Table F-5. Magnetic Data from the Old Water Hole - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vertical Magnetic Gradient (nT/ft)
0	0	51935.4	1.35
0	10	51935.5	0.62
0	20	51936.5	0.85
0	30	51937.1	1.35
0	40	51937.5	1.35
0	50	51937.9	1.66
0	60	51938.0	1.81
0	70	51939.1	1.89
0	80	51940.1	1.78
0	90	51941.1	2.47
0	100	51941.5	1.20
0	110	51943.2	2.05
0	120	51944.4	1.35
0	130	51945.2	1.85
0	140	51944.0	2.16
0	150	51940.4	1.31
0	160	51939.0	1.20
0	170	51940.0	1.58
0	180	51940.7	1.35
0	190	51942.5	1.04
0	200	51942.8	1.89
0	210	51941.4	1.54
0	220	51938.7	1.24
0	230	51936.4	1.24
0	240	51936.8	1.27
0	250	51940.7	1.89
0	260	51945.2	2.90
0	270	51940.1	2.55
0	280	51936.1	1.04
0	290	51935.9	1.97
0	300	51934.4	1.20
10	300	51933.2	1.35
10	290	51935.1	0.97
10	280	51935.1	1.66
10	270	51936.1	2.09
10	260	51938.6	2.36
10	250	51937.2	1.97
10	240	51932.9	0.97
10	230	51934.4	-0.04
10	220	51942.0	0.93
10	210	51944.4	2.63
10	200	51943.5	2.01
10	190	51942.6	2.59
10	180	51941.6	2.32
10	170	51940.2	3.32
10	160	51939.1	2.16
10	150	51939.9	1.20
10	140	51943.4	1.58
10	130	51944.1	1.85
10	120	51944.9	2.66
10	110	51943.4	2.16
10	100	51942.8	2.28
10	90	51942.7	2.05
10	80	51941.6	1.97
10	70	51940.5	1.62
10	60	51939.4	2.09
10	50	51939.0	2.12
10	40	51939.3	2.35
10	30	51938.8	3.90
