	41.95	54.65	-0.05	-0.01
4384	2,290.94	32.17026905	-103.09316003	41.45	51.91	-0.05	-0.03
4385	2,291.46	32.17027100	-103.09316348	39.38	46.29	-0.07	-0.02
4386	2,291.99	32.17027361	-103.09316647	41.84	41.25	-0.07	-0.01
4387	2,292.51	32.17027705	-103.09316886	43.75	41.41	-0.07	-0.02
4388	2,293.03	32.17028082	-103.09317128	38.52	41.13	-0.08	-0.08
4389	2,293.55	32.17028492	-103.09317376	30.04	29.22	-0.06	-0.24
4390	2,294.07	32.17028788	-103.09317556	25.82	23.01	-0.04	-0.16
4391	2,294.60	32.17029013	-103.09317693	21.99	19.22	-0.04	-0.09
4392	2,295.12	32.17029164	-103.09317936	19.77	17.54	-0.08	-0.08
4393	2,295.64	32.17029284	-103.09318227	18.83	17.31	-0.08	-0.08
4394	2,296.16	32.17029526	-103.09318567	17.34	15.78	-0.09	-0.11
4395	2,296.69	32.17029804	-103.09318922	17.03	15.35	-0.09	-0.07
4396	2,297.21	32.17029997	-103.09319378	15.94	15.08	-0.09	-0.06
4397	2,297.73	32.17030177	-103.09319849	15.78	14.53	-0.09	-0.10
4398	2,298.25	32.17030238	-103.09320323	15.74	13.56	-0.08	-0.06
4399	2,298.77	32.17030291	-103.09320799	14.96	12.38	-0.09	-0.08
4400	2,299.30	32.17030303	-103.09321370	15.78	11.99	-0.08	-0.07
4401	2,299.82	32.17030300	-103.09321938	14.77	11.60	-0.08	-0.06
4402	2,300.34	32.17030184	-103.09322496	15.12	11.76	-0.08	-0.05
4403	2,300.86	32.17030002	-103.09322979	15.66	12.03	-0.08	-0.05
4404	2,301.38	32.17029558	-103.09323168	15.98	12.38	-0.08	-0.09
4405	2,301.91	32.17029109	-103.09323292	16.45	13.83	-0.08	-0.08
4406	2,302.43	32.17028661	-103.09323255	16.64	14.18	-0.08	-0.08
4407	2,302.95	32.17028249	-103.09323227	16.56	13.71	-0.08	-0.11
4408	2,303.47	32.17027899	-103.09323216	16.95	14.06	-0.07	-0.08
4409	2,303.99	32.17027626	-103.09323144	16.95	14.61	-0.08	-0.06
4410	2,304.52	32.17027446	-103.09322999	16.60	14.22	-0.07	-0.07
4411	2,305.04	32.17027244	-103.09322856	17.70	15.23	-0.07	-0.08
4412	2,305.56	32.17027026	-103.09322716	18.28	17.07	-0.06	0.02
4413	2,306.08	32.17026881	-103.09322705	19.30	17.66	-0.05	0.08
4414	2,306.61	32.17026781	-103.09322772	20.04	18.75	-0.04	0.08
4415	2,307.13	32.17026590	-103.09322821	21.09	19.26	-0.02	0.13
4416	2,307.65	32.17026361	-103.09322862	24.38	21.95	-0.02	0.14
4417	2,308.17	32.17026017	-103.09322873	30.27	30.74	-0.01	0.01
4418	2,308.69	32.17025645	-103.09322877	40.90	47.31	-0.06	-0.02
4419	2,309.21	32.17025188	-103.09322844	52.31	58.36	-0.09	-0.05
4420	2,309.73	32.17024722	-103.09322806	63.09	62.97	-0.07	-0.04

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4421	2,310.26	32.17024273	-103.09322743	65.04	70.39	-0.07	-0.02
4422	2,310.78	32.17023821	-103.09322678	66.95	76.41	-0.06	-0.01
4423	2,311.31	32.17023296	-103.09322608	63.75	74.45	-0.06	-0.02
4424	2,311.83	32.17022772	-103.09322565	55.55	65.59	-0.08	-0.06
4425	2,312.35	32.17022246	-103.09322684	44.34	52.73	-0.09	-0.06
4426	2,312.87	32.17021790	-103.09322783	34.41	40.66	-0.07	-0.14
4427	2,313.39	32.17021579	-103.09322815	29.06	32.89	-0.06	-0.12
4428	2,313.92	32.17021381	-103.09322853	25.35	27.42	-0.07	-0.14
4429	2,314.44	32.17021214	-103.09322902	25.12	26.52	-0.07	-0.13
4430	2,314.96	32.17021040	-103.09322892	23.59	25.04	-0.06	-0.06
4431	2,315.48	32.17020857	-103.09322792	21.13	22.70	-0.08	-0.04
4432	2,316.01	32.17020596	-103.09322799	20.27	20.55	-0.08	-0.09
4433	2,316.53	32.17020251	-103.09322922	18.98	17.97	-0.07	-0.09
4434	2,317.05	32.17019963	-103.09323074	16.80	15.59	-0.08	-0.09
4435	2,317.57	32.17019720	-103.09323249	16.72	15.08	-0.06	-0.08
4436	2,318.10	32.17019484	-103.09323488	16.02	14.49	-0.07	-0.08
4437	2,318.62	32.17019253	-103.09323760	15.27	13.40	-0.07	-0.11
4438	2,319.14	32.17019084	-103.09324182	16.29	13.63	-0.06	-0.08
4439	2,319.66	32.17018938	-103.09324657	16.60	14.18	-0.05	-0.05
4440	2,320.18	32.17018977	-103.09325110	16.37	11.84	-0.07	-0.23
4441	2,320.71	32.17019057	-103.09325560	16.91	13.67	-0.07	-0.14
4442	2,321.23	32.17019155	-103.09325923	16.48	15.39	-0.08	-0.05
4443	2,321.74	32.17019255	-103.09326279	16.76	15.55	-0.08	-0.07
4444	2,322.27	32.17019376	-103.09326644	18.71	17.23	-0.07	-0.05
4445	2,322.80	32.17019509	-103.09326979	18.48	18.01	-0.08	-0.06
4446	2,323.32	32.17019766	-103.09326948	19.14	18.75	-0.08	-0.08
4447	2,323.84	32.17020025	-103.09326929	20.82	20.55	-0.08	-0.07
4448	2,324.36	32.17020289	-103.09326970	22.42	24.14	-0.06	-0.04
4449	2,324.88	32.17020579	-103.09327033	26.09	27.77	-0.07	-0.09
4450	2,325.41	32.17020945	-103.09327159	32.62	35.04	-0.08	-0.06
4451	2,325.93	32.17021319	-103.09327273	39.69	43.63	-0.10	-0.04
4452	2,326.45	32.17021709	-103.09327365	43.13	48.95	-0.08	-0.05
4453	2,326.97	32.17022064	-103.09327428	51.29	56.17	-0.08	0.00
4454	2,327.49	32.17022368	-103.09327451	55.59	59.22	-0.07	0.00
4455	2,328.02	32.17022683	-103.09327545	57.34	60.86	-0.06	0.01
4456	2,328.54	32.17023010	-103.09327710	53.59	58.63	-0.07	-0.03
4457	2,329.06	32.17023362	-103.09327847	54.30	60.55	-0.07	-0.02
4458	2,329.58	32.17023732	-103.09327964	52.46	59.81	-0.07	0.00
4459	2,330.11	32.17024041	-103.09327938	43.05	50.63	-0.07	-0.03
4460	2,330.63	32.17024320	-103.09327841	41.21	46.91	-0.06	-0.04
4461	2,331.15	32.17024682	-103.09327923	34.30	38.75	-0.07	-0.16
4462	2,331.67	32.17025072	-103.09328063	29.84	30.23	-0.02	-0.39
4463	2,332.20	32.17025103	-103.09328001	24.30	22.15	-0.03	-0.34
4464	2,332.72	32.17025066	-103.09327900	21.60	21.25	-0.05	-0.15
4465	2,333.24	32.17025321	-103.09327996	21.13	21.64	-0.08	-0.08
4466	2,333.76	32.17025600	-103.09328108	20.98	20.08	-0.07	-0.10
4467	2,334.28	32.17025910	-103.09328257	19.45	19.45	-0.07	-0.10
4468	2,334.81	32.17026217	-103.09328425	18.63	19.14	-0.08	-0.06
4469	2,335.33	32.17026503	-103.09328769	18.87	18.09	-0.06	-0.08
4470	2,335.86	32.17026781	-103.09329140	17.70	17.62	-0.09	-0.07
4471	2,336.37	32.17026987	-103.09329570	17.58	17.07	-0.08	-0.04
4472	2,336.90	32.17027210	-103.09330006	17.11	16.64	-0.09	-0.05
4473	2,337.42	32.17027470	-103.09330429	17.54	16.91	-0.08	-0.02
4474	2,337.94	32.17027676	-103.09330870	17.62	16.72	-0.08	-0.02
4475	2,338.46	32.17027779	-103.09331345	17.11	16.64	-0.09	-0.01
4476	2,338.98	32.17027755	-103.09331772	18.16	16.84	-0.07	-0.01
4477	2,339.51	32.17027567	-103.09332133	17.93	17.50	-0.07	0.00
4478	2,340.03	32.17027289	-103.09332470	17.97	17.58	-0.08	-0.01
4479	2,340.55	32.17026929	-103.09332782	19.14	18.05	-0.07	-0.01
4480	2,341.07	32.17026585	-103.09332961	18.71	18.59	-0.08	-0.03
4481	2,341.59	32.17026253	-103.09333053	18.98	20.23	-0.08	-0.03
4482	2,342.12	32.17025913	-103.09333135	20.70	21.88	-0.07	-0.01
4483	2,342.64	32.17025569	-103.09333214	21.68	23.13	-0.08	0.02
4484	2,343.16	32.17025264	-103.09333315	23.36	26.48	-0.07	0.04
4485	2,343.68	32.17024971	-103.09333423	25.20	27.93	-0.06	0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4486	2,344.21	32.17024638	-103.09333436	26.37	29.92	-0.07	0.00
4487	2,344.73	32.17024299	-103.09333434	28.95	33.32	-0.08	-0.01
4488	2,345.25	32.17023909	-103.09333328	33.24	38.52	-0.08	-0.04
4489	2,345.77	32.17023519	-103.09333218	40.27	46.25	-0.09	-0.05
4490	2,346.30	32.17023142	-103.09333151	43.32	52.93	-0.08	-0.05
4491	2,346.82	32.17022763	-103.09333098	42.54	55.00	-0.07	-0.05
4492	2,347.34	32.17022372	-103.09333156	44.73	55.78	-0.07	-0.03
4493	2,347.86	32.17021995	-103.09333209	44.92	56.13	-0.07	-0.03
4494	2,348.38	32.17021664	-103.09333243	44.14	57.42	-0.07	-0.02
4495	2,348.91	32.17021297	-103.09333221	45.12	58.79	-0.08	-0.02
4496	2,349.43	32.17020836	-103.09333061	44.96	54.02	-0.09	-0.06
4497	2,349.95	32.17020399	-103.09332904	36.91	41.17	-0.07	-0.25
4498	2,350.47	32.17020003	-103.09332755	28.71	30.51	-0.02	-0.26
4499	2,350.99	32.17019698	-103.09332706	26.02	27.46	-0.03	-0.11
4500	2,351.52	32.17019503	-103.09332776	24.81	26.52	-0.08	-0.06
4501	2,352.04	32.17019270	-103.09332835	23.32	23.71	-0.06	-0.08
4502	2,352.56	32.17019004	-103.09332884	21.48	21.64	-0.06	-0.10
4503	2,353.08	32.17018695	-103.09332960	19.77	20.70	-0.06	-0.08
4504	2,353.60	32.17018359	-103.09333053	17.89	17.73	-0.07	-0.14
4505	2,354.13	32.17018036	-103.09333226	18.05	17.62	-0.07	-0.14
4506	2,354.65	32.17017720	-103.09333432	17.34	17.34	-0.07	-0.10
4507	2,355.17	32.17017576	-103.09333782	17.15	16.95	-0.07	-0.14
4508	2,355.69	32.17017475	-103.09334170	17.73	17.15	-0.07	-0.12
4509	2,356.21	32.17017547	-103.09334697	18.36	17.46	-0.06	-0.11
4510	2,356.73	32.17017643	-103.09335244	18.63	18.28	-0.08	-0.14
4511	2,357.26	32.17017727	-103.09335656	19.69	19.69	-0.07	-0.10
4512	2,357.78	32.17017818	-103.09336061	18.95	19.34	-0.07	-0.08
4513	2,358.31	32.17018044	-103.09336444	20.86	19.81	-0.07	-0.12
4514	2,358.83	32.17018269	-103.09336809	22.07	22.54	-0.07	-0.09
4515	2,359.35	32.17018491	-103.09337055	21.88	23.44	-0.06	-0.11
4516	2,359.87	32.17018698	-103.09337299	24.26	26.68	-0.07	-0.06
4517	2,360.39	32.17018854	-103.09337537	26.72	30.04	-0.08	-0.06
4518	2,360.92	32.17019045	-103.09337757	30.12	34.34	-0.08	-0.08
4519	2,361.44	32.17019309	-103.09337932	32.73	38.79	-0.07	-0.06
4520	2,361.96	32.17019603	-103.09338039	39.96	45.39	-0.08	-0.06
4521	2,362.48	32.17019945	-103.09338041	47.03	51.99	-0.08	-0.04
4522	2,363.01	32.17020300	-103.09338056	53.05	60.86	-0.08	-0.01
4523	2,363.53	32.17020673	-103.09338088	54.88	66.99	-0.09	0.01
4524	2,364.05	32.17020996	-103.09338173	55.63	67.07	-0.06	0.01
4525	2,364.57	32.17021281	-103.09338299	53.95	66.60	-0.06	0.03
4526	2,365.09	32.17021520	-103.09338313	52.73	66.13	-0.07	0.04
4527	2,365.62	32.17021733	-103.09338265	57.62	68.20	-0.05	0.06
4528	2,366.14	32.17021789	-103.09338241	58.67	68.79	-0.05	0.06
4529	2,366.66	32.17021787	-103.09338227	60.39	69.14	-0.05	0.05
4530	2,367.18	32.17021824	-103.09338214	60.98	69.81	-0.05	0.05
4531	2,367.71	32.17021868	-103.09338200	60.08	68.91	-0.05	0.05
4532	2,368.23	32.17022110	-103.09338376	56.45	65.59	-0.06	0.02
4533	2,368.74	32.17022373	-103.09338571	51.02	59.81	-0.06	-0.02
4534	2,369.27	32.17022730	-103.09338697	46.48	57.11	-0.07	-0.05
4535	2,369.79	32.17023095	-103.09338826	36.99	44.45	-0.07	-0.19
4536	2,370.32	32.17023525	-103.09339023	32.38	34.96	-0.03	-0.16
4537	2,370.84	32.17023892	-103.09339216	27.27	28.71	-0.03	-0.17
4538	2,371.36	32.17023926	-103.09339384	24.45	26.41	-0.06	-0.12
4539	2,371.88	32.17024041	-103.09339569	22.93	24.61	-0.06	-0.16
4540	2,372.41	32.17024409	-103.09339810	22.23	24.30	-0.07	-0.14
4541	2,372.93	32.17024739	-103.09340037	20.70	23.05	-0.08	-0.11
4542	2,373.45	32.17024997	-103.09340235	19.53	20.08	-0.06	-0.13
4543	2,373.97	32.17025234	-103.09340463	18.91	17.97	-0.07	-0.13
4544	2,374.50	32.17025442	-103.09340735	17.73	16.91	-0.06	-0.12
4545	2,375.02	32.17025711	-103.09341078	16.76	15.23	-0.07	-0.13
4546	2,375.54	32.17026042	-103.09341493	16.68	15.12	-0.07	-0.14
4547	2,376.06	32.17026298	-103.09341944	15.59	13.79	-0.07	-0.17
4548	2,376.58	32.17026500	-103.09342422	15.35	13.91	-0.08	-0.13
4549	2,377.11	32.17026447	-103.09342816	15.74	14.92	-0.08	-0.12
4550	2,377.63	32.17026265	-103.09343167	16.80	15.82	-0.07	-0.10

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4551	2,378.15	32.17026012	-103.09343318	18.09	18.56	-0.07	-0.03
4552	2,378.67	32.17025736	-103.09343404	18.67	19.30	-0.07	-0.01
4553	2,379.19	32.17025463	-103.09343524	18.95	20.08	-0.07	-0.04
4554	2,379.71	32.17025192	-103.09343650	20.74	21.91	-0.06	-0.02
4555	2,380.23	32.17024914	-103.09343699	21.06	24.06	-0.08	-0.04
4556	2,380.76	32.17024635	-103.09343741	22.42	24.30	-0.08	-0.06
4557	2,381.28	32.17024325	-103.09343771	24.22	27.46	-0.07	-0.04
4558	2,381.81	32.17024018	-103.09343814	26.68	31.99	-0.07	-0.06
4559	2,382.33	32.17023741	-103.09343970	32.54	38.44	-0.08	-0.05
4560	2,382.86	32.17023469	-103.09344112	39.53	46.06	-0.08	-0.05
4561	2,383.37	32.17023244	-103.09344178	46.06	55.78	-0.07	-0.01
4562	2,383.89	32.17023020	-103.09344218	52.62	64.38	-0.07	0.03
4563	2,384.42	32.17022810	-103.09344178	55.59	66.09	-0.07	0.02
4564	2,384.94	32.17022604	-103.09344204	56.99	66.25	-0.07	0.01
4565	2,385.46	32.17022405	-103.09344350	60.04	68.36	-0.06	0.04
4566	2,385.98	32.17022178	-103.09344406	62.73	72.34	-0.06	0.06
4567	2,386.51	32.17021918	-103.09344345	62.73	72.73	-0.06	0.05
4568	2,387.03	32.17021706	-103.09344389	62.11	74.38	-0.06	0.05
4569	2,387.55	32.17021539	-103.09344531	61.45	75.47	-0.06	0.03
4570	2,388.07	32.17021373	-103.09344549	61.99	74.22	-0.06	0.04
4571	2,388.59	32.17021209	-103.09344486	58.59	70.51	-0.08	0.04
4572	2,389.12	32.17021036	-103.09344542	58.75	68.63	-0.07	0.03
4573	2,389.64	32.17020858	-103.09344652	57.97	66.88	-0.06	0.02
4574	2,390.16	32.17020512	-103.09344790	51.84	60.59	-0.07	-0.03
4575	2,390.68	32.17020118	-103.09344937	41.33	49.84	-0.07	-0.12
4576	2,391.21	32.17019732	-103.09344928	33.09	37.46	-0.04	-0.22
4577	2,391.73	32.17019348	-103.09344895	27.77	30.35	-0.03	-0.22
4578	2,392.25	32.17019029	-103.09344921	22.66	23.16	-0.05	-0.20
4579	2,392.77	32.17018716	-103.09344955	19.41	19.45	-0.06	-0.15
4580	2,393.29	32.17018489	-103.09345081	18.16	17.46	-0.05	-0.16
4581	2,393.81	32.17018259	-103.09345222	17.31	16.21	-0.06	-0.15
4582	2,394.34	32.17018008	-103.09345482	16.68	15.82	-0.06	-0.14
4583	2,394.86	32.17017767	-103.09345766	16.76	14.65	-0.07	-0.11
4584	2,395.38	32.17017564	-103.09346147	16.84	15.59	-0.07	-0.09
4585	2,395.90	32.17017460	-103.09346544	16.33	15.27	-0.08	-0.10
4586	2,396.43	32.17017609	-103.09346980	16.76	14.88	-0.08	-0.09
4587	2,396.95	32.17017790	-103.09347362	16.64	15.51	-0.08	-0.04
4588	2,397.47	32.17018024	-103.09347647	17.07	16.64	-0.09	-0.06
4589	2,398.00	32.17018227	-103.09347894	17.73	16.64	-0.08	-0.05
4590	2,398.52	32.17018395	-103.09348097	17.77	18.05	-0.09	-0.06
4591	2,399.04	32.17018623	-103.09348246	19.18	18.95	-0.08	-0.06
4592	2,399.56	32.17018904	-103.09348350	21.99	21.76	-0.07	-0.05
4593	2,400.08	32.17019164	-103.09348403	24.30	25.47	-0.07	-0.09
4594	2,400.61	32.17019413	-103.09348427	28.09	30.74	-0.07	-0.09
4595	2,401.13	32.17019770	-103.09348457	34.14	38.71	-0.08	-0.08
4596	2,401.65	32.17020171	-103.09348489	40.70	47.50	-0.08	-0.08
4597	2,402.17	32.17020503	-103.09348611	47.93	56.84	-0.08	-0.05
4598	2,402.69	32.17020818	-103.09348756	53.98	65.23	-0.08	-0.01
4599	2,403.21	32.17021055	-103.09348851	60.66	71.13	-0.07	0.01
4600	2,403.73	32.17021281	-103.09348939	62.31	77.19	-0.08	0.04
4601	2,404.26	32.17021473	-103.09348887	63.05	77.62	-0.08	0.05
4602	2,404.78	32.17021659	-103.09348834	66.88	79.65	-0.05	0.05
4603	2,405.30	32.17021742	-103.09348877	67.70	81.06	-0.04	0.07
4604	2,405.83	32.17021855	-103.09348920	67.23	79.69	-0.05	0.06
4605	2,406.35	32.17022156	-103.09348966	59.88	71.41	-0.07	0.00
4606	2,406.87	32.17022472	-103.09348996	54.38	66.37	-0.06	-0.02
4607	2,407.39	32.17022844	-103.09348968	44.49	56.33	-0.08	-0.09
4608	2,407.92	32.17023197	-103.09348894	33.91	42.38	-0.06	-0.20
4609	2,408.44	32.17023498	-103.09348712	28.28	33.44	-0.05	-0.20
4610	2,408.96	32.17023815	-103.09348617	24.88	26.95	-0.06	-0.24
4611	2,409.48	32.17024154	-103.09348656	23.01	23.52	-0.05	-0.20
4612	2,410.00	32.17024455	-103.09348798	21.45	21.72	-0.07	-0.14
4613	2,410.53	32.17024715	-103.09349052	20.98	20.90	-0.07	-0.13
4614	2,411.05	32.17024979	-103.09349393	19.69	19.92	-0.09	-0.11
4615	2,411.57	32.17025247	-103.09349800	18.67	18.75	-0.09	-0.07

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4616	2,412.09	32.17025418	-103.09350272	18.44	18.67	-0.09	-0.09
4617	2,412.61	32.17025535	-103.09350779	18.83	18.91	-0.08	-0.10
4618	2,413.14	32.17025599	-103.09351363	18.36	18.32	-0.07	-0.11
4619	2,413.66	32.17025641	-103.09351977	18.01	18.13	-0.08	-0.11
4620	2,414.18	32.17025587	-103.09352435	18.09	18.13	-0.08	-0.08
4621	2,414.70	32.17025510	-103.09352859	17.85	18.56	-0.08	-0.07
4622	2,415.23	32.17025397	-103.09353158	18.83	20.00	-0.08	-0.06
4623	2,415.74	32.17025280	-103.09353443	19.57	20.86	-0.08	-0.06
4624	2,416.27	32.17024964	-103.09353651	20.78	22.66	-0.08	-0.04
4625	2,416.79	32.17024642	-103.09353841	23.01	25.90	-0.09	-0.07
4626	2,417.32	32.17024287	-103.09353824	24.77	30.00	-0.09	-0.05
4627	2,417.84	32.17023940	-103.09353798	28.71	35.90	-0.08	-0.05
4628	2,418.36	32.17023627	-103.09353724	36.02	43.44	-0.08	-0.05
4629	2,418.88	32.17023303	-103.09353683	42.46	50.86	-0.09	-0.03
4630	2,419.40	32.17022944	-103.09353749	48.98	60.43	-0.08	-0.01
4631	2,419.93	32.17022583	-103.09353799	56.09	67.38	-0.08	0.02
4632	2,420.45	32.17022222	-103.09353815	58.09	71.41	-0.07	0.03
4633	2,420.97	32.17021853	-103.09353847	59.77	73.44	-0.07	0.02
4634	2,421.49	32.17021475	-103.09353902	59.49	72.93	-0.07	0.04
4635	2,422.02	32.17021105	-103.09353954	53.16	64.49	-0.08	0.02
4636	2,422.54	32.17020744	-103.09354004	49.92	57.73	-0.07	0.01
4637	2,423.06	32.17020436	-103.09354031	44.14	52.19	-0.09	0.01
4638	2,423.58	32.17020169	-103.09354043	34.65	40.51	-0.08	-0.13
4639	2,424.11	32.17019829	-103.09354050	30.74	31.09	0.07	-0.50
4640	2,424.63	32.17019452	-103.09354056	25.55	24.26	0.16	-0.31
4641	2,425.15	32.17019120	-103.09354144	21.88	20.59	0.02	-0.26
4642	2,425.67	32.17018801	-103.09354260	19.38	18.91	-0.02	-0.20
4643	2,426.19	32.17018586	-103.09354453	18.01	15.20	-0.03	-0.16
4644	2,426.72	32.17018391	-103.09354662	16.88	15.59	-0.06	-0.12
4645	2,427.24	32.17018087	-103.09354853	16.64	14.41	-0.07	-0.13
4646	2,427.76	32.17017773	-103.09355041	16.09	14.38	-0.07	-0.12
4647	2,428.28	32.17017393	-103.09355256	15.55	13.95	-0.08	-0.08
4648	2,428.80	32.17017040	-103.09355504	15.27	13.63	-0.08	-0.10
4649	2,429.33	32.17016976	-103.09356062	16.06	13.32	-0.07	-0.09
4650	2,429.86	32.17016970	-103.09356592	15.90	14.06	-0.07	-0.08
4651	2,430.37	32.17017210	-103.09356962	15.70	13.98	-0.08	-0.11
4652	2,430.89	32.17017447	-103.09357300	16.45	14.61	-0.08	-0.07
4653	2,431.42	32.17017661	-103.09357532	17.11	15.47	-0.08	-0.06
4654	2,431.94	32.17017842	-103.09357698	17.15	16.48	-0.06	-0.03
4655	2,432.46	32.17017961	-103.09357740	16.41	16.80	-0.06	-0.01
4656	2,432.98	32.17018021	-103.09357768	16.64	16.68	-0.06	-0.01
4657	2,433.50	32.17018004	-103.09357777	16.72	16.52	-0.05	0.00
4658	2,434.03	32.17018073	-103.09357927	17.62	17.70	-0.07	-0.02
4659	2,434.55	32.17018222	-103.09358212	17.85	16.95	-0.06	-0.05
4660	2,435.07	32.17018446	-103.09358380	17.19	17.11	-0.08	-0.10
4661	2,435.59	32.17018720	-103.09358472	19.02	19.65	-0.07	-0.05
4662	2,436.12	32.17018936	-103.09358671	19.65	21.09	-0.07	-0.06
4663	2,436.64	32.17019126	-103.09358920	20.31	21.88	-0.06	-0.03
4664	2,437.16	32.17019330	-103.09359005	23.16	25.04	-0.07	-0.03
4665	2,437.68	32.17019539	-103.09359040	26.91	30.90	-0.08	-0.01
4666	2,438.20	32.17019850	-103.09359144	31.41	36.56	-0.08	-0.01
4667	2,438.73	32.17020178	-103.09359259	37.85	44.22	-0.08	-0.03
4668	2,439.25	32.17020541	-103.09359441	44.18	51.13	-0.08	0.00
4669	2,439.77	32.17020904	-103.09359624	46.84	56.60	-0.07	0.03
4670	2,440.29	32.17021224	-103.09359694	48.95	59.53	-0.06	0.05
4671	2,440.82	32.17021551	-103.09359751	49.65	62.62	-0.07	0.02
4672	2,441.34	32.17021933	-103.09359705	49.10	63.05	-0.07	0.02
4673	2,441.86	32.17022324	-103.09359657	46.95	60.43	-0.07	0.03
4674	2,442.38	32.17022755	-103.09359598	39.92	51.13	-0.09	-0.02
4675	2,442.90	32.17023157	-103.09359574	31.95	34.57	-0.05	-0.20
4676	2,443.43	32.17023483	-103.09359639	26.64	27.46	-0.04	-0.13
4677	2,443.95	32.17023779	-103.09359700	23.28	23.83	-0.04	-0.08
4678	2,444.47	32.17024026	-103.09359755	22.70	21.76	-0.05	-0.15
4679	2,444.99	32.17024253	-103.09359918	21.02	20.23	-0.06	-0.16
4680	2,445.51	32.17024458	-103.09360213	20.00	17.77	-0.05	-0.15