10	20	51937.5	2.05
10	10	51936.5	1.35
10	0	51935.8	1.16
20	0	51936.9	1.70
20	10	51938.4	1.27
20	20	51939.4	2.01
20	30	51940.1	2.01
20	40	51940.7	1.97
20	50	51940.7	2.16
20	60	51939.1	0.15
20	70	51942.8	1.54

Table F-5. Magnetic Data from the Old Water Hole - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vertical Magnetic Gradient (nT/ft)
20	80	51948.1	2.47
20	90	51947.7	2.08
20	100	51941.1	-0.04
20	110	51944.8	2.01
20	120	51944.8	3.01
20	130	51942.6	2.20
20	140	51941.8	2.01
20	150	51938.9	0.89
20	160	51940.3	1.89
20	170	51941.2	1.31
20	180	51941.5	1.51
20	190	51943.1	1.16
20	200	51947.9	0.58
20	210	51956.9	-0.89
20	220	51966.0	-0.19
20	230	51942.3	-2.70
20	240	51928.2	-1.66
20	250	51933.0	2.01
20	260	51932.7	1.00
20	270	51933.6	0.85
20	280	51933.8	1.00
20	290	51933.6	1.51
20	300	51933.1	1.00
30	300	51931.7	1.12
30	290	51932.1	1.54
30	280	51932.4	2.01
30	270	51931.9	2.20
30	260	51928.4	0.66
30	250	51922.9	-0.31
30	240	51939.0	-5.95
30	230	52021.7	9.35
30	220	52084.9	25.40
30	210	51997.3	2.16
30	200	51954.5	1.00
30	190	51943.5	0.97
30	180	51942.3	2.28
30	170	51941.8	2.28
30	160	51941.4	2.05
30	150	51940.5	1.27
30	140	51941.3	2.12
30	130	51941.9	1.70
30	120	51942.2	3.59
30	110	51940.7	1.35
30	100	51939.3	0.23
30	90	51947.5	3.13
30	80	51943.6	1.16
30	70	51941.5	3.40
30	60	51940.4	2.28
30	50	51943.4	1.12
30	40	51941.9	1.93
30	30	51939.9	1.81
30	20	51940.1	1.20
30	10	51937.8	1.47
30	0	51935.7	0.70
40	0	51934.6	1.12
40	10	51933.0	0.35
40	20	51937.3	-0.46
40	30	51938.4	0.08
40	40	51943.0	1.93
40	50	51944.4	1.74
40	60	51941.3	0.73
40	70	51939.8	1.89
40	80	51941.9	1.70
40	90	51943.5	2.09
40	100	51942.6	1.66
40	110	51942.1	0.58
40	120	51941.6	1.20
40	130	51942.5	2.16
40	140	51941.9	1.54
40	150	51941.1	1.27

Table F-5. Magnetic Data from the Old Water Hole - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vertical Magnetic Gradient (nT/ft)
40	160	51941.1	1.81
40	170	51940.9	1.16
40	180	51941.8	1.16
40	190	51944.7	0.97
40	200	51955.9	0.81
40	210	51996.1	1.66
40	220	52095.3	25.25
40	230	52032.9	15.21
40	240	51936.9	-3.75
40	250	51922.3	-0.81
40	260	51927.4	0.70
40	270	51929.5	-0.19
40	280	51931.1	1.47
40	290	51931.6	0.50
40	300	51931.1	1.04
50	300	51930.5	0.73
50	290	51930.4	1.27
50	280	51930.5	1.74
50	270	51929.6	1.54
50	260	51928.1	1.04
50	250	51925.7	0.23
50	240	51930.5	-1.70
50	230	51970.3	-0.89
50	220	51995.2	2.24
50	210	51966.0	0.81
50	200	51941.8	0.04
50	190	51940.8	1.70
50	180	51940.9	1.20
50	170	51940.8	1.51
50	160	51940.3	1.35
50	150	51941.2	1.85
50	140	51941.1	0.39