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4681	2,446.04	32.17024675	-103.09360526	18.67	16.76	-0.07	-0.14
4682	2,446.56	32.17024901	-103.09360855	18.28	15.43	-0.06	-0.15
4683	2,447.08	32.17025118	-103.09361258	16.60	14.88	-0.08	-0.14
4684	2,447.60	32.17025328	-103.09361704	15.43	14.18	-0.09	-0.10
4685	2,448.13	32.17025454	-103.09362148	15.86	14.26	-0.09	-0.10
4686	2,448.65	32.17025545	-103.09362591	16.13	15.27	-0.08	-0.08
4687	2,449.17	32.17025582	-103.09363079	16.02	14.96	-0.09	-0.08
4688	2,449.69	32.17025603	-103.09363578	16.33	15.23	-0.09	-0.07
4689	2,450.21	32.17025400	-103.09363848	16.56	16.41	-0.09	-0.05
4690	2,450.73	32.17025165	-103.09364088	16.64	15.94	-0.10	-0.07
4691	2,451.26	32.17024889	-103.09364070	17.73	17.34	-0.09	-0.06
4692	2,451.78	32.17024615	-103.09364053	18.91	18.52	-0.08	-0.03
4693	2,452.30	32.17024385	-103.09364282	20.20	20.51	-0.07	-0.02
4694	2,452.83	32.17024127	-103.09364497	21.56	21.91	-0.07	-0.04
4695	2,453.35	32.17023680	-103.09364625	25.23	27.38	-0.07	-0.07
4696	2,453.87	32.17023300	-103.09364734	30.47	36.33	-0.08	-0.06
4697	2,454.39	32.17023164	-103.09364772	34.26	42.77	-0.09	-0.01
4698	2,454.92	32.17023069	-103.09364822	40.23	48.91	-0.08	0.03
4699	2,455.44	32.17023069	-103.09364897	43.52	52.93	-0.07	0.06
4700	2,455.96	32.17023070	-103.09364940	44.26	53.40	-0.06	0.07
4701	2,456.48	32.17023072	-103.09364933	44.53	53.40	-0.06	0.04
4702	2,457.00	32.17023067	-103.09364935	44.88	53.79	-0.06	0.04
4703	2,457.52	32.17023054	-103.09364945	44.92	54.26	-0.06	0.05
4704	2,458.05	32.17022892	-103.09364848	45.51	54.53	-0.06	0.04
4705	2,458.57	32.17022614	-103.09364665	46.29	55.59	-0.07	0.03
4706	2,459.09	32.17022316	-103.09364638	46.29	59.38	-0.08	0.02
4707	2,459.61	32.17022009	-103.09364696	47.50	60.23	-0.06	0.05
4708	2,460.14	32.17021835	-103.09364695	46.09	58.59	-0.07	0.05
4709	2,460.66	32.17021711	-103.09364671	46.41	57.19	-0.07	0.03
4710	2,461.18	32.17021605	-103.09364700	48.56	57.77	-0.05	0.05
4711	2,461.70	32.17021502	-103.09364740	48.91	57.54	-0.06	0.07
4712	2,462.22	32.17021193	-103.09364884	47.58	56.13	-0.07	0.04
4713	2,462.74	32.17020862	-103.09365039	44.02	51.88	-0.09	0.01
4714	2,463.27	32.17020408	-103.09365139	33.83	40.31	-0.08	-0.11
4715	2,463.79	32.17019970	-103.09365235	27.03	29.57	-0.05	-0.12
4716	2,464.31	32.17019779	-103.09365299	23.79	24.34	-0.04	-0.16
4717	2,464.84	32.17019588	-103.09365362	21.91	21.80	-0.06	-0.15
4718	2,465.36	32.17019408	-103.09365413	20.43	20.55	-0.08	-0.07
4719	2,465.88	32.17019197	-103.09365447	19.53	20.04	-0.08	-0.04
4720	2,466.40	32.17018890	-103.09365422	19.45	20.39	-0.08	-0.03
4721	2,466.93	32.17018563	-103.09365413	18.59	19.26	-0.07	-0.04
4722	2,467.45	32.17018199	-103.09365439	18.05	19.41	-0.08	-0.02
4723	2,467.97	32.17017829	-103.09365493	17.54	18.20	-0.08	-0.02
4724	2,468.49	32.17017450	-103.09365588	16.48	17.77	-0.09	-0.04
4725	2,469.01	32.17017087	-103.09365789	16.45	16.48	-0.08	-0.04
4726	2,469.54	32.17016741	-103.09366101	16.80	16.41	-0.08	-0.03
4727	2,470.06	32.17016494	-103.09366524	16.64	16.29	-0.08	-0.02
4728	2,470.58	32.17016315	-103.09367026	17.34	15.94	-0.07	-0.01
4729	2,471.10	32.17016255	-103.09367549	16.45	15.70	-0.08	-0.03
4730	2,471.63	32.17016254	-103.09368084	17.34	15.86	-0.06	0.00
4731	2,472.15	32.17016362	-103.09368572	16.80	16.33	-0.08	-0.01
4732	2,472.67	32.17016507	-103.09369044	16.68	16.02	-0.08	-0.04
4733	2,473.19	32.17016774	-103.09369422	17.23	15.51	-0.06	-0.05
4734	2,473.71	32.17017066	-103.09369781	17.19	15.94	-0.06	-0.06
4735	2,474.23	32.17017468	-103.09369793	17.34	17.38	-0.07	-0.05
4736	2,474.76	32.17017883	-103.09369767	17.81	17.70	-0.07	-0.04
4737	2,475.28	32.17018183	-103.09369754	17.97	17.46	-0.08	-0.06
4738	2,475.80	32.17018489	-103.09369737	18.75	18.87	-0.07	-0.02
4739	2,476.33	32.17018846	-103.09369674	19.81	19.81	-0.08	-0.04
4740	2,476.86	32.17019196	-103.09369600	20.39	21.25	-0.09	-0.05
4741	2,477.37	32.17019468	-103.09369495	23.63	24.92	-0.08	-0.02
4742	2,477.89	32.17019756	-103.09369411	26.80	27.27	-0.09	-0.02
4743	2,478.42	32.17020069	-103.09369400	30.00	31.45	-0.08	-0.02
4744	2,478.94	32.17020422	-103.09369370	35.23	38.87	-0.09	-0.02
4745	2,479.46	32.17020852	-103.09369307	39.34	47.77	-0.10	-0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4746	2,479.98	32.17021313	-103.09369239	43.56	53.20	-0.09	0.00
4747	2,480.50	32.17021814	-103.09369164	43.87	56.13	-0.11	-0.02
4748	2,481.02	32.17022312	-103.09369124	43.71	55.08	-0.08	-0.02
4749	2,481.55	32.17022806	-103.09369117	39.61	49.53	-0.08	0.00
4750	2,482.07	32.17023439	-103.09369044	29.65	32.81	-0.05	-0.21
4751	2,482.59	32.17024165	-103.09368925	24.18	23.98	-0.06	-0.18
4752	2,483.11	32.17024535	-103.09368757	20.59	21.02	-0.07	-0.04
4753	2,483.64	32.17024740	-103.09368567	20.47	19.69	-0.06	-0.07
4754	2,484.16	32.17024943	-103.09368415	18.56	17.23	-0.06	-0.11
4755	2,484.68	32.17025145	-103.09368275	16.88	16.09	-0.07	-0.09
4756	2,485.20	32.17025493	-103.09368190	15.70	15.82	-0.09	-0.07
4757	2,485.72	32.17025866	-103.09368116	15.94	14.14	-0.07	-0.08
4758	2,486.25	32.17026207	-103.09368129	15.12	13.09	-0.07	-0.08
4759	2,486.77	32.17026549	-103.09368146	14.69	10.63	-0.06	-0.13
4760	2,487.29	32.17027000	-103.09368117	14.06	10.55	-0.07	-0.10
4761	2,487.81	32.17027438	-103.09368075	13.63	9.88	-0.07	-0.07
4762	2,488.34	32.17027781	-103.09367936	13.59	10.00	-0.08	-0.08
4763	2,488.86	32.17028126	-103.09367795	13.67	11.17	-0.07	-0.07
4764	2,489.38	32.17028481	-103.09367645	13.09	10.70	-0.08	-0.05
4765	2,489.90	32.17028833	-103.09367512	12.19	9.53	-0.09	-0.07
4766	2,490.43	32.17029175	-103.09367427	13.09	8.95	-0.08	-0.04
4767	2,490.95	32.17029557	-103.09367306	13.01	9.38	-0.08	-0.07
4768	2,491.47	32.17030010	-103.09367127	13.75	9.92	-0.08	-0.09
4769	2,491.99	32.17030453	-103.09366979	14.53	10.78	-0.08	-0.04
4770	2,492.51	32.17030881	-103.09366870	13.75	11.52	-0.11	-0.06
4771	2,493.04	32.17031345	-103.09366812	15.35	10.66	-0.09	0.02
4772	2,493.56	32.17031842	-103.09366799	14.84	11.33	-0.09	-0.03
4773	2,494.08	32.17032320	-103.09366846	16.17	13.05	-0.06	0.01
4774	2,494.60	32.17032787	-103.09366932	16.02	10.94	-0.12	0.03
4775	2,495.12	32.17033229	-103.09367065	16.95	9.77	-0.07	-0.47
4776	2,495.65	32.17033661	-103.09367219	19.14	13.20	0.00	0.00
4777	2,496.17	32.17034064	-103.09367508	20.51	14.92	0.12	0.46
4778	2,496.69	32.17034458	-103.09367832	20.20	15.51	0.24	1.24
4779	2,497.21	32.17034582	-103.09368304	19.73	15.35	0.26	1.74
4780	2,497.73	32.17034666	-103.09368798	18.16	14.30	0.15	1.43
4781	2,498.26	32.17034493	-103.09369284	19.30	15.78	0.02	0.65
4782	2,498.78	32.17034300	-103.09369756	24.81	18.63	-0.05	0.17
4783	2,499.30	32.17033944	-103.09369961	33.44	8.91	-0.13	0.06
4784	2,499.82	32.17033571	-103.09370109	32.15	-4.06	-0.13	-0.01
4785	2,500.35	32.17033088	-103.09369869	23.36	12.03	-0.11	0.07
4786	2,500.87	32.17032661	-103.09369591	20.08	17.07	-0.07	0.12
4787	2,501.39	32.17032449	-103.09369180	18.24	15.04	-0.07	0.13
4788	2,501.92	32.17032297	-103.09368751	17.66	14.06	-0.06	0.15
4789	2,502.44	32.17032283	-103.09368294	18.13	13.56	-0.06	0.12
4790	2,502.96	32.17032331	-103.09367824	17.34	12.97	-0.06	0.08
4791	2,503.48	32.17032475	-103.09367341	17.19	13.75	-0.06	0.08
4792	2,504.00	32.17032730	-103.09366978	17.19	13.05	-0.02	0.11
4793	2,504.52	32.17033110	-103.09366749	16.29	11.21	-0.05	0.06
4794	2,505.05	32.17033480	-103.09366650	15.59	9.88	-0.05	-0.06
4795	2,505.57	32.17033843	-103.09366658	14.34	9.61	-0.07	-0.02
4796	2,506.09	32.17034231	-103.09366809	14.06	9.30	-0.08	0.02
4797	2,506.61	32.17034635	-103.09367042	14.06	9.30	-0.06	0.07
4798	2,507.14	32.17034920	-103.09367476	13.24	7.93	-0.04	0.18
4799	2,507.66	32.17035160	-103.09367987	14.88	9.38	-0.02	0.32
4800	2,508.18	32.17035120	-103.09368485	14.96	10.31	0.02	0.53
4801	2,508.70	32.17035016	-103.09368980	16.09	12.11	0.02	0.56
4802	2,509.22	32.17034760	-103.09369372	17.19	13.05	-0.03	0.42
4803	2,509.75	32.17034485	-103.09369754	23.52	17.66	-0.06	0.15
4804	2,510.27	32.17034012	-103.09369824	33.87	8.24	-0.12	0.11
4805	2,510.79	32.17033531	-103.09369872	28.83	2.62	-0.09	0.13
4806	2,511.31	32.17032989	-103.09369703	20.94	15.00	-0.08	0.06
4807	2,511.84	32.17032448	-103.09369534	18.71	15.51	-0.08	0.04
4808	2,512.36	32.17031911	-103.09369367	17.58	13.83	-0.08	0.02
4809	2,512.88	32.17031407	-103.09369219	16.99	13.24	-0.08	0.00
4810	2,513.40	32.17031008	-103.09369130	16.76	12.97	-0.08	-0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4811	2,513.92	32.17030621	-103.09369077	15.78	12.27	-0.07	-0.04
4812	2,514.45	32.17030257	-103.09369100	14.57	9.22	-0.07	-0.23
4813	2,514.97	32.17029911	-103.09369152	14.81	9.69	-0.04	-0.22
4814	2,515.49	32.17029592	-103.09369245	13.20	7.73	-0.06	-0.15
4815	2,516.01	32.17029249	-103.09369390	13.28	8.09	-0.05	-0.12
4816	2,516.54	32.17028879	-103.09369587	12.46	7.15	-0.09	-0.16
4817	2,517.06	32.17028519	-103.09369787	13.05	8.95	-0.08	-0.12
4818	2,517.58	32.17028165	-103.09369989	12.62	8.67	-0.08	-0.13
4819	2,518.10	32.17027796	-103.09370180	13.52	9.10	-0.07	-0.11
4820	2,518.62	32.17027421	-103.09370365	13.52	10.12	-0.07	-0.11
4821	2,519.15	32.17027085	-103.09370597	13.44	10.66	-0.09	-0.14
4822	2,519.67	32.17026762	-103.09370845	14.45	10.90	-0.07	-0.11
4823	2,520.19	32.17026439	-103.09371132	14.30	12.46	-0.08	-0.12
4824	2,520.71	32.17026116	-103.09371427	15.20	13.52	-0.08	-0.07
4825	2,521.23	32.17025823	-103.09371461	16.06	14.96	-0.08	-0.07
4826	2,521.76	32.17025534	-103.09371468	16.25	15.00	-0.08	-0.07
4827	2,522.28	32.17025265	-103.09371431	17.50	16.76	-0.08	-0.03
4828	2,522.80	32.17025000	-103.09371418	18.13	18.20	-0.07	-0.04
4829	2,523.32	32.17024783	-103.09371649	18.20	18.40	-0.07	-0.06
4830	2,523.86	32.17024554	-103.09371896	20.12	20.12	-0.07	-0.05
4831	2,524.37	32.17024296	-103.09372193	22.62	23.63	-0.05	0.01
4832	2,524.89	32.17024038	-103.09372422	28.48	32.73	-0.07	-0.05
4833	2,525.41	32.17023789	-103.09372436	34.69	42.11	-0.09	-0.01
4834	2,525.94	32.17023615	-103.09372464	39.53	47.07	-0.06	0.01
4835	2,526.46	32.17023581	-103.09372516	41.48	48.95	-0.07	0.03
4836	2,526.98	32.17023530	-103.09372549	41.41	49.81	-0.08	0.05
4837	2,527.50	32.17023456	-103.09372557	43.01	51.09	-0.07	0.05
4838	2,528.02	32.17023424	-103.09372575	44.73	52.03	-0.06	0.07
4839	2,528.54	32.17023432	-103.09372603	44.61	51.88	-0.07	0.05
4840	2,529.07	32.17023378	-103.09372603	44.45	52.85	-0.07	0.08
4841	2,529.59	32.17023282	-103.09372586	45.27	52.97	-0.06	0.07
4842	2,530.11	32.17023059	-103.09372559	45.35	53.16	-0.06	0.06
4843	2,530.64	32.17022778	-103.09372529	45.12	55.51	-0.08	0.05
4844	2,531.16	32.17022383	-103.09372500	48.44	58.48	-0.05	0.06
4845	2,531.68	32.17021955	-103.09372471	47.85	58.16	-0.05	0.08
4846	2,532.20	32.17021511	-103.09372451	45.59	55.20	-0.07	0.07
4847	2,532.72	32.17021061	-103.09372432	41.37	49.92	-0.07	-0.01
4848	2,533.25	32.17020698	-103.09372446	31.45	37.89	-0.07	-0.04
4849	2,533.77	32.17020343	-103.09372464	28.40	32.89	-0.07	-0.05
4850	2,534.29	32.17020131	-103.09372510	25.51	29.18	-0.07	-0.06
4851	2,534.81	32.17019918	-103.09372569	23.20	25.16	-0.08	-0.08
4852	2,535.34	32.17019714	-103.09372743	20.98	22.23	-0.08	-0.07
4853	2,535.86	32.17019485	-103.09372914	19.02	20.74	-0.08	-0.06
4854	2,536.38	32.17019157	-103.09373070	18.05	19.53	-0.08	-0.05
4855	2,536.90	32.17018836	-103.09373283	17.11	17.81	-0.09	-0.06
4856	2,537.42	32.17018535	-103.09373642	16.95	17.07	-0.08	-0.04
4857	2,537.95	32.17018330	-103.09374023	16.25	15.47	-0.08	-0.05
4858	2,538.47	32.17018294	-103.09374443	16.48	15.86	-0.08	-0.04
4859	2,538.99	32.17018337	-103.09374873	16.64	15.74	-0.07	-0.02
4860	2,539.51	32.17018475	-103.09375313	16.76	16.09	-0.08	-0.07
4861	2,540.03	32.17018632	-103.09375719	16.99	16.33	-0.07	-0.04
4862	2,540.56	32.17018805	-103.09376094	17.31	17.27	-0.08	-0.04
4863	2,541.08	32.17019086	-103.09376364	17.38	18.40	-0.09	-0.05
4864	2,541.60	32.17019436	-103.09376569	19.49	20.31	-0.08	-0.03
4865	2,542.12	32.17019768	-103.09376695	21.02	22.93	-0.08	-0.02
4866	2,542.65	32.17020093	-103.09376788	23.40	25.78	-0.08	-0.03
4867	2,543.17	32.17020428	-103.09376907	26.99	30.70	-0.08	-0.01
4868	2,543.69	32.17020766	-103.09377033	31.41	37.11	-0.08	0.00
4869	2,544.21	32.17021108	-103.09377108	35.12	42.77	-0.10	-0.03
4870	2,544.73	32.17021451	-103.09377176	36.56	44.49	-0.09	-0.02
4871	2,545.26	32.17021840	-103.09377309	41.88	49.06	-0.08	0.01
4872	2,545.78	32.17022224	-103.09377453	45.39	52.11	-0.08	0.01
4873	2,546.30	32.17022463	-103.09377776	44.10	57.15	-0.08	0.05
4874	2,546.82	32.17022706	-103.09378087	42.81	54.69	-0.08	0.04
4875	2,547.35	32.17022970	-103.09378306	43.01	52.34	-0.07	0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4876	2,547.87	32.17023246	-103.09378516	40.27	48.87	-0.07	0.05
4877	2,548.39	32.17023569	-103.09378692	36.84	44.57	-0.08	0.02
4878	2,548.92	32.17023932	-103.09378864	29.45	33.44	-0.07	-0.09
4879	2,549.43	32.17024365	-103.09379020	24.45	24.14	0.00	-0.05
4880	2,549.96	32.17024725	-103.09379147	21.72	20.94	-0.04	-0.10
4881	2,550.48	32.17024955	-103.09379223	19.06	17.97	-0.07	-0.13
4882	2,551.00	32.17025233	-103.09379318	18.44	16.91	-0.07	-0.11
4883	2,551.52	32.17025563	-103.09379436	17.54	15.74	-0.06	-0.11
4884	2,552.04	32.17025885	-103.09379581	16.13	15.00	-0.07	-0.09
4885	2,552.57	32.17026201	-103.09379749	14.92	13.52	-0.08	-0.07
4886	2,553.09	32.17026465	-103.09379990	15.08	13.44	-0.07	-0.08
4887	2,553.61	32.17026699	-103.09380273	14.02	11.64	-0.08	-0.06
4888	2,554.13	32.17026881	-103.09380632	14.22	12.34	-0.08	-0.07
4889	2,554.66	32.17027042	-103.09381021	14.73	13.95	-0.08	-0.07
4890	2,555.18	32.17026829	-103.09381204	15.31	13.91	-0.08	-0.09
4891	2,555.70	32.17026529	-103.09381339	14.84	13.87	-0.08	-0.11
4892	2,556.22	32.17026247	-103.09381596	15.20	15.08	-0.09	-0.10
4893	2,556.75	32.17025968	-103.09381868	16.64	16.45	-0.08	-0.07
4894	2,557.27	32.17025660	-103.09382037	17.89	17.89	-0.08	-0.07
4895	2,557.79	32.17025356	-103.09382187	18.63	18.71	-0.09	-0.09
4896	2,558.31	32.17025110	-103.09382104	20.39	21.21	-0.08	-0.07
4897	2,558.83	32.17024854	-103.09382046	22.89	25.08	-0.08	-0.02
4898	2,559.36	32.17024530	-103.09382139	27.66	30.00	-0.09	-0.04
4899	2,559.88	32.17024210	-103.09382229	34.41	36.37	-0.08	-0.01
4900	2,560.40	32.17023907	-103.09382310	38.13	41.06	-0.08	0.03
4901	2,560.92	32.17023636	-103.09382340	43.79	46.99	-0.07	0.05
4902	2,561.44	32.17023437	-103.09382262	46.17	50.00	-0.07	0.05
4903	2,561.97	32.17023286	-103.09382257	47.11	51.88	-0.07	0.04
4904	2,562.49	32.17023204	-103.09382360	51.09	55.90	-0.05	0.06
4905	2,563.01	32.17023158	-103.09382426	51.91	57.89	-0.06	0.05
4906	2,563.53	32.17023150	-103.09382454	52.73	58.16	-0.06	0.07
4907	2,564.06	32.17023116	-103.09382473	53.28	58.09	-0.06	0.07
4908	2,564.58	32.17023063	-103.09382485	53.05	58.20	-0.06	0.05
4909	2,565.10	32.17022912	-103.09382468	53.36	57.93	-0.06	0.04
4910	2,565.62	32.17022710	-103.09382438	49.69	54.61	-0.07	0.04
4911	2,566.15	32.17022563	-103.09382551	50.43	53.20	-0.04	0.06
4912	2,566.67	32.17022436	-103.09382714	50.98	52.03	-0.03	0.07
4913	2,567.19	32.17022170	-103.09382672	49.77	49.88	-0.03	0.07
4914	2,567.71	32.17021877	-103.09382589	43.36	44.92	-0.07	0.03
4915	2,568.22	32.17021455	-103.09382681	37.15	43.13	-0.08	0.02
4916	2,568.73	32.17021020	-103.09382791	28.40	33.98	-0.08	-0.05
4917	2,569.27	32.17020816	-103.09382860	24.77	26.72	-0.04	-0.04
4918	2,569.80	32.17020613	-103.09382937	21.09	22.66	-0.07	-0.10
4919	2,570.32	32.17020295	-103.09383138	20.04	21.41	-0.07	-0.07
4920	2,570.86	32.17019983	-103.09383372	19.77	20.70	-0.08	-0.09
4921	2,571.37	32.17019733	-103.09383726	19.26	20.31	-0.08	-0.05
4922	2,571.89	32.17019576	-103.09384134	18.28	19.77	-0.09	-0.10
4923	2,572.41	32.17019697	-103.09384679	18.83	20.43	-0.08	-0.13
4924	2,572.94	32.17019828	-103.09385179	18.16	19.38	-0.08	-0.15
4925	2,573.46	32.17019974	-103.09385584	17.97	18.75	-0.06	-0.14
4926	2,573.98	32.17020089	-103.09385899	18.32	18.67	-0.05	-0.08
4927	2,574.50	32.17020162	-103.09386092	19.18	19.41	-0.05	-0.06
4928	2,575.02	32.17020230	-103.09386157	19.96	19.84	-0.05	-0.05
4929	2,575.55	32.17020295	-103.09386100	19.81	20.39	-0.07	-0.10
4930	2,576.07	32.17020239	-103.09386251	20.12	20.78	-0.07	-0.09
4931	2,576.59	32.17020103	-103.09386541	19.61	20.31	-0.07	-0.12
4932	2,577.11	32.17020063	-103.09386605	19.81	20.16	-0.08	-0.11
4933	2,577.63	32.17020070	-103.09386561	19.57	20.12	-0.09	-0.11
4934	2,578.16	32.17020065	-103.09386497	20.00	20.16	-0.09	-0.11
4935	2,578.68	32.17020057	-103.09386426	19.84	20.59	-0.09	-0.11
4936	2,579.20	32.17020042	-103.09386398	20.12	21.17	-0.09	-0.10
4937	2,579.72	32.17020026	-103.09386378	20.16	21.33	-0.08	-0.08
4938	2,580.25	32.17020034	-103.09386375	20.55	20.51	-0.08	-0.10
4939	2,580.77	32.17020044	-103.09386374	20.66	21.21	-0.08	-0.09
4940	2,581.29	32.17020084	-103.09386430	20.39	21.56	-0.08	-0.09

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
4941	2,581.81	32.17020138	-103.09386492	20.78	21.95	-0.08	-0.09
4942	2,582.34	32.17020293	-103.09386612	20.43	20.98	-0.09	-0.09
4943	2,582.86	32.17020460	-103.09386755	22.42	24.02	-0.09	-0.03
4944	2,583.38	32.17020673	-103.09386992	24.38	25.98	-0.11	-0.07
4945	2,583.90	32.17020924	-103.09387175	26.56	30.59	-0.11	-0.07
4946	2,584.42	32.17021276	-103.09387218	29.06	32.93	-0.11	-0.11
4947	2,584.94	32.17021605	-103.09387273	35.16	37.31	-0.11	-0.07
4948	2,585.47	32.17021896	-103.09387347	39.10	43.52	-0.11	-0.01
4949	2,585.99	32.17022256	-103.09387382	41.60	47.46	-0.10	-0.01
4950	2,586.51	32.17022703	-103.09387369	43.24	48.13	-0.09	0.00
4951	2,587.03	32.17023156	-103.09387420	44.41	48.79	-0.08	0.02
4952	2,587.56	32.17023613	-103.09387527	43.59	49.92	-0.08	0.01
4953	2,588.08	32.17024063	-103.09387735	38.67	45.86	-0.08	0.00
4954	2,588.60	32.17024509	-103.09388006	31.88	37.50	-0.09	-0.08
4955	2,589.12	32.17024890	-103.09388159	28.13	31.41	-0.05	-0.13
4956	2,589.65	32.17025244	-103.09388262	24.22	27.54	-0.06	-0.09
4957	2,590.17	32.17025557	-103.09388457	22.15	24.96	-0.06	-0.04
4958	2,590.69	32.17025858	-103.09388675	22.62	23.48	-0.03	-0.03
4959	2,591.21	32.17026272	-103.09388867	22.27	22.23	-0.04	-0.15
4960	2,591.73	32.17026701	-103.09389055	21.48	22.89	-0.06	-0.06
4961	2,592.25	32.17027118	-103.09389162	20.55	22.58	-0.07	-0.05
4962	2,592.78	32.17027536	-103.09389265	19.77	21.68	-0.07	-0.07
4963	2,593.30	32.17027940	-103.09389353	20.08	20.66	-0.06	-0.07
4964	2,593.82	32.17028344	-103.09389446	20.35	21.72	-0.08	-0.09
4965	2,594.35	32.17028755	-103.09389561	22.66	24.26	-0.08	-0.09
4966	2,594.87	32.17029168	-103.09389697	23.91	26.80	-0.07	-0.07
4967	2,595.39	32.17029588	-103.09389908	23.87	29.26	-0.11	-0.10
4968	2,595.92	32.17029863	-103.09390192	25.78	31.45	-0.09	-0.09
4969	2,596.43	32.17029798	-103.09390614	25.23	29.84	-0.08	-0.09
4970	2,596.96	32.17029590	-103.09390938	25.51	29.57	-0.08	-0.06
4971	2,597.48	32.17029157	-103.09391092	23.91	27.15	-0.08	-0.06
4972	2,598.00	32.17028769	-103.09391207	22.34	24.30	-0.06	-0.10
4973	2,598.52	32.17028431	-103.09391276	21.29	21.64	-0.06	-0.09
4974	2,599.05	32.17028046	-103.09391404	20.04	21.06	-0.06	-0.10
4975	2,599.57	32.17027623	-103.09391580	19.61	21.37	-0.08	-0.14
4976	2,600.09	32.17027203	-103.09391758	19.84	21.17	-0.07	-0.12
4977	2,600.61	32.17026788	-103.09391936	20.39	21.99	-0.06	-0.14
4978	2,601.13	32.17026416	-103.09391972	21.56	23.28	-0.06	-0.10
4979	2,601.65	32.17026062	-103.09391952	22.42	24.10	-0.07	-0.14
4980	2,602.18	32.17025592	-103.09392000	24.84	27.66	-0.08	-0.14
4981	2,602.70	32.17025095	-103.09392065	32.50	35.12	-0.08	-0.06
4982	2,603.22	32.17024625	-103.09392094	37.81	41.72	-0.08	-0.03
4983	2,603.74	32.17024158	-103.09392120	41.09	43.83	-0.08	0.00
4984	2,604.27	32.17023713	-103.09392200	43.09	46.41	-0.07	-0.01
4985	2,604.79	32.17023270	-103.09392287	40.86	47.62	-0.07	0.01
4986	2,605.31	32.17022895	-103.09392450	39.14	46.17	-0.08	-0.02
4987	2,605.84	32.17022519	-103.09392613	37.38	42.73	-0.07	-0.02
4988	2,606.36	32.17022143	-103.09392767	33.16	38.36	-0.08	-0.03
4989	2,606.88	32.17021765	-103.09392891	28.40	32.73	-0.08	-0.03
4990	2,607.40	32.17021382	-103.09392914	24.77	26.88	-0.04	-0.06
4991	2,607.92	32.17021008	-103.09392896	21.72	23.09	-0.05	-0.10
4992	2,608.45	32.17020654	-103.09392792	20.23	20.16	-0.03	-0.07
4993	2,608.97	32.17020281	-103.09392727	18.56	17.58	-0.04	-0.02
4994	2,609.49	32.17019883	-103.09392720	16.21	15.94	-0.06	-0.02
4995	2,610.01	32.17019533	-103.09392707	16.76	15.08	-0.04	-0.01
4996	2,610.54	32.17019232	-103.09392688	15.78	14.14	-0.06	-0.08
4997	2,611.06	32.17018885	-103.09392652	14.77	13.48	-0.06	-0.12
4998	2,611.58	32.17018505	-103.09392603	14.65	11.64	-0.03	-0.15
4999	2,612.10	32.17018146	-103.09392764	14.81	11.56	-0.05	-0.18
5000	2,612.62	32.17017800	-103.09393032	13.63	10.43	-0.05	-0.14
5001	2,613.14	32.17017704	-103.09393384	13.36	9.18	-0.05	-0.13
5002	2,613.67	32.17017694	-103.09393767	13.28	9.41	-0.07	-0.13
5003	2,614.19	32.17017770	-103.09394178	13.09	9.41	-0.07	-0.09
5004	2,614.71	32.17017864	-103.09394595	12.66	8.44	-0.08	-0.11
5005	2,615.23	32.17017912	-103.09395014	13.40	8.87	-0.07	-0.08

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5006	2,615.76	32.17017957	-103.09395434	13.79	9.22	-0.07	-0.09
5007	2,616.28	32.17018244	-103.09395873	13.56	9.73	-0.08	-0.12
5008	2,616.80	32.17018533	-103.09396308	14.65	11.52	-0.09	-0.08
5009	2,617.32	32.17018836	-103.09396685	15.23	12.38	-0.08	-0.08
5010	2,617.86	32.17019143	-103.09397079	16.68	14.10	-0.08	-0.07
5011	2,618.37	32.17019403	-103.09397454	17.15	15.31	-0.07	-0.08
5012	2,618.89	32.17019677	-103.09397816	17.97	15.63	-0.08	-0.10
5013	2,619.41	32.17019963	-103.09398098	19.65	17.38	-0.07	-0.05
5014	2,619.93	32.17020273	-103.09398298	20.27	18.48	-0.08	-0.07
5015	2,620.46	32.17020629	-103.09398339	22.89	20.31	-0.08	-0.04
5016	2,620.98	32.17020981	-103.09398309	25.04	23.32	-0.09	-0.05
5017	2,621.50	32.17021327	-103.09398182	27.89	27.34	-0.09	0.01
5018	2,622.02	32.17021676	-103.09398124	32.27	31.48	-0.07	0.04
5019	2,622.55	32.17022024	-103.09398134	33.48	34.81	-0.07	0.03
5020	2,623.07	32.17022360	-103.09398059	35.70	38.48	-0.08	0.04
5021	2,623.59	32.17022687	-103.09397926	37.77	41.02	-0.06	0.06
5022	2,624.11	32.17022990	-103.09397800	38.67	43.09	-0.06	0.04
5023	2,624.63	32.17023284	-103.09397679	40.31	45.74	-0.06	0.05
5024	2,625.16	32.17023600	-103.09397668	41.45	47.50	-0.07	0.07
5025	2,625.68	32.17023923	-103.09397692	40.27	45.94	-0.07	0.03
5026	2,626.20	32.17024260	-103.09397623	41.48	45.94	-0.05	0.04
5027	2,626.72	32.17024600	-103.09397539	42.62	46.17	-0.06	0.05
5028	2,627.25	32.17024977	-103.09397438	38.56	43.71	-0.08	0.04
5029	2,627.77	32.17025357	-103.09397339	39.53	43.87	-0.07	0.03
5030	2,628.29	32.17025766	-103.09397357	39.18	42.89	-0.06	0.06
5031	2,628.81	32.17026174	-103.09397362	34.73	38.83	-0.07	0.02
5032	2,629.33	32.17026570	-103.09397261	32.73	35.70	-0.06	0.04
5033	2,629.86	32.17026972	-103.09397173	31.56	34.06	-0.07	0.05
5034	2,630.38	32.17027403	-103.09397138	30.20	32.07	-0.08	0.02
5035	2,630.90	32.17027815	-103.09397177	29.26	30.70	-0.08	0.04
5036	2,631.42	32.17028176	-103.09397408	26.91	27.93	-0.09	0.02
5037	2,631.95	32.17028515	-103.09397723	26.95	28.13	-0.09	0.01
5038	2,632.47	32.17028814	-103.09398180	26.68	27.62	-0.07	0.02
5039	2,632.99	32.17028999	-103.09398687	24.57	24.84	-0.08	0.01
5040	2,633.51	32.17029040	-103.09399257	24.10	24.14	-0.07	0.01
5041	2,634.03	32.17028920	-103.09399753	24.41	23.83	-0.07	0.04
5042	2,634.56	32.17028659	-103.09400180	24.10	23.48	-0.08	0.02
5043	2,635.08	32.17028310	-103.09400508	24.96	24.57	-0.06	0.02
5044	2,635.60	32.17027907	-103.09400773	25.47	25.16	-0.07	0.01
5045	2,636.12	32.17027537	-103.09401029	26.72	27.15	-0.06	0.04
5046	2,636.65	32.17027180	-103.09401280	28.16	27.70	-0.06	0.04
5047	2,637.17	32.17026821	-103.09401517	30.39	29.02	-0.06	0.04
5048	2,637.69	32.17026460	-103.09401750	32.34	31.02	-0.05	0.06
5049	2,638.21	32.17026087	-103.09401978	33.52	32.50	-0.07	0.04
5050	2,638.73	32.17025711	-103.09402206	37.54	36.99	-0.06	0.05
5051	2,639.26	32.17025326	-103.09402296	39.96	41.88	-0.07	0.06
5052	2,639.78	32.17024941	-103.09402384	39.88	42.50	-0.08	0.02
5053	2,640.30	32.17024550	-103.09402581	40.31	42.42	-0.07	0.04
5054	2,640.82	32.17024167	-103.09402781	39.38	42.11	-0.07	0.04
5055	2,641.34	32.17023847	-103.09403001	38.05	42.11	-0.06	0.04
5056	2,641.87	32.17023517	-103.09403213	36.68	40.59	-0.06	0.05
5057	2,642.39	32.17023153	-103.09403394	33.95	37.89	-0.08	0.02
5058	2,642.92	32.17022775	-103.09403554	32.46	36.17	-0.06	0.01
5059	2,643.43	32.17022380	-103.09403660	29.88	34.57	-0.07	0.01
5060	2,643.96	32.17021967	-103.09403791	28.67	32.31	-0.08	0.01
5061	2,644.48	32.17021528	-103.09403958	27.77	30.27	-0.06	0.00
5062	2,645.00	32.17021090	-103.09404158	24.61	26.41	-0.08	-0.02
5063	2,645.52	32.17020658	-103.09404392	23.44	24.38	-0.08	0.00
5064	2,646.04	32.17020274	-103.09404543	21.99	22.11	-0.06	-0.01
5065	2,646.57	32.17019931	-103.09404625	19.65	19.69	-0.07	0.00
5066	2,647.09	32.17019562	-103.09404788	19.45	19.38	-0.07	0.00
5067	2,647.61	32.17019178	-103.09404998	18.75	18.75	-0.07	0.02
5068	2,648.13	32.17019023	-103.09405369	18.36	17.34	-0.08	-0.02
5069	2,648.66	32.17018955	-103.09405801	18.48	16.76	-0.08	-0.01
5070	2,649.18	32.17018914	-103.09406187	18.91	17.07	-0.08	0.00

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5071	2,649.70	32.17018879	-103.09406562	18.91	17.03	-0.09	0.00
5072	2,650.22	32.17019101	-103.09406904	20.23	17.19	-0.07	0.01
5073	2,650.74	32.17019353	-103.09407242	21.13	18.24	-0.07	0.03
5074	2,651.27	32.17019751	-103.09407334	21.09	19.10	-0.07	0.01
5075	2,651.79	32.17020154	-103.09407419	22.34	19.26	-0.07	-0.02
5076	2,652.31	32.17020547	-103.09407484	20.98	20.16	-0.05	0.20
5077	2,652.83	32.17020938	-103.09407544	16.84	20.70	0.25	0.39
5078	2,653.35	32.17021312	-103.09407574	24.53	21.21	-0.03	0.61
5079	2,653.88	32.17021686	-103.09407584	25.31	24.49	-0.06	0.19
5080	2,654.40	32.17022057	-103.09407528	27.38	27.50	-0.05	0.04
5081	2,654.92	32.17022427	-103.09407468	28.09	29.34	-0.06	0.01
5082	2,655.44	32.17022799	-103.09407402	29.41	30.12	-0.07	0.01
5083	2,655.97	32.17023163	-103.09407373	31.17	31.84	-0.07	0.01
5084	2,656.49	32.17023521	-103.09407400	31.37	34.30	-0.07	0.04
5085	2,657.01	32.17023875	-103.09407392	32.89	35.39	-0.06	0.03
5086	2,657.53	32.17024227	-103.09407348	33.87	36.76	-0.07	0.05
5087	2,658.06	32.17024559	-103.09407283	33.28	36.33	-0.07	0.04
5088	2,658.58	32.17024876	-103.09407203	33.79	36.06	-0.07	0.05
5089	2,659.10	32.17025190	-103.09407236	33.71	35.55	-0.07	0.06
5090	2,659.62	32.17025502	-103.09407328	32.19	34.49	-0.08	0.02
5091	2,660.14	32.17025851	-103.09407327	31.99	33.59	-0.07	0.02
5092	2,660.67	32.17026214	-103.09407294	31.13	32.50	-0.06	0.05
5093	2,661.19	32.17026583	-103.09407296	28.75	29.77	-0.08	0.04
5094	2,661.71	32.17026952	-103.09407304	28.28	27.93	-0.07	0.05
5095	2,662.22	32.17027264	-103.09407497	26.56	25.51	-0.06	0.07
5096	2,662.73	32.17027568	-103.09407709	24.73	23.56	-0.08	0.07
5097	2,663.27	32.17027862	-103.09408071	25.27	23.13	-0.05	0.11
5098	2,663.80	32.17028117	-103.09408450	24.88	23.32	-0.06	0.14
5099	2,664.32	32.17027964	-103.09408955	25.66	23.20	-0.07	0.12
5100	2,664.86	32.17027769	-103.09409414	29.65	27.34	-0.06	0.12
5101	2,665.37	32.17027426	-103.09409604	31.45	31.56	-0.07	0.11
5102	2,665.89	32.17027066	-103.09409802	32.42	33.56	-0.07	0.09
5103	2,666.41	32.17026680	-103.09410007	33.79	34.38	-0.06	0.07
5104	2,666.93	32.17026289	-103.09410225	33.63	35.04	-0.07	0.05
5105	2,667.46	32.17025890	-103.09410466	34.96	37.11	-0.06	0.07
5106	2,667.98	32.17025498	-103.09410713	35.74	38.05	-0.06	0.07
5107	2,668.50	32.17025117	-103.09410963	33.20	36.45	-0.06	0.06
5108	2,669.02	32.17024748	-103.09411142	33.16	36.09	-0.06	0.06
5109	2,669.54	32.17024390	-103.09411252	32.58	35.90	-0.05	0.05
5110	2,670.06	32.17023999	-103.09411414	32.23	35.16	-0.05	0.07
5111	2,670.59	32.17023582	-103.09411613	31.33	34.02	-0.04	0.06
5112	2,671.11	32.17023200	-103.09411824	28.01	31.72	-0.06	0.05
5113	2,671.63	32.17022834	-103.09412040	27.58	29.61	-0.06	0.05
5114	2,672.16	32.17022480	-103.09412185	26.84	27.97	-0.05	0.05
5115	2,672.68	32.17022131	-103.09412307	24.34	26.02	-0.08	0.03
5116	2,673.20	32.17021731	-103.09412540	25.08	25.23	-0.05	0.05
5117	2,673.72	32.17021321	-103.09412792	23.79	23.40	-0.05	0.03
5118	2,674.24	32.17020979	-103.09413040	22.19	22.34	-0.06	0.02
5119	2,674.77	32.17020641	-103.09413287	21.06	21.17	-0.07	0.02
5120	2,675.29	32.17020247	-103.09413516	22.07	21.37	-0.07	0.02
5121	2,675.81	32.17019858	-103.09413741	25.16	21.84	-0.05	0.03
5122	2,676.33	32.17019511	-103.09413935	25.55	21.37	-0.03	0.10
5123	2,676.86	32.17019227	-103.09414179	26.68	21.41	-0.02	0.17
5124	2,677.38	32.17019222	-103.09414622	26.52	20.90	-0.03	0.13
5125	2,677.90	32.17019301	-103.09415037	24.96	21.17	-0.06	0.07
5126	2,678.42	32.17019603	-103.09415370	22.42	21.02	-0.07	0.02
5127	2,678.94	32.17019933	-103.09415670	21.37	20.51	-0.06	0.02
5128	2,679.47	32.17020308	-103.09415908	21.88	21.48	-0.06	0.01
5129	2,679.99	32.17020678	-103.09416065	23.63	22.85	-0.07	0.02
5130	2,680.51	32.17021041	-103.09416120	24.61	23.56	-0.07	0.04
5131	2,681.03	32.17021431	-103.09416132	25.35	24.49	-0.07	0.02
5132	2,681.55	32.17021845	-103.09416104	27.66	26.76	-0.06	0.03
5133	2,682.08	32.17022247	-103.09416126	28.67	29.61	-0.02	0.08
5134	2,682.60	32.17022642	-103.09416179	29.49	31.41	-0.06	0.05
5135	2,683.12	32.17023033	-103.09416210	31.33	33.13	-0.02	0.11