50	130	51943.8	2.86
50	120	51943.4	1.62
50	110	51943.4	2.09
50	100	51942.9	1.85
50	90	51943.9	1.97
50	80	51942.8	1.54
50	70	51941.7	1.54
50	60	51941.5	1.70
50	50	51941.6	1.81
50	40	51941.9	2.01
50	30	51937.9	1.93
50	20	51937.6	2.74
50	10	51934.8	1.74
50	0	51937.6	1.47
60	0	51937.0	0.85
60	10	51936.6	0.97
60	20	51937.0	1.27
60	30	51936.4	0.39
60	40	51939.9	0.69
60	50	51941.1	0.19
60	60	51941.7	0.85
60	70	51942.6	0.66
60	80	51943.5	1.12
60	90	51942.2	0.77
60	100	51942.2	1.04
60	110	51942.2	0.73
60	120	51941.7	1.04
60	130	51940.4	1.70
60	140	51939.7	1.47
60	150	51940.8	1.70
60	160	51940.4	1.16
60	170	51939.9	0.81
60	180	51939.7	1.62
60	190	51933.8	1.16
60	200	51924.2	1.12
60	210	51934.4	0.04
60	220	51944.6	0.27
60	230	51935.3	-0.23

Table F-5. Magnetic Data from the Old Water Hole - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vertical Magnetic Gradient (nT/ft)
60	240	51930.3	-0.15
60	250	51928.3	0.73
60	260	51928.7	0.89
60	270	51930.7	1.62
60	280	51929.8	0.97
60	290	51929.3	0.81
60	300	51930.1	0.39
70	300	51929.2	1.24
70	290	51928.6	1.27
70	280	51930.2	0.77
70	270	51930.8	2.08
70	260	51930.7	2.01
70	250	51929.2	1.16
70	240	51930.6	0.77
70	230	51934.9	1.78
70	220	51938.4	0.50
70	210	51931.2	-1.47
70	200	51919.6	-5.45
70	190	51931.7	-0.35