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5136	2,683.64	32.17023424	-103.09416232	32.38	34.88	0.00	0.10
5137	2,684.16	32.17023828	-103.09416199	33.01	35.31	-0.06	0.10
5138	2,684.69	32.17024237	-103.09416151	34.22	36.60	-0.05	0.08
5139	2,685.21	32.17024655	-103.09416157	33.91	38.79	-0.07	0.05
5140	2,685.73	32.17025076	-103.09416171	35.59	41.06	-0.06	0.07
5141	2,686.25	32.17025458	-103.09416282	36.64	42.73	-0.06	0.10
5142	2,686.78	32.17025841	-103.09416396	36.84	42.89	-0.07	0.08
5143	2,687.30	32.17026269	-103.09416446	39.65	45.16	-0.05	0.09
5144	2,687.82	32.17026696	-103.09416503	42.27	48.71	-0.05	0.11
5145	2,688.34	32.17027120	-103.09416609	44.92	49.45	-0.06	0.14
5146	2,688.86	32.17027522	-103.09416736	47.93	46.95	-0.05	0.18
5147	2,689.39	32.17027852	-103.09416950	49.06	47.03	-0.05	0.20
5148	2,689.92	32.17028155	-103.09417220	49.84	52.97	-0.04	0.27
5149	2,690.43	32.17028374	-103.09417592	50.90	60.27	-0.03	0.26
5150	2,690.95	32.17028520	-103.09418007	48.71	60.16	-0.04	0.22
5151	2,691.48	32.17028540	-103.09418484	47.62	61.21	-0.06	0.19
5152	2,692.00	32.17028427	-103.09418907	48.79	61.60	-0.06	0.16
5153	2,692.52	32.17028160	-103.09419266	48.20	56.95	-0.07	0.11
5154	2,693.04	32.17027831	-103.09419544	46.56	51.25	-0.07	0.09
5155	2,693.56	32.17027451	-103.09419754	45.59	49.96	-0.06	0.09
5156	2,694.09	32.17027037	-103.09419956	41.48	49.81	-0.06	0.08
5157	2,694.61	32.17026605	-103.09420150	38.71	47.46	-0.05	0.11
5158	2,695.13	32.17026212	-103.09420324	35.55	44.26	-0.07	0.08
5159	2,695.65	32.17025835	-103.09420489	35.16	42.38	-0.05	0.08
5160	2,696.18	32.17025463	-103.09420645	34.69	40.31	-0.05	0.10
5161	2,696.70	32.17025091	-103.09420800	32.27	36.80	-0.07	0.10
5162	2,697.22	32.17024704	-103.09420999	31.88	35.51	-0.06	0.07
5163	2,697.74	32.17024316	-103.09421204	29.92	34.57	-0.06	0.06
5164	2,698.26	32.17023987	-103.09421448	29.41	32.81	-0.05	0.08
5165	2,698.79	32.17023659	-103.09421695	28.79	31.56	-0.04	0.08
5166	2,699.31	32.17023313	-103.09421976	27.58	29.53	-0.04	0.10
5167	2,699.83	32.17022961	-103.09422242	26.45	28.36	-0.04	0.08
5168	2,700.35	32.17022563	-103.09422419	24.41	26.95	-0.05	0.07
5169	2,700.88	32.17022166	-103.09422602	22.58	24.88	-0.07	0.06
5170	2,701.40	32.17021771	-103.09422802	22.15	24.34	-0.04	0.07
5171	2,701.92	32.17021403	-103.09422991	20.82	22.97	-0.06	0.04
5172	2,702.44	32.17021092	-103.09423159	20.74	21.68	-0.07	0.03
5173	2,702.97	32.17020750	-103.09423368	20.31	21.33	-0.07	0.03
5174	2,703.49	32.17020362	-103.09423639	20.74	20.74	-0.06	0.02
5175	2,704.01	32.17020008	-103.09423865	20.74	21.09	-0.06	0.05
5176	2,704.53	32.17019693	-103.09424044	19.65	21.17	-0.07	0.04
5177	2,705.05	32.17019516	-103.09424378	19.73	19.88	-0.07	0.02
5178	2,705.58	32.17019445	-103.09424831	20.43	20.66	-0.07	0.01
5179	2,706.10	32.17019598	-103.09425197	20.27	21.13	-0.08	0.01
5180	2,706.62	32.17019868	-103.09425515	21.29	22.11	-0.06	0.03
5181	2,707.14	32.17020198	-103.09425770	21.76	22.19	-0.05	0.03
5182	2,707.66	32.17020548	-103.09426001	21.64	22.23	-0.06	0.02
5183	2,708.19	32.17020933	-103.09426180	22.58	23.87	-0.05	0.05
5184	2,708.71	32.17021323	-103.09426345	22.42	24.06	-0.06	0.05
5185	2,709.22	32.17021754	-103.09426380	22.81	24.69	-0.06	0.08
5186	2,709.73	32.17022189	-103.09426400	23.75	25.31	-0.06	0.08
5187	2,710.27	32.17022630	-103.09426391	23.52	25.39	-0.07	0.06
5188	2,710.80	32.17023065	-103.09426387	24.73	26.88	-0.05	0.10
5189	2,711.32	32.17023395	-103.09426457	25.08	27.54	-0.05	0.10
5190	2,711.86	32.17023736	-103.09426507	24.38	26.48	-0.07	0.07
5191	2,712.36	32.17024067	-103.09426461	25.16	27.42	-0.07	0.07
5192	2,712.89	32.17024416	-103.09426442	25.63	28.63	-0.08	0.08
5193	2,713.41	32.17024792	-103.09426509	26.29	29.22	-0.07	0.07
5194	2,713.93	32.17025186	-103.09426610	28.01	30.94	-0.07	0.06
5195	2,714.45	32.17025616	-103.09426779	29.69	33.98	-0.08	0.06
5196	2,714.98	32.17026042	-103.09426983	28.71	36.25	-0.08	0.05
5197	2,715.50	32.17026461	-103.09427233	33.20	38.52	-0.06	0.11
5198	2,716.02	32.17026842	-103.09427547	34.45	41.21	-0.07	0.10
5199	2,716.54	32.17027189	-103.09427924	35.43	43.67	-0.07	0.12
5200	2,717.06	32.17027258	-103.09428322	36.29	44.49	-0.07	0.12

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5201	2,717.59	32.17027133	-103.09428736	37.07	42.34	-0.11	0.09
5202	2,718.11	32.17026826	-103.09429087	32.58	40.23	-0.08	0.12
5203	2,718.63	32.17026432	-103.09429408	30.98	37.34	-0.06	0.08
5204	2,719.15	32.17025993	-103.09429585	28.36	34.96	-0.07	0.07
5205	2,719.68	32.17025541	-103.09429718	27.66	33.75	-0.06	0.08
5206	2,720.20	32.17025092	-103.09429717	26.60	31.37	-0.06	0.08
5207	2,720.72	32.17024644	-103.09429692	26.21	30.63	-0.06	0.08
5208	2,721.24	32.17024221	-103.09429598	25.63	29.53	-0.06	0.08
5209	2,721.76	32.17023799	-103.09429499	24.61	28.20	-0.07	0.08
5210	2,722.29	32.17023308	-103.09429390	25.04	28.36	-0.05	0.08
5211	2,722.81	32.17022824	-103.09429260	23.95	27.66	-0.06	0.08
5212	2,723.33	32.17022392	-103.09428944	23.13	26.60	-0.08	0.06
5213	2,723.86	32.17022004	-103.09428588	23.95	25.43	-0.05	0.07
5214	2,724.38	32.17021820	-103.09428073	22.77	25.51	-0.06	0.04
5215	2,724.90	32.17021676	-103.09427547	22.62	25.04	-0.07	0.05
5216	2,725.42	32.17021642	-103.09426999	22.15	24.26	-0.07	0.04
5217	2,725.94	32.17021625	-103.09426422	21.41	24.34	-0.08	0.03
5218	2,726.47	32.17021635	-103.09425797	22.62	24.38	-0.05	0.06
5219	2,726.99	32.17021685	-103.09425197	21.25	23.13	-0.07	0.04
5220	2,727.51	32.17021783	-103.09424626	22.77	23.40	-0.04	0.05
5221	2,728.03	32.17021883	-103.09424073	22.19	24.26	-0.05	0.06
5222	2,728.55	32.17021986	-103.09423532	23.09	24.18	-0.06	0.06
5223	2,729.08	32.17022169	-103.09423054	24.14	24.49	-0.06	0.06
5224	2,729.60	32.17022402	-103.09422614	24.02	25.12	-0.07	0.03
5225	2,730.12	32.17022612	-103.09422111	25.12	26.25	-0.06	0.06
5226	2,730.64	32.17022812	-103.09421580	26.25	26.72	-0.06	0.05
5227	2,731.17	32.17022938	-103.09421063	26.29	28.44	-0.08	0.06
5228	2,731.69	32.17023044	-103.09420551	28.01	29.30	-0.07	0.06
5229	2,732.21	32.17023149	-103.09420078	27.54	29.69	-0.08	0.06
5230	2,732.73	32.17023254	-103.09419610	29.10	31.41	-0.08	0.07
5231	2,733.25	32.17023417	-103.09419201	30.20	32.46	-0.06	0.08
5232	2,733.78	32.17023581	-103.09418791	29.92	33.28	-0.07	0.05
5233	2,734.30	32.17023669	-103.09418300	30.66	34.53	-0.08	0.06
5234	2,734.82	32.17023762	-103.09417817	32.23	34.69	-0.05	0.08
5235	2,735.34	32.17023894	-103.09417385	30.59	33.59	-0.07	0.05
5236	2,735.86	32.17024026	-103.09416961	32.97	35.08	-0.05	0.06
5237	2,736.38	32.17024155	-103.09416560	33.79	36.33	-0.05	0.07
5238	2,736.92	32.17024255	-103.09416127	32.62	36.17	-0.07	0.06
5239	2,737.43	32.17024282	-103.09415659	34.34	36.99	-0.05	0.05
5240	2,737.95	32.17024285	-103.09415189	35.16	37.11	-0.07	0.07
5241	2,738.48	32.17024251	-103.09414729	29.65	35.55	-0.03	0.08
5242	2,739.00	32.17024223	-103.09414270	34.61	34.49	-0.05	0.09
5243	2,739.52	32.17024201	-103.09413811	32.34	35.20	-0.05	0.06
5244	2,740.04	32.17024124	-103.09413344	31.60	35.43	-0.06	0.06
5245	2,740.56	32.17024001	-103.09412872	31.60	34.77	-0.05	0.05
5246	2,741.09	32.17023844	-103.09412415	30.20	33.48	-0.06	0.03
5247	2,741.61	32.17023665	-103.09411967	29.77	34.02	-0.07	0.04
5248	2,742.13	32.17023622	-103.09411522	30.94	33.16	-0.04	0.07
5249	2,742.65	32.17023631	-103.09411079	29.18	31.17	-0.06	0.05
5250	2,743.18	32.17023563	-103.09410627	30.20	31.95	-0.06	0.04
5251	2,743.70	32.17023478	-103.09410173	29.92	31.72	-0.05	0.06
5252	2,744.22	32.17023389	-103.09409721	28.40	29.65	-0.07	0.03
5253	2,744.74	32.17023299	-103.09409269	29.45	30.39	-0.06	0.06
5254	2,745.26	32.17023332	-103.09408830	29.18	31.45	-0.06	0.05
5255	2,745.79	32.17023373	-103.09408390	29.57	31.88	-0.07	0.02
5256	2,746.31	32.17023478	-103.09407947	31.37	32.77	-0.05	0.03
5257	2,746.83	32.17023566	-103.09407498	31.09	32.77	-0.07	0.02
5258	2,747.35	32.17023555	-103.09407014	32.89	33.83	-0.06	0.02
5259	2,747.87	32.17023539	-103.09406534	33.98	34.84	-0.05	0.03
5260	2,748.40	32.17023511	-103.09406063	29.57	31.37	-0.08	-0.03
5261	2,748.92	32.17023492	-103.09405608	32.97	34.18	-0.07	0.01
5262	2,749.44	32.17023493	-103.09405197	32.97	35.31	-0.06	0.03
5263	2,749.96	32.17023466	-103.09404780	32.66	35.86	-0.06	0.01
5264	2,750.49	32.17023399	-103.09404355	33.36	36.60	-0.06	0.03
5265	2,751.01	32.17023316	-103.09403928	33.56	37.89	-0.06	0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5266	2,751.53	32.17023218	-103.09403498	34.73	39.22	-0.05	0.04
5267	2,752.05	32.17023201	-103.09403091	35.63	39.57	-0.06	0.06
5268	2,752.57	32.17023248	-103.09402702	35.74	40.78	-0.06	0.04
5269	2,753.10	32.17023231	-103.09402286	36.25	40.94	-0.09	0.02
5270	2,753.62	32.17023180	-103.09401855	37.46	42.03	-0.07	0.02
5271	2,754.14	32.17023165	-103.09401386	34.88	40.43	-0.08	0.03
5272	2,754.66	32.17023162	-103.09400906	36.91	40.78	-0.08	0.03
5273	2,755.19	32.17023248	-103.09400488	38.59	40.63	-0.06	0.02
5274	2,755.71	32.17023354	-103.09400084	36.99	41.25	-0.08	0.01
5275	2,756.22	32.17023393	-103.09399613	38.32	42.73	-0.08	0.02
5276	2,756.73	32.17023424	-103.09399134	39.14	43.01	-0.06	0.02
5277	2,757.26	32.17023493	-103.09398662	37.03	43.44	-0.08	0.02
5278	2,757.80	32.17023562	-103.09398194	39.49	45.16	-0.07	0.03
5279	2,758.32	32.17023611	-103.09397793	40.16	46.48	-0.07	0.03
5280	2,758.84	32.17023636	-103.09397384	38.56	45.08	-0.07	0.02
5281	2,759.36	32.17023542	-103.09396945	39.92	45.16	-0.07	0.01
5282	2,759.88	32.17023467	-103.09396505	41.72	46.91	-0.07	0.03
5283	2,760.41	32.17023447	-103.09396064	39.88	46.45	-0.08	0.02
5284	2,760.93	32.17023443	-103.09395614	44.45	48.32	-0.08	0.01
5285	2,761.45	32.17023471	-103.09395142	46.17	49.38	-0.06	0.04
5286	2,761.97	32.17023485	-103.09394649	43.59	48.24	-0.09	0.02
5287	2,762.50	32.17023478	-103.09394125	46.48	50.08	-0.07	0.03
5288	2,763.02	32.17023479	-103.09393637	46.48	51.13	-0.07	0.03
5289	2,763.54	32.17023485	-103.09393186	48.28	53.16	-0.07	0.02
5290	2,764.06	32.17023545	-103.09392745	49.30	54.65	-0.06	0.05
5291	2,764.59	32.17023641	-103.09392311	46.95	52.89	-0.08	0.03
5292	2,765.11	32.17023720	-103.09391861	50.55	53.16	-0.07	0.04
5293	2,765.63	32.17023792	-103.09391404	50.78	53.44	-0.07	0.04
5294	2,766.15	32.17023769	-103.09390918	48.79	53.20	-0.08	0.03
5295	2,766.67	32.17023714	-103.09390424	52.15	53.44	-0.06	0.05
5296	2,767.20	32.17023687	-103.09389953	51.09	54.10	-0.07	0.03
5297	2,767.72	32.17023665	-103.09389486	52.03	55.16	-0.07	0.05
5298	2,768.24	32.17023644	-103.09389030	53.79	56.25	-0.05	0.05
5299	2,768.76	32.17023624	-103.09388573	46.68	52.85	-0.08	0.04
5300	2,769.29	32.17023575	-103.09388088	44.88	51.95	-0.08	0.03
5301	2,769.81	32.17023532	-103.09387610	45.63	51.76	-0.07	0.04
5302	2,770.33	32.17023535	-103.09387176	41.33	49.77	-0.04	0.04
5303	2,770.86	32.17023547	-103.09386742	43.52	50.59	-0.02	0.05
5304	2,771.38	32.17023602	-103.09386329	44.65	50.51	-0.04	0.04
5305	2,771.90	32.17023624	-103.09385894	43.13	51.25	-0.06	0.03
5306	2,772.42	32.17023557	-103.09385408	45.66	51.72	-0.04	0.03
5307	2,772.94	32.17023417	-103.09384962	45.04	51.88	-0.06	0.02
5308	2,773.46	32.17023145	-103.09384586	47.27	54.41	-0.06	0.04
5309	2,773.98	32.17022880	-103.09384212	51.06	57.11	-0.05	0.05
5310	2,774.51	32.17022624	-103.09383837	45.51	50.63	-0.07	0.02
5311	2,775.03	32.17022406	-103.09383438	45.20	47.85	-0.06	0.03
5312	2,775.55	32.17022221	-103.09383016	45.23	47.89	-0.05	0.03
5313	2,776.07	32.17022116	-103.09382512	42.42	48.16	-0.07	0.03
5314	2,776.60	32.17022063	-103.09381957	45.43	49.06	-0.06	0.05
5315	2,777.12	32.17022205	-103.09381493	46.02	50.63	-0.06	0.03
5316	2,777.64	32.17022434	-103.09381068	45.98	53.87	-0.07	-0.01
5317	2,778.16	32.17022739	-103.09380746	49.38	56.76	-0.06	0.02
5318	2,778.69	32.17023065	-103.09380454	44.18	52.54	-0.07	0.01
5319	2,779.21	32.17023266	-103.09380074	43.95	51.13	-0.07	0.04
5320	2,779.73	32.17023447	-103.09379682	44.06	50.78	-0.07	0.06
5321	2,780.25	32.17023446	-103.09379269	41.80	49.22	-0.08	0.02
5322	2,780.78	32.17023428	-103.09378856	44.38	49.02	-0.07	0.02
5323	2,781.30	32.17023239	-103.09378492	46.91	51.68	-0.07	0.05
5324	2,781.82	32.17023026	-103.09378128	47.93	56.33	-0.08	0.04
5325	2,782.34	32.17022632	-103.09377765	49.45	58.13	-0.07	0.01
5326	2,782.86	32.17022245	-103.09377409	46.06	54.38	-0.07	0.03
5327	2,783.39	32.17021892	-103.09377078	43.09	51.95	-0.08	0.03
5328	2,783.91	32.17021624	-103.09376725	43.91	50.59	-0.06	0.02
5329	2,784.43	32.17021568	-103.09376320	46.99	51.48	-0.02	0.08
5330	2,784.95	32.17021530	-103.09375916	45.70	52.42	-0.03	0.08

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5331	2,785.47	32.17021523	-103.09375517	43.24	52.15	-0.07	0.08
5332	2,786.00	32.17021594	-103.09375099	42.38	50.66	-0.08	0.01
5333	2,786.52	32.17021754	-103.09374662	44.77	53.44	-0.07	0.04
5334	2,787.04	32.17022001	-103.09374262	43.95	55.23	-0.08	0.04
5335	2,787.56	32.17022320	-103.09373891	44.65	55.12	-0.08	0.03
5336	2,788.08	32.17022653	-103.09373579	44.73	54.41	-0.07	0.02
5337	2,788.61	32.17022994	-103.09373299	41.13	51.60	-0.08	-0.01
5338	2,789.13	32.17023216	-103.09372893	41.48	51.37	-0.08	-0.01
5339	2,789.65	32.17023392	-103.09372434	42.34	50.74	-0.08	0.03
5340	2,790.17	32.17023479	-103.09372018	38.95	47.66	-0.09	0.00
5341	2,790.70	32.17023543	-103.09371613	39.49	46.68	-0.08	0.01
5342	2,791.22	32.17023567	-103.09371188	38.95	47.54	-0.08	0.02
5343	2,791.74	32.17023586	-103.09370760	38.87	46.76	-0.09	0.00
5344	2,792.26	32.17023468	-103.09370317	41.99	48.95	-0.07	0.01
5345	2,792.79	32.17023330	-103.09369882	43.05	50.74	-0.08	0.03
5346	2,793.31	32.17022943	-103.09369592	45.98	54.26	-0.09	0.04
5347	2,793.83	32.17022548	-103.09369303	50.74	59.06	-0.08	0.05
5348	2,794.35	32.17022105	-103.09369027	50.04	61.37	-0.07	0.04
5349	2,794.87	32.17021715	-103.09368733	49.34	59.38	-0.06	0.07
5350	2,795.40	32.17021504	-103.09368374	48.09	57.89	-0.07	0.06
5351	2,795.92	32.17021318	-103.09367995	47.07	56.17	-0.09	0.03
5352	2,796.44	32.17021190	-103.09367574	47.34	55.35	-0.07	0.03
5353	2,796.96	32.17021163	-103.09367137	44.84	53.75	-0.09	0.01
5354	2,797.48	32.17021293	-103.09366676	45.23	54.77	-0.09	0.03
5355	2,798.01	32.17021494	-103.09366287	44.92	56.17	-0.09	0.04
5356	2,798.53	32.17021769	-103.09365978	44.92	58.32	-0.08	0.03
5357	2,799.05	32.17022073	-103.09365645	47.70	59.53	-0.08	0.03
5358	2,799.57	32.17022398	-103.09365294	46.45	60.86	-0.07	0.03
5359	2,800.09	32.17022612	-103.09364886	41.56	55.94	-0.07	-0.02
5360	2,800.62	32.17022765	-103.09364444	42.77	54.96	-0.08	0.01
5361	2,801.14	32.17022881	-103.09364000	40.94	51.88	-0.08	0.02
5362	2,801.66	32.17022984	-103.09363554	42.15	51.60	-0.10	0.03
5363	2,802.19	32.17023093	-103.09363088	43.71	52.50	-0.08	0.04
5364	2,802.71	32.17023205	-103.09362617	40.82	50.27	-0.09	-0.01
5365	2,803.22	32.17023131	-103.09362163	40.98	50.20	-0.09	-0.02
5366	2,803.73	32.17023037	-103.09361712	41.84	51.37	-0.09	0.00
5367	2,804.26	32.17022839	-103.09361332	41.95	51.84	-0.10	-0.02
5368	2,804.80	32.17022634	-103.09360950	45.78	54.41	-0.09	0.00
5369	2,805.32	32.17022426	-103.09360512	47.66	60.74	-0.09	0.00
5370	2,805.84	32.17022196	-103.09360082	46.13	62.34	-0.11	-0.02
5371	2,806.36	32.17021860	-103.09359705	49.18	61.21	-0.08	0.00
5372	2,806.88	32.17021536	-103.09359325	48.71	57.58	-0.09	0.00
5373	2,807.41	32.17021250	-103.09358940	49.38	57.93	-0.09	0.01
5374	2,807.93	32.17021011	-103.09358530	50.35	56.88	-0.08	0.02
5375	2,808.45	32.17020869	-103.09358067	46.29	53.75	-0.08	0.02
5376	2,808.97	32.17020794	-103.09357620	45.82	52.58	-0.08	0.02
5377	2,809.50	32.17020814	-103.09357194	48.24	54.18	-0.08	0.02
5378	2,810.02	32.17020913	-103.09356741	49.92	56.48	-0.09	0.01
5379	2,810.54	32.17021093	-103.09356262	55.59	60.31	-0.07	0.03
5380	2,811.06	32.17021329	-103.09355876	56.80	65.63	-0.08	0.01
5381	2,811.58	32.17021606	-103.09355554	55.27	69.73	-0.10	0.00
5382	2,812.11	32.17021937	-103.09355247	60.94	72.85	-0.07	0.00
5383	2,812.63	32.17022293	-103.09354948	57.38	71.37	-0.08	-0.01
5384	2,813.15	32.17022534	-103.09354535	56.91	69.92	-0.08	0.01
5385	2,813.67	32.17022737	-103.09354086	57.89	68.01	-0.07	0.03
5386	2,814.20	32.17022859	-103.09353685	54.38	65.78	-0.08	0.00
5387	2,814.72	32.17022967	-103.09353293	55.51	65.27	-0.07	0.00
5388	2,815.24	32.17023049	-103.09352912	55.35	65.78	-0.07	0.02
5389	2,815.76	32.17023128	-103.09352531	51.37	63.16	-0.09	-0.02
5390	2,816.28	32.17023027	-103.09352011	55.66	64.84	-0.08	0.00
5391	2,816.81	32.17022909	-103.09351503	56.09	66.41	-0.09	0.00
5392	2,817.33	32.17022636	-103.09351100	58.83	68.52	-0.09	0.04
5393	2,817.86	32.17022352	-103.09350691	62.77	73.98	-0.08	0.05
5394	2,818.37	32.17022043	-103.09350280	60.59	75.98	-0.10	0.01
5395	2,818.90	32.17021755	-103.09349858	61.76	75.82	-0.08	0.02

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5396	2,819.42	32.17021532	-103.09349414	56.64	70.27	-0.09	-0.01
5397	2,819.94	32.17021299	-103.09348985	55.78	68.13	-0.09	0.01
5398	2,820.46	32.17021043	-103.09348578	54.92	65.12	-0.09	0.00
5399	2,820.98	32.17020809	-103.09348174	46.37	56.06	-0.09	-0.07
5400	2,821.51	32.17020601	-103.09347771	46.80	55.74	-0.09	-0.05
5401	2,822.03	32.17020443	-103.09347332	47.93	56.37	-0.07	-0.01
5402	2,822.55	32.17020329	-103.09346858	45.31	53.56	-0.09	-0.01
5403	2,823.07	32.17020360	-103.09346442	46.88	54.26	-0.09	-0.01
5404	2,823.60	32.17020484	-103.09346061	48.32	56.72	-0.09	-0.01
5405	2,824.12	32.17020688	-103.09345623	52.81	59.38	-0.10	-0.01
5406	2,824.64	32.17020928	-103.09345158	55.20	63.13	-0.09	-0.03
5407	2,825.16	32.17021156	-103.09344744	53.75	66.60	-0.09	-0.02
5408	2,825.68	32.17021381	-103.09344344	56.02	70.43	-0.10	-0.01
5409	2,826.21	32.17021677	-103.09343973	60.16	72.62	-0.09	0.01
5410	2,826.73	32.17021983	-103.09343608	55.82	69.69	-0.09	-0.02
5411	2,827.25	32.17022199	-103.09343173	56.37	67.93	-0.08	0.01
5412	2,827.77	32.17022408	-103.09342735	54.73	65.31	-0.08	0.01
5413	2,828.29	32.17022543	-103.09342343	53.63	64.14	-0.09	0.01
5414	2,828.82	32.17022680	-103.09341949	52.54	63.24	-0.08	0.00
5415	2,829.34	32.17022836	-103.09341544	48.59	60.39	-0.08	-0.01
5416	2,829.86	32.17022991	-103.09341144	51.09	60.86	-0.09	-0.01
5417	2,830.39	32.17023143	-103.09340762	52.77	59.96	-0.09	0.00
5418	2,830.91	32.17023245	-103.09340340	45.27	56.02	-0.10	0.02
5419	2,831.43	32.17023228	-103.09339824	50.04	58.48	-0.08	0.03
5420	2,831.95	32.17023197	-103.09339331	49.84	59.53	-0.09	0.01
5421	2,832.47	32.17023143	-103.09338880	49.61	60.43	-0.10	0.00
5422	2,833.00	32.17023078	-103.09338438	52.19	61.56	-0.08	0.01
5423	2,833.52	32.17022998	-103.09338005	50.59	62.27	-0.09	0.00
5424	2,834.04	32.17022873	-103.09337557	53.36	64.84	-0.09	0.00
5425	2,834.56	32.17022709	-103.09337094	53.83	65.94	-0.09	0.00
5426	2,835.08	32.17022501	-103.09336602	50.55	64.18	-0.10	-0.03
5427	2,835.61	32.17022265	-103.09336094	54.65	64.88	-0.08	0.01
5428	2,836.13	32.17022084	-103.09335606	51.56	63.05	-0.09	0.01
5429	2,836.65	32.17021926	-103.09335127	48.36	62.66	-0.09	0.01
5430	2,837.17	32.17021840	-103.09334675	47.46	62.34	-0.09	0.02
5431	2,837.70	32.17021773	-103.09334230	44.65	59.84	-0.09	-0.02
5432	2,838.22	32.17021681	-103.09333724	46.09	59.88	-0.09	-0.02
5433	2,838.74	32.17021586	-103.09333210	46.09	58.16	-0.09	-0.03
5434	2,839.26	32.17021493	-103.09332649	44.26	56.76	-0.10	-0.04
5435	2,839.78	32.17021403	-103.09332092	45.82	57.27	-0.09	-0.03
5436	2,840.31	32.17021361	-103.09331583	44.30	54.61	-0.09	-0.03
5437	2,840.83	32.17021329	-103.09331078	44.10	52.54	-0.09	-0.01
5438	2,841.35	32.17021362	-103.09330590	44.65	51.80	-0.09	0.01
5439	2,841.87	32.17021425	-103.09330094	41.95	49.61	-0.09	-0.02
5440	2,842.40	32.17021599	-103.09329569	44.34	48.56	-0.08	-0.02
5441	2,842.92	32.17021790	-103.09329076	31.48	46.37	-0.08	0.00
5442	2,843.44	32.17022014	-103.09328664	45.70	48.20	-0.10	-0.01
5443	2,843.96	32.17022284	-103.09328281	51.99	55.66	-0.09	0.02
5444	2,844.48	32.17022617	-103.09327952	51.88	57.23	-0.09	-0.01
5445	2,845.01	32.17022916	-103.09327624	56.21	60.55	-0.08	0.00
5446	2,845.53	32.17023175	-103.09327296	57.03	61.68	-0.07	0.01
5447	2,846.05	32.17023406	-103.09326951	52.93	58.59	-0.08	-0.01
5448	2,846.57	32.17023615	-103.09326593	55.55	59.02	-0.07	-0.04
5449	2,847.10	32.17023837	-103.09326221	54.22	59.84	-0.09	-0.03
5450	2,847.62	32.17024067	-103.09325841	58.44	66.95	-0.09	-0.01
5451	2,848.14	32.17024317	-103.09325468	63.28	66.56	-0.08	0.01
5452	2,848.66	32.17024576	-103.09325098	61.84	63.16	-0.10	0.01
5453	2,849.18	32.17024772	-103.09324717	66.02	65.47	-0.08	-0.01
5454	2,849.70	32.17024955	-103.09324334	67.27	66.91	-0.08	0.01
5455	2,850.22	32.17025003	-103.09323902	64.38	67.27	-0.08	-0.02
5456	2,850.73	32.17025034	-103.09323462	68.67	68.48	-0.07	-0.01
5457	2,851.26	32.17025067	-103.09323009	69.84	71.37	-0.08	-0.01
5458	2,851.79	32.17025097	-103.09322555	71.72	74.18	-0.08	0.01
5459	2,852.32	32.17025106	-103.09322078	77.03	74.92	-0.08	0.02
5460	2,852.84	32.17025104	-103.09321610	74.73	74.45	-0.09	0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5461	2,853.36	32.17025042	-103.09321195	78.36	74.92	-0.07	0.01
5462	2,853.88	32.17024995	-103.09320773	75.35	80.04	-0.08	0.03
5463	2,854.41	32.17024992	-103.09320324	70.63	79.96	-0.08	0.02
5464	2,854.93	32.17025013	-103.09319900	71.09	79.69	-0.06	0.01
5465	2,855.45	32.17025079	-103.09319527	66.84	78.01	-0.08	0.01
5466	2,855.97	32.17025116	-103.09319140	66.76	76.60	-0.09	0.01
5467	2,856.49	32.17025110	-103.09318733	68.40	75.04	-0.08	0.01
5468	2,857.02	32.17025083	-103.09318303	63.95	69.88	-0.08	-0.01
5469	2,857.54	32.17025034	-103.09317850	64.61	67.66	-0.08	-0.01
5470	2,858.06	32.17025077	-103.09317397	63.79	63.75	-0.06	-0.01
5471	2,858.58	32.17025184	-103.09316947	55.59	58.59	-0.08	-0.01
5472	2,859.11	32.17025353	-103.09316511	55.82	56.56	-0.07	0.00
5473	2,859.63	32.17025552	-103.09316081	54.45	55.16	-0.07	0.01
5474	2,860.15	32.17025763	-103.09315669	50.78	50.78	-0.08	-0.01
5475	2,860.67	32.17025979	-103.09315260	48.24	47.42	-0.06	-0.01
5476	2,861.19	32.17026276	-103.09314939	43.56	46.80	-0.07	0.01
5477	2,861.72	32.17026588	-103.09314634	43.79	50.20	-0.07	-0.01
5478	2,862.24	32.17026893	-103.09314466	46.02	52.62	-0.06	0.01
5479	2,862.76	32.17027198	-103.09314307	45.12	51.29	-0.07	0.01
5480	2,863.28	32.17027553	-103.09313972	49.41	51.72	-0.07	0.00
5481	2,863.81	32.17027908	-103.09313636	51.56	50.70	-0.06	0.01
5482	2,864.33	32.17028248	-103.09313322	49.49	50.43	-0.07	0.00
5483	2,864.86	32.17028602	-103.09313033	47.93	50.27	-0.06	0.01
5484	2,865.37	32.17028967	-103.09312882	42.46	47.54	-0.08	-0.02
5485	2,865.90	32.17029344	-103.09312715	40.82	47.89	-0.07	-0.03
5486	2,866.42	32.17029732	-103.09312514	40.59	51.68	-0.06	-0.03
5487	2,866.94	32.17030123	-103.09312287	39.41	53.28	-0.08	-0.04
5488	2,867.46	32.17030520	-103.09312012	43.95	56.68	-0.06	-0.02
5489	2,867.98	32.17030866	-103.09311717	45.98	58.28	-0.07	-0.04
5490	2,868.51	32.17031144	-103.09311396	48.16	58.01	-0.08	-0.02
5491	2,869.03	32.17031427	-103.09311080	52.85	57.81	-0.07	0.01
5492	2,869.55	32.17031715	-103.09310767	50.04	56.68	-0.09	0.00
5493	2,870.07	32.17031942	-103.09310362	52.03	59.22	-0.08	0.03
5494	2,870.60	32.17032131	-103.09309896	52.70	60.00	-0.06	0.01
5495	2,871.12	32.17032263	-103.09309426	50.16	65.82	-0.07	0.00
5496	2,871.64	32.17032369	-103.09308954	49.45	68.91	-0.06	-0.02
5497	2,872.16	32.17032501	-103.09308451	50.82	71.21	-0.06	-0.02
5498	2,872.68	32.17032641	-103.09307938	53.24	69.61	-0.06	-0.03
5499	2,873.21	32.17032812	-103.09307526	59.96	56.64	-0.07	0.02
5500	2,873.73	32.17032988	-103.09307132	65.39	52.19	-0.07	0.02
5501	2,874.25	32.17033196	-103.09306665	69.61	55.82	-0.07	0.02
5502	2,874.77	32.17033409	-103.09306197	68.98	58.95	-0.05	0.01
5503	2,875.30	32.17033699	-103.09305807	61.52	62.85	-0.07	0.00
5504	2,875.82	32.17034004	-103.09305443	58.91	68.13	-0.06	-0.01
5505	2,876.34	32.17034429	-103.09305270	56.48	66.48	-0.07	-0.01
5506	2,876.86	32.17034850	-103.09305113	55.70	59.92	-0.06	0.01
5507	2,877.38	32.17035258	-103.09305019	53.28	56.37	-0.06	0.00
5508	2,877.91	32.17035677	-103.09304942	46.76	58.36	-0.07	-0.03
5509	2,878.43	32.17036119	-103.09304908	43.28	55.00	-0.06	-0.02
5510	2,878.95	32.17036557	-103.09304893	41.41	52.42	-0.06	-0.03
5511	2,879.47	32.17036988	-103.09304909	39.10	51.76	-0.06	-0.01
5512	2,879.99	32.17037421	-103.09304922	37.23	48.98	-0.05	0.00
5513	2,880.52	32.17037856	-103.09304932	36.45	47.38	-0.05	-0.03
5514	2,881.04	32.17038286	-103.09304945	37.11	48.59	-0.05	-0.02
5515	2,881.56	32.17038712	-103.09304959	36.52	46.60	-0.05	0.00
5516	2,882.08	32.17039136	-103.09304829	39.41	48.32	-0.06	-0.02
5517	2,882.61	32.17039557	-103.09304611	39.81	51.09	-0.07	-0.04
5518	2,883.13	32.17039940	-103.09304383	41.45	55.82	-0.07	-0.04
5519	2,883.65	32.17040307	-103.09304149	45.70	59.53	-0.06	-0.04
5520	2,884.17	32.17040668	-103.09303923	53.01	66.48	-0.06	-0.03
5521	2,884.69	32.17041026	-103.09303699	55.39	68.36	-0.07	-0.02
5522	2,885.22	32.17041413	-103.09303410	67.42	64.06	-0.07	-0.02
5523	2,885.74	32.17041804	-103.09303112	76.29	66.29	-0.08	-0.01
5524	2,886.26	32.17042114	-103.09302767	82.27	75.94	-0.09	-0.01
5525	2,886.78	32.17042421	-103.09302419	88.16	82.50	-0.08	-0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5526	2,887.30	32.17042701	-103.09302069	96.48	88.63	-0.08	-0.02
5527	2,887.83	32.17042988	-103.09301738	110.51	89.84	-0.09	-0.02
5528	2,888.35	32.17043314	-103.09301533	112.77	74.73	-0.08	0.01
5529	2,888.87	32.17043654	-103.09301326	104.65	73.91	-0.09	-0.01
5530	2,889.39	32.17044045	-103.09301114	109.92	73.44	-0.08	-0.02
5531	2,889.92	32.17044455	-103.09300948	106.17	78.24	-0.08	-0.02
5532	2,890.44	32.17044899	-103.09300888	99.57	88.20	-0.10	-0.03
5533	2,890.96	32.17045294	-103.09300933	108.28	95.94	-0.07	-0.01
5534	2,891.48	32.17045609	-103.09301140	105.20	89.92	-0.08	-0.01
5535	2,892.00	32.17045961	-103.09301318	101.91	81.68	-0.09	-0.03
5536	2,892.53	32.17046355	-103.09301464	110.63	83.79	-0.07	-0.01
5537	2,893.05	32.17046734	-103.09301630	100.43	97.62	-0.07	-0.01
5538	2,893.57	32.17047102	-103.09301813	88.83	102.27	-0.07	0.01
5539	2,894.09	32.17047430	-103.09302021	78.44	95.90	-0.08	0.01
5540	2,894.62	32.17047736	-103.09302244	73.36	93.79	-0.07	0.00
5541	2,895.14	32.17048014	-103.09302402	76.21	98.05	-0.05	-0.01
5542	2,895.66	32.17048283	-103.09302536	75.78	104.84	-0.06	0.01
5543	2,896.18	32.17048398	-103.09302569	75.20	108.56	-0.06	0.00
5544	2,896.71	32.17048479	-103.09302578	75.74	110.27	-0.06	-0.02
5545	2,897.22	32.17048457	-103.09302605	75.23	111.72	-0.06	-0.01
5546	2,897.73	32.17048424	-103.09302634	76.41	110.90	-0.05	-0.02
5547	2,898.26	32.17048441	-103.09302638	76.09	108.13	-0.06	-0.01
5548	2,898.79	32.17048474	-103.09302646	74.30	106.80	-0.06	-0.03
5549	2,899.32	32.17048685	-103.09302738	72.38	103.52	-0.06	-0.06
5550	2,899.84	32.17048886	-103.09302813	73.24	104.34	-0.06	-0.05
5551	2,900.36	32.17049037	-103.09302799	74.57	102.89	-0.06	-0.06
5552	2,900.88	32.17049126	-103.09302801	74.53	100.27	-0.07	-0.05
5553	2,901.40	32.17049015	-103.09302852	75.39	98.44	-0.06	-0.04
5554	2,901.93	32.17048927	-103.09302884	76.17	101.45	-0.06	-0.01
5555	2,902.45	32.17048884	-103.09302880	76.41	102.73	-0.07	0.00
5556	2,902.97	32.17048858	-103.09302877	76.41	104.49	-0.07	-0.01
5557	2,903.49	32.17048856	-103.09302874	77.15	104.45	-0.07	-0.01
5558	2,904.01	32.17048851	-103.09302871	77.34	104.45	-0.07	-0.03
5559	2,904.54	32.17048843	-103.09302867	77.62	105.86	-0.07	-0.01
5560	2,905.06	32.17048808	-103.09302798	77.42	107.27	-0.06	-0.03
5561	2,905.58	32.17048754	-103.09302682	78.28	106.21	-0.06	-0.02
5562	2,906.11	32.17048861	-103.09302504	77.50	103.83	-0.06	-0.02
5563	2,906.63	32.17049048	-103.09302295	70.63	99.53	-0.08	-0.03
5564	2,907.15	32.17049288	-103.09302038	70.43	95.12	-0.07	0.01
5565	2,907.67	32.17049545	-103.09301767	68.05	80.94	-0.08	-0.01
5566	2,908.19	32.17049869	-103.09301510	67.19	76.80	-0.09	-0.03
5567	2,908.72	32.17050205	-103.09301255	80.82	83.09	-0.10	-0.03
5568	2,909.24	32.17050529	-103.09301056	90.51	80.70	-0.09	-0.02
5569	2,909.76	32.17050853	-103.09300861	82.31	72.50	-0.10	-0.03
5570	2,910.28	32.17051207	-103.09300647	92.15	85.63	-0.09	-0.03
5571	2,910.80	32.17051558	-103.09300426	89.61	86.88	-0.09	-0.04
5572	2,911.33	32.17051868	-103.09300135	92.34	77.77	-0.08	-0.03
5573	2,911.86	32.17052136	-103.09299891	96.48	69.06	-0.09	-0.01
5574	2,912.37	32.17052201	-103.09299866	92.03	59.88	-0.09	-0.03
5575	2,912.89	32.17052235	-103.09299850	87.54	59.22	-0.08	-0.02
5576	2,913.42	32.17052179	-103.09299859	88.40	58.32	-0.08	-0.02
5577	2,913.94	32.17052184	-103.09299945	90.55	55.70	-0.09	-0.03
5578	2,914.46	32.17052300	-103.09300174	100.08	59.53	-0.08	-0.02
5579	2,914.98	32.17052518	-103.09300330	100.16	67.70	-0.08	-0.02
5580	2,915.50	32.17052870	-103.09300392	99.02	73.71	-0.10	-0.02
5581	2,916.03	32.17053251	-103.09300457	98.24	79.65	-0.09	-0.01
5582	2,916.55	32.17053657	-103.09300525	89.14	80.20	-0.10	-0.03
5583	2,917.07	32.17054066	-103.09300655	93.71	91.21	-0.08	-0.02
5584	2,917.59	32.17054477	-103.09300826	89.41	95.20	-0.08	-0.01
5585	2,918.12	32.17054924	-103.09300998	87.11	96.56	-0.09	0.01
5586	2,918.64	32.17055387	-103.09301169	87.07	98.52	-0.07	0.01
5587	2,919.16	32.17055801	-103.09301304	81.80	96.60	-0.08	0.00
5588	2,919.68	32.17056200	-103.09301427	84.92	97.54	-0.08	-0.01
5589	2,920.20	32.17056629	-103.09301552	87.66	98.52	-0.08	0.01
5590	2,920.73	32.17057063	-103.09301678	89.57	99.77	-0.08	-0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5591	2,921.25	32.17057421	-103.09301662	88.71	98.24	-0.07	-0.01
5592	2,921.77	32.17057776	-103.09301627	79.10	92.42	-0.09	-0.02
5593	2,922.29	32.17058140	-103.09301250	84.14	92.93	-0.09	0.00
5594	2,922.82	32.17058506	-103.09300873	90.00	93.09	-0.07	0.00
5595	2,923.34	32.17058877	-103.09300513	80.66	81.48	-0.08	-0.02
5596	2,923.86	32.17059254	-103.09300186	75.08	70.74	-0.06	0.02
5597	2,924.38	32.17059656	-103.09299985	75.00	66.84	-0.06	-0.01
5598	2,924.91	32.17060059	-103.09299840	79.38	66.72	-0.07	-0.02
5599	2,925.43	32.17060460	-103.09299834	85.78	70.08	-0.08	-0.01
5600	2,925.95	32.17060864	-103.09299871	88.40	71.09	-0.10	-0.03
5601	2,926.47	32.17061273	-103.09299980	101.68	66.06	-0.08	0.01
5602	2,926.99	32.17061652	-103.09300160	105.55	66.52	-0.09	0.01
5603	2,927.51	32.17061994	-103.09300425	109.38	80.23	-0.08	0.02
5604	2,928.04	32.17062247	-103.09300732	110.55	103.16	-0.08	0.03
5605	2,928.56	32.17062425	-103.09301076	106.95	116.17	-0.08	0.02
5606	2,929.08	32.17062571	-103.09301308	99.61	116.17	-0.07	0.01
5607	2,929.60	32.17062699	-103.09301473	97.23	113.05	-0.07	0.02
5608	2,930.13	32.17062775	-103.09301707	95.35	108.98	-0.07	0.02
5609	2,930.65	32.17062831	-103.09301968	91.72	104.49	-0.08	0.03
5610	2,931.17	32.17062980	-103.09302157	95.39	105.43	-0.06	0.02
5611	2,931.69	32.17063155	-103.09302328	94.06	105.47	-0.07	0.02
5612	2,932.21	32.17063282	-103.09302327	91.13	103.20	-0.08	0.03
5613	2,932.74	32.17063403	-103.09302303	98.67	105.43	-0.06	0.02
5614	2,933.26	32.17063425	-103.09302278	103.95	107.31	-0.04	0.02
5615	2,933.78	32.17063443	-103.09302257	106.29	107.81	-0.03	0.03
5616	2,934.31	32.17063444	-103.09302297	106.95	107.81	-0.03	0.03
5617	2,934.83	32.17063446	-103.09302335	106.84	107.93	-0.03	0.03
5618	2,935.35	32.17063447	-103.09302353	106.72	107.73	-0.03	0.02
5619	2,935.87	32.17063451	-103.09302355	106.99	107.97	-0.03	0.01
5620	2,936.39	32.17063464	-103.09302291	106.68	107.58	-0.03	0.02
5621	2,936.92	32.17063515	-103.09302189	104.96	105.55	-0.04	0.01
5622	2,937.44	32.17063648	-103.09302003	103.67	103.44	-0.06	0.02
5623	2,937.96	32.17063700	-103.09301825	109.53	109.88	-0.08	0.03
5624	2,938.48	32.17063623	-103.09301662	124.84	121.41	-0.06	0.05
5625	2,939.01	32.17063585	-103.09301577	131.02	125.12	-0.05	0.06
5626	2,939.53	32.17063587	-103.09301577	132.34	126.45	-0.05	0.05
5627	2,940.05	32.17063582	-103.09301577	132.58	126.37	-0.04	0.06
5628	2,940.57	32.17063570	-103.09301575	132.77	126.64	-0.04	0.06
5629	2,941.09	32.17063562	-103.09301583	132.97	126.56	-0.04	0.06
5630	2,941.62	32.17063556	-103.09301597	132.70	126.80	-0.05	0.06
5631	2,942.14	32.17063554	-103.09301585	133.05	126.60	-0.05	0.06
5632	2,942.66	32.17063552	-103.09301564	133.16	126.76	-0.05	0.05
5633	2,943.18	32.17063551	-103.09301567	133.01	126.95	-0.05	0.05
5634	2,943.70	32.17063550	-103.09301576	132.89	127.11	-0.05	0.05
5635	2,944.22	32.17063554	-103.09301577	133.05	126.88	-0.05	0.05
5636	2,944.73	32.17063560	-103.09301578	132.81	127.03	-0.05	0.04
5637	2,945.26	32.17063554	-103.09301586	133.01	126.99	-0.04	0.04
5638	2,945.79	32.17063548	-103.09301592	133.01	126.95	-0.05	0.05
5639	2,946.32	32.17063550	-103.09301585	132.97	127.07	-0.04	0.05
5640	2,946.84	32.17063552	-103.09301580	132.85	126.80	-0.04	0.07
5641	2,947.36	32.17063558	-103.09301583	133.01	126.29	-0.04	0.04
5642	2,947.88	32.17063564	-103.09301590	132.89	126.88	-0.05	0.05
5643	2,948.40	32.17063569	-103.09301609	132.93	126.60	-0.04	0.05
5644	2,948.93	32.17063575	-103.09301618	133.05	126.41	-0.05	0.04
5645	2,949.45	32.17063585	-103.09301609	133.01	126.95	-0.05	0.05
5646	2,949.97	32.17063589	-103.09301603	133.09	126.84	-0.05	0.07
5647	2,950.49	32.17063587	-103.09301604	133.05	126.52	-0.05	0.06
5648	2,951.02	32.17063584	-103.09301607	132.85	126.84	-0.05	0.06
5649	2,951.54	32.17063580	-103.09301614	133.16	126.91	-0.05	0.05
5650	2,952.06	32.17063576	-103.09301620	133.09	127.03	-0.05	0.06
5651	2,952.58	32.17063571	-103.09301626	133.01	127.34	-0.05	0.05
5652	2,953.10	32.17063552	-103.09301630	133.52	126.37	-0.05	0.05
5653	2,953.63	32.17063528	-103.09301634	133.05	126.91	-0.04	0.07
5654	2,954.15	32.17063511	-103.09301629	133.09	126.48	-0.05	0.06
5655	2,954.67	32.17063498	-103.09301622	133.05	126.64	-0.05	0.05