70	180	51939.0	3.55
70	170	51938.1	1.12
70	160	51941.2	1.58
70	150	51939.2	0.66
70	140	51939.1	1.78
70	130	51940.8	2.08
70	120	51941.6	2.67
70	110	51941.8	2.20
70	100	51941.5	1.74
70	90	51941.8	2.28
70	80	51942.3	1.62
70	70	51942.6	1.97
70	60	51942.6	2.94
70	50	51941.8	2.24
70	40	51939.8	2.63
70	30	51935.2	1.74
70	20	51937.3	2.12
70	10	51937.4	1.85
70	0	51936.7	1.74
80	0	51938.1	1.66
80	10	51939.0	1.85
80	20	51941.0	2.28
80	30	51937.1	0.19
80	40	51939.9	1.16
80	50	51941.5	0.81
80	60	51941.8	1.31
80	70	51941.6	1.62
80	80	51940.9	1.39
80	90	51940.3	1.12
80	100	51940.0	0.81
80	110	51939.7	1.35
80	120	51940.2	0.54
80	130	51939.4	1.35
80	140	51940.2	1.27
80	150	51949.9	3.67
80	160	51947.1	2.70
80	170	51935.9	-0.46
80	180	51935.9	0.50
80	190	51938.5	0.93
80	200	51951.4	3.01
80	210	51951.6	2.74
80	220	51937.0	-0.62
80	230	51932.6	0.62
80	240	51929.7	0.66
80	250	51929.0	0.39
80	260	51930.0	0.89
80	270	51929.8	0.93
80	280	51929.5	1.16
80	290	51928.8	1.35
80	300	51929.8	0.73
90	300	51930.1	1.58

Table F-5. Magnetic Data from the Old Water Hole - Gridded Area

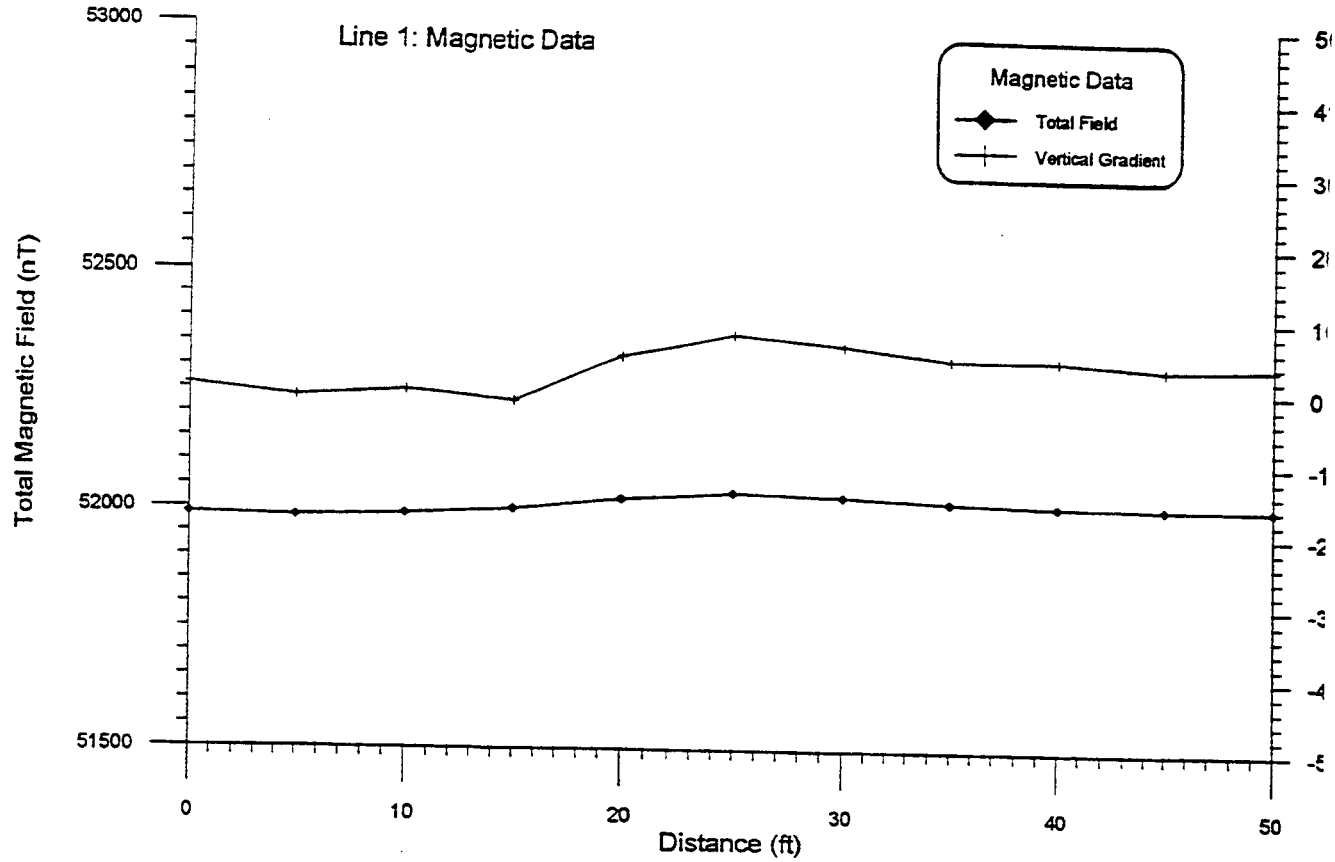
Line No.	Distance (ft)	Total Magnetic Field (nT)	Vertical Magnetic Gradient (nT/ft)
90	290	51929.7	2.47
90	280	51929.5	2.05
90	270	51931.3	2.28