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5656	2,955.19	32.17063517	-103.09301642	133.32	126.80	-0.05	0.06
5657	2,955.71	32.17063543	-103.09301667	133.01	127.19	-0.04	0.06
5658	2,956.24	32.17063532	-103.09301671	133.09	126.64	-0.04	0.06
5659	2,956.76	32.17063519	-103.09301672	132.97	127.03	-0.05	0.06
5660	2,957.28	32.17063517	-103.09301665	132.58	127.15	-0.05	0.06
5661	2,957.80	32.17063516	-103.09301656	132.70	127.03	-0.05	0.06
5662	2,958.33	32.17063528	-103.09301636	133.13	127.23	-0.05	0.05
5663	2,958.86	32.17063537	-103.09301623	133.36	126.56	-0.05	0.05
5664	2,959.37	32.17063536	-103.09301639	133.09	126.80	-0.04	0.05
5665	2,959.89	32.17063533	-103.09301650	133.01	127.19	-0.05	0.05
5666	2,960.41	32.17063523	-103.09301645	133.20	127.03	-0.05	0.06
5667	2,960.94	32.17063519	-103.09301639	133.32	126.76	-0.05	0.05
5668	2,961.46	32.17063524	-103.09301630	133.24	126.84	-0.05	0.05
5669	2,961.98	32.17063535	-103.09301619	133.05	126.88	-0.05	0.05
5670	2,962.50	32.17063552	-103.09301605	132.97	126.52	-0.05	0.06
5671	2,963.03	32.17063585	-103.09301614	133.20	126.68	-0.05	0.07
5672	2,963.55	32.17063634	-103.09301645	133.09	126.25	-0.05	0.06
5673	2,964.07	32.17063643	-103.09301610	133.24	126.68	-0.05	0.05
5674	2,964.59	32.17063626	-103.09301530	133.48	126.64	-0.05	0.05
5675	2,965.11	32.17063643	-103.09301471	133.16	126.72	-0.05	0.07
5676	2,965.64	32.17063677	-103.09301423	125.20	122.07	-0.06	0.04
5677	2,966.16	32.17063862	-103.09301231	115.43	112.42	-0.07	0.03
5678	2,966.68	32.17064092	-103.09300998	104.73	99.57	-0.09	0.00
5679	2,967.20	32.17064358	-103.09300701	98.40	85.20	-0.09	-0.02
5680	2,967.73	32.17064632	-103.09300392	90.20	74.96	-0.09	-0.02
5681	2,968.25	32.17064987	-103.09300144	75.59	65.27	-0.10	-0.04
5682	2,968.77	32.17065349	-103.09299906	74.88	65.90	-0.09	-0.04
5683	2,969.29	32.17065737	-103.09299876	73.28	78.09	-0.10	-0.07
5684	2,969.81	32.17066119	-103.09299869	73.67	83.24	-0.10	-0.07
5685	2,970.34	32.17066452	-103.09300046	81.21	79.30	-0.09	-0.05
5686	2,970.86	32.17066783	-103.09300238	79.81	67.62	-0.09	-0.03
5687	2,971.38	32.17067108	-103.09300493	93.87	69.26	-0.09	-0.01
5688	2,971.90	32.17067418	-103.09300776	95.39	91.13	-0.09	0.00
5689	2,972.42	32.17067690	-103.09301132	94.65	101.25	-0.10	-0.01
5690	2,972.95	32.17067940	-103.09301462	102.07	106.95	-0.08	-0.01
5691	2,973.47	32.17068154	-103.09301749	100.90	109.81	-0.09	0.02
5692	2,973.99	32.17068406	-103.09301975	96.25	104.57	-0.10	0.01
5693	2,974.52	32.17068706	-103.09302129	104.22	102.23	-0.09	0.01
5694	2,975.04	32.17069039	-103.09302217	105.23	100.04	-0.09	0.01
5695	2,975.56	32.17069399	-103.09302249	102.03	98.32	-0.08	-0.01
5696	2,976.08	32.17069528	-103.09302268	97.66	92.85	-0.10	-0.02
5697	2,976.60	32.17069513	-103.09302279	96.80	87.97	-0.10	-0.02
5698	2,977.13	32.17069522	-103.09302251	100.82	87.58	-0.09	-0.01
5699	2,977.65	32.17069542	-103.09302206	105.63	89.61	-0.09	0.00
5700	2,978.17	32.17069656	-103.09302404	111.99	93.01	-0.09	-0.02
5701	2,978.69	32.17069795	-103.09302667	105.55	92.62	-0.10	-0.02
5702	2,979.21	32.17070110	-103.09302796	113.52	96.17	-0.08	0.02
5703	2,979.74	32.17070449	-103.09302905	110.51	98.91	-0.09	0.01
5704	2,980.26	32.17070785	-103.09302647	102.70	97.23	-0.09	0.00
5705	2,980.78	32.17071121	-103.09302369	99.10	96.02	-0.09	-0.01
5706	2,981.30	32.17071447	-103.09301982	86.09	97.03	-0.09	0.00
5707	2,981.83	32.17071779	-103.09301601	84.06	100.39	-0.08	0.02
5708	2,982.35	32.17072139	-103.09301275	78.87	94.02	-0.06	0.08
5709	2,982.87	32.17072482	-103.09300959	65.47	78.75	-0.08	0.08
5710	2,983.39	32.17072760	-103.09300678	61.41	71.41	-0.07	-0.07
5711	2,983.92	32.17073056	-103.09300423	56.09	69.96	-0.06	-0.02
5712	2,984.44	32.17073383	-103.09300234	52.23	67.27	-0.07	-0.02
5713	2,984.96	32.17073699	-103.09300120	49.84	62.50	-0.07	-0.05
5714	2,985.48	32.17073992	-103.09300128	48.32	58.16	-0.08	-0.04
5715	2,986.00	32.17074309	-103.09300168	50.35	55.35	-0.08	-0.05
5716	2,986.53	32.17074652	-103.09300241	51.91	57.62	-0.08	-0.04
5717	2,987.05	32.17075036	-103.09300388	53.67	60.39	-0.09	-0.03
5718	2,987.57	32.17075453	-103.09300593	65.86	65.27	-0.10	-0.01
5719	2,988.09	32.17075747	-103.09300843	67.19	72.50	-0.10	-0.01
5720	2,988.61	32.17075969	-103.09301117	63.05	70.20	-0.10	-0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5721	2,989.14	32.17076225	-103.09301467	71.45	71.56	-0.09	-0.01
5722	2,989.66	32.17076493	-103.09301845	71.29	69.84	-0.08	-0.01
5723	2,990.18	32.17076833	-103.09302165	65.31	68.05	-0.09	0.00
5724	2,990.70	32.17077189	-103.09302470	66.21	69.65	-0.09	-0.02
5725	2,991.22	32.17077512	-103.09302670	57.81	69.69	-0.09	-0.05
5726	2,991.73	32.17077831	-103.09302857	54.96	69.10	-0.08	-0.06
5727	2,992.26	32.17078203	-103.09302964	52.27	62.73	-0.08	-0.05
5728	2,992.79	32.17078579	-103.09303054	49.49	56.02	-0.09	-0.05
5729	2,993.31	32.17078982	-103.09302955	49.49	55.27	-0.09	-0.01
5730	2,993.84	32.17079378	-103.09302830	47.77	52.97	-0.09	-0.01
5731	2,994.36	32.17079744	-103.09302555	46.09	52.58	-0.09	-0.01
5732	2,994.88	32.17080103	-103.09302278	45.00	52.50	-0.09	0.00
5733	2,995.40	32.17080437	-103.09301994	42.23	50.74	-0.10	-0.03
5734	2,995.92	32.17080774	-103.09301706	45.12	55.63	-0.09	-0.02
5735	2,996.45	32.17081119	-103.09301409	47.54	58.32	-0.10	-0.04
5736	2,996.97	32.17081464	-103.09301098	46.13	58.32	-0.11	-0.03
5737	2,997.49	32.17081805	-103.09300770	48.09	52.38	-0.09	-0.02
5738	2,998.01	32.17082163	-103.09300477	48.16	50.35	-0.10	-0.03
5739	2,998.54	32.17082537	-103.09300220	49.45	49.84	-0.10	-0.03
5740	2,999.06	32.17082946	-103.09300038	51.56	48.83	-0.10	-0.04
5741	2,999.58	32.17083383	-103.09299911	46.60	48.95	-0.10	-0.05
5742	3,000.10	32.17083770	-103.09299975	41.56	43.44	-0.09	-0.01
5743	3,000.63	32.17084134	-103.09300136	36.99	40.35	-0.10	-0.01
5744	3,001.15	32.17084511	-103.09300385	36.37	44.45	-0.10	-0.05
5745	3,001.67	32.17084893	-103.09300664	38.36	50.20	-0.09	-0.06
5746	3,002.19	32.17085238	-103.09300958	39.06	50.55	-0.09	-0.04
5747	3,002.71	32.17085576	-103.09301256	44.77	54.30	-0.09	-0.02
5748	3,003.24	32.17085813	-103.09301574	54.57	57.31	-0.09	0.00
5749	3,003.76	32.17086041	-103.09301893	59.38	54.65	-0.10	-0.01
5750	3,004.28	32.17086395	-103.09302208	69.96	55.23	-0.10	-0.01
5751	3,004.80	32.17086748	-103.09302516	75.86	54.57	-0.11	0.01
5752	3,005.32	32.17087099	-103.09302753	68.56	49.61	-0.10	0.00
5753	3,005.86	32.17087468	-103.09302961	62.77	51.25	-0.09	0.02
5754	3,006.37	32.17087846	-103.09303023	56.09	54.65	-0.10	-0.01
5755	3,006.89	32.17088230	-103.09303058	60.78	60.20	-0.10	0.01
5756	3,007.41	32.17088603	-103.09303014	61.60	59.02	-0.10	0.00
5757	3,007.93	32.17088982	-103.09302888	64.14	52.03	-0.10	0.01
5758	3,008.46	32.17089375	-103.09302602	63.56	51.13	-0.09	0.01
5759	3,008.98	32.17089727	-103.09302284	57.66	52.66	-0.10	-0.01
5760	3,009.50	32.17090025	-103.09301922	57.58	59.30	-0.10	0.01
5761	3,010.02	32.17090356	-103.09301601	57.38	66.45	-0.09	0.02
5762	3,010.55	32.17090718	-103.09301318	54.18	65.27	-0.10	0.00
5763	3,011.07	32.17091071	-103.09301070	53.87	61.95	-0.08	0.00
5764	3,011.59	32.17091418	-103.09300847	53.95	57.38	-0.09	-0.03
5765	3,012.11	32.17091763	-103.09300602	57.11	59.30	-0.09	-0.05
5766	3,012.64	32.17092108	-103.09300347	60.16	61.64	-0.08	-0.03
5767	3,013.16	32.17092494	-103.09300195	58.24	56.84	-0.09	-0.03
5768	3,013.68	32.17092893	-103.09300073	61.72	55.63	-0.10	-0.03
5769	3,014.20	32.17093274	-103.09300200	63.13	54.73	-0.09	-0.01
5770	3,014.72	32.17093651	-103.09300370	59.92	56.21	-0.10	-0.01
5771	3,015.25	32.17094045	-103.09300654	60.86	64.65	-0.09	0.02
5772	3,015.77	32.17094439	-103.09300945	59.61	67.34	-0.09	0.02
5773	3,016.29	32.17094815	-103.09301226	56.52	66.13	-0.10	0.03
5774	3,016.81	32.17095187	-103.09301506	57.23	63.95	-0.09	0.02
5775	3,017.34	32.17095524	-103.09301770	50.20	57.38	-0.09	-0.02
5776	3,017.86	32.17095869	-103.09302041	44.06	44.88	-0.09	0.00
5777	3,018.38	32.17096247	-103.09302338	43.75	33.59	-0.08	0.01
5778	3,018.90	32.17096634	-103.09302593	44.06	34.41	-0.09	-0.01
5779	3,019.43	32.17097049	-103.09302739	45.78	42.03	-0.09	-0.01
5780	3,019.95	32.17097460	-103.09302835	44.92	45.23	-0.10	-0.01
5781	3,020.47	32.17097868	-103.09302845	47.73	45.98	-0.11	-0.01
5782	3,020.99	32.17098282	-103.09302810	52.77	47.81	-0.10	0.00
5783	3,021.51	32.17098706	-103.09302719	55.08	40.82	-0.09	-0.01
5784	3,022.04	32.17099114	-103.09302555	58.71	36.68	-0.09	0.00
5785	3,022.56	32.17099508	-103.09302329	55.20	42.54	-0.09	0.02

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5786	3,023.08	32.17099869	-103.09302042	51.72	50.55	-0.10	-0.01
5787	3,023.60	32.17100211	-103.09301718	51.33	59.34	-0.08	0.02
5788	3,024.12	32.17100544	-103.09301437	47.81	60.82	-0.10	0.02
5789	3,024.65	32.17100872	-103.09301172	46.52	57.34	-0.10	0.01
5790	3,025.17	32.17101259	-103.09300997	46.13	53.67	-0.09	0.02
5791	3,025.69	32.17101662	-103.09300845	43.32	48.56	-0.10	-0.01
5792	3,026.21	32.17102068	-103.09300750	43.28	48.32	-0.09	-0.01
5793	3,026.74	32.17102474	-103.09300663	43.28	48.24	-0.10	0.00
5794	3,027.26	32.17102903	-103.09300720	42.81	48.28	-0.10	-0.02
5795	3,027.78	32.17103328	-103.09300797	46.25	51.76	-0.09	-0.01
5796	3,028.30	32.17103624	-103.09301185	48.09	54.65	-0.09	0.00
5797	3,028.82	32.17103924	-103.09301568	47.93	51.02	-0.09	-0.02
5798	3,029.35	32.17104237	-103.09301905	47.11	46.41	-0.09	-0.01
5799	3,029.87	32.17104556	-103.09302223	41.80	43.67	-0.09	-0.04
5800	3,030.39	32.17104903	-103.09302474	38.83	40.90	-0.09	-0.03
5801	3,030.92	32.17105263	-103.09302692	39.96	39.77	-0.08	-0.01
5802	3,031.44	32.17105635	-103.09302822	36.56	39.73	-0.10	-0.02
5803	3,031.96	32.17106036	-103.09302917	38.09	40.08	-0.09	-0.02
5804	3,032.48	32.17106479	-103.09302953	39.41	40.63	-0.09	-0.02
5805	3,033.00	32.17106885	-103.09302845	40.70	41.37	-0.10	-0.01
5806	3,033.52	32.17107252	-103.09302573	42.54	44.77	-0.10	-0.02
5807	3,034.05	32.17107580	-103.09302250	41.41	48.71	-0.10	-0.02
5808	3,034.57	32.17107879	-103.09301887	43.32	52.23	-0.10	-0.01
5809	3,035.09	32.17108190	-103.09301540	41.68	50.98	-0.11	0.01
5810	3,035.61	32.17108509	-103.09301202	39.18	46.91	-0.12	-0.02
5811	3,036.13	32.17108839	-103.09300936	38.56	46.37	-0.10	0.01
5812	3,036.66	32.17109174	-103.09300698	35.63	45.31	-0.11	-0.02
5813	3,037.18	32.17109549	-103.09300481	34.06	43.75	-0.11	-0.01
5814	3,037.70	32.17109934	-103.09300271	34.38	42.11	-0.09	0.01
5815	3,038.22	32.17110323	-103.09300141	32.66	39.49	-0.09	0.00
5816	3,038.73	32.17110713	-103.09300021	34.06	40.90	-0.09	0.03
5817	3,039.26	32.17111028	-103.09300251	35.27	42.07	-0.10	0.03
5818	3,039.79	32.17111340	-103.09300506	36.68	42.34	-0.11	-0.01
5819	3,040.31	32.17111645	-103.09300847	41.13	47.73	-0.10	0.00
5820	3,040.84	32.17111949	-103.09301187	46.95	54.45	-0.10	0.01
5821	3,041.36	32.17112242	-103.09301524	53.75	60.98	-0.10	0.01
5822	3,041.88	32.17112530	-103.09301870	53.40	56.72	-0.09	0.01
5823	3,042.40	32.17112802	-103.09302245	57.42	40.66	-0.09	-0.02
5824	3,042.92	32.17113054	-103.09302639	55.98	31.02	-0.09	-0.01
5825	3,043.45	32.17113263	-103.09303075	45.47	31.41	-0.09	-0.03
5826	3,043.97	32.17113541	-103.09303453	45.04	40.51	-0.08	0.00
5827	3,044.49	32.17113917	-103.09303748	39.38	47.38	-0.08	-0.02
5828	3,045.01	32.17114313	-103.09303956	34.45	44.65	-0.08	-0.01
5829	3,045.54	32.17114731	-103.09304072	34.41	43.52	-0.08	-0.04
5830	3,046.06	32.17115142	-103.09304059	35.55	44.34	-0.09	-0.03
5831	3,046.58	32.17115549	-103.09303951	39.10	47.85	-0.09	-0.01
5832	3,047.10	32.17115934	-103.09303783	43.05	48.87	-0.07	0.00
5833	3,047.62	32.17116305	-103.09303583	45.63	33.05	-0.09	0.00
5834	3,048.15	32.17116662	-103.09303263	57.42	26.99	-0.09	-0.02
5835	3,048.67	32.17117013	-103.09302901	56.52	38.98	-0.09	-0.01
5836	3,049.19	32.17117337	-103.09302504	48.36	47.62	-0.11	-0.02
5837	3,049.71	32.17117656	-103.09302100	45.20	51.64	-0.09	0.00
5838	3,050.23	32.17117962	-103.09301787	39.88	50.31	-0.10	-0.01
5839	3,050.75	32.17118266	-103.09301483	38.79	49.30	-0.10	0.00
5840	3,051.28	32.17118629	-103.09301248	37.73	47.81	-0.09	0.02
5841	3,051.80	32.17118992	-103.09301023	34.65	43.28	-0.10	0.01
5842	3,052.32	32.17119373	-103.09300885	38.59	41.64	-0.06	0.02
5843	3,052.86	32.17119779	-103.09300800	42.62	37.34	-0.03	0.05
5844	3,053.37	32.17120247	-103.09300946	49.18	33.16	0.00	0.02
5845	3,053.89	32.17120679	-103.09301142	43.87	35.98	-0.08	0.17
5846	3,054.41	32.17120979	-103.09301468	39.81	43.01	-0.15	0.12
5847	3,054.93	32.17121266	-103.09301814	47.42	47.03	-0.11	0.13
5848	3,055.46	32.17121530	-103.09302198	53.91	43.67	-0.04	0.10
5849	3,055.98	32.17121848	-103.09302505	46.68	46.13	-0.11	0.00
5850	3,056.50	32.17122240	-103.09302711	48.24	50.51	-0.09	0.04

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5851	3,057.02	32.17122632	-103.09302906	47.27	49.49	-0.08	0.04
5852	3,057.55	32.17123020	-103.09303091	48.91	47.31	-0.07	0.07
5853	3,058.07	32.17123389	-103.09303291	45.59	43.05	-0.07	0.05
5854	3,058.59	32.17123743	-103.09303499	41.33	41.45	-0.08	0.02
5855	3,059.11	32.17124142	-103.09303629	42.62	43.16	-0.07	0.01
5856	3,059.63	32.17124563	-103.09303724	44.41	45.27	-0.08	0.01
5857	3,060.16	32.17124974	-103.09303603	43.36	44.92	-0.09	0.00
5858	3,060.68	32.17125382	-103.09303418	45.39	40.86	-0.09	0.00
5859	3,061.20	32.17125751	-103.09303150	42.19	38.48	-0.10	0.01
5860	3,061.72	32.17126114	-103.09302867	41.25	41.21	-0.09	0.01
5861	3,062.25	32.17126461	-103.09302585	38.44	46.02	-0.08	0.02
5862	3,062.77	32.17126809	-103.09302302	33.56	43.79	-0.10	0.01
5863	3,063.29	32.17127185	-103.09301969	32.03	41.29	-0.09	0.02
5864	3,063.81	32.17127560	-103.09301637	29.53	38.16	-0.10	0.00
5865	3,064.33	32.17127931	-103.09301322	28.75	35.39	-0.09	0.01
5866	3,064.86	32.17128304	-103.09301069	27.54	33.05	-0.08	0.02
5867	3,065.38	32.17128688	-103.09301073	25.78	29.88	-0.10	0.00
5868	3,065.90	32.17129079	-103.09301118	26.21	29.10	-0.10	0.01
5869	3,066.42	32.17129490	-103.09301274	27.58	29.96	-0.08	0.03
5870	3,066.95	32.17129887	-103.09301444	26.99	30.27	-0.08	0.03
5871	3,067.47	32.17130256	-103.09301638	29.88	32.62	-0.09	0.01
5872	3,067.99	32.17130618	-103.09301856	32.19	35.00	-0.09	0.00
5873	3,068.51	32.17130969	-103.09302106	31.95	35.27	-0.10	0.01
5874	3,069.04	32.17131312	-103.09302370	34.26	33.20	-0.08	0.01
5875	3,069.56	32.17131647	-103.09302647	36.17	32.15	-0.08	0.02
5876	3,070.08	32.17132065	-103.09302823	39.81	27.66	-0.10	-0.01
5877	3,070.60	32.17132534	-103.09302936	43.59	24.18	-0.08	-0.01
5878	3,071.12	32.17132942	-103.09303022	44.69	26.68	-0.09	0.00
5879	3,071.65	32.17133328	-103.09303098	41.64	36.95	-0.09	0.01
5880	3,072.17	32.17133732	-103.09303148	39.69	41.25	-0.10	-0.01
5881	3,072.69	32.17134141	-103.09303193	41.72	35.12	-0.11	-0.02
5882	3,073.21	32.17134542	-103.09302981	44.34	28.44	-0.10	-0.02
5883	3,073.73	32.17134941	-103.09302731	40.70	26.45	-0.10	-0.01
5884	3,074.26	32.17135201	-103.09302362	45.08	35.59	-0.09	0.00
5885	3,074.78	32.17135453	-103.09301982	39.65	40.04	-0.09	0.03
5886	3,075.30	32.17135654	-103.09301514	34.57	34.41	-0.10	0.01
5887	3,075.82	32.17135855	-103.09301061	32.23	32.89	-0.09	0.00
5888	3,076.35	32.17136048	-103.09300708	28.01	32.62	-0.10	0.01
5889	3,076.87	32.17136255	-103.09300357	24.77	30.04	-0.11	-0.01
5890	3,077.39	32.17136515	-103.09300012	24.06	27.97	-0.10	-0.01
5891	3,077.92	32.17136827	-103.09299701	23.24	26.13	-0.11	-0.01
5892	3,078.43	32.17137239	-103.09299476	23.83	27.15	-0.11	-0.01
5893	3,078.96	32.17137651	-103.09299364	25.51	28.91	-0.10	-0.01
5894	3,079.48	32.17138053	-103.09299437	25.12	28.48	-0.11	-0.03
5895	3,080.00	32.17138463	-103.09299545	28.36	32.27	-0.10	-0.03
5896	3,080.53	32.17138882	-103.09299694	32.31	37.97	-0.10	0.00
5897	3,081.05	32.17139310	-103.09299778	36.09	40.70	-0.10	0.01
5898	3,081.57	32.17139746	-103.09299811	40.31	40.74	-0.10	0.00
5899	3,082.09	32.17140189	-103.09299774	43.16	37.93	-0.10	-0.02
5900	3,082.61	32.17140635	-103.09299696	41.84	35.55	-0.10	-0.05
5901	3,083.13	32.17140998	-103.09299582	36.52	34.22	-0.11	-0.03
5902	3,083.66	32.17141331	-103.09299455	33.44	34.65	-0.10	-0.05
5903	3,084.18	32.17141639	-103.09299354	33.09	34.30	-0.10	-0.07
5904	3,084.70	32.17141940	-103.09299260	31.37	34.30	-0.10	-0.06
5905	3,085.22	32.17142255	-103.09299238	30.55	33.98	-0.10	-0.06
5906	3,085.73	32.17142572	-103.09299225	31.64	35.51	-0.09	-0.05
5907	3,086.26	32.17142837	-103.09299160	30.94	37.66	-0.09	-0.07
5908	3,086.79	32.17143101	-103.09299099	32.19	40.78	-0.08	-0.08
5909	3,087.31	32.17143382	-103.09299141	33.36	42.62	-0.09	-0.06
5910	3,087.83	32.17143657	-103.09299160	33.98	43.28	-0.10	-0.05
5911	3,088.36	32.17143902	-103.09299049	34.10	44.30	-0.11	-0.07
5912	3,088.88	32.17144163	-103.09298941	35.51	45.27	-0.10	-0.06
5913	3,089.40	32.17144478	-103.09298844	36.17	46.09	-0.10	-0.02
5914	3,089.92	32.17144787	-103.09298705	39.22	49.14	-0.10	-0.02
5915	3,090.45	32.17145088	-103.09298475	43.59	53.52	-0.10	-0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5916	3,090.97	32.17145295	-103.09298144	43.40	53.98	-0.10	-0.04
5917	3,091.49	32.17145365	-103.09297660	51.21	58.05	-0.10	-0.03
5918	3,092.01	32.17145433	-103.09297130	61.17	61.37	-0.11	0.01
5919	3,092.53	32.17145498	-103.09296554	61.41	58.91	-0.12	0.00
5920	3,093.06	32.17145656	-103.09296045	62.42	61.37	-0.10	-0.02
5921	3,093.58	32.17145884	-103.09295584	57.34	69.77	-0.10	-0.02
5922	3,094.10	32.17146167	-103.09295201	57.27	75.08	-0.10	0.00
5923	3,094.62	32.17146477	-103.09294859	67.15	85.47	-0.11	0.01
5924	3,095.14	32.17146826	-103.09294655	72.77	90.55	-0.11	0.03
5925	3,095.67	32.17147188	-103.09294500	84.02	92.97	-0.09	0.07
5926	3,096.19	32.17147605	-103.09294409	92.81	86.25	-0.10	0.06
5927	3,096.71	32.17148033	-103.09294332	114.38	88.63	-0.10	0.05
5928	3,097.23	32.17148423	-103.09294353	116.13	99.38	-0.10	0.05
5929	3,097.74	32.17148808	-103.09294383	110.70	103.98	-0.10	0.04
5930	3,098.27	32.17149223	-103.09294154	120.39	103.24	-0.10	0.04
5931	3,098.80	32.17149627	-103.09293906	115.86	98.91	-0.10	0.04
5932	3,099.32	32.17149902	-103.09293516	109.92	97.19	-0.10	0.05
5933	3,099.86	32.17150166	-103.09293106	98.36	92.07	-0.10	0.04
5934	3,100.37	32.17150341	-103.09292675	86.37	90.55	-0.11	0.03
5935	3,100.89	32.17150557	-103.09292294	88.79	93.28	-0.10	0.04
5936	3,101.41	32.17150879	-103.09292097	87.70	90.27	-0.09	0.06
5937	3,101.93	32.17151209	-103.09291915	83.01	82.81	-0.10	0.04
5938	3,102.46	32.17151552	-103.09291767	88.13	83.01	-0.09	0.04
5939	3,102.98	32.17151929	-103.09291686	89.49	83.48	-0.10	0.01
5940	3,103.50	32.17152350	-103.09291697	89.38	83.13	-0.09	-0.01
5941	3,104.02	32.17152748	-103.09291697	90.51	81.33	-0.09	-0.02
5942	3,104.54	32.17153124	-103.09291688	81.33	75.90	-0.09	-0.02
5943	3,105.07	32.17153480	-103.09291527	74.06	72.70	-0.09	-0.01
5944	3,105.59	32.17153823	-103.09291263	73.20	71.17	-0.09	0.00
5945	3,106.11	32.17154024	-103.09290873	67.89	69.69	-0.09	0.00
5946	3,106.63	32.17154157	-103.09290423	67.15	63.67	-0.09	-0.01
5947	3,107.16	32.17154288	-103.09289942	64.96	59.45	-0.09	0.00
5948	3,107.68	32.17154418	-103.09289451	54.73	60.59	-0.11	-0.01
5949	3,108.20	32.17154524	-103.09289020	50.47	63.75	-0.10	0.04
5950	3,108.72	32.17154624	-103.09288598	47.66	60.94	-0.11	0.04
5951	3,109.24	32.17154831	-103.09288256	45.16	55.70	-0.11	0.00
5952	3,109.77	32.17155049	-103.09287926	50.39	57.66	-0.10	0.00
5953	3,110.29	32.17155415	-103.09287910	54.88	61.60	-0.10	0.01
5954	3,110.81	32.17155781	-103.09287891	54.53	61.99	-0.10	-0.02
5955	3,111.33	32.17156154	-103.09287854	57.50	60.20	-0.09	-0.03
5956	3,111.86	32.17156534	-103.09287797	65.55	61.60	-0.09	-0.03
5957	3,112.38	32.17156934	-103.09287657	63.24	56.64	-0.09	-0.02
5958	3,112.90	32.17157302	-103.09287485	57.42	55.20	-0.09	-0.05
5959	3,113.42	32.17157586	-103.09287226	50.78	56.80	-0.09	-0.03
5960	3,113.94	32.17157855	-103.09286922	52.50	58.40	-0.09	-0.03
5961	3,114.47	32.17158100	-103.09286533	52.70	60.66	-0.09	-0.01
5962	3,114.99	32.17158245	-103.09286090	50.47	59.02	-0.09	-0.01
5963	3,115.51	32.17158267	-103.09285577	53.98	55.63	-0.08	0.00
5964	3,116.03	32.17158266	-103.09285112	53.48	52.62	-0.09	0.02
5965	3,116.56	32.17158243	-103.09284690	51.41	52.11	-0.09	0.00
5966	3,117.08	32.17158265	-103.09284289	50.16	54.84	-0.10	0.00
5967	3,117.60	32.17158315	-103.09283903	46.25	56.29	-0.11	-0.02
5968	3,118.12	32.17158340	-103.09283501	46.06	59.14	-0.12	-0.01
5969	3,118.64	32.17158355	-103.09283092	47.93	60.86	-0.12	0.01
5970	3,119.17	32.17158483	-103.09282718	50.74	61.76	-0.11	0.03
5971	3,119.69	32.17158643	-103.09282354	57.81	64.10	-0.11	0.04
5972	3,120.21	32.17158924	-103.09282138	64.65	61.91	-0.11	0.03
5973	3,120.73	32.17159223	-103.09281945	69.38	61.48	-0.11	0.00
5974	3,121.26	32.17159570	-103.09281737	78.36	70.55	-0.09	0.03
5975	3,121.78	32.17159912	-103.09281526	79.49	77.85	-0.08	0.02
5976	3,122.30	32.17160113	-103.09281249	71.41	76.33	-0.10	0.00
5977	3,122.82	32.17160327	-103.09280987	76.76	74.22	-0.08	0.00
5978	3,123.35	32.17160639	-103.09280814	78.95	76.45	-0.09	0.01
5979	3,123.87	32.17160926	-103.09280604	70.20	78.09	-0.10	0.00
5980	3,124.39	32.17161126	-103.09280251	67.46	76.72	-0.09	-0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
5981	3,124.92	32.17161276	-103.09279859	68.32	81.37	-0.10	0.02
5982	3,125.43	32.17161304	-103.09279407	65.39	80.39	-0.10	-0.01
5983	3,125.96	32.17161325	-103.09278972	69.06	77.81	-0.09	-0.03
5984	3,126.48	32.17161333	-103.09278575	76.91	75.31	-0.09	-0.01
5985	3,127.00	32.17161246	-103.09278193	85.86	71.80	-0.10	0.01
5986	3,127.52	32.17161049	-103.09277828	97.03	81.17	-0.10	0.02
5987	3,128.04	32.17160832	-103.09277440	92.77	87.46	-0.10	0.04
5988	3,128.57	32.17160596	-103.09277034	89.57	86.88	-0.10	0.04
5989	3,129.09	32.17160481	-103.09276613	84.26	88.67	-0.11	0.03
5990	3,129.61	32.17160435	-103.09276185	79.06	81.84	-0.11	0.02
5991	3,130.13	32.17160489	-103.09275841	84.53	79.65	-0.10	0.03
5992	3,130.66	32.17160581	-103.09275530	91.60	81.84	-0.11	0.06
5993	3,131.18	32.17160776	-103.09275179	96.25	85.08	-0.11	0.03
5994	3,131.70	32.17160997	-103.09274818	107.23	95.86	-0.08	0.07
5995	3,132.22	32.17161319	-103.09274566	106.99	104.65	-0.09	0.08
5996	3,132.73	32.17161654	-103.09274325	98.59	101.13	-0.10	0.09
5997	3,133.26	32.17161961	-103.09274125	92.19	93.48	-0.08	0.12
5998	3,133.79	32.17162260	-103.09273917	87.81	91.25	-0.10	0.07
5999	3,134.31	32.17162461	-103.09273551	91.06	95.43	-0.09	0.07
6000	3,134.83	32.17162634	-103.09273173	94.57	94.77	-0.09	0.07
6001	3,135.36	32.17162655	-103.09272735	88.83	90.43	-0.10	0.06
6002	3,135.88	32.17162639	-103.09272299	96.72	85.51	-0.09	0.06
6003	3,136.40	32.17162507	-103.09271868	107.58	91.88	-0.10	0.06
6004	3,136.92	32.17162346	-103.09271465	101.02	104.84	-0.11	0.07
6005	3,137.45	32.17162126	-103.09271121	98.44	104.10	-0.11	0.07
6006	3,137.97	32.17161912	-103.09270753	89.22	96.68	-0.11	0.06
6007	3,138.49	32.17161707	-103.09270348	88.98	96.25	-0.11	0.05
6008	3,139.01	32.17161701	-103.09269968	95.94	96.68	-0.11	0.04
6009	3,139.53	32.17161903	-103.09269615	96.91	96.60	-0.11	0.03
6010	3,140.06	32.17162103	-103.09269251	96.76	98.24	-0.10	0.07
6011	3,140.58	32.17162302	-103.09268880	87.03	94.77	-0.13	0.07
6012	3,141.10	32.17162468	-103.09268543	86.41	92.66	-0.12	0.05
6013	3,141.62	32.17162618	-103.09268223	89.26	93.83	-0.10	0.03
6014	3,142.14	32.17162807	-103.09267895	91.33	98.63	-0.10	0.02
6015	3,142.67	32.17163010	-103.09267564	83.56	100.59	-0.10	0.00
6016	3,143.19	32.17163187	-103.09267197	80.12	97.97	-0.09	0.00
6017	3,143.71	32.17163359	-103.09266821	79.26	94.96	-0.10	0.02
6018	3,144.23	32.17163463	-103.09266377	79.92	91.91	-0.10	0.01
6019	3,144.75	32.17163560	-103.09265926	83.36	94.06	-0.09	0.02
6020	3,145.27	32.17163508	-103.09265418	81.99	96.68	-0.10	0.02
6021	3,145.80	32.17163451	-103.09264911	86.37	97.58	-0.09	0.01
6022	3,146.32	32.17163367	-103.09264420	87.31	93.91	-0.10	0.01
6023	3,146.86	32.17163261	-103.09263917	86.41	87.38	-0.11	0.02
6024	3,147.37	32.17163088	-103.09263459	91.99	86.09	-0.10	0.05
6025	3,147.89	32.17162921	-103.09262976	93.95	87.93	-0.10	0.02
6026	3,148.41	32.17162787	-103.09262468	87.11	86.52	-0.11	-0.01
6027	3,148.93	32.17162704	-103.09261985	87.03	80.70	-0.09	0.01
6028	3,149.46	32.17162722	-103.09261554	80.47	80.74	-0.10	0.01
6029	3,149.98	32.17162776	-103.09261140	84.49	83.13	-0.09	0.01
6030	3,150.50	32.17162879	-103.09260748	89.92	83.79	-0.08	0.03
6031	3,151.02	32.17162928	-103.09260345	86.37	82.34	-0.10	0.01
6032	3,151.54	32.17162922	-103.09259929	91.06	88.48	-0.10	0.02
6033	3,152.07	32.17162968	-103.09259506	92.38	93.16	-0.09	0.03
6034	3,152.59	32.17163050	-103.09259077	78.40	85.86	-0.10	-0.01
6035	3,153.11	32.17163107	-103.09258603	78.28	77.85	-0.10	0.02
6036	3,153.63	32.17163154	-103.09258106	81.91	76.17	-0.09	-0.01
6037	3,154.16	32.17163241	-103.09257637	78.32	75.55	-0.11	0.01
6038	3,154.68	32.17163341	-103.09257177	73.71	65.16	-0.09	0.01
6039	3,155.20	32.17163529	-103.09256785	70.78	58.36	-0.09	0.01
6040	3,155.72	32.17163732	-103.09256406	62.23	60.70	-0.10	0.00
6041	3,156.24	32.17163851	-103.09255995	57.03	65.51	-0.08	0.05
6042	3,156.77	32.17163960	-103.09255584	52.70	68.95	-0.09	0.04
6043	3,157.29	32.17163889	-103.09255350	49.88	70.23	-0.09	0.04
6044	3,157.81	32.17163827	-103.09255139	49.26	71.41	-0.10	0.02
6045	3,158.33	32.17163837	-103.09255117	49.96	72.70	-0.09	-0.01

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
6046	3,158.86	32.17163843	-103.09255092	50.27	71.41	-0.09	-0.01
6047	3,159.38	32.17163834	-103.09255051	51.56	72.89	-0.09	0.01
6048	3,159.90	32.17163826	-103.09255040	51.88	74.34	-0.09	-0.01
6049	3,160.42	32.17163823	-103.09255110	50.66	73.95	-0.10	0.01
6050	3,160.94	32.17163867	-103.09255106	50.63	69.65	-0.10	-0.02
6051	3,161.47	32.17163997	-103.09254969	52.42	69.49	-0.09	0.00
6052	3,161.99	32.17164136	-103.09254718	51.84	69.53	-0.09	0.01
6053	3,162.51	32.17164289	-103.09254325	52.81	67.85	-0.09	0.02
6054	3,163.03	32.17164361	-103.09253897	52.38	63.63	-0.09	0.02
6055	3,163.55	32.17164363	-103.09253436	50.90	59.77	-0.09	0.02
6056	3,164.08	32.17164335	-103.09252970	49.84	63.44	-0.09	0.04
6057	3,164.60	32.17164289	-103.09252504	49.81	64.92	-0.10	0.03
6058	3,165.12	32.17164300	-103.09251994	49.69	62.77	-0.10	0.01
6059	3,165.64	32.17164336	-103.09251463	50.35	63.95	-0.09	0.02
6060	3,166.17	32.17164417	-103.09250977	45.51	62.07	-0.09	0.01
6061	3,166.69	32.17164510	-103.09250505	42.77	57.46	-0.09	0.03
6062	3,167.21	32.17164732	-103.09250049	40.16	52.66	-0.08	0.03
6063	3,167.73	32.17164974	-103.09249595	37.73	48.91	-0.09	0.04
6064	3,168.25	32.17165032	-103.09249132	34.88	45.66	-0.10	0.03
6065	3,168.78	32.17165075	-103.09248664	34.49	44.84	-0.11	0.02
6066	3,169.30	32.17164973	-103.09248102	36.48	47.34	-0.10	0.04
6067	3,169.82	32.17164864	-103.09247541	39.34	51.64	-0.10	0.02
6068	3,170.34	32.17164714	-103.09246981	44.34	56.88	-0.10	0.01
6069	3,170.87	32.17164587	-103.09246431	49.30	61.48	-0.10	-0.01
6070	3,171.39	32.17164548	-103.09245927	46.64	60.27	-0.10	-0.05
6071	3,171.92	32.17164550	-103.09245540	43.01	57.42	-0.10	-0.06
6072	3,172.43	32.17164643	-103.09245447	41.68	55.86	-0.10	-0.04
6073	3,172.96	32.17164726	-103.09245245	40.98	52.38	-0.10	-0.09
6074	3,173.48	32.17164788	-103.09244871	42.62	51.95	-0.09	-0.05
6075	3,174.00	32.17164835	-103.09244462	44.92	57.70	-0.10	-0.05
6076	3,174.52	32.17164866	-103.09244014	57.42	73.79	-0.11	-0.06
6077	3,175.04	32.17164915	-103.09243636	70.08	73.87	-0.14	-0.05
6078	3,175.57	32.17164981	-103.09243315	68.83	62.73	-0.14	0.05
6079	3,176.09	32.17165020	-103.09242968	75.16	58.40	-0.15	0.05
6080	3,176.61	32.17165045	-103.09242604	63.98	59.88	-0.13	-0.06
6081	3,177.13	32.17164902	-103.09242278	57.50	68.05	-0.11	-0.14
6082	3,177.65	32.17164695	-103.09241965	70.51	82.62	-0.10	-0.10
6083	3,178.18	32.17164887	-103.09241701	75.94	85.90	-0.08	-0.09
6084	3,178.70	32.17165176	-103.09241449	73.05	81.84	-0.09	-0.04
6085	3,179.22	32.17165286	-103.09241158	84.65	88.59	-0.11	-0.04
6086	3,179.73	32.17165373	-103.09240862	79.18	79.06	-0.12	-0.05
6087	3,180.26	32.17165337	-103.09240694	77.34	78.71	-0.12	-0.02
6088	3,180.79	32.17165300	-103.09240537	87.03	88.87	-0.12	-0.01
6089	3,181.31	32.17165354	-103.09240470	98.09	88.16	-0.13	-0.01
6090	3,181.83	32.17165438	-103.09240394	101.21	88.09	-0.13	0.01
6091	3,182.35	32.17165699	-103.09240269	105.90	90.86	-0.13	0.01
6092	3,182.88	32.17165964	-103.09240088	105.27	89.22	-0.12	-0.03
6093	3,183.40	32.17166245	-103.09239714	116.17	94.81	-0.11	0.00
6094	3,183.92	32.17166516	-103.09239361	104.73	93.87	-0.12	0.01
6095	3,184.44	32.17166765	-103.09239055	125.63	100.59	-0.12	0.04
6096	3,184.97	32.17167011	-103.09238752	139.06	102.81	-0.12	0.04
6097	3,185.49	32.17167250	-103.09238451	132.15	96.68	-0.11	0.01
6098	3,186.01	32.17167570	-103.09238172	125.20	89.26	-0.12	0.01
6099	3,186.53	32.17167975	-103.09237914	121.95	87.50	-0.12	-0.04
6100	3,187.05	32.17168333	-103.09237696	122.73	89.96	-0.12	-0.02
6101	3,187.58	32.17168656	-103.09237508	102.54	86.33	-0.13	-0.01
6102	3,188.10	32.17168907	-103.09237133	88.36	80.82	-0.14	-0.08
6103	3,188.62	32.17169121	-103.09236659	82.50	73.91	-0.13	-0.08
6104	3,189.14	32.17169400	-103.09236215	77.93	71.84	-0.12	-0.04
6105	3,189.67	32.17169701	-103.09235784	68.40	63.40	-0.11	-0.01
6106	3,190.19	32.17169998	-103.09235544	65.98	60.94	-0.10	-0.01
6107	3,190.71	32.17170295	-103.09235346	60.16	58.09	-0.10	-0.01
6108	3,191.23	32.17170507	-103.09235041	58.79	55.55	-0.10	0.02
6109	3,191.74	32.17170712	-103.09234726	52.46	52.15	-0.13	-0.02
6110	3,192.27	32.17170966	-103.09234313	47.27	48.87	-0.12	-0.03

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
6111	3,192.80	32.17171228	-103.09233910	47.31	46.48	-0.12	-0.03
6112	3,193.32	32.17171563	-103.09233670	52.62	51.72	-0.11	0.01
6113	3,193.86	32.17171910	-103.09233446	54.18	48.32	-0.10	0.02
6114	3,194.37	32.17172260	-103.09233325	53.16	38.87	-0.12	-0.01
6115	3,194.89	32.17172614	-103.09233217	52.34	32.54	-0.12	-0.04
6116	3,195.41	32.17172957	-103.09233154	48.44	29.65	-0.12	-0.09
6117	3,195.93	32.17173335	-103.09233058	45.86	38.83	-0.12	-0.10
6118	3,196.45	32.17173782	-103.09232895	44.92	43.63	-0.12	-0.08
6119	3,196.98	32.17174200	-103.09232719	45.27	44.30	-0.13	-0.05
6120	3,197.50	32.17174580	-103.09232523	48.16	40.98	-0.12	-0.02
6121	3,198.02	32.17174901	-103.09232205	45.70	37.27	-0.11	-0.04
6122	3,198.54	32.17175163	-103.09231770	52.34	35.16	-0.12	-0.05
6123	3,199.07	32.17175382	-103.09231369	46.56	36.21	-0.12	-0.01
6124	3,199.59	32.17175571	-103.09230993	41.48	46.64	-0.10	0.01
6125	3,200.11	32.17175839	-103.09230714	39.92	46.95	-0.10	-0.03
6126	3,200.63	32.17176144	-103.09230482	39.57	46.52	-0.11	-0.06
6127	3,201.15	32.17176496	-103.09230263	42.34	42.31	-0.12	-0.14
6128	3,201.68	32.17176862	-103.09230049	51.41	36.37	-0.14	-0.15
6129	3,202.20	32.17177244	-103.09229783	58.40	40.90	-0.12	-0.09
6130	3,202.72	32.17177628	-103.09229507	62.34	47.23	-0.12	-0.08
6131	3,203.24	32.17178021	-103.09229292	66.17	51.02	-0.11	-0.08
6132	3,203.76	32.17178413	-103.09229081	61.72	53.13	-0.13	-0.13
6133	3,204.29	32.17178629	-103.09228842	55.08	50.59	-0.11	-0.08
6134	3,204.81	32.17178849	-103.09228598	56.09	50.23	-0.10	-0.04
6135	3,205.33	32.17179104	-103.09228305	56.02	50.66	-0.11	-0.06
6136	3,205.86	32.17179379	-103.09228028	55.86	51.48	-0.11	-0.04
6137	3,206.38	32.17179723	-103.09227824	54.45	52.46	-0.11	-0.04
6138	3,206.90	32.17180064	-103.09227617	58.67	53.13	-0.12	-0.06
6139	3,207.42	32.17180383	-103.09227405	71.06	54.92	-0.12	-0.03
6140	3,207.94	32.17180716	-103.09227178	84.38	58.24	-0.11	-0.02
6141	3,208.47	32.17181073	-103.09226923	104.96	69.22	-0.12	-0.03
6142	3,208.99	32.17181424	-103.09226739	136.13	82.62	-0.11	0.02
6143	3,209.51	32.17181766	-103.09226643	139.02	89.26	-0.11	0.01
6144	3,210.03	32.17182136	-103.09226504	145.86	105.04	-0.12	0.00
6145	3,210.55	32.17182530	-103.09226328	151.48	116.56	-0.10	-0.01
6146	3,211.08	32.17182843	-103.09226173	126.09	110.23	-0.10	0.00
6147	3,211.60	32.17183104	-103.09226031	118.95	103.01	-0.08	0.02
6148	3,212.12	32.17183348	-103.09226013	114.49	95.43	-0.09	-0.02
6149	3,212.64	32.17183585	-103.09226050	101.06	87.85	-0.10	-0.04
6150	3,213.16	32.17183821	-103.09225926	96.25	83.87	-0.11	-0.05
6151	3,213.69	32.17184058	-103.09225757	90.35	78.20	-0.12	-0.06
6152	3,214.21	32.17184331	-103.09225414	82.46	70.78	-0.11	-0.07
6153	3,214.73	32.17184609	-103.09225045	69.34	58.48	-0.11	-0.03
6154	3,215.25	32.17184874	-103.09224952	60.78	59.22	-0.11	0.01
6155	3,215.78	32.17185139	-103.09224869	64.18	56.84	-0.10	0.02
6156	3,216.30	32.17185387	-103.09224690	65.31	51.56	-0.10	0.00
6157	3,216.82	32.17185640	-103.09224532	67.19	47.42	-0.10	0.02
6158	3,217.34	32.17185930	-103.09224521	71.80	42.23	-0.12	0.01
6159	3,217.87	32.17186210	-103.09224485	73.75	44.38	-0.11	0.00
6160	3,218.39	32.17186449	-103.09224355	85.90	44.49	-0.10	0.02
6161	3,218.92	32.17186729	-103.09224270	90.55	46.48	-0.11	0.00
6162	3,219.43	32.17187080	-103.09224293	79.18	50.39	-0.12	-0.05
6163	3,219.95	32.17187405	-103.09224335	67.89	53.44	-0.10	-0.05
6164	3,220.47	32.17187678	-103.09224411	49.53	48.79	-0.11	-0.10
6165	3,221.00	32.17188008	-103.09224400	46.25	51.72	-0.10	-0.08
6166	3,221.52	32.17188402	-103.09224286	49.57	57.58	-0.10	-0.05
6167	3,222.04	32.17188685	-103.09223999	52.89	57.46	-0.10	-0.04
6168	3,222.56	32.17188876	-103.09223567	60.94	52.77	-0.11	-0.04
6169	3,223.09	32.17189037	-103.09223098	56.72	54.18	-0.11	-0.05
6170	3,223.61	32.17189182	-103.09222605	49.45	61.29	-0.12	-0.08
6171	3,224.13	32.17189267	-103.09222078	45.59	57.54	-0.11	-0.10
6172	3,224.65	32.17189328	-103.09221536	37.77	48.16	-0.10	-0.16
6173	3,225.18	32.17189458	-103.09221125	32.81	41.06	-0.11	-0.15
6174	3,225.70	32.17189604	-103.09220748	37.27	43.75	-0.12	-0.12
6175	3,226.21	32.17190006	-103.09220586	50.35	58.44	-0.12	-0.20

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
6176	3,226.73	32.17190440	-103.09220451	72.23	73.83	-0.11	-0.08
6177	3,227.26	32.17190818	-103.09220444	92.62	87.03	-0.09	-0.06
6178	3,227.79	32.17191185	-103.09220446	109.57	108.59	-0.09	-0.02
6179	3,228.31	32.17191457	-103.09220487	124.34	125.59	-0.09	0.01
6180	3,228.83	32.17191714	-103.09220503	124.65	132.73	-0.09	0.00
6181	3,229.35	32.17191878	-103.09220369	129.14	146.72	-0.08	0.03
6182	3,229.88	32.17192078	-103.09220301	134.69	154.41	-0.10	0.06
6183	3,230.40	32.17192396	-103.09220452	143.52	158.44	-0.10	0.08
6184	3,230.92	32.17192744	-103.09220550	149.57	171.17	-0.12	0.06
6185	3,231.44	32.17193151	-103.09220531	152.50	182.81	-0.10	0.08
6186	3,231.96	32.17193482	-103.09220519	141.91	163.87	-0.10	0.11
6187	3,232.49	32.17193698	-103.09220518	126.76	139.45	-0.09	0.08
6188	3,233.01	32.17193853	-103.09220614	121.64	130.82	-0.10	0.08
6189	3,233.53	32.17193941	-103.09220813	124.30	127.73	-0.10	0.06
6190	3,234.05	32.17194181	-103.09220976	128.28	128.52	-0.11	0.05
6191	3,234.58	32.17194536	-103.09221110	123.71	126.09	-0.10	0.08
6192	3,235.10	32.17194935	-103.09221199	99.84	115.04	-0.10	0.08
6193	3,235.62	32.17195358	-103.09221265	82.93	111.13	-0.10	0.07
6194	3,236.14	32.17195730	-103.09221448	73.95	107.66	-0.10	0.07
6195	3,236.66	32.17196081	-103.09221672	65.47	94.57	-0.11	0.00
6196	3,237.19	32.17196449	-103.09221789	62.70	88.79	-0.11	0.02
6197	3,237.71	32.17196821	-103.09221882	63.44	85.63	-0.09	0.09
6198	3,238.23	32.17197265	-103.09222148	67.07	85.47	-0.09	0.09
6199	3,238.74	32.17197715	-103.09222430	76.88	90.59	-0.10	0.07
6200	3,239.27	32.17197988	-103.09222682	78.48	85.47	-0.10	0.03
6201	3,239.80	32.17198260	-103.09222924	103.36	92.85	-0.10	0.03
6202	3,240.32	32.17198565	-103.09223046	149.06	122.54	-0.10	0.11
6203	3,240.84	32.17198876	-103.09223168	177.93	152.58	-0.10	0.14
6204	3,241.36	32.17199213	-103.09223284	170.20	159.81	-0.10	0.12
6205	3,241.89	32.17199538	-103.09223422	181.95	160.86	-0.09	0.14
6206	3,242.41	32.17199825	-103.09223622	200.20	162.42	-0.09	0.15
6207	3,242.93	32.17200136	-103.09223799	197.07	162.15	-0.09	0.14
6208	3,243.45	32.17200494	-103.09223927	213.28	179.57	-0.08	0.17
6209	3,243.97	32.17200869	-103.09224071	209.88	203.52	-0.10	0.21
6210	3,244.50	32.17201269	-103.09224235	179.18	185.51	-0.09	0.21
6211	3,245.02	32.17201571	-103.09224478	155.66	158.91	-0.07	0.21
6212	3,245.54	32.17201779	-103.09224800	142.93	163.91	-0.07	0.23
6213	3,246.06	32.17202062	-103.09225069	126.84	175.16	-0.09	0.21
6214	3,246.59	32.17202398	-103.09225303	125.47	172.97	-0.08	0.20
6215	3,247.11	32.17202774	-103.09225376	120.51	181.68	-0.08	0.22
6216	3,247.63	32.17203171	-103.09225370	118.32	190.78	-0.08	0.27
6217	3,248.15	32.17203543	-103.09225301	128.09	194.84	-0.06	0.29
6218	3,248.67	32.17203908	-103.09225211	138.20	191.99	-0.08	0.32
6219	3,249.20	32.17204209	-103.09224868	172.15	203.24	-0.06	0.34
6220	3,249.72	32.17204499	-103.09224478	205.35	210.23	-0.04	0.40
6221	3,250.24	32.17204705	-103.09224060	211.45	218.09	-0.05	0.39
6222	3,250.76	32.17204905	-103.09223639	228.36	221.80	-0.06	0.40
6223	3,251.29	32.17205172	-103.09223219	246.17	214.92	-0.06	0.39
6224	3,251.81	32.17205433	-103.09222792	260.86	223.05	-0.07	0.40
6225	3,252.33	32.17205650	-103.09222301	282.07	252.31	-0.05	0.43
6226	3,252.86	32.17205856	-103.09221837	253.75	272.11	-0.05	0.43
6227	3,253.37	32.17206002	-103.09221522	243.98	272.31	-0.06	0.41
6228	3,253.90	32.17206147	-103.09221207	254.61	268.56	-0.06	0.40
6229	3,254.42	32.17206284	-103.09220904	268.67	270.27	-0.05	0.41
6230	3,254.94	32.17206473	-103.09220641	274.88	268.44	-0.05	0.44
6231	3,255.46	32.17206759	-103.09220448	260.86	246.56	-0.06	0.40
6232	3,255.98	32.17207047	-103.09220211	269.26	229.34	-0.06	0.37
6233	3,256.51	32.17207340	-103.09219916	283.52	230.66	-0.04	0.42
6234	3,257.03	32.17207578	-103.09219655	236.37	234.49	-0.04	0.40
6235	3,257.55	32.17207766	-103.09219422	227.93	246.17	-0.06	0.40
6236	3,258.07	32.17208069	-103.09219251	247.89	261.41	-0.05	0.43
6237	3,258.60	32.17208445	-103.09219120	255.35	275.59	-0.06	0.41
6238	3,259.12	32.17208823	-103.09218966	272.77	266.37	-0.05	0.46
6239	3,259.64	32.17209200	-103.09218803	303.44	249.38	-0.06	0.49
6240	3,260.16	32.17209554	-103.09218595	285.94	242.15	-0.06	0.44

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
6241	3,260.69	32.17209902	-103.09218374	275.94	222.11	-0.04	0.45
6242	3,261.21	32.17210242	-103.09218301	255.00	223.56	0.09	0.59
6243	3,261.73	32.17210580	-103.09218252	224.81	250.59	-0.01	0.53
6244	3,262.25	32.17210979	-103.09218138	228.63	271.45	-0.03	0.60
6245	3,262.77	32.17211378	-103.09218018	231.41	279.53	-0.03	0.53
6246	3,263.30	32.17211664	-103.09217825	225.74	265.39	-0.05	0.53
6247	3,263.82	32.17211947	-103.09217642	234.61	254.65	-0.04	0.52
6248	3,264.34	32.17212206	-103.09217530	252.46	253.87	-0.03	0.50
6249	3,264.86	32.17212473	-103.09217378	249.77	244.96	-0.05	0.50
6250	3,265.39	32.17212770	-103.09217072	272.77	235.31	-0.03	0.48
6251	3,265.91	32.17213041	-103.09216771	284.22	239.10	-0.05	0.46
6252	3,266.43	32.17213251	-103.09216481	278.40	252.27	-0.06	0.45
6253	3,266.95	32.17213497	-103.09216231	277.97	241.76	-0.07	0.42
6254	3,267.47	32.17213802	-103.09216050	262.58	216.99	-0.07	0.38
6255	3,268.00	32.17214119	-103.09215812	262.66	203.01	-0.07	0.38
6256	3,268.52	32.17214448	-103.09215507	263.75	234.45	-0.07	0.37
6257	3,269.04	32.17214734	-103.09215201	230.63	243.79	-0.08	0.32
6258	3,269.56	32.17214986	-103.09214894	211.48	227.23	-0.08	0.32
6259	3,270.09	32.17215231	-103.09214785	200.90	215.86	-0.09	0.29
6260	3,270.61	32.17215471	-103.09214794	205.04	211.48	-0.09	0.26
6261	3,271.13	32.17215788	-103.09214703	213.01	217.34	-0.10	0.27
6262	3,271.65	32.17216136	-103.09214572	215.00	186.95	-0.07	0.28
6263	3,272.17	32.17216472	-103.09214616	210.78	142.70	-0.08	0.25
6264	3,272.70	32.17216807	-103.09214703	188.56	141.80	-0.10	0.24
6265	3,273.21	32.17217123	-103.09214783	208.71	157.62	-0.07	0.26
6266	3,273.73	32.17217438	-103.09214863	211.17	174.61	-0.09	0.24
6267	3,274.26	32.17217686	-103.09214613	176.29	170.20	-0.09	0.24
6268	3,274.79	32.17217933	-103.09214356	166.29	148.91	-0.08	0.23
6269	3,275.31	32.17218226	-103.09214275	159.41	122.07	-0.08	0.22
6270	3,275.83	32.17218533	-103.09214193	126.09	98.87	-0.10	0.17
6271	3,276.35	32.17218933	-103.09214111	93.09	86.02	-0.09	0.15
6272	3,276.88	32.17219331	-103.09214068	75.35	92.23	-0.09	0.14
6273	3,277.40	32.17219721	-103.09214158	68.48	92.46	-0.12	0.13
6274	3,277.92	32.17220109	-103.09214349	72.34	98.24	-0.09	0.14
6275	3,278.44	32.17220491	-103.09214765	73.20	99.61	-0.10	0.14
6276	3,278.96	32.17220825	-103.09215129	88.24	110.43	-0.10	0.13
6277	3,279.49	32.17221084	-103.09215411	96.72	111.06	-0.11	0.18
6278	3,280.01	32.17221311	-103.09215650	100.20	98.52	-0.06	0.26
6279	3,280.53	32.17221502	-103.09215843	97.19	91.84	-0.02	0.27
6280	3,281.05	32.17221525	-103.09215886	96.99	90.70	0.00	0.29
6281	3,281.57	32.17221417	-103.09215813	96.88	90.20	0.02	0.27
6282	3,282.10	32.17221249	-103.09215750	95.47	91.02	0.14	0.35
6283	3,282.62	32.17221049	-103.09215692	96.64	91.41	0.18	0.39
6284	3,283.14	32.17220950	-103.09215621	97.62	90.86	0.13	0.41
6285	3,283.66	32.17220888	-103.09215546	98.36	91.06	0.08	0.43
6286	3,284.18	32.17220881	-103.09215523	98.67	91.33	0.07	0.41
6287	3,284.71	32.17220886	-103.09215512	98.44	91.06	0.07	0.44
6288	3,285.23	32.17220886	-103.09215508	98.48	90.66	0.07	0.43
6289	3,285.74	32.17220886	-103.09215504	98.59	91.52	0.07	0.45
6290	3,286.27	32.17220888	-103.09215499	98.63	91.09	0.07	0.44
6291	3,286.80	32.17220889	-103.09215497	98.63	90.74	0.07	0.43
6292	3,287.32	32.17220887	-103.09215532	98.79	90.82	0.07	0.44
6293	3,287.84	32.17220889	-103.09215566	98.95	90.98	0.07	0.41
6294	3,288.36	32.17220905	-103.09215600	98.87	91.02	0.07	0.41
6295	3,288.89	32.17220918	-103.09215618	98.59	90.98	0.06	0.43
6296	3,289.41	32.17220920	-103.09215590	98.83	91.06	0.07	0.43
6297	3,289.93	32.17220906	-103.09215553	98.56	91.13	0.07	0.45
6298	3,290.45	32.17220859	-103.09215499	98.87	90.55	0.07	0.44
6299	3,290.97	32.17220825	-103.09215470	98.79	90.39	0.07	0.42
6300	3,291.50	32.17220808	-103.09215473	98.52	90.94	0.06	0.44
6301	3,292.02	32.17220807	-103.09215484	98.75	90.90	0.06	0.44
6302	3,292.54	32.17220820	-103.09215502	98.63	90.78	0.06	0.43
6303	3,293.06	32.17220880	-103.09215549	98.79	90.74	0.07	0.44
6304	3,293.59	32.17220972	-103.09215616	98.79	90.98	0.07	0.41
6305	3,294.11	32.17220993	-103.09215648	98.95	90.47	0.07	0.41

RAM Energy, Queen Satellite 3 Site, Lea County, New Mexico, EM38 Suvey, February 28, 2017

				Ground Conductivity VD		In-Phase Metal Detection	
Reading	Seconds	Latitude	Longitude	CV-0.5m	CV-1.0m	IV-0.5m	IV-1.0m
6306	3,294.63	32.17220979	-103.09215664	98.87	90.70	0.06	0.43
6307	3,295.15	32.17220993	-103.09215674	98.52	90.59	0.07	0.44
6308	3,295.67	32.17221016	-103.09215684	98.67	90.94	0.07	0.45
6309	3,296.20	32.17221026	-103.09215682	98.87	91.21	0.07	0.46
6310	3,296.72	32.17221033	-103.09215677	98.67	90.82	0.07	0.46
6311	3,297.24	32.17221037	-103.09215669	98.59	90.78	0.07	0.45
6312	3,297.76	32.17221041	-103.09215661	98.59	90.55	0.07	0.46
6313	3,298.28	32.17221029	-103.09215668	99.06	90.47	0.07	0.47
6314	3,298.81	32.17221025	-103.09215677	98.98	90.43	0.06	0.49
6315	3,299.33	32.17221086	-103.09215713	99.02	90.66	0.06	0.47
6316	3,299.85	32.17221133	-103.09215740	99.22	90.63	0.06	0.49
6317	3,300.37	32.17221121	-103.09215726	99.26	90.78	0.06	0.48
6318	3,300.90	32.17221113	-103.09215715	99.22	90.94	0.06	0.48
6319	3,301.42	32.17221116	-103.09215711	99.22	90.78	0.06	0.49
6320	3,301.94	32.17221119	-103.09215707	99.22	90.94	0.06	0.49
6321	3,302.46	32.17221122	-103.09215703	99.06	91.02	0.06	0.50
6322	3,302.98	32.17221120	-103.09215701	99.18	90.70	0.06	0.49
6323	3,303.51	32.17221113	-103.09215703	99.02	90.74	0.06	0.47
6324	3,304.03	32.17221106	-103.09215705	99.10	90.47	0.06	0.49
6325	3,304.55	32.17221100	-103.09215708	99.53	90.39	0.06	0.48
6326	3,305.07	32.17221100	-103.09215704	99.14	90.59	0.06	0.48
6327	3,305.60	32.17221104	-103.09215695	99.18	90.59	0.06	0.49
6328	3,306.12	32.17221102	-103.09215693	99.18	90.70	0.06	0.49
6329	3,306.64	32.17221097	-103.09215694	99.30	90.98	0.06	0.50
6330	3,307.16	32.17221090	-103.09215698	99.41	90.98	0.06	0.49
6331	3,307.68	32.17221083	-103.09215703	99.14	91.45	0.06	0.49
6332	3,308.21	32.17221076	-103.09215706	99.14	91.13	0.06	0.49
6333	3,308.73	32.17221070	-103.09215708	99.18	90.39	0.06	0.49
6334	3,309.25	32.17221073	-103.09215710	99.14	90.47	0.06	0.49
6335	3,309.77	32.17221076	-103.09215713	99.30	90.63	0.06	0.49
6336	3,310.29	32.17221074	-103.09215710	99.49	90.70	0.06	0.48
6337	3,310.82	32.17221074	-103.09215707	99.34	90.43	0.06	0.49
6338	3,311.34	32.17221085	-103.09215704	99.26	90.39	0.06	0.49
6339	3,311.86	32.17221095	-103.09215701	99.26	90.78	0.06	0.50
6340	3,312.38	32.17221104	-103.09215698	99.49	91.02	0.06	0.50
6341	3,312.91	32.17221107	-103.09215696	99.30	90.86	0.06	0.49
6342	3,313.43	32.17221098	-103.09215695	99.18	90.55	0.06	0.50
6343	3,313.95	32.17221090	-103.09215698	99.18	91.02	0.06	0.50
6344	3,314.47	32.17221083	-103.09215707	99.26	91.21	0.06	0.48
6345	3,315.00	32.17221078	-103.09215714	99.30	91.37	0.06	0.50
6346	3,315.52	32.17221076	-103.09215718	99.14	91.33	0.06	0.50
6347	3,316.04	32.17221079	-103.09215722	99.06	90.31	0.06	0.51
6348	3,316.56	32.17221088	-103.09215726	99.18	90.86	0.06	0.49
6349	3,317.08	32.17221097	-103.09215732	99.73	90.74	0.05	0.50
6350	3,317.61	32.17221107	-103.09215739	99.53	90.82	0.06	0.49
6351	3,318.13	32.17221111	-103.09215737	99.30	91.13	0.06	0.51
6352	3,318.65	32.17221113	-103.09215731	99.34	91.02	0.06	0.50
6353	3,319.17	32.17221109	-103.09215726	99.26	90.63	0.06	0.51
6354	3,319.70	32.17221104	-103.09215722	99.14	90.51	0.06	0.51
6355	3,320.22	32.17221103	-103.09215719	99.18	90.90	0.07	0.50
6356	3,320.73	32.17221103	-103.09215718	99.26	90.74	0.06	0.51
6357	3,321.26	32.17221101	-103.09215720	99.38	90.39	0.07	0.52
6358	3,321.78	32.17221099	-103.09215723	99.41	90.90	0.06	0.51
6359	3,322.31	32.17221097	-103.09215720	99.06	90.98	0.06	0.51
6360	3,322.83	32.17221094	-103.09215716	99.18	90.78	0.07	0.50
6361	3,323.35	32.17221088	-103.09215713	99.26	90.63	0.06	0.50
6362	3,323.87	32.17221082	-103.09215707	99.18	91.09	0.06	0.51
6363	3,324.40	32.17221078	-103.09215699	99.45	91.21	0.06	0.51
6364	3,324.92	32.17221072	-103.09215691	99.77	91.06	0.06	0.52
6365	3,325.44	32.17221066	-103.09215688	99.57	90.78	0.05	0.52
6366	3,325.96	32.17221060	-103.09215682	99.34	90.63	0.06	0.51
6367	3,326.49	32.17221054	-103.09215672	99.49	91.17	0.06	0.51
6368	3,327.01	32.17221056	-103.09215665	99.53	90.66	0.06	0.52
6369	3,327.53	32.17221064	-103.09215659	99.22	90.86	0.07	0.51

NMOCD SITE ASSESSMENT CRITERIA

RAM Energy Resources

West Dollarhide Queens Sand Unit – Satellite 3

Section 31/Township 24 South/Range 38 East

Coordinates: 32.172405, -103.092167

DTW: NMOSE = 92 feet average; ChevronTexaco = 250 feet

DEPTH TO GROUND WATER

(Vertical distance from contaminants to seasonal high water elevation of ground water.)