90	260	51931.6	1.97
90	250	51931.4	2.36
90	240	51932.0	1.89
90	230	51933.3	1.74
90	220	51935.8	1.43
90	210	51941.4	2.12
90	200	51940.5	1.93
90	190	51937.5	1.81
90	180	51938.9	1.58
90	170	51942.9	1.70
90	160	51945.7	3.13
90	150	51938.4	0.93
90	140	51938.2	2.08
90	130	51938.4	2.20
90	120	51938.6	1.70
90	110	51939.1	1.70
90	100	51938.9	1.20
90	90	51940.2	2.01
90	80	51940.8	1.70
90	70	51940.8	1.81
90	60	51940.7	1.78
90	50	51939.8	2.28
90	40	51941.3	2.94
90	30	51941.7	2.12
90	20	51939.2	1.85
90	10	51938.4	1.58
90	0	51938.2	0.08
100	0	51939.3	1.27
100	10	51939.3	1.35
100	20	51941.0	0.77
100	30	51937.9	-0.54
100	40	51940.1	0.77
100	50	51939.4	1.24
100	60	51939.1	0.12
100	70	51940.5	0.50
100	80	51938.8	0.62
100	90	51937.2	0.73
100	100	51937.6	1.04
100	110	51937.2	1.74
100	120	51936.9	0.93
100	130	51937.7	1.58
100	140	51938.6	1.43
100	150	51938.8	1.16
100	160	51938.6	0.97
100	170	51937.4	1.81
100	180	51937.5	1.43
100	190	51938.8	1.31
100	200	51937.7	0.73
100	210	51934.5	0.93
100	220	51933.9	0.81
100	230	51932.7	1.20
100	240	51930.2	0.89
100	250	51930.1	1.04
100	260	51930.9	1.04
100	270	51931.3	2.59
100	280	51926.0	0.50
100	290	51927.2	1.04
100	300	51930.2	1.04
101	300	51936.2	1.51
101	290	51874.4	-7.72
101	280	51897.2	-3.75
101	270	51922.8	-1.35
101	260	51937.2	1.27