Less than 50’ BGS	(20 points)	
50’ to 99’ BGS	(10 points)	**10**
Greater than 100’ BGS	(0 points)	

WELLHEAD PROTECTION AREA

(Less than 200’ from a private domestic water source, or; less than 1000’ from all other water sources)

YES	(20 points)	
NO	(0 points)	**0**

DISTANCE TO SURFACE WATER BODY

(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals, and ditches)

Less than 200’	(20 points)	
200’ to 1000’	(10 points)	
Greater than 1000’	(0 points)	**0**

RANKING SCORE TOTAL POINTS	**10**

RECOMMENDED REMEDIATION ACTION LEVELS FOR SOIL

IF RANKING SCORE IS:	>19	10 - 19	0 - 9
BENZENE (ppm)*	10	10	10
BTEX (ppm) *	50	50	50
TPH (ppm)**	100	1000	5000

* A field vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis.

** The contaminant concentration for TPH is the concentration above background levels.

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00084 POD2		CP	LE		2	4	36	24S	37E	678176	3561065*	1707	180	92	88
CP 00085 POD1		CP	LE	4	2	2	36	24S	37E	678261	3561768*	1737	109	82	27
CP 00514 POD1		CP	LE	2	2	2	05	25S	38E	681508	3560414*	1781	140	105	35
CP 00514 POD1	C	CP	LE	2	2	2	05	25S	38E	681508	3560414*	1781	140	105	35
CP 00084 POD1		CP	LE	2	2	2	36	24S	37E	678261	3561968*	1819	98	77	21

Average Depth to Water: **92 feet**
Minimum Depth: **77 feet**
Maximum Depth: **105 feet**

Record Count: 5

Basin/County Search:

County: Lea

UTMNAD83 Radius Search (in meters):

Easting (X): 679881.43 **Northing (Y):** 3561139.99 **Radius:** 2000

***UTM location was derived from PLSS - see Help**

2/21/18 9:55 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

GEONICS LIMITED
1745 Meyerside Dr. Unit 8, Mississauga, Ontario Canada L5T 1C6
Tel: (905) 670-9580
Fax: (905) 670-9204
E-mail:geonics@geonics.com
URL:http://www.geonics.com

EM38-MK2
GROUND CONDUCTIVITY METER
OPERATING MANUAL

GEONICS LIMITED

LEADERS IN ELECTROMAGNETICS

8-1745 Meyerside Drive, Mississauga, Ontario L5T 1C6

Tel: (905) 670-9580 Fax: (905) 670-9204

E-mail:geonics@geonics.com Web site:http://www.geonics.com

July 2009

EM38-MK2
GROUND CONDUCTIVITY METER
OPERATING MANUAL

TABLE OF CONTENTS

INTRODUCTION

This manual supplies users of the EM38-MK2 with operating information and some theoretical results to assist in the planning and interpretation of geophysical surveys. Additional information can be found in Geonics Technical Note TN-5, which outlines the factors affecting soil and rock conductivity, and Technical Note TN-6, which describes the general theory of terrain conductivity mapping using inductive electromagnetic techniques.

The EM38-MK2 provides simultaneous measurements of ground conductivity (Quad-Phase) and magnetic susceptibility (In-Phase) with two transmitter receiver coil separation at 1 m and 0.5 m, for 3 effective depth ranges; 1.5 m and 0.75 m in vertical dipole mode and two ranges , 0.75 m and 0.38 m, in horizontal dipole mode.

The instrument simultaneously measures 4 components; Quad-Phase and In-Phase for both 1 m and 0.5 m coil separations and provides 4 component output to a digital recorder (optional) connected to RS-232 port.

The EM38-MK2-1 provides simultaneous measurements of ground conductivity (Quad-Phase) and magnetic susceptibility (In-Phase) with one transmitter receiver coil separation at 1 m for 2 effective depth ranges; 1.5 m in vertical dipole mode and 0.75 m in horizontal dipole mode.

The instrument simultaneously measures 2 components; Quad-Phase and In-Phase and provides 2 component output to a digital recorder (optional) connected to RS-232 port.

For monitoring purposes, or measurement without a digital recorder, two meters on the front panel, duplicated by two meters on the side of the instrument, can be used to monitor results of two measured components depending on the setting of the mode switch in the following way:

a)	1 m	Quad-Phase (Q/P) for 1 m separation In-Phase (I/P) for 1 m separation	for EM38-MK2-1
b)	Q/P	Quad-Phase (Q/P) for 0.5 m separation Quad-Phase (Q/P) for 1 m separation	for EM38-MK2
c)	I/P	In-Phase (I/P) for 0.5 m separation In-Phase (I/P) for 1 m separation	for EM38-MK2
d)	0.5 m	Quad-Phase (Q/P) for 0.5 m separation In-Phase (I/P) for 0.5 m separation	for EM38-MK2

See Figure A

EM38-MK2 OPERATING INSTRUCTIONS

Operator should follow the steps outlined below **or** as an alternative, and more theoretical procedure follow Sections 2.2 to 2.5

1. EM38 OPERATING INSTRUCTIONS - Simplified Method

The following procedures are used to prepare the EM38-MK2 for survey operation. The suggested time interval between the various procedures are typical values; under adverse conditions they may have to be carried out more often and under good conditions less often, as dictated by survey experience. Since the procedure is similar for both coil separations, only the procedure for the 1 m coil separation will be described (with some exceptions).

1.1 Battery Test

The battery test should be carried out at the beginning of each day or when the battery voltage is suspected of being low. Check the battery voltage by setting the mode to BAT. The displayed reading on the display meters will be between 1500 and 720 for a good battery. If outside this range replace battery.

To remove the battery, undo two thumb screws holding the cover of the battery compartment at the bottom of the front panel. A Mallory MN1604 9-volt Alkaline battery or equivalent gives about 5 hours of continuous operation. For longer service (about 12 hours) we recommend an ENERGIZER–L522 9-volt Lithium battery.

The following steps are used to prepare the EM38-MK2 for survey operation.

1.2 Calibration Method for Instrument Zero

This calibration should be carried out two times per day unless the ground is very resistive in which case you would repeat it more often. Before calibration, especially if the instrument is exposed to a large temperature change prior to calibration, leave the instrument outside to stabilize for about five minutes.

IMPORTANT! Because of the high sensitivity of the EM38-MK2 it is advisable to remove all metal objects from wrists, fingers, neck and pockets during the calibration procedure. Sensitivity to metal objects, which is discussed in Section 2 is greatest near the coils at either end of the instrument.

Turn instrument on by setting the MODE switch to "1 m" (“.5 m” for 0.5 m coil separation) and follow proceeding steps for each coil separation.

Step 1

With the instrument in the air and in the horizontal dipole mode of operation (Fig. 1), set the Q/P and I/P readings to zero.

Step 2

Now adjust the Q/P zero control so that an arbitrary value (i.e H=10 mS/m) appears on the display, for Q/P reading. Rotate the EM38-MK2 to the vertical dipole mode and note the reading (hypothetically V=16 mS/m). Subtract the horizontal dipole reading from the vertical (V-H=6 mS/m).

Step 3

Finally, with the instrument still in the horizontal dipole mode, rotate the Q/P zero control until the display reads the value calculated in step 2. In this example it would be 6 mS/m. Now when you rotate the EM38 to the vertical dipole mode the reading should be 12 mS/m.

NOTE:

With the instrument at least 1.5 meters above ground or higher, the Q/P reading or conductivity should always satisfy the following equation:

$$V=2H$$

where V = vertical dipole mode reading
and
H = horizontal dipole mode reading

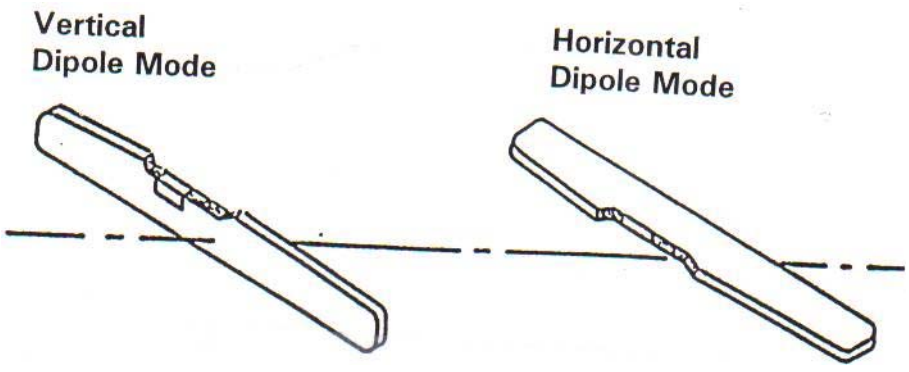


Fig. 1

If 0.5 m coil separation is used, set the MODE switch to 0.5 m position and repeat Steps 1 to 3, using .5 m controls. Note that the procedure that requires the lifting of the instrument to 1.5 m height (for 1 m separation) can be replaced by 0.75 m height.

METER 1

MODE	FUNCTION
BAT.	BATTERY
1m	Q/P 1m
Q/P	Q/P .5m
I/P	I/P .5m
.5m	Q/P .5m
OFF	BATT. OFF

METER 2

MODE	FUNCTION
BAT.	BATTERY
1m	I/P 1m
Q/P	Q/P 1m
I/P	I/P 1m
.5m	I/P .5m
OFF	BATT. OFF

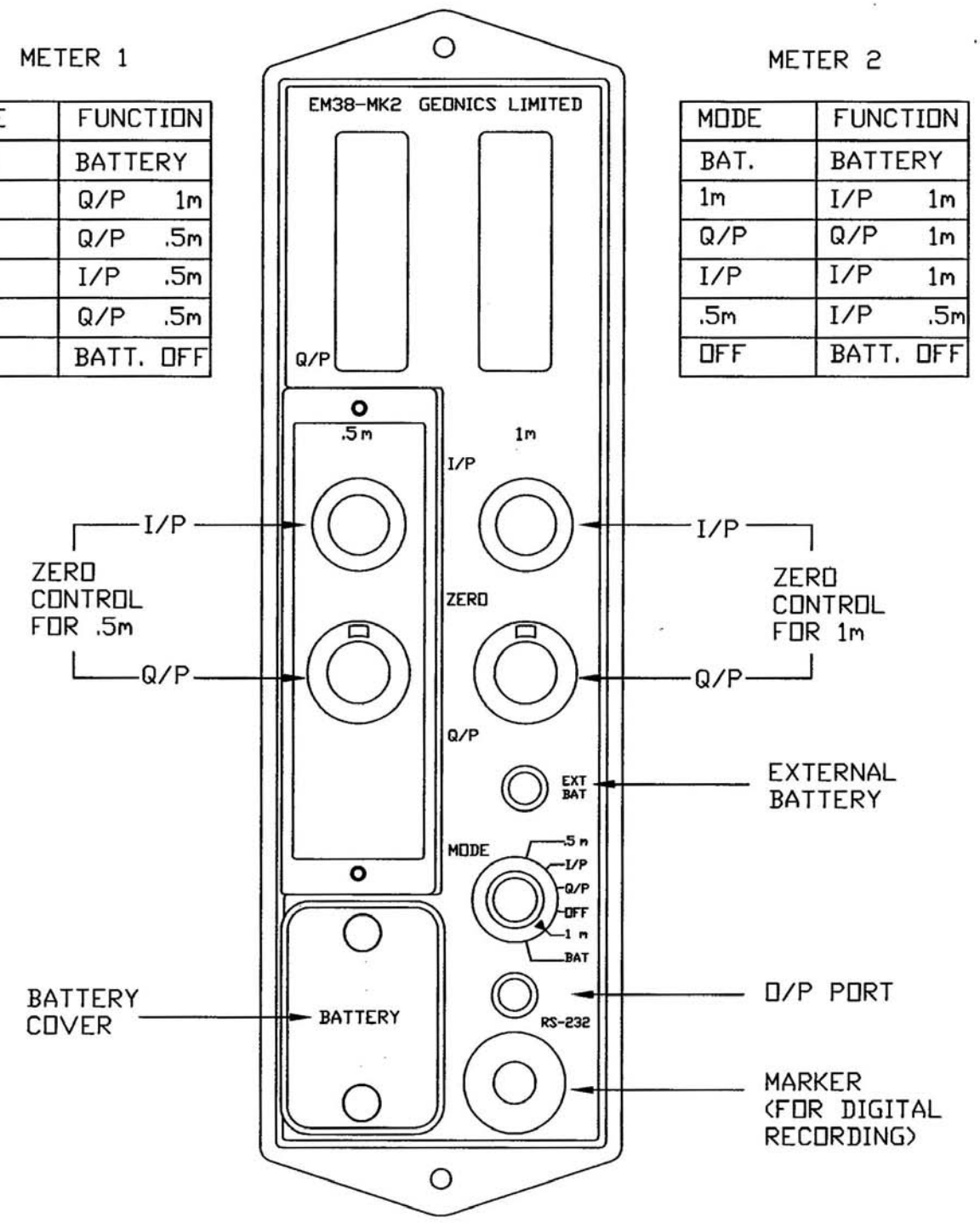


Fig. A

2. EM38-MK2 OPERATING INSTRUCTIONS - Expanded Method

The following procedures are used to prepare the EM38-MK2 for survey operation. The suggested time interval between the various procedures are typical values; under adverse conditions they may have to be carried out more often and under good conditions less often, as dictated by survey experience. Since the procedure is similar for both coil separations, only the procedure for the 1 m coil separation will be described

2.1 **Battery Test**

The battery test should be carried out at the beginning of each day or when the battery voltage is suspected of being low. Check the battery voltage as follow: set the MODE switch to BAT. In the case of a good battery meters will read over 720 units. If meters read below 720 units replace the battery. To remove the battery, undo the two thumb screws holding the cover of the battery compartment. A Mallory MN1604 9-volt Alkaline battery or equivalent gives about 5 hours of continuous operation. For longer service (about 12 hours) we recommend a ENERGIZER L522 9-VOLT Lithium battery.

Geonics also provides as an option, an external battery pack that give about 25 hours of continuous service. For more details see section 10.

2.2 **Initial Inphase Nulling**

The initial inphase nulling should be carried out at the beginning of the day at the first survey station. As described in Technical Note TN-6 the EM38 measures ground conductivity by inducing very small electrical "eddy" currents in the ground and measuring the magnetic field that these currents generate. A small transmitter coil located at the front of the EM38-MK2 is used to generate the time-varying primary magnetic field which induces the eddy currents in the ground, and a small receiver coil located at the end (middle for the 0.5 m separation) measures both this strong primary magnetic field and the much smaller secondary magnetic field arising from the eddy currents in the ground.

It is the task of the receiver electronics to measure the very small signal from the eddy currents in the presence of the much larger signal arising from the primary magnetic field. To facilitate this measurement an internally generated signal is used to cancel or "null" the large primary signal so that it does not overload the electronic circuitry. Because of the high sensitivity of the EM38-MK2 it is advisable to remove all metal objects from wrists, fingers, neck and pockets when making this adjustment (sensitivity to metal objects, which is discussed further in Section 2. is greatest near the coils at either end of the instrument).

To null the EM38-MK2, lift the instrument to a height of about 1.5 meters (5 feet) above the ground and place in the horizontal dipole mode of operation (Fig. 1). Set the Mode switch to the 1 m position and null the I/P meter to indicate zero by 1 m control. The EM38-MK2 is satisfactorily nulled when the instrument at a height of 1.5 meters the I/P meter reads approximately zero (± 10 mS/m).

2.3 **Instrument Zero**

This adjustment should be carried out at the beginning of each day at the first survey station and should be checked thereafter two times a day or more often when making measurements over ground of low conductivity. As referred to earlier, this adjustment is used to accurately set the instrument zero so that if the unit were taken to a great height above the earth (so as to no longer respond to terrain conductivity) it would actually read zero. As with all measurements, it is carried out with the long axis of the instrument horizontal as shown in Fig. 1.

The Mode switch is now in the 1 m position. Lift the instrument to a height of approximately 1.5 meters (5 feet) above the ground. The exact height is not critical but this height should be reasonably accurately maintained (± 5 cm or 2 inches) throughout the zeroing procedure. With the instrument in the horizontal dipole mode of operation (Fig.1) adjust the Q/P Zero control so that the Q/P meter reads approximately 50 mS/m. Note the meter reading in mS/m which we shall call H. Now without changing the instrument height, rotate the instrument about the long axis to the vertical dipole mode (Fig. 1) and once again read the Q/P meter. Note the new reading which we shall call V. Now it can be shown that, regardless of any layering in the earth, with the instrument at a height of 1.5 meters V should equal twice H; conversely if V is not equal to twice H we know that the zero is incorrectly set.

We can alter the instrument zero arbitrarily by adjusting the Q/P Zero Control. However we know that we must adjust this control by an amount such that when we repeat the vertical and horizontal dipole measurements after the adjustment (again at 1.5 meters) the new Q/P meter readings, which we shall call V′ and H′, must satisfy V′=2H′. Let C be the amount by which we alter the meter reading by adjusting the Q/P zero Control. How much should C be? If V and H are the readings before the adjustment and V′ and H′ are the readings after, then, since the correction C affects both V and H equally, V′=V+C and H′=H+C. But C has been chosen so that V′=2H′ and therefore

$$\frac{V'}{H'} = \frac{V+C}{H+C} = 2$$

which can be re-arranged to give C as

$$C = V\text{-}2H$$

Thus having obtained V and H, the initial meter readings in the vertical and horizontal dipole modes respectively, to set the zero correctly we first calculate C=V-2H, and then with the instrument in either position we adjust the Q/P Zero Control so as to alter the meter reading by the amount C (in the direction of higher conductivity if C is positive, lower conductivity if C is negative). Repeating the vertical and horizontal dipole measurements should now give VN=2HN and the zero is correctly set.

An example will help to illustrate this procedure. Suppose that with the instrument at 1.5 m height the meter reads 12 mS/m in the horizontal dipole mode and 35 mS/m in the vertical dipole mode.

Then H = 12 mS/m
V = 35 mS/m

and we calculate C = 35-2x12 = +11 mS/m

With the instrument at 1.5 meters and in the horizontal dipole mode (and thus still reading 12 mS/m) we now adjust the Q/P Zero to increase the meter reading by 11 mS/m and thus make the new reading HN = H+C = 12+11 = 23 mS/m. If we rotate the instrument to the vertical dipole mode it will now read 46 mS/m (which is twice 23) since the 35 mS/m has also been increased by 11 mS/m. The zero is correctly set.

Again, suppose that the readings are

H = 14 mS/m
V = 16 mS/m

we calculate C = 16-2x14 = -12

and with the instrument at 1.5 meters height and in the horizontal dipole mode we now adjust the Q/P Zero so as to reduce the horizontal dipole reading by 12 i.e., from 14 to 2, whereupon when we rotate the instrument to the vertical dipole mode it will read 16-12=4, which is twice 2. Again the zero is correctly set.

It was stated at the introduction to this section that this adjustment should be carried out at the first survey station at the start of each day. Suppose that this site happens to be a region of very high conductivity, say 1,000 mS/m to take an extreme example. If the conductivity is uniform with depth at an instrument height of 1.5 meters it can be shown that the correct value of V will be 100 mS/m and of H 53 mS/m for the 1 m coil separation. The accuracy of the zero setting will be for 1 m coil separation, of the order of 6 mS/m and less for 0.5 m coil separation. This is perfectly adequate for regions where the ground conductivity is 1,000 mS/m, but if the conductivity falls to a few tens of mS/m an error of 6 mS/m in the zero setting would become very serious. A small change in the zero setting will have negligible effect on the accuracy of the previous high conductivity readings and will greatly improve the accuracy in low conductivity areas.

In setting the zero, the operator will occasionally find that, on rotating the EM38-MK2 from the horizontal dipole position where he got H to the vertical dipole mode to get V the meter reading does not change, i.e., V=H. The answer to this puzzle is that he is standing over ground that is so resistive that at 1.5 meters height the EM38 no longer responds to the conductivity. The procedure outlined above still works however; now C=V-2H = -H, so that he will adjust the Q/P zero control to reduce the meter reading by H which, of course, adjusts it to read HN=0. Rotating the instrument will give VN=0 as well.

Particularly over resistive ground the operator must ensure that, when setting the instrument zero he is not near fences, cars or other large metallic objects. The reason for this is that the theory wherein $V_N=2H_N$ applies only for a uniform or a horizontally layered earth. The presence of large metallic objects will usually affect H more than V, and will thus give an error in the zero setting. The operator must also make sure that the ground is laterally uniform for a few meters on either side of the site where he is setting the zero. He must not, for example, attempt to set the zero in an abandoned landfill site where there are probably buried metallic objects, without first making sure that the surrounding area is reasonably uniform by carrying out a quick preliminary EM38-MK2 survey.

It should be noted that if the operator does not want to use the Q/P zero to physically alter the zero setting during the survey, he should take readings of V and H (with the instrument at 1.5 meters every so often during the day. Then, when he is doing the data plotting he should calculate C, using the above quotation and add or subtract the value of C to the survey readings to correct them using linear interpretation as necessary. In the first example given above, 11 mS/m would be added to the readings, and in the second example 12 mS/m would be subtracted from them.

2.4 **Final Inphase Nulling**

It was stated above that the inphase nulling was required in order to cancel or null the large primary signal from the transmitter so that it does not overload the electronic circuitry, thus the nulling procedure was carried out before setting the instrument zero, as described above. Unfortunately the magnetic susceptibility of soils causes an additional signal to be picked up by the receiver coil when the EM38-MK2 is located close to or is lying on the surface of the ground. Fortunately this signal decreases rapidly with the instrument height above the ground and is negligible at a height of 1.5 meters.

The additional signal is dealt with in one of two ways. If the survey is to be carried out in only the vertical or horizontal dipole mode the instrument is simply placed on the ground in the appropriate position and the residual signal arising from the magnetic susceptibility is nulled out exactly as described in Section 2.2 (except that the instrument is on the ground).

In the event that the zero level is to be checked during the survey, the nulling procedure should be repeated with the instrument at 1.5 meters before the zero check is carried out, and again when the instrument is placed back on the ground for further conductivity measurements. The magnetic susceptibility of the soil generally varies relatively slowly with location so that checking the null on the ground every half hour or so is usually sufficient.

Even though the EM38-MK2 with two coils separation provides information from two different depths, sometimes surveys are carried out in both the vertical and horizontal dipole configurations in order to obtain more information about the layering, as described later in this note. Unfortunately, the signal from the susceptibility causes a positive meter deflection in the vertical dipole mode and a negative meter deflection in the horizontal dipole mode, so that even though the instrument is correctly nulled for a vertical dipole measurement, re-nulling is necessary for the horizontal mode measurement, significantly slowing survey speed. However, this procedure must be followed when making accurate measurements in both the vertical and horizontal dipole modes on low conductivity ground having significant magnetic susceptibility.

On some occasions it may be quicker to perform the survey twice, first in one mode and then in the other.

If minimal effect from any susceptibility variations is desired (for example in archaeological applications) then the inphase nulling procedure described above must be carried out before every measurement and the faster way is probably to perform the survey twice, once in each dipole.

2.5 **Equipment Sensitivity Checks**

To approximately check the sensitivity of the instrument, with the instrument at 1.5 meters in the horizontal dipole position set the Mode switch to the 1 m mark and rotate the Q/P zero control clockwise one turn. Meter should change between 20 and 28 mS/m, for 1 m coil separation and 28 and 30 mS/m for 0.5 m coil separation. Make sure that the zero control is reset to its original position.

2.6 **Automatic Calibration of EM38-MK2**

An optional retractable monopod set-up in combination with data logger is provided for an automatic calibration of EM38-MK2. The set-up provides means of automatic zeroing of the EM38-MK2. Figure 8 shows the calibration set-up with the instrument in the vertical (VD) and horizontal (HD) dipole mode, the two geometry used during the automatic calibration of the instrument. The detailed description of the calibration procedure is described in the EM38-MK2 logger manual.

2.7 **Marker Switch**

The orange push button switch on the unit front panel can be used during digital data recording to either initiate recording of a data point in “manual” recording mode or mark a particular station during the automatic mode recording. More detailed information is provided in the EM38-MK2 logger manual.

3. SURVEY PROCEDURES

To carry out a survey with the EM38-MK2, one simply lays the instrument on the ground to take a reading. This can be done either in the vertical dipole mode or in the horizontal dipole mode, with important differences in the depth response to be described later in this manual.

The EM38-MK2 yields good spatial resolution and measurement stations should be as close as a meter apart (0.5 m for 0.5 m coil separation) if maximum resolution is to be employed. The decision as to the correct station spacing will be based on an estimate of the lateral dimensions of the anticipated conductivity anomalies. Since measurements can be made very quickly it is better to have too many measurements with good spatial resolution rather than too few.

This instrument is a sensitive detector of small changes in ground conductivity and is responsive to metal objects either in or on the ground or on the operator. Metal chains around the neck or wrist, metal wristwatch straps, metal framed glasses, steel supports in boots, coins, keys, or knives in pockets can be offenders when they are located close to the coils (which are at either

end of the instrument) either when on survey or when the null or zero is being set. To check whether a metal object is giving a detectable response simply move the object a few meters away from the instrument and note whether the reading changes. No change -- no problem.

How near can the operator approach a conductive object such as a pipe, fence, etc., and still ensure that the readings are accurate? In a laterally uniform ground the EM38-MK2 should read the same regardless of the azimuth of the long axis (i.e., whether it is pointing north/south or east/west). Any significant difference in the reading in two directions at right angles is an indication of a significant lateral disturbance. To check whether a pipe or fence is producing an erroneous reading make two measurements of the ground conductivity, one reading with the long axis pointing to the object and a second reading at right angles. If the two readings differ by more than 10% a significant disturbance is being felt and the measurement point must be located further away from the object.

It should be noted when traversing a pipe on a survey line perpendicular to the pipe direction in the vertical dipole mode that the reading over the pipe may decrease and attempt to go negative. If the goal is to locate the pipe one should again rotate the instrument 90^{o} so that the long axis is parallel to the pipe in which case the apparent conductivity reading becomes a maximum when (a) the instrument is directly over the pipe and (b) also pointing in the same direction as the pipe. These remarks apply in the vertical dipole mode, which should be used for the detection of pipes since the exploration depth is greatest. It is, of course, assumed that the pipe is conductive i.e., is made of iron, steel or copper.

4. ELECTRICAL INTERFERENCE

Occasionally electrical interference will be encountered, either from cultural sources (50/60 Hz power lines, industrial noise) or from atmospheric electricity (spherics). Noise from cultural sources will often manifest itself as slow or rapid semi-periodic oscillations of the output meter reading which must be averaged out by the operator. The amplitude of these excursions may be a function of the coil orientation and will also be largest on the most sensitive (low conductivity) range.

Atmospheric noise will usually show itself as sporadic changes of the meter reading, usually most severe in the horizontal dipole mode. In this case the receiver operator must again average out the noise, or restrict himself to the vertical dipole mode of operation, or wait until the spherics have decreased.

5. NOTES ON SURVEY INTERPRETATION

5.1 **Linearity of Response**

The indicated apparent conductivity measured with the EM38-MK2 is accurate over most of the range of the instrument.

5.2 **Relative Response with Depth**

TN-6 discusses in detail the fact that it is possible to calculate the relative response from material at different depths for both the vertical and horizontal dipole mode coil configurations. The

results for the EM38-MK2 are shown in Fig. 2A for 1 m coil separation and 2B for 0.5 m coil separation where the function φ gives the fractional response to the meter reading from a thin horizontal sheet of thickness dz buried at a depth z. We see that in the vertical dipole mode the relative sensitivity to near surface material is very low (being zero right at the surface), that the sensitivity increases with depth, becomes a maximum at about 0.4 (0.2 m for 0.5 m coil separation) meters and decreases slowly thereafter. On the other hand in the horizontal dipole mode of operation the relative sensitivity is greatest to material at the surface, and decreases thereafter with depth. The large difference in the response to near surface material in the two coil configurations is important; the horizontal dipole mode will be relatively sensitive to variations in the near surface whereas the vertical dipole mode will be insensitive.

This difference in sensitivity allows a quick method for determining whether the near surface material is more or less conductive than material at depth. One simply places the instrument on the ground in the vertical dipole mode, notes the reading, rotates the instrument to the horizontal dipole mode and again notes the reading. If the second reading is greater than the first, the near surface material is the more conductive and vice versa. If both readings are essentially the same then the conductivity of the ground is essentially uniform to a depth of about 1.5 meter, the effective depth of exploration for the EM38-MK2.

5.3 **Multi-Layer Calculations**

The functions R_v (z/s) and R_h (z/s) referred to in TN-6 are illustrated in Fig.3. It will be recalled that these curves give the fractional response arising from all material below depth z for both the vertical and horizontal dipole modes (the curves in TN-6 refer to the depth normalized with respect to the intercoil spacing which for the EM38 is one meter so the curves apply directly). These curves, when used with the techniques outlined in TN-6, allow simple calculation of the instrument response in either coil configuration to a multi-layered horizontally stratified earth.

5.3.1 **Variation of EM38 Response with Height**

The curves of Fig. 3 also give the decrease of the apparent conductivity reading when the instrument is lifted above a uniformly conductive earth, since in general for a two-layered earth

$$\sigma_a = \sigma_1[1-R(z_1)]+\sigma_2 R(z_1)$$

and if the first medium is air, with conductivity $\sigma_1=0$

$$\sigma_a = \sigma_2 R(z_1)$$

where z_1 is now the instrument height above the ground.

Examination of the curves shows that in the vertical dipole mode an increase of elevation from 0 to 20 cm results in a reduction of apparent conductivity reading to 92.5% of the surface reading, whereas in the horizontal dipole mode the reading is reduced to 68%. We thus see that the

instrument reading in the horizontal dipole mode is more sensitive to instrument height or conversely that in regions where the surface topography varies rapidly on the order of 10-20 cm we can expect some scatter in the horizontal dipole readings.

In the event that the earth is two-layered it is possible to resolve this geometry by lifting the EM38 above the ground and making a sequence of measurements at various heights in both the horizontal and vertical dipole mode. The curves shown in Figs. 4 and 5 illustrate the fall-off with height of the apparent conductivity for a variety of two-layered configurations; to employ them one simply plots the measured apparent conductivity with height on a piece of transparent paper to the same scale as the figures and translates the plot vertically or horizontally across the various figures until a match is obtained. The various layer parameters are then calculated as in the following example, using the measured values of apparent conductivity from Table 1.

TABLE 1
Apparent Conductivity (mS/m)

h (m)	Vertical Dipole	Horizontal Dipole
0.0	93	77
0.5	62	36
1.0	41	23
1.5	29	16
2.0	23	12

By translating this data as described above on top of the various curves of Fig. 4 we see that good agreement is achieved for t=0.3 m and k=$\mathbf{F}_2/\mathbf{F}_1$=2. Furthermore we note that, in the vertical dipole mode $\mathbf{F}_a/\mathbf{F}_1$=1.85 when $\mathbf{F}_a$=93 mS/m. Therefore $\mathbf{F}_1=\mathbf{F}_a/1.85$=50 mS/m, $\mathbf{F}_2=2\mathbf{F}_1$=100 mS/m, and t=0.3 m, fully resolving the two-layered geometry.

It should be noted that these curves are also useful for a three-layered earth geometry where the upper layer is relatively resistive compared with the other two, as illustrated in Fig. 6. In this case we simply assume that $\mathbf{F}_1$=0 and that this layer effectively prevents us from laying the instrument on the more conductive second layer. The fall-off with height of the apparent conductivity over such a geometry will still be as shown in Figs. 4 and 5 except that when a good match to one of these curves has been obtained it will be found that at a measured instrument height of zero meters the appropriate curve will still indicate a finite height, the value of which is the actual thickness of the upper resistive layer.

The user is cautioned that, to the accuracy with which the measurements can be made, more than one set of the curves shown in Figs. 4 and 5 may match the field data, in which case he must rely on other factors (such as knowledge of the probable geology) to decide which model is more appropriate.

5.3.2. **Simplified Two-layered Earth Interpretation**

In general, a two-layered earth has three unknown quantities, $\mathbf{F}_1$, $\mathbf{F}_2$, and t, whereas measurements made with the EM38-MK2 on the ground produce only two measured quantities, $\mathbf{F}_{av}$ (the apparent conductivity in the vertical dipole mode) and $\mathbf{F}_{ah}$ (the apparent conductivity in the horizontal dipole mode). If one of the two unknown conductivities is much greater than the other and we may assume that the smaller conductivity is zero we are left with only two unknowns and the problem is fully resolved. If $\mathbf{F}_1 >> \mathbf{F}_2$ we obtain the conductivity and the thickness of the upper (conductive) layer; if $\mathbf{F}_2 >> \mathbf{F}_1$ we obtain the depth to and the conductivity of the lower (conductive) layer.

Given $\mathbf{F}_{ah}$ and $\mathbf{F}_{av}$ the procedure is as follows: if $\mathbf{F}_{av} > \mathbf{F}_{ah}$ calculate the ratio $\mathbf{F}_{ah} / \mathbf{F}_{av}$ and with this ratio use curve (1) Fig. 7 to determine z, the depth to the conductive substrate. Given z, use Fig. 3 to obtain either $R_h(z)$ or $R_v(z)$ whence

$$\sigma_2 ' \frac{\sigma_{ah}}{R_h(z)} ' \frac{\sigma_{av}}{R_v(z)}$$

and the problem is solved.

If on the other hand $\mathbf{F}_{ah} > \mathbf{F}_{av}$, calculate $\mathbf{F}_{av} / \mathbf{F}_{ah}$ and with this ratio use curve (2) in Fig. 7 to determine z, the thickness of the conductive upper layer. Given z use Fig. 3 to obtain either $R_h(z)$ or $R_v(z)$ whence

$$\sigma_1 ' \frac{\sigma_{ah}}{1 \& R_h(z)} ' \frac{\sigma_{av}}{1 \& R_v(z)}$$

Note that in the event that neither $\mathbf{F}_1 >> \mathbf{F}_2$ or $\mathbf{F}_2 >> \mathbf{F}_1$ it is still possible to use this procedure to define an apparent conductivity and an apparent thickness (or depth) which should be reasonably valid as long as a reasonable conductivity contrast exists. If the earth has more than two layers this procedure defines the equivalent two layered earth.

6. MEASURING SOIL MAGNETIC SUSCEPTIBILITY

It is a simple matter to measure the magnetic susceptibility of the upper half meter of the soil using the EM38-MK2 in the vertical dipole mode. Set the Mode switch to the I/P position so that the instrument is measuring the inphase component from the ground and lift the instrument to a height of approximately 1.5 meters above the ground. Set the meter reading to approximately 50 mS/m using the I/P zero controls and note the apparent conductivity reading at this height. With the Mode switch still in the I/P position, lower the instrument to the surface and again measure the apparent conductivity. It will be observed that as the instrument is lowered, the meter reading initially swings to lower conductivity, then returns to the conductivity

which was indicated at the height of 1.5 meters and finally increases to a larger apparent conductivity.

The magnetic susceptibility (in RMKS units) is then given by

$$K = 57 \times 10^{-6} \Delta\sigma_a (mS/m) \qquad \textit{(for 1 m)}$$

$$K = 14.5 \times 10^{-6} \Delta\sigma_a (mS/m) \qquad \textit{(for 0.5 m)}$$

or in CGS units by

$$K = \frac{57 \times 10^{-6}}{4\pi} \Delta\sigma_a (mS/m) \qquad \textit{(for 1 m)}$$

$$K = \frac{14.5 \times 10^{-6}}{4\pi} \Delta\sigma_a (mS/m) \qquad \textit{(for 0.5 m)}$$

where ΔF_a is the difference in the apparent conductivity measured when the instrument is on the ground and elevated to 1.5 meters.

7. OUTPUT UNITS

The EM38 is calibrated so that under the low induction number approximation the quadrature component output (Q/P) reads directly in apparent conductivity (σ_a). The inphase component output (I/P) on the EM38-MK2 also reads in units of mS/m; where 28.5 ppt (7.12 for 0.5 m) of the secondary field relative to the primary field corresponds to 1,000 mS/m.

The following relation can be used to convert mS/m to ppm: 1 mS/m ≡ 28.5 ppm (7.12 for 0.5 m)

$$\text{where 1 ppm (parts per million)} = \frac{1}{1000} \text{ ppt (parts per thousand)}$$

When the instrument is used with a digital data logger or computer the I/P readings in mS/m are automatically converted to ppt.

8. CONCLUDING REMARKS

It is hoped that the material given in this manual will assist in survey interpretation. It should be borne in mind that the strength of the EM38-MK2 lies in the speed and accuracy with which a reconnaissance conductivity survey can be carried out. While the instrument was not designed

for detailed sounding of conductivity with depth it gives very useful results when the earth can be approximated by a two-layer mode.

9. COMMUNICATON WITH EXTERNAL LOGGER

EM38-MK2 is designed to communicate with an external logger in two different ways: a) through an RS232 serial port via cable connection or b) via a wireless Bluetooth connection. The choice which to use will depend on the system configuration. For short (up to 10 metres) non obstructed distances between the logger and the EM38, the wireless Bluetooth communication is more convenient. For an application like instrument installation on the trailer, where there may be obstructions between the instrument and the logger, an RS232 cable communication may have to be used.

The obvious advantage of wireless communication is there is no need for a cable and avoidance of possible interference from the cable if the communication cable is moving around the instrument sensors.

A more detailed description on the use of two communication method is provided in the EM38-MK2 Logger Manual.

10. OPTIONAL COMPONENTS

10.1 External Battery

A provision is provided on the instrument front panel for use of an external battery. Depending on the specific application, trailer mount for example, it may be convenient to use an external battery to extend the battery service.

The external battery voltage should be between 9 to12 V. The required supply current is 50 mA. To estimate the approximate service life of the battery, divide battery capacity in mA/h by 50. For example a small fully charged gel cell battery with a capacity of 1.3 A/h (1300 mA/h) will give approximately 25 hours of service. Note that the internal battery should not be removed from the instrument even when the external battery is used.

10.1.1 External Battery Pack

The instrument can be supplied as an option with a rechargeable battery pack. The pack contains a battery that when fully charged will last for about 25 hours of continuous operation.

To determine if the battery will require charging or replacing soon, the battery voltage can be measured with a battery tester.

To check the battery voltage with a battery tester, insert the tester into the socket on the battery pack panel.

The fully charged battery will read above 13 V. Recharge the battery if its voltage is below 10.5 V.

The battery can be charged by attaching the battery charger to the connector on the battery pack. Remember to connect the charger to the battery before applying power to the charger. Completely charging a full discharged battery takes about 8 hours. To prevent the defective charger from damaging the instrument power supply PCB, do not change the battery, when the connected to the EM38-MK2 console.

Figure 9 shows the components of the external battery pack.

10.1.2 **External Battery Care**

The external battery pack contains Pb/gel type of batteries. Pb/gel batteries work on the same principle a Pb/acid batteries. Gel is used in the place of acid, and the batteries are sealed. A a result they can be shipped by parcel post as well as by passenger and cargo aircraft (cf. IATA Restricted Cargo Regulations, Article 1924).

The Pb/gel batteries can be fully recharged from total discharge several hundred times. If you typically use only a fractions of the battery capacity before recharging, the number of possible recharges increases.

The batteries maintain full capacity regardless of the pattern of use. But their capacity will eventually decrease with age.

From full charge, the batteries will lose 2 to 3% of their charge per month when stored at 20˚C.

Deep Discharge Protection

The Dryfit battery, unlike conventional lead storage batteries, is protected against excessive discharge. In the event that a battery remains connected to a load for an excessive period of time, deep discharge protection ensures that the battery can be recharged without permanent damage. After 30 days of deep discharge, batteries should be recharged for a period of 48 hours. A completely discharged battery should not be left for longer than 30 days without recharging.

After re charge, it can be expected that the batteries will exhibit a loss in charge capacity, batteries should be run through a serial of (at least three) cycles of discharge and recharge.

Storage Conditions

It is important that the battery is stored fully charged. After use, set the battery on charge and keep it on till next use. If it is not possible to keep the battery continuously on charge, it should be stored fully charged at a mean ambient temperature of +20˚C and recharged after a maximum of 6 months. At higher temperatures, the period will be shorter, and at lower temperatures, will be extended. Since the specific gravity of the electrolyte will fall as a state of charge is reduced, causing the freezing point to rise, only full charged batteries should be stored at extremely low temperatures. Given that storage in the fully charged state discharge should not be allowed to fall below 50% of the charged state.

10.2 **Protective Housing**

An optional protective housing (see Figure 10) is designed to give the instrument protection from dust, mechanical shocks, as well as to improve instrument stability (drift) as a result of sudden change in environmental temperature. The housing is especially useful when the instrument is in a cart operating mode. The openings on the housing cover are to allow for connection to the external battery and to the recording device.

10.3 **Extender Arm**

A collapsible extender arm (see Figure 11) can be used to conveniently carry the instrument over the survey area, either in vertical or horizontal dipole mode. The switch on the top of the hand is connected, via an interconnecting cable, in parallel with the marker switch on the instrument. It can be used, during digital data recording, to either initiate recording or make markers for particular stations as described in section 2.7.

11. EM38-MK2 INSTRUMENT SPECIFICATIONS

Measured Quantity	:	Apparent conductivity of the ground in millisiemens per metre (mS/m) at each coil separation
	:	Inphase response in parts per thousand (ppt) of secondary to primary magnetic field at each coil separation
Conductivity Ranges	:	0 to 1,000 mS/m (4 digit digital meter)
In-Phase Range	:	± 28 ppt (1,000 mS/m) for 1 m separation ± 7 ppt (1,000 mS/m) for 0.5 m separation
Measurement Precision	:	± 0.1% of full scale deflection
Primary Field Source	:	Self-contained dipole transmitter
Sensor	:	Two self-contained dipole receivers
Intercoil Spacing	: :	1 and 0.5 metres for EM38-MK2 1 metre for EM38-MK2-1
Operating Frequency	:	14.5 kHz
Communication	: :	a) RS-232 b) Bluetooth™ 1.2 - wireless
Temperature Range	:	-30°C to +50°C
Power Supply - Internal	:	9V Transistor radio battery (e.g. Mallory MN1604 or ENERGIZER L522)
Power Supply - External	:	Receptacle provided for external 9 to 12 VDC battery
Battery Life	:	5 hours continuous for MN1604 12 hours continuous for L522

<u>WEIGHT AND DIMENSIONS</u>

Instrument	:	5.4 kg	107x17x8 cm
Shipping	:	14.0 kg	114x20x26 cm

July 2008

12. APPENDIX

(i) Schematic Diagram of Vertical and Horizontal Dipole Positions
(ii) Relative Response Curves
(iii) Cumulative Response Curves
(iv) Two Layer Curves
(v) Automatic Calibration Set-up
(vi) External Battery Pack and Charger
(vii) Protective Housing
(viii) Extender Arm
(ix) Communication Protocol
(x) Gain Calibration Check

i)

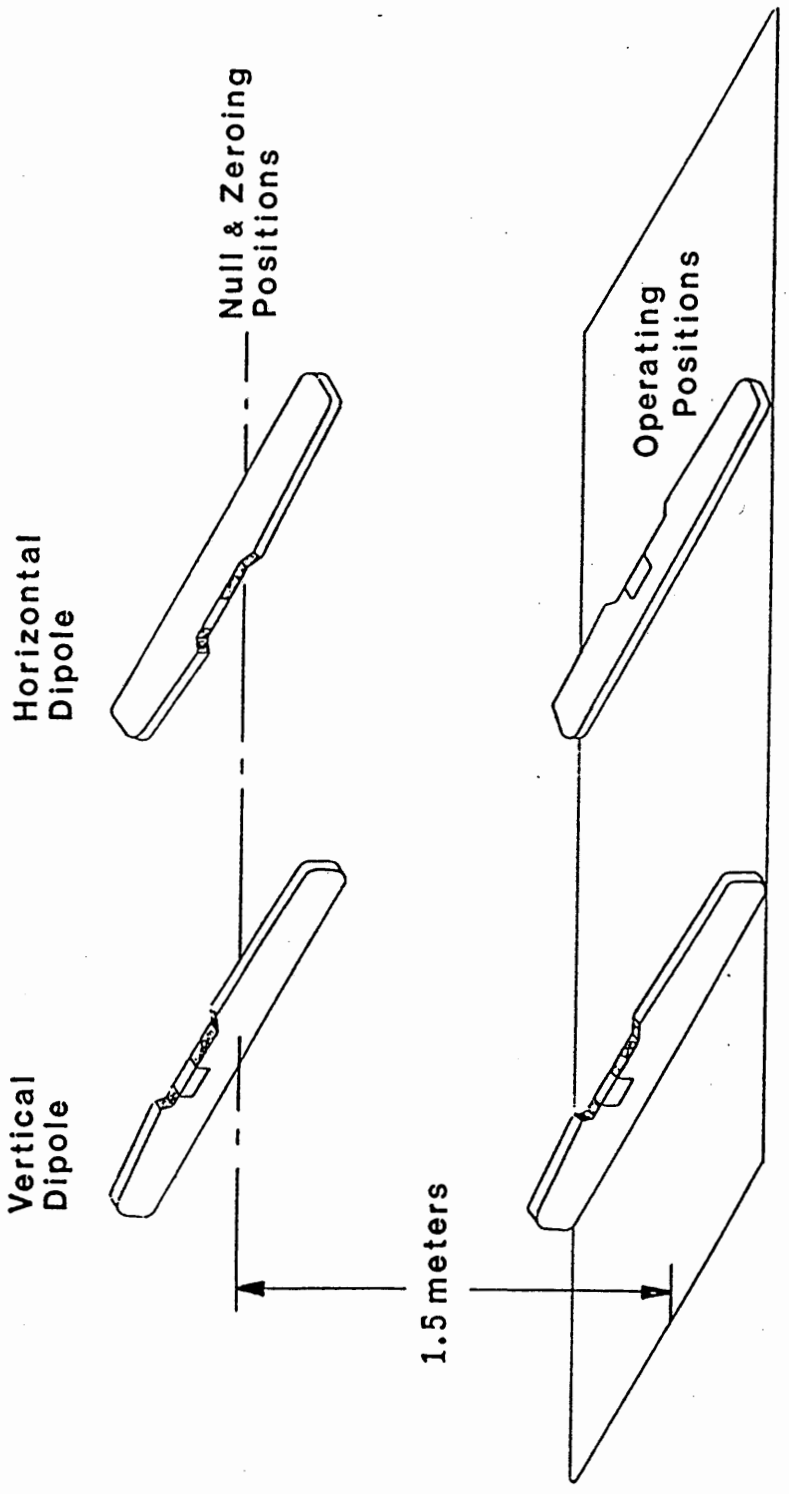


Fig. 1A Vertical and Horizontal Dipole Positions

EM38-MK2 RELATIVE RESPONSE

$Z := 0, .01 .. 10$

$$\Phi v(Z) := \frac{4 \cdot Z}{\left(4 \cdot Z^2 + 1\right)^{1.5}} \qquad \Phi h(Z) := 2 - 4 \cdot \frac{Z}{\left(4 \cdot Z^2 + 1\right)^{.5}}$$

$s := 1 \quad m$

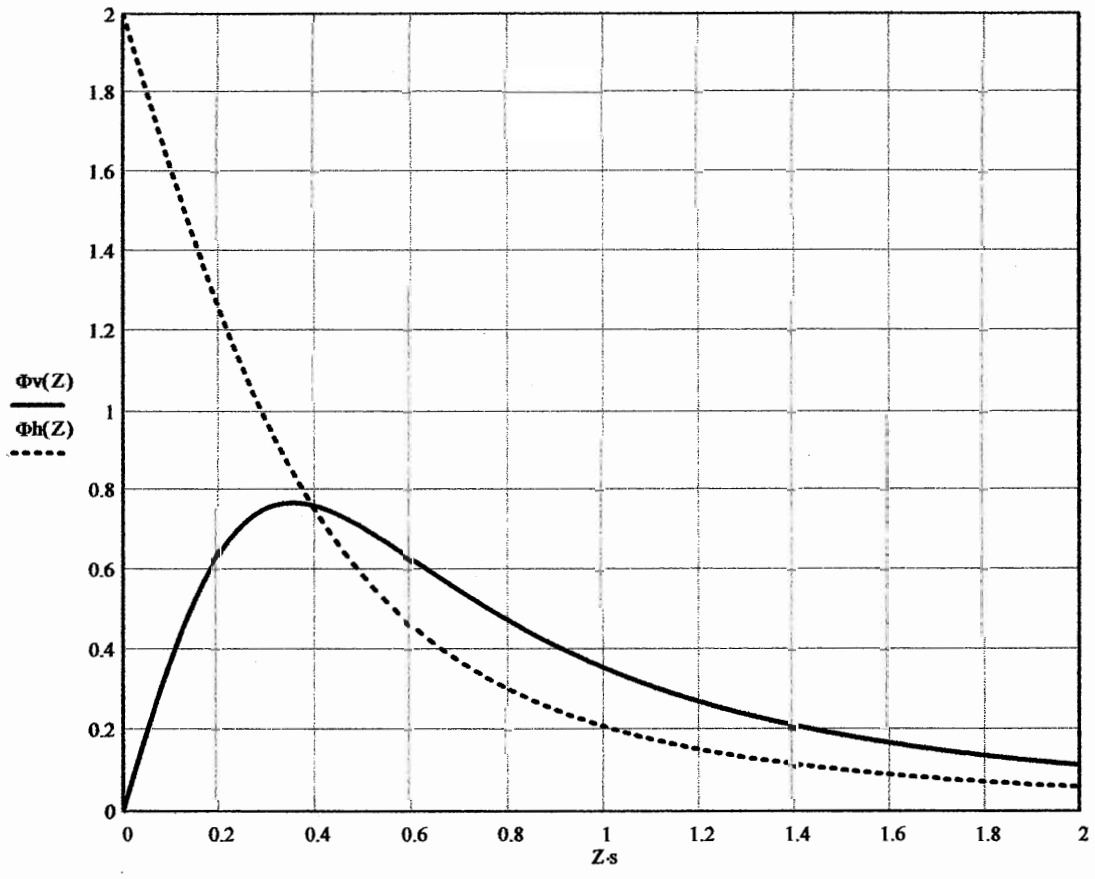


Fig. 2A

EM38-MK2 RELATIVE RESPONSE

$Z := 0, .01 .. 10$

$$\Phi v(Z) := \frac{4 \cdot Z}{\left(4 \cdot Z^2 + 1\right)^{1.5}} \qquad \Phi h(Z) := 2 - 4 \cdot \frac{Z}{\left(4 \cdot Z^2 + 1\right)^{.5}}$$

$s := .5 \ m$

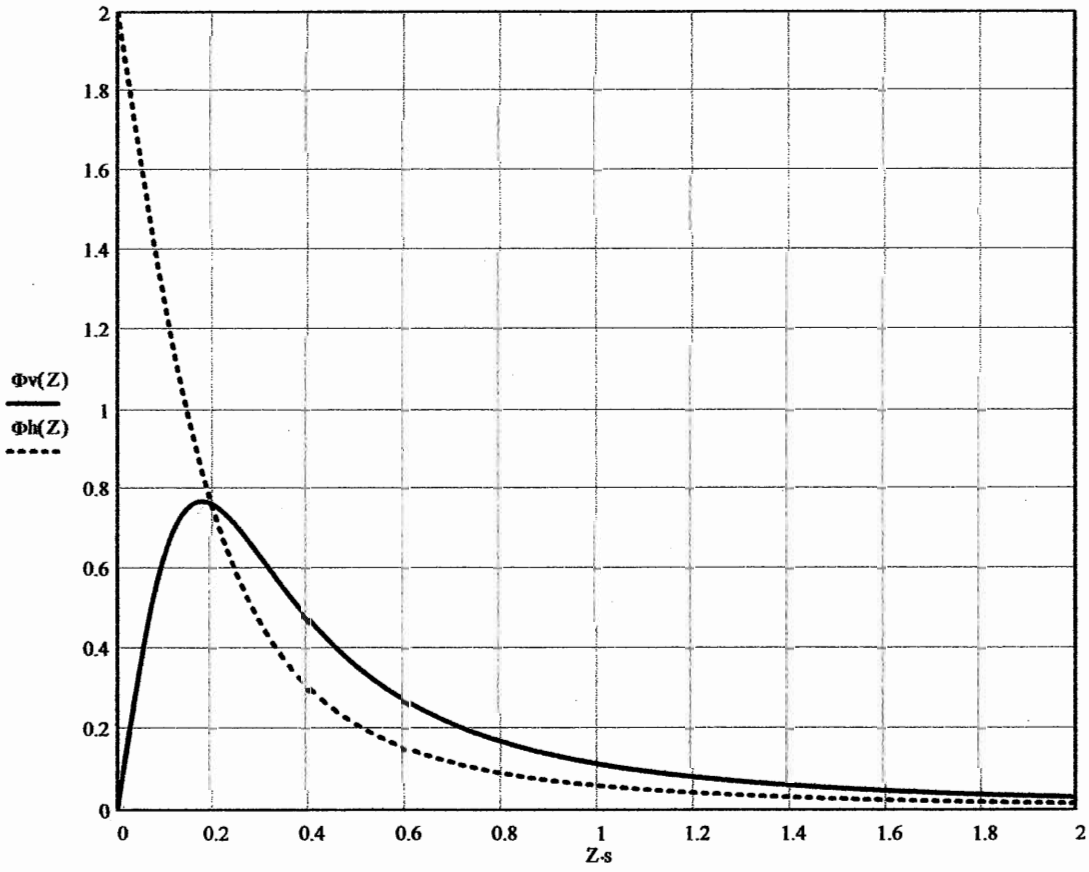


Fig. 2B

EM38-MK2 CUMULATIVE RESPONSE

$Z := 0, .01 .. 10$

$$Rv(Z) := \frac{1}{\left(4 \cdot Z^2 + 1\right)^{.5}} \qquad Rh(Z) := \left(4 \cdot Z^2 + 1\right)^{-.5} - 2 \cdot Z$$

$s := 1 \quad m$

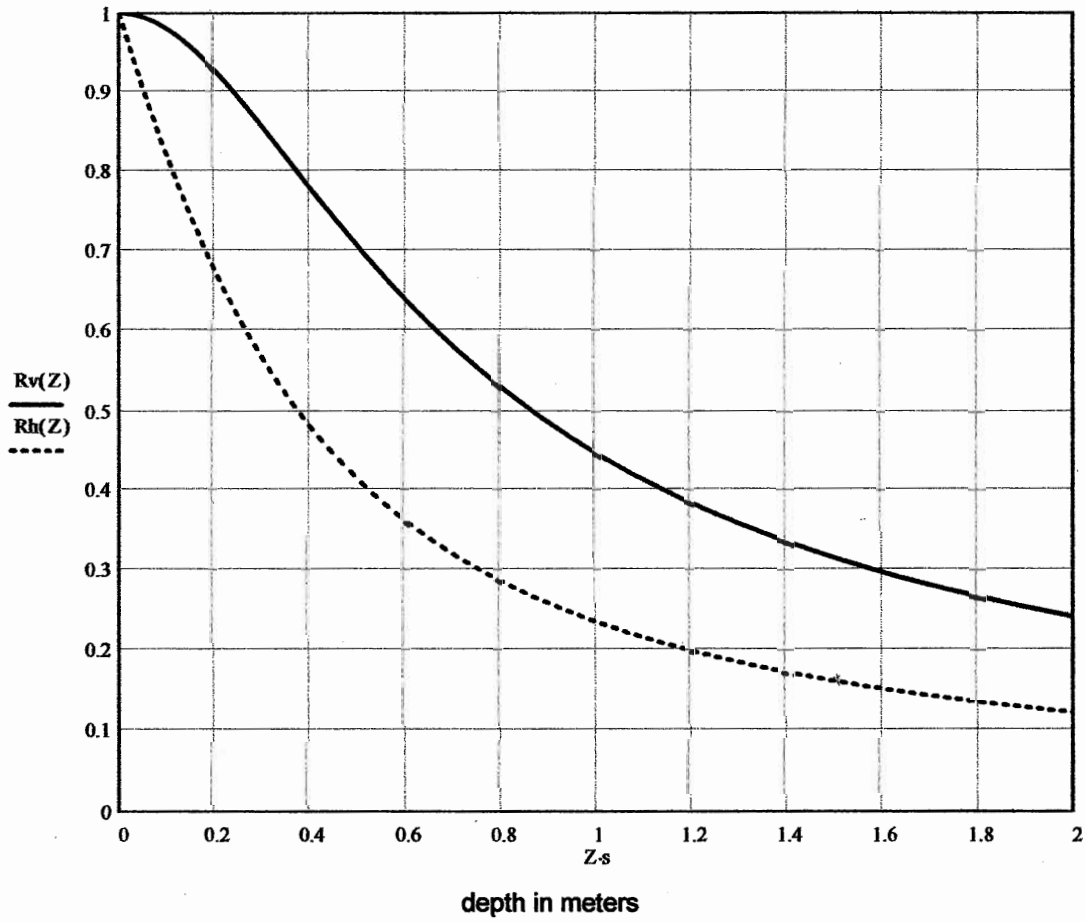
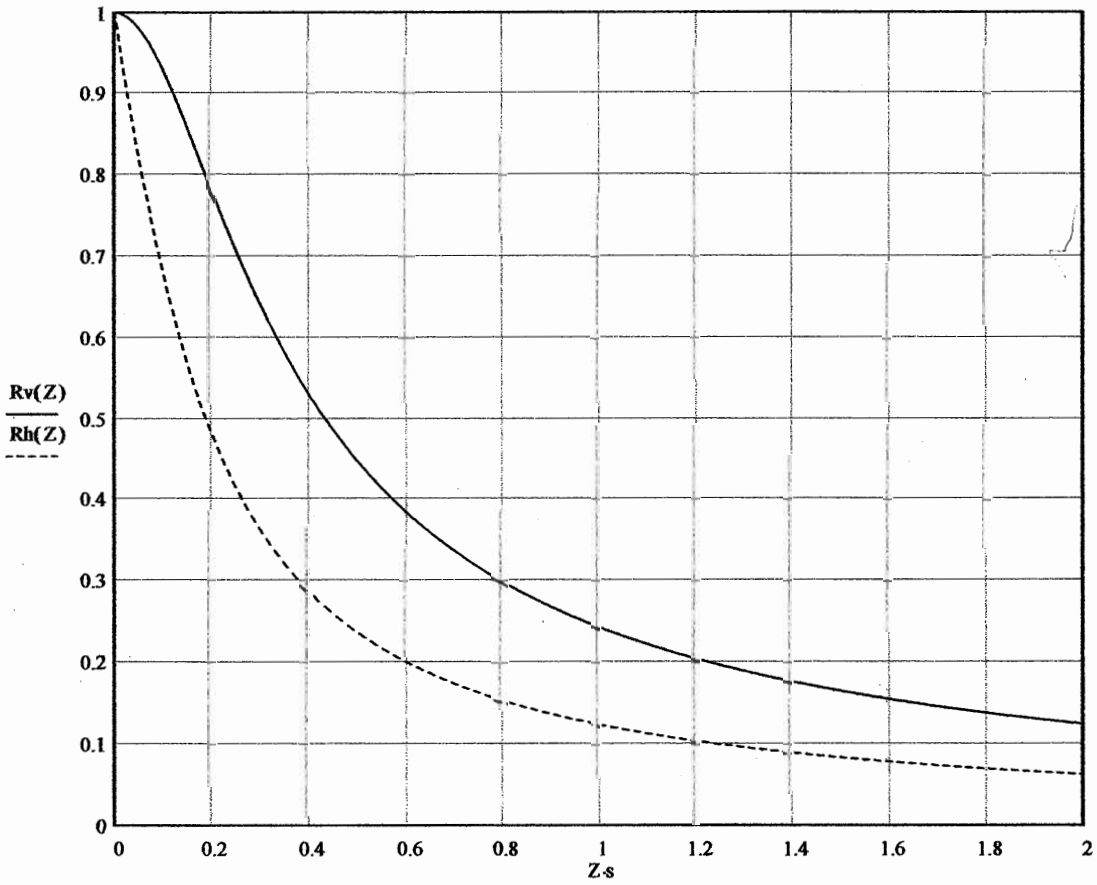


Fig. 3A

EM38-MK2 CUMULATIVE RESPONSE

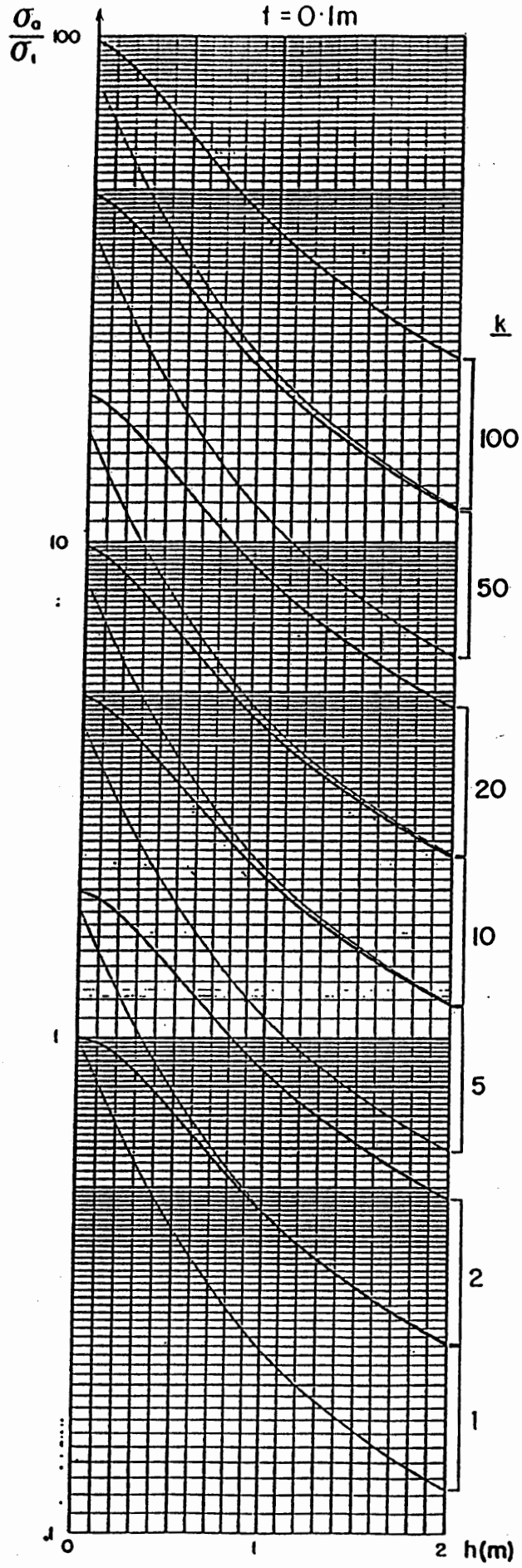
$$Rv(Z) := \frac{1}{\left(4 \cdot Z^2 + 1\right)^{.5}} \qquad Rh(Z) := \left(4 \cdot Z^2 + 1\right)^{.5} - 2 \cdot Z$$

$s := .5 \ \ m$



depth in meters

Fig. 3B



EM-38

(for 1 m separation)

TWO LAYER CURVES HEIGHT VARIED, k≥1

——— Dipoles vertical

——— Dipoles horizontal

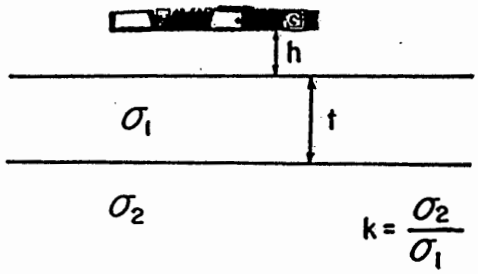


Fig. 4a

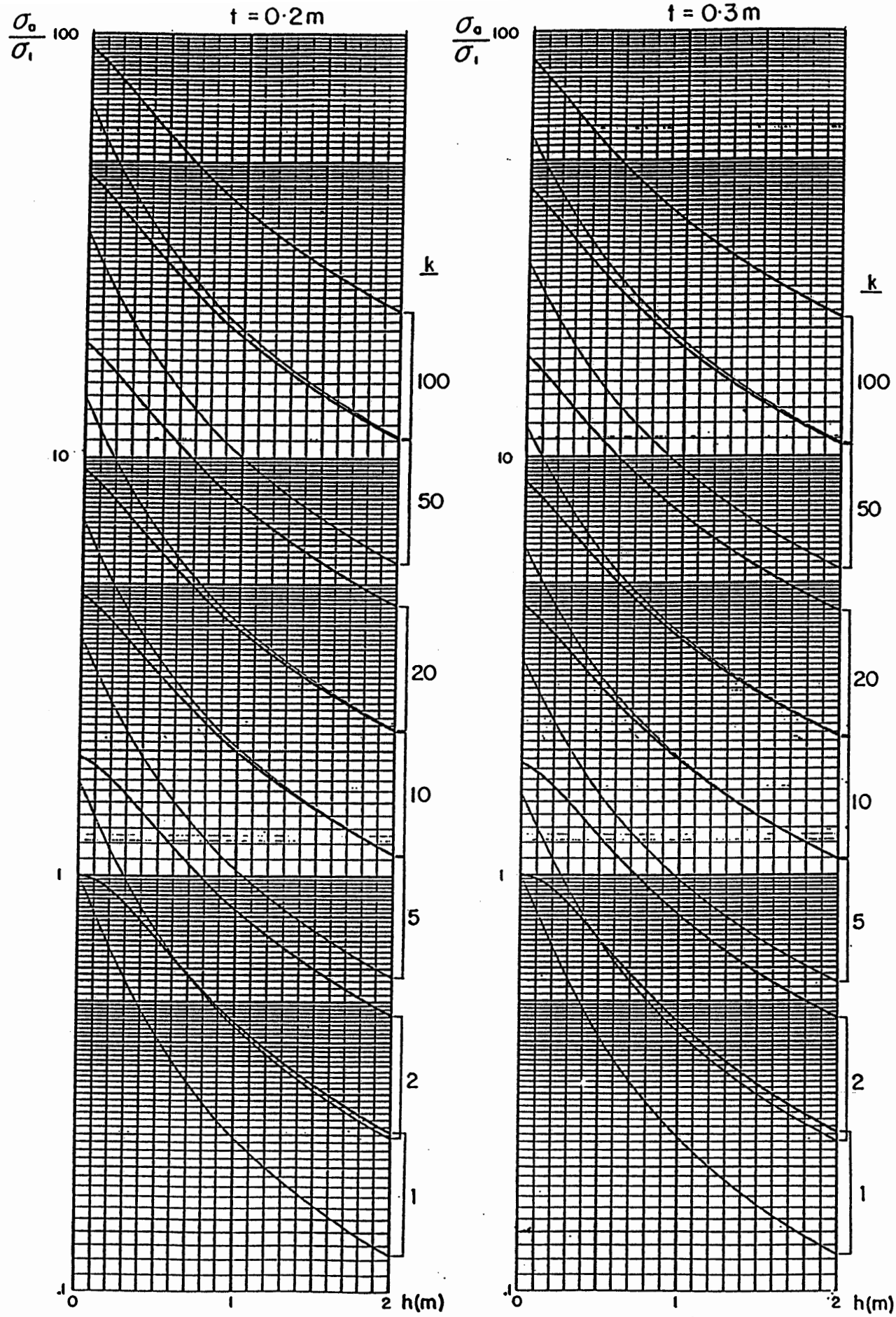


Fig. 4b

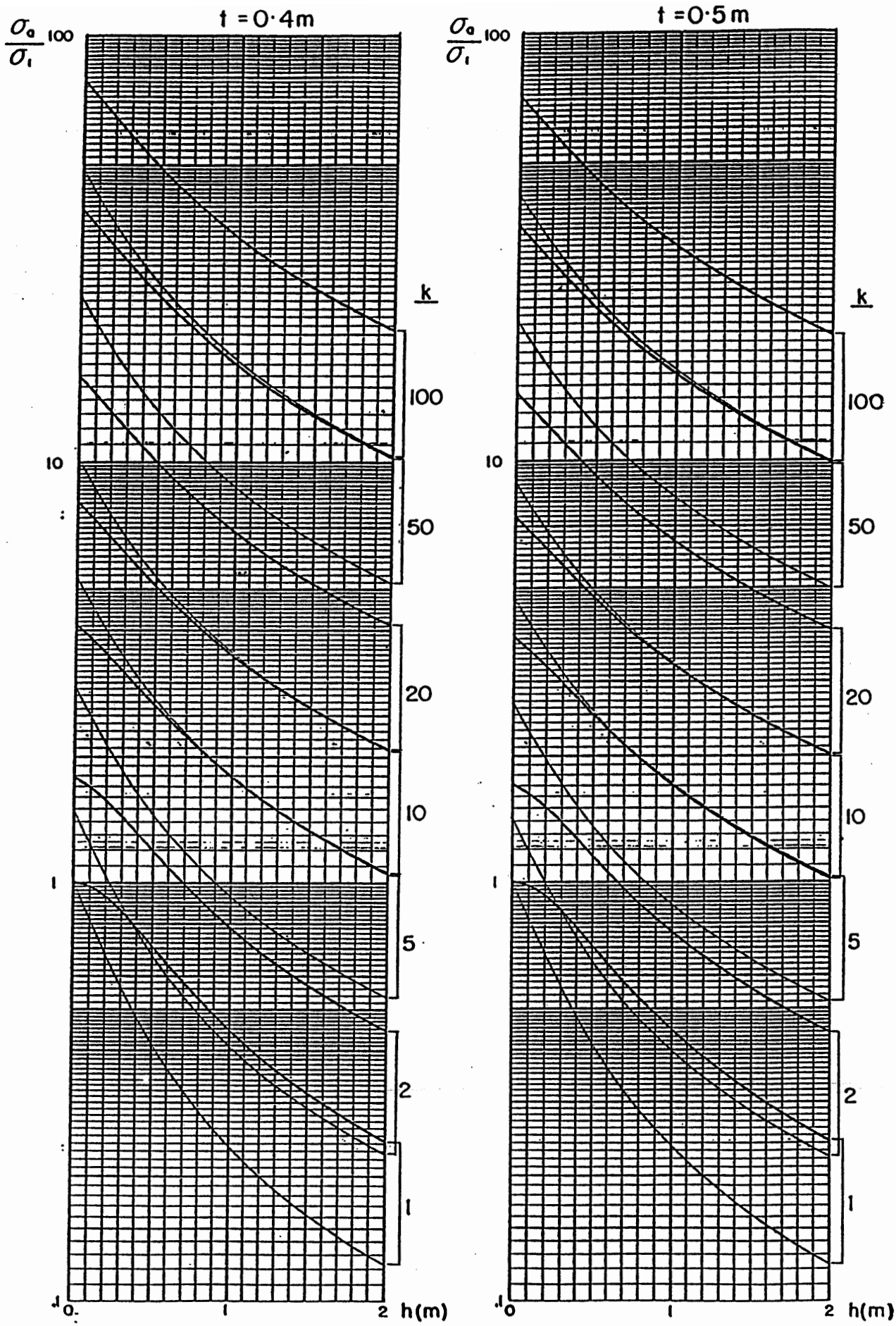
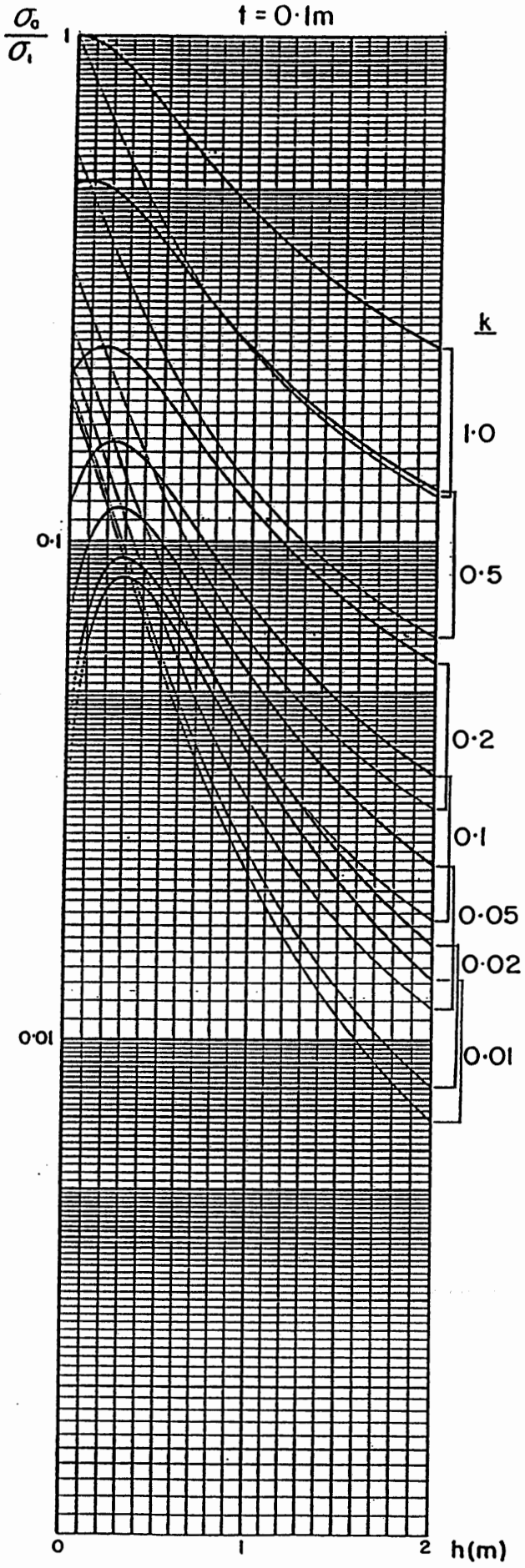