101	250	51945.6	2.09
101	240	51948.6	2.59
101	230	51950.5	4.21
101	220	51945.8	3.36

Table F-5. Magnetic Data from the Old Water Hole - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vertical Magnetic Gradient (nT/ft)
101	210	51940.3	2.40
101	200	51936.9	2.66
101	190	51931.9	2.39
101	180	51931.0	1.89
101	170	51934.7	4.17
101	160	51935.8	4.02
101	150	51935.1	4.21
101	140	51930.0	3.67
101	130	51926.0	1.89
101	120	51924.5	1.85
101	110	51926.0	2.82
101	100	51928.2	1.81
101	90	51933.7	1.78
101	80	51939.1	3.94
101	70	51935.7	2.39
101	60	51933.8	1.27
101	50	51938.4	4.09
101	40	51934.8	2.47
101	30	51937.4	3.24
101	20	51938.5	1.43
101	10	51936.6	1.93
101	0	51935.1	2.67
101	-10	51933.4	3.32
101	-20	51930.7	2.51
101	-30	51928.5	3.05
101	-40	51926.4	2.74
101	-50	51925.0	2.08
101	-60	51925.4	2.01
101	-70	51925.6	2.08
101	-80	51926.0	2.05
101	-90	51925.1	1.39
101	-100	51922.0	1.20
101	-110	51924.5	1.89
101	-120	51930.8	4.21
101	-130	51929.3	1.93
101	-140	51928.1	1.47
101	-150	51931.7	1.54
101	-160	51940.7	2.32
101	-170	51942.4	2.59
112	-170	51962.5	2.24
112	-160	51963.4	2.20
112	-150	51960.8	2.08
112	-140	51957.1	2.12
112	-130	51953.9	1.47
112	-120	51950.7	1.62
112	-110	51948.0	3.40
112	-100	51940.2	0.08
112	-90	51935.6	0.89
112	-80	51934.1	1.12