Fig. 4c



EM-38

TWO LAYER CURVES HEIGHT VARIED, k≤1

Dipoles vertical

Dipoles horizontal

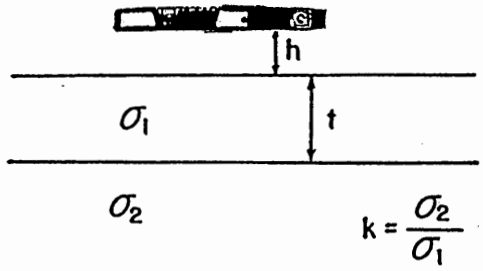


Fig. 5a

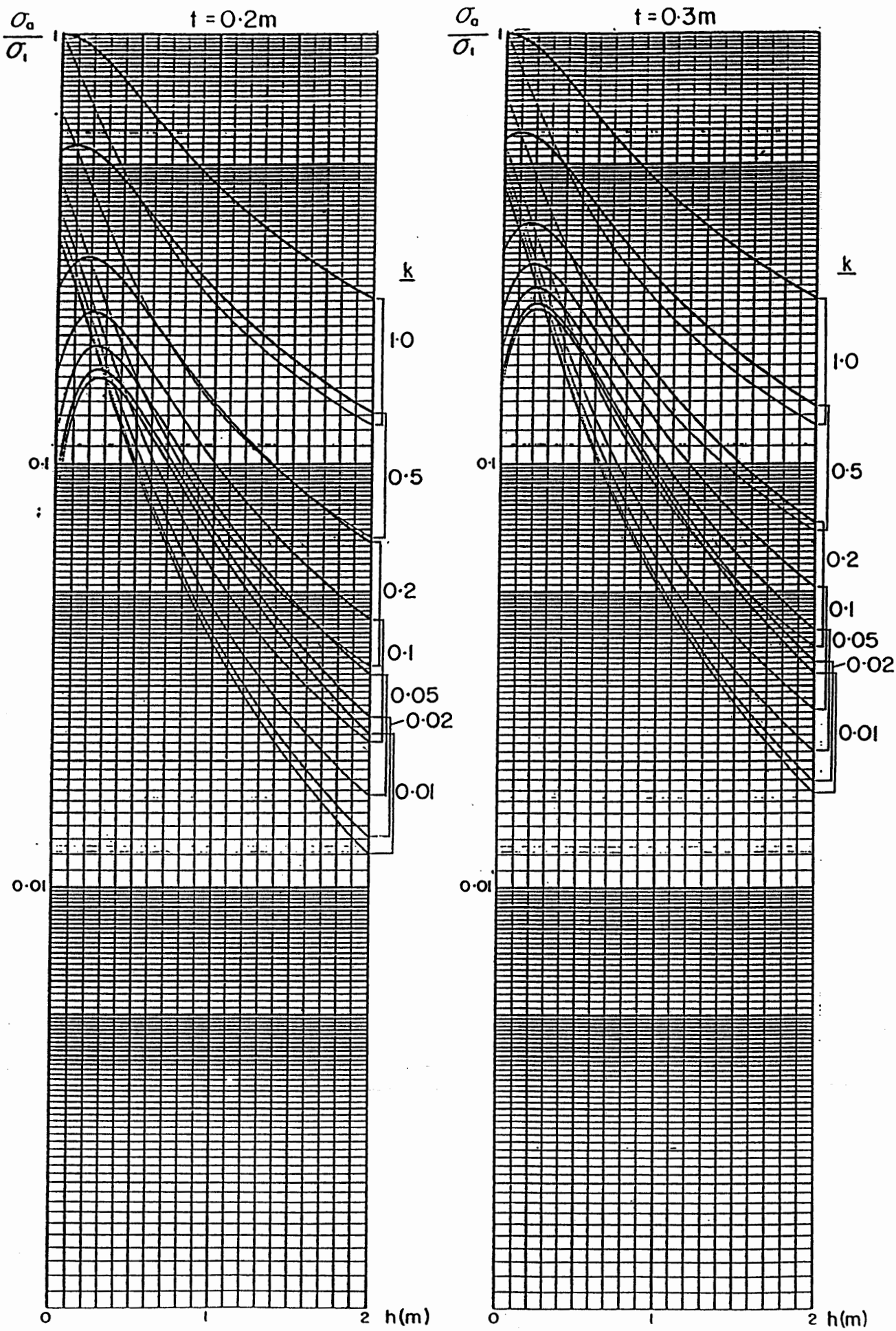

σa/σ1
t = 0·2m
1
0·1
0·01
k
1·0
0·5
0·2
0·1
0·05
0·02
0·01
0
1
2
h(m)
σa/σ1
t = 0·3m
1
0·1
0·01
k
1·0
0·5
0·2
0·1
0·05
0·02
0·01
0
1
2
h(m)

Fig. 5b

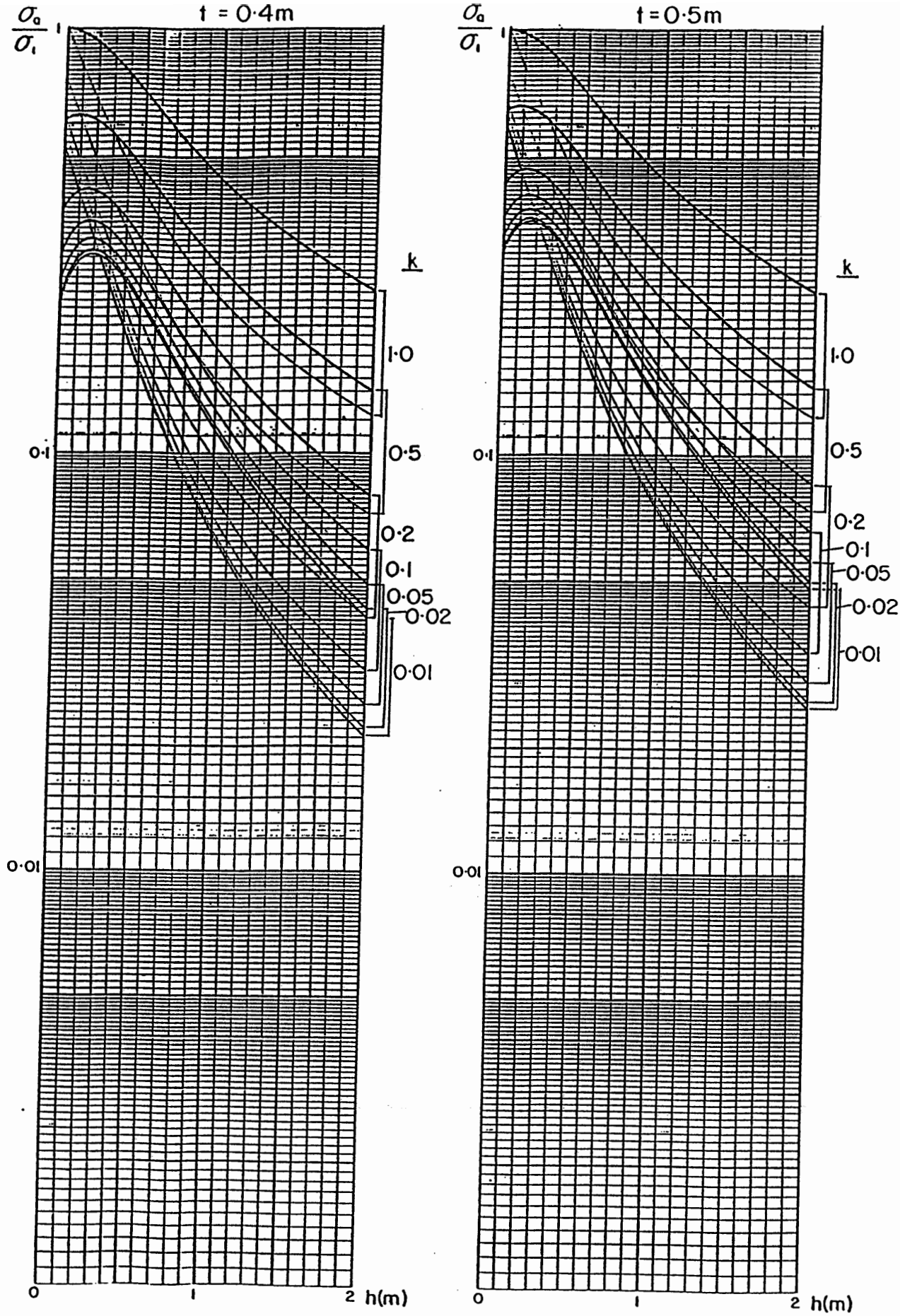

σa/σi
t = 0·4m
1
0·1
0·01
k
1·0
0·5
0·2
0·1
0·05
0·02
0·01
0
1
2 h(m)
σa/σi
t = 0·5m
1
0·1
0·01
k
1·0
0·5
0·2
0·1
0·05
0·02
0·01
0
1
2 h(m)

Fig. 5c

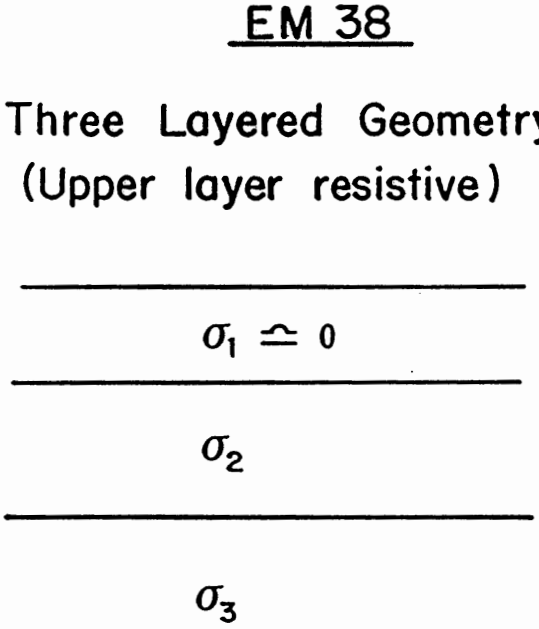

EM 38
Three Layered Geometry
(Upper layer resistive)
$\sigma_1 \simeq 0$
σ_2
σ_3

Fig. 6

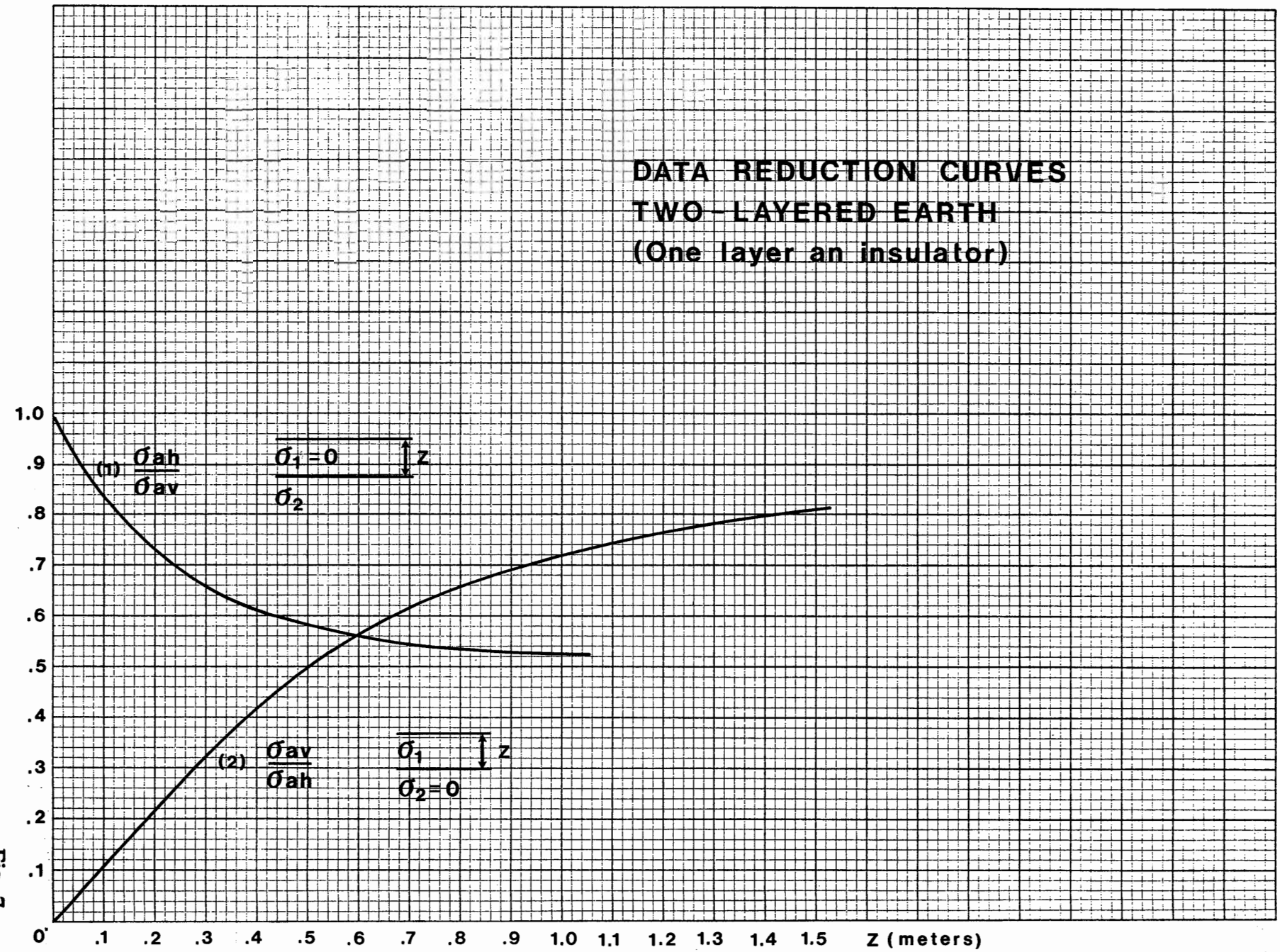

DATA REDUCTION CURVES
TWO-LAYERED EARTH
(One layer an insulator)
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
0
(1) σah/σav
σ1 = 0
σ2
z
(2) σav/σah
σ1
σ2 = 0
z
.1 .2 .3 .4 .5 .6 .7 .8 .9 1.0 1.1 1.2 1.3 1.4 1.5
Z (meters)

Fig. 7

AUTOMATIC CALIBRATION SET-UP FOR
EM38-MK2 CONDUCTIVITY METER

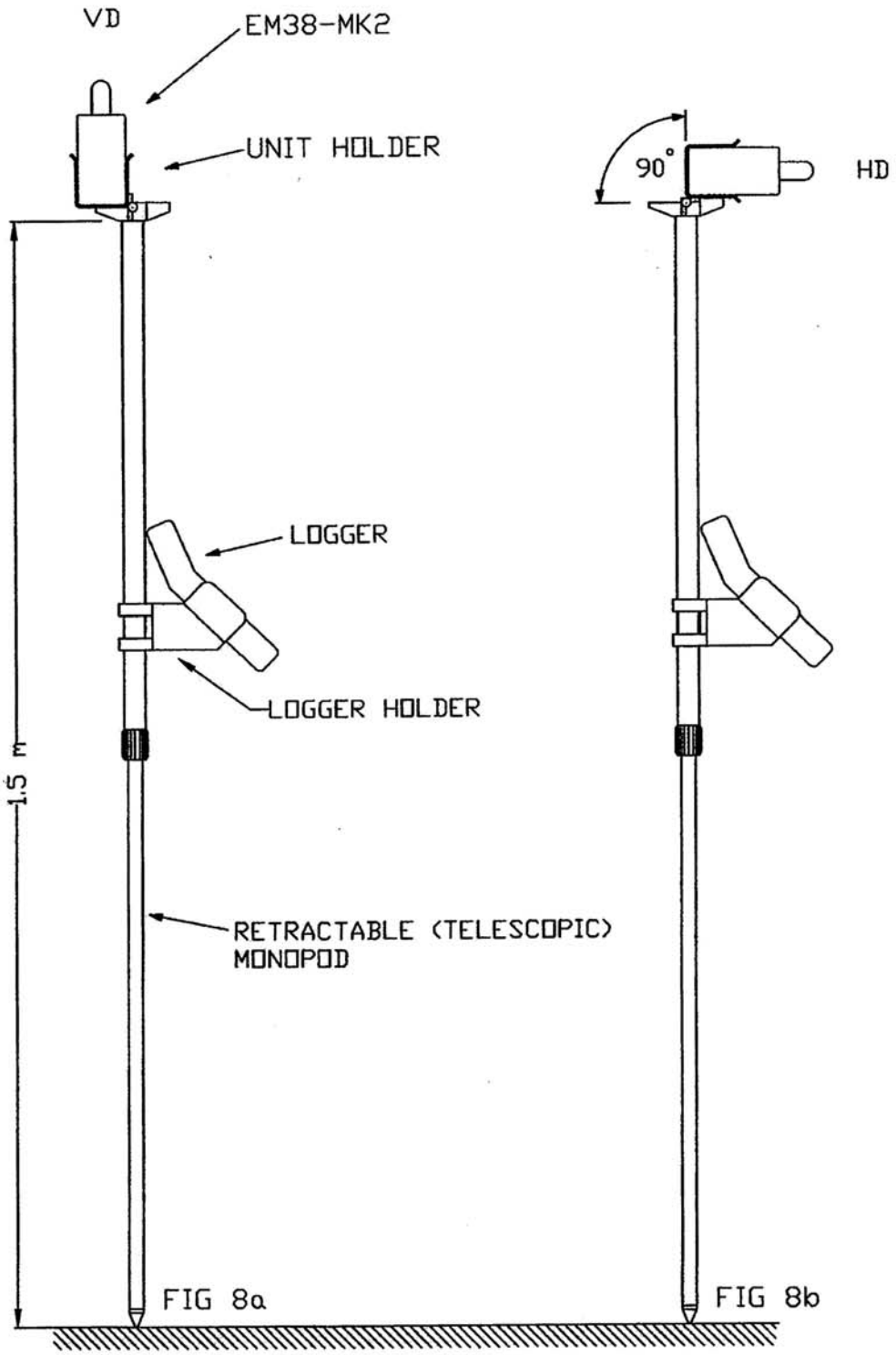


FIG 8a FIG 8b

EXTERNAL BATTERY PACK & CHARGER

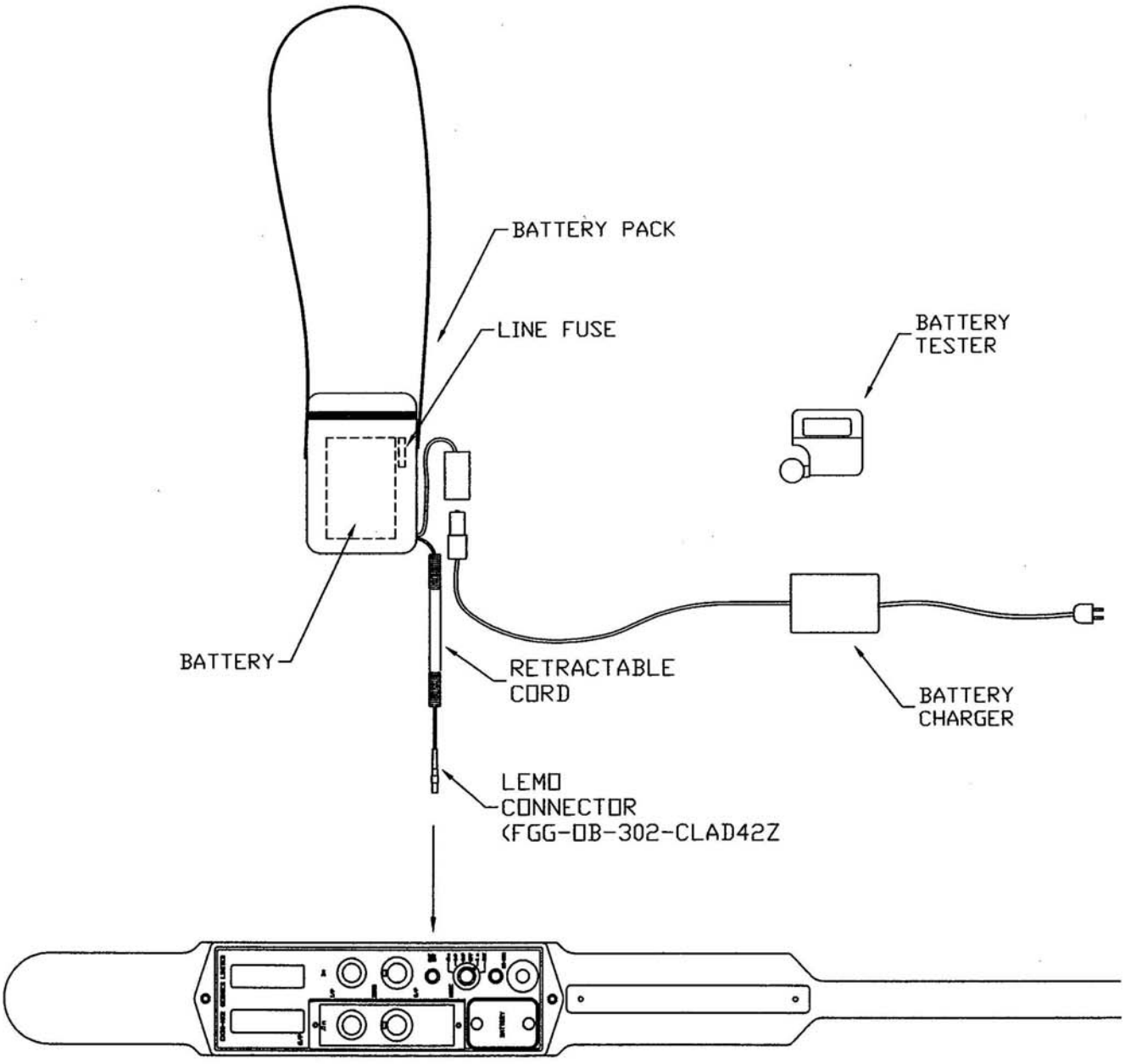


FIG 9

EM38-MK2 PROTECTIVE HOUSING

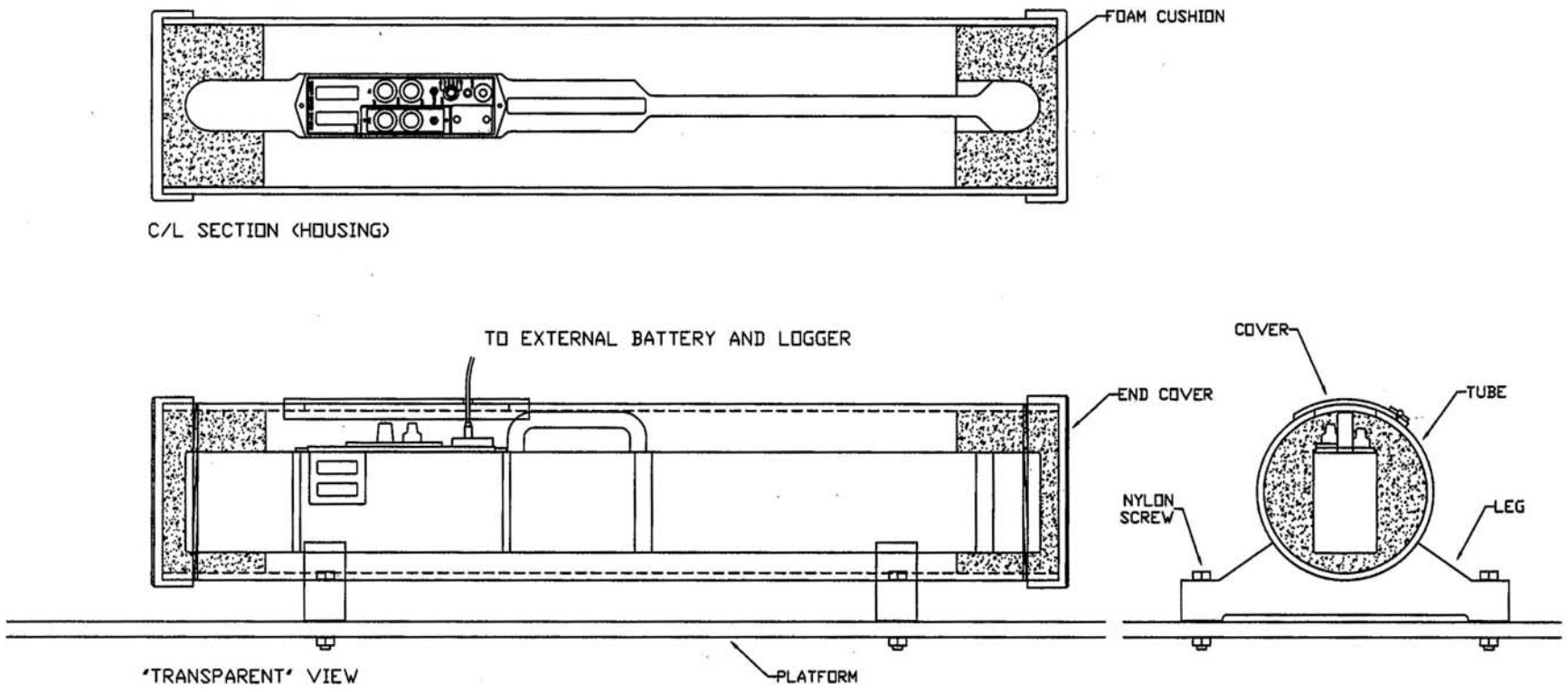


FIG 10

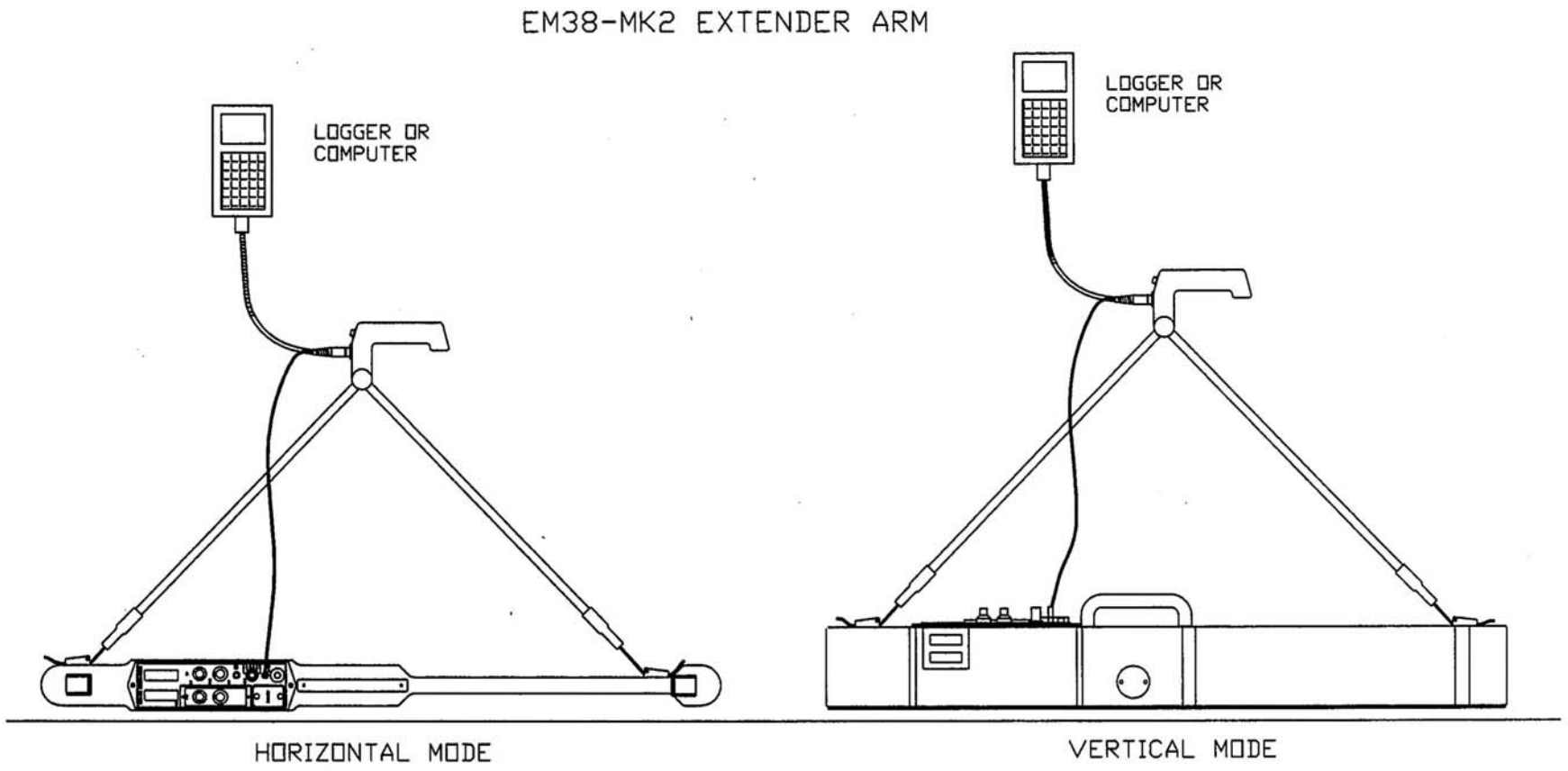

EM38-MK2 EXTENDER ARM
LOGGER OR COMPUTER
LOGGER OR COMPUTER
HORIZONTAL MODE
VERTICAL MODE

FIG 11

EM38-MK2 RS232 DATA PROTOCOL

February 2008

DESCRIPTION

The data from EM38-MK2 is transmitted to a data logging computer via a RS-232 port. The conversion and sending are automatic and continuous, no trigger is needed.

PORT AND CABLE PIN ASSIGNMENT

The computer interface is provided via a 3-pin circular Lemo socket mounted on the EM38-MK2 panel. A 3-pin circular connector to 9-pin sub-D connector cable is supplied (as and option) with the system for connection between EM61-MK2 and the default controlling datalogger. The same cable can be used to connect EM38-MK2 to other computer or data acquisition system provided that such computer or system has an RS-232 port.

EM38-MK2 INTERFACE CABLE pin assignment is summarised as follows:

3-pin connector EM61-MK2	9-pin sub-D POLY/COMPUTER	function
3 (output)	2 (input)	RS-232 RXD
2 (input)	5 (output)	Ground

RS-232 CONFIGURATION

The port is configured as a Date Communication Equipment. No handshaking is used. It is initialise as follows:

Baud rate:	19200
parity:	none
data bits:	8
stop bit:	1

DATA RATE

20 records per second (approximate)

EM38 DATA RECORD FORMAT

There are 4 channels of data for 1M and 0.5M In-phase and conductivity information. There are other 2 channels for 1M and 0.5M coil temperature information. Each channel has 2 byte.

Each data record string consists of 16 bytes detailed below:

Byte 1 (ASCII)	" T "	-- start byte
Byte 2 (information byte. See next section for marker, mode, Interpretation.)		
Byte 3	Channel 1 High Byte	
Byte 4	Channel 1 Low Byte	
Byte 5	Channel 2 High Byte	
Byte 6	Channel 2 Low Byte	
Byte 7	Channel 3 High Byte	
Byte 8	Channel 3 Low Byte	
Byte 9	Channel 4 High Byte	
Byte 10	Channel 4 Low Byte	
Byte 11	Channel 5 High Byte	
Byte 12	Channel 5 Low Byte	
Byte 13	Channel 6 High Byte	
Byte 14	Channel 6 Low Byte	
Byte 15	FF	(High End Byte FOR END)
Byte 16	FF	(Low End Byte FOR END)

INFORMATION BYTE INTERPRETATION

The bit format of the information byte (only for master unit) is:

BIT	VALUE OR MEANING	
7	0	
6	0	
5		
4	0	
3	0	
2	MARKER	(= 1 when trigger/marker switch is pressed, = 0 otherwise)

```
      1          MODE       (=1  for vertical operation
                             = 0 for horizontal operation)

      0    0
```

CHANNEL INFORMATION

```
Channel 1  ------     Conductivity FOR 0.5M
Channel 2  ------     In-phase FOR 0.5M
Channel 3  ------     Conductivity FOR 1M
Channel 4  ------     In-phase FOR 1M
Channel 5  ------     Temperature FOR 1M
Channel 6  ------     Temperature FOR 0.5M
```

DATA INFORMATION (for Channel 1~4)

```
–160mV=0000HEX; OV = 8000HEX; 160mV=FFFFHEX
1mV=8mS
1ms=25.6
```

Temperature Data (for Channel 5~6)

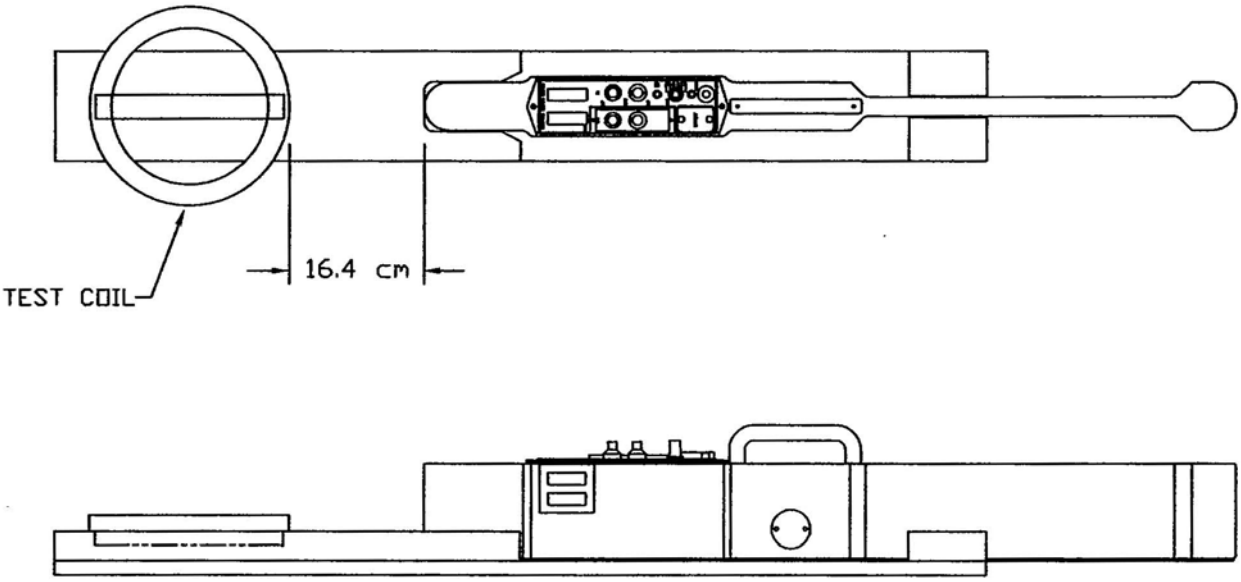
```
0v=0000 HEX; 5V=ff HEX
10mV/Co; 750mV=25Co

temp=data/3.103-50
                                    (end)
```

EM38-MK2 GAIN CALIBRATION PROCEDURE

The following is the Gain Check and calibration procedure for EM38-MK2 using the test coil and test jig.

1. Set the EM38-MK2 in the jig with the test coil as per figure 12. Make sure that the test coil is switched off.
2. Set the Mode switch to I/P position and adjust the I/P component to zero.
3. Set the Mode switch to Q/P position and adjust the Q/P component to zero.
4. Turn the test coil on. The instrument should read approximately 90 mS/m for 1 m coil separation and 185 mS/m for 0.5 m separation. If the reading deviates more than ± 4 mS/m and ± 8 mS/m for 1 m and 0.5 m separation respectively, adjust the gain with potentiometer # R14 (inside the instrument) to obtain the optimal readings
5. Set the Mode switch to I/P position with the test coil off. Adjust the I/P knobs to obtain zero I/P reading.
6. Turn the test coil switch on. Inphase readings should read 90 ± 4 mS/m and 186 ± 8 mS/m for 1 m and 0.5 m coil separation respectively. There is no separate gain adjustment for I/P components.

EM38-MK2 GAIN CALIBRATION



90 ms/m FOR 1 METER
185 ms/m FOR .5 METER

FIG 12