112	-70	51935.8	1.66
112	-60	51935.6	1.70
112	-50	51935.2	0.81
112	-40	51935.6	1.00
112	-30	51936.0	1.51
112	-20	51936.1	1.31
112	-10	51934.6	2.12
112	0	51933.8	0.50
112	10	51936.7	1.70
112	20	51937.0	2.08
112	30	51931.3	-0.81
112	40	51938.2	1.47
112	50	51939.6	2.16
112	60	51939.6	1.12
112	70	51938.6	1.43
112	80	51936.9	1.00
112	90	51938.7	1.12
112	100	51937.8	1.20
112	110	51936.0	0.50
112	120	51934.6	0.54
112	130	51934.2	2.51

Table F-5. Magnetic Data from the Old Water Hole - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vertical Magnetic Gradient (nT/ft)
112	140	51933.8	1.43
112	150	51934.1	2.39
112	160	51932.5	1.66
112	170	51932.2	1.20
112	180	51933.7	1.51
112	190	51934.7	1.00
112	200	51938.6	2.66
112	210	51941.7	1.35
112	220	51946.3	1.12
112	230	51950.8	1.04
112	240	51952.9	0.73
112	250	51957.6	0.35
211	250	51873.5	-8.88



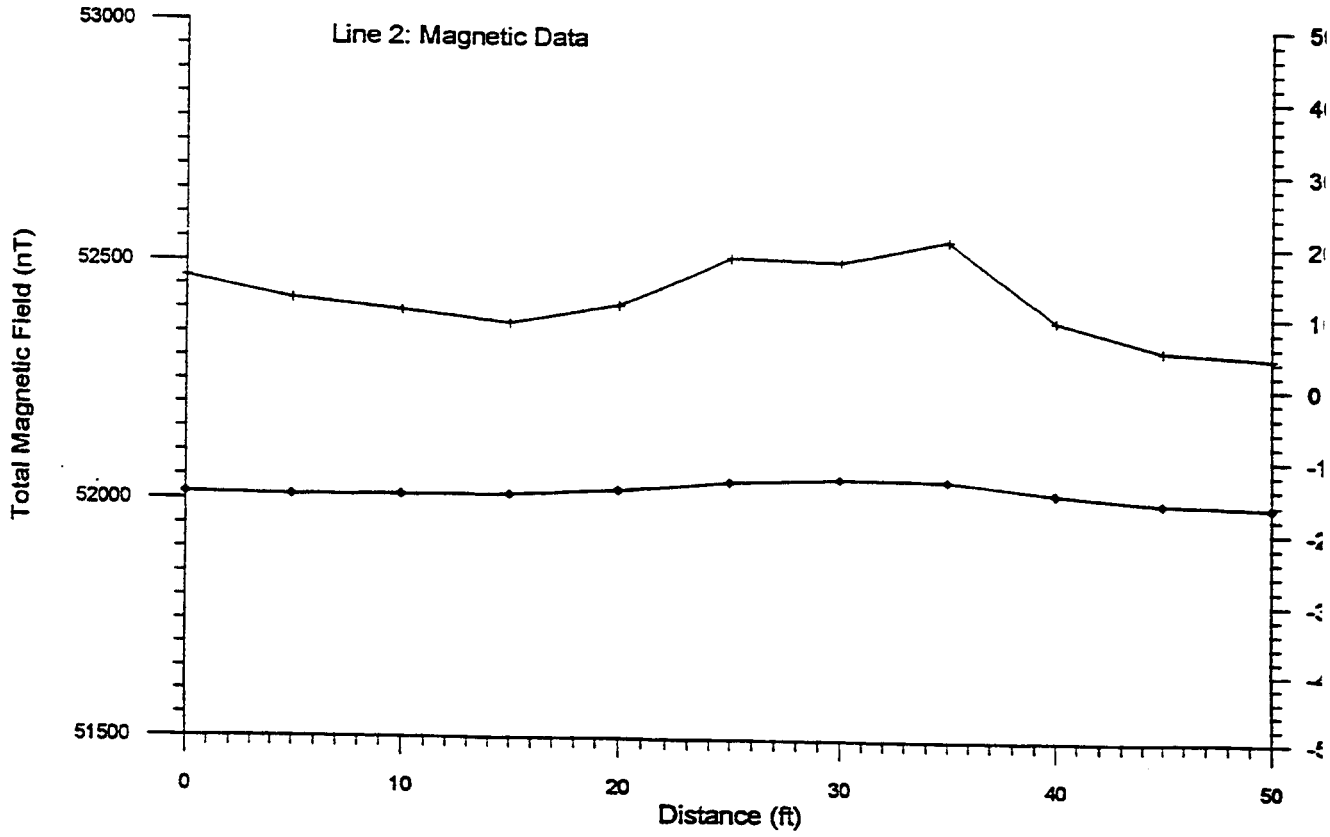
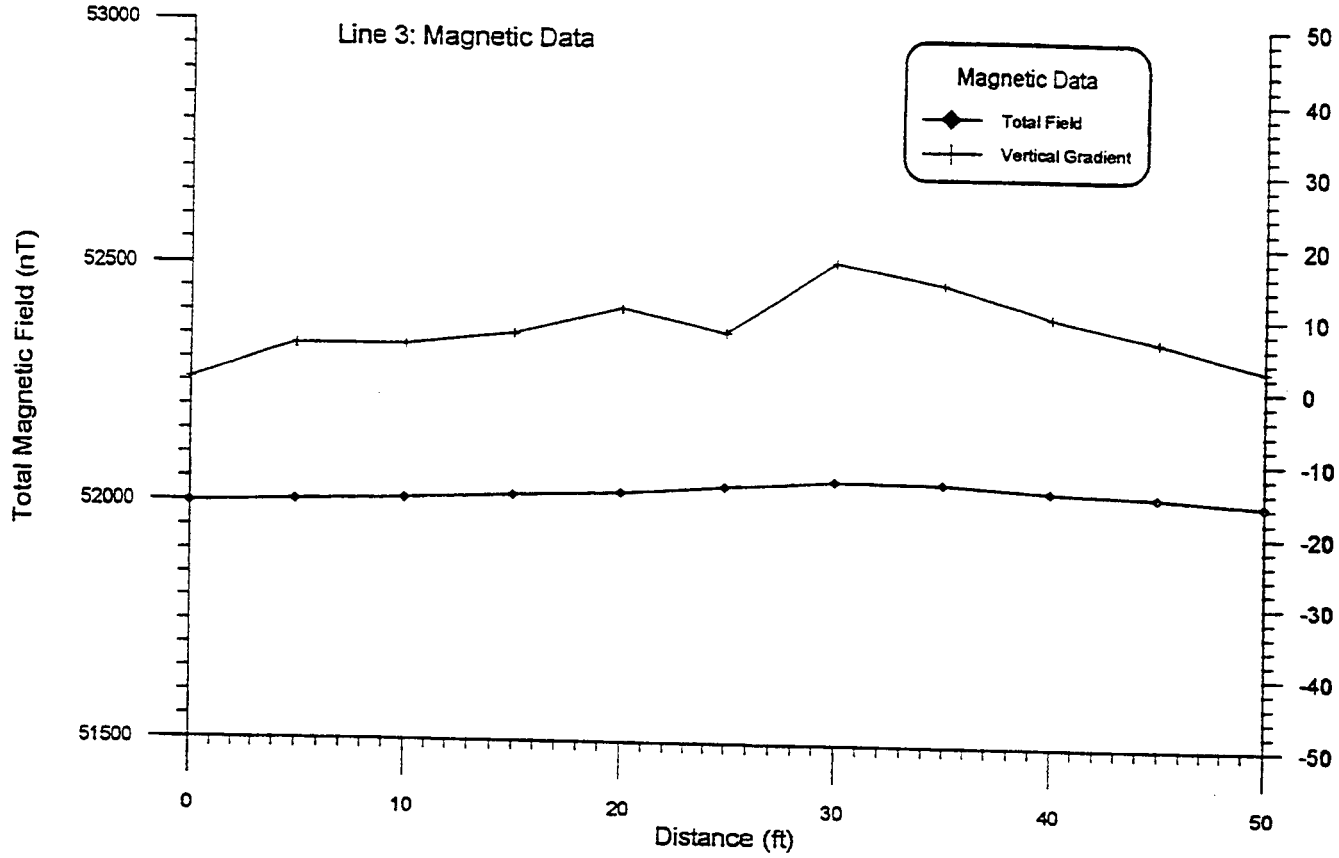


Figure F-11. Range L Well location 1 Magnetic Data



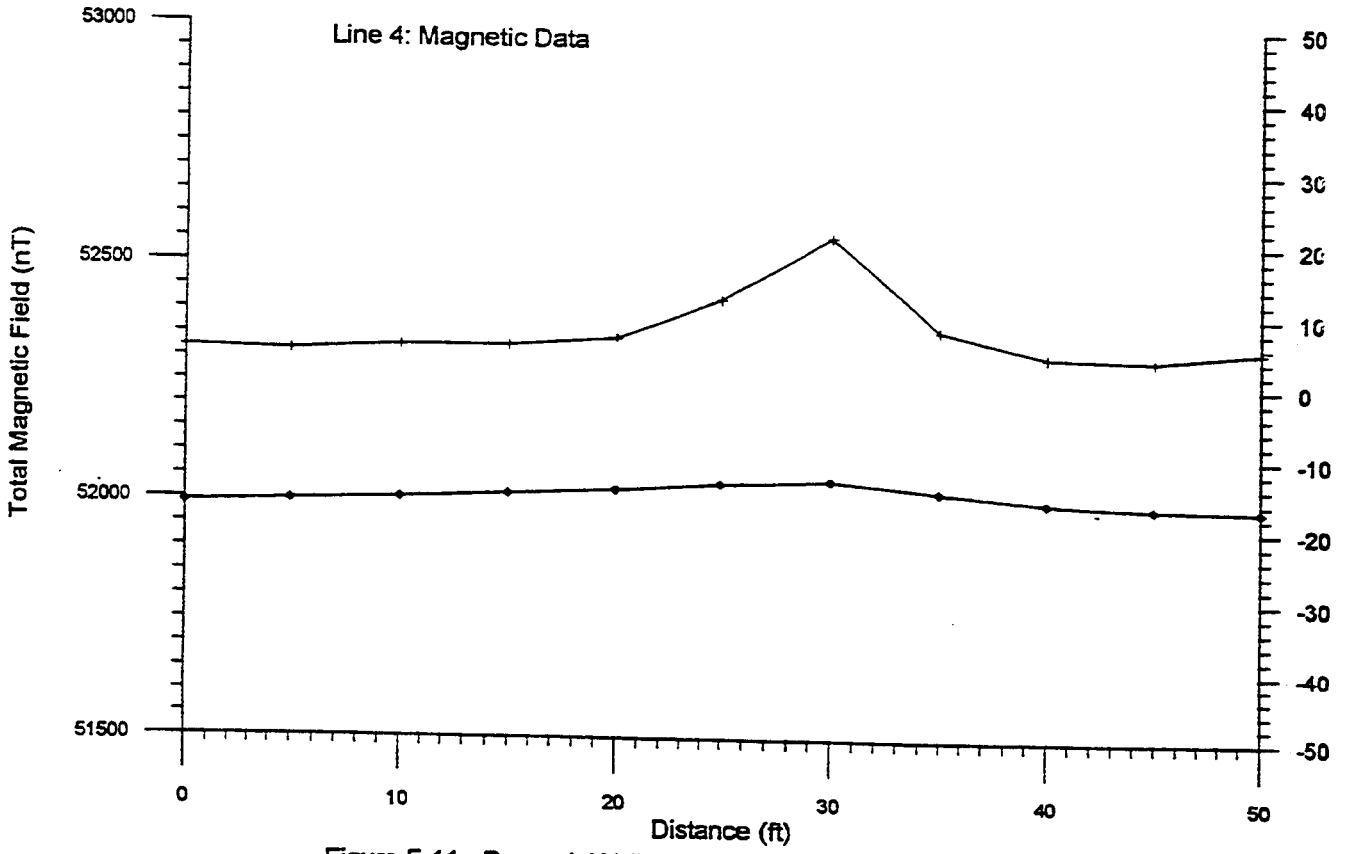
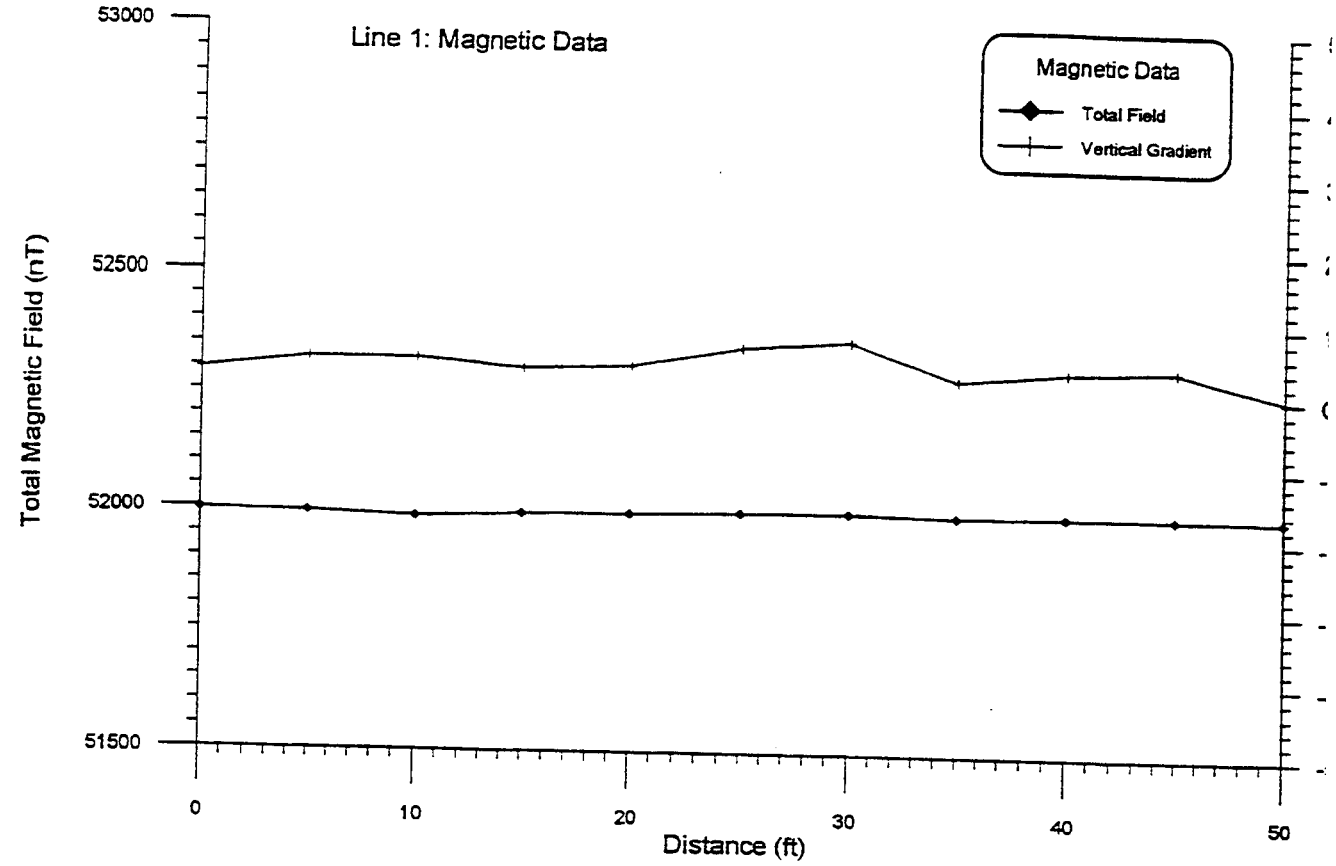


Figure F-11. Range L Well Location 1 Magnetic Data



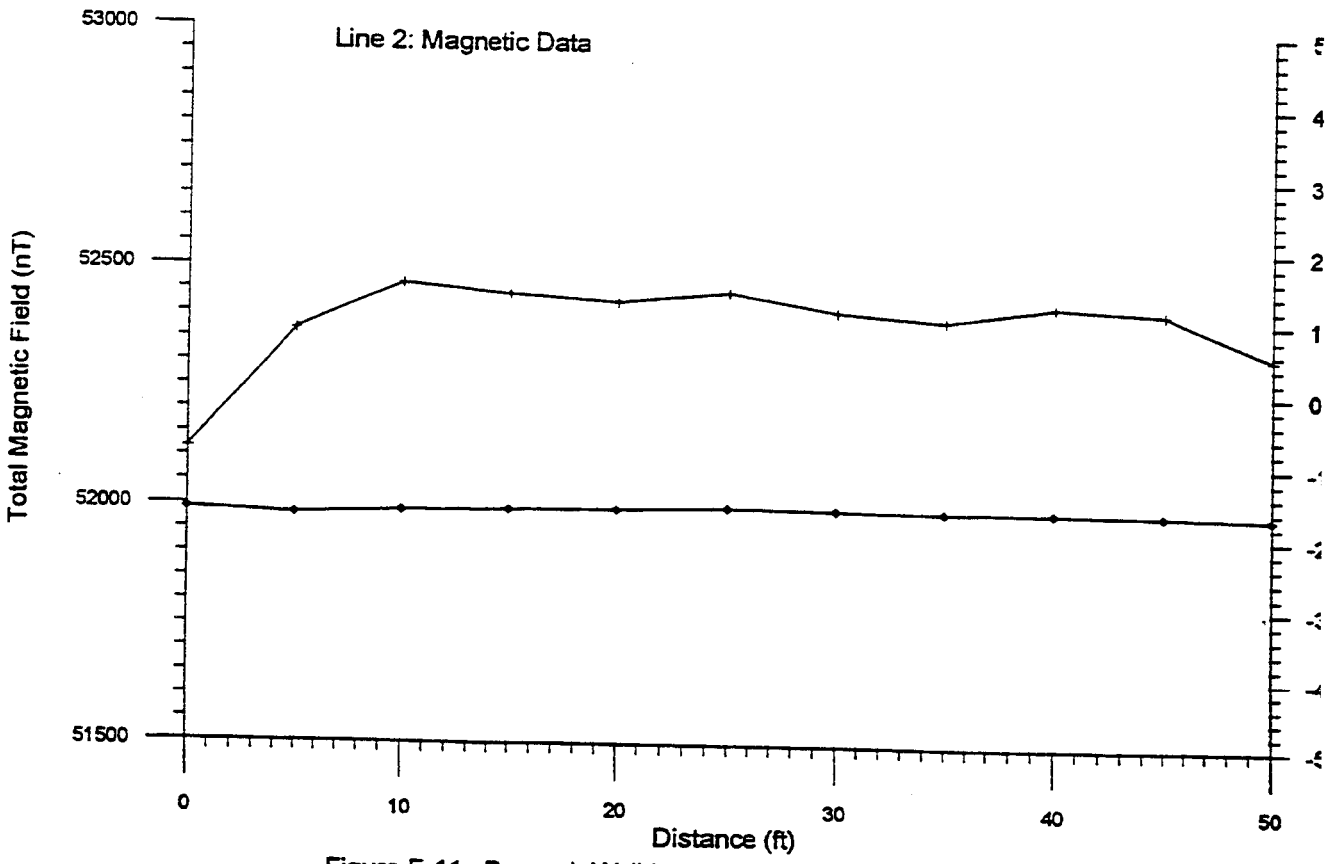
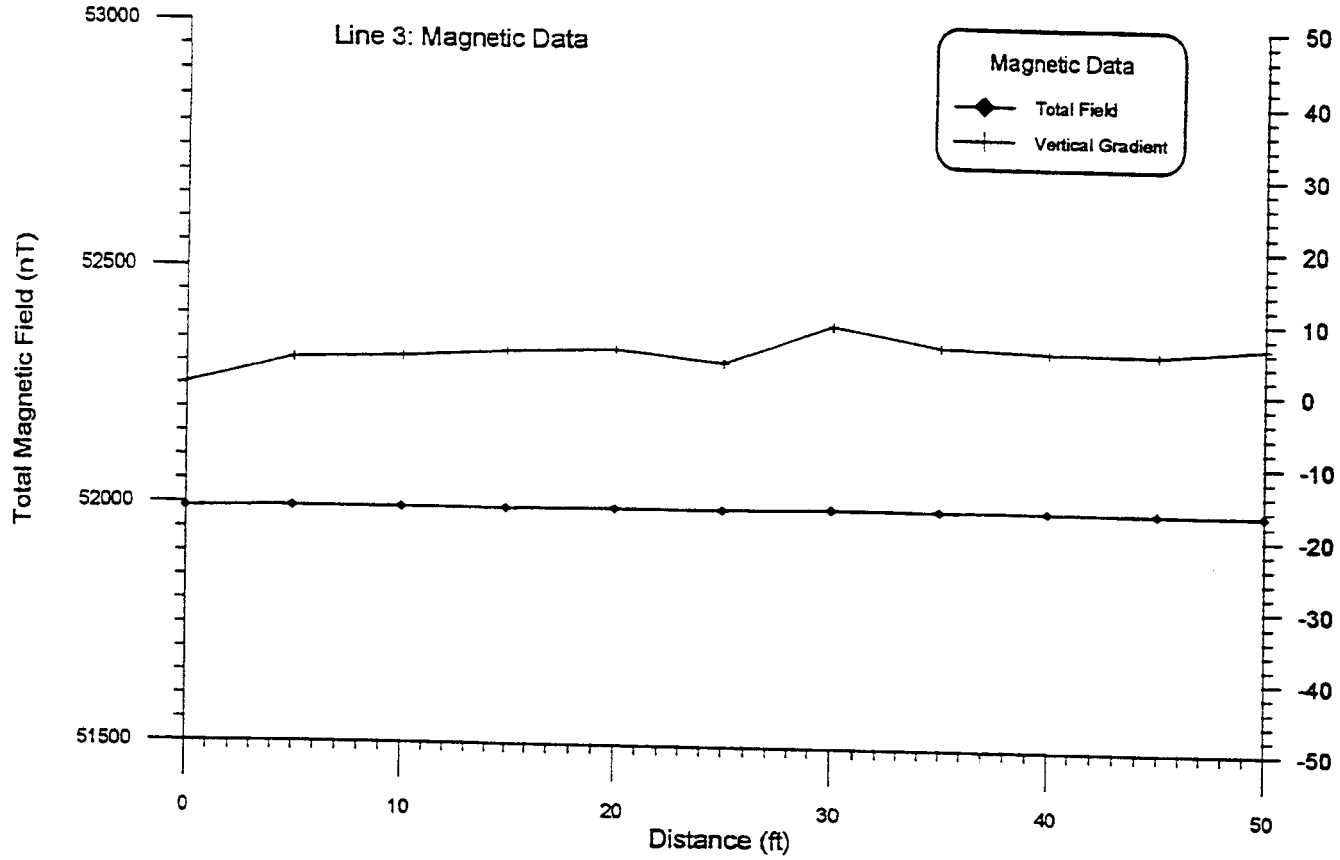


Figure F-11. Range L Well Location 2 Magnetic Data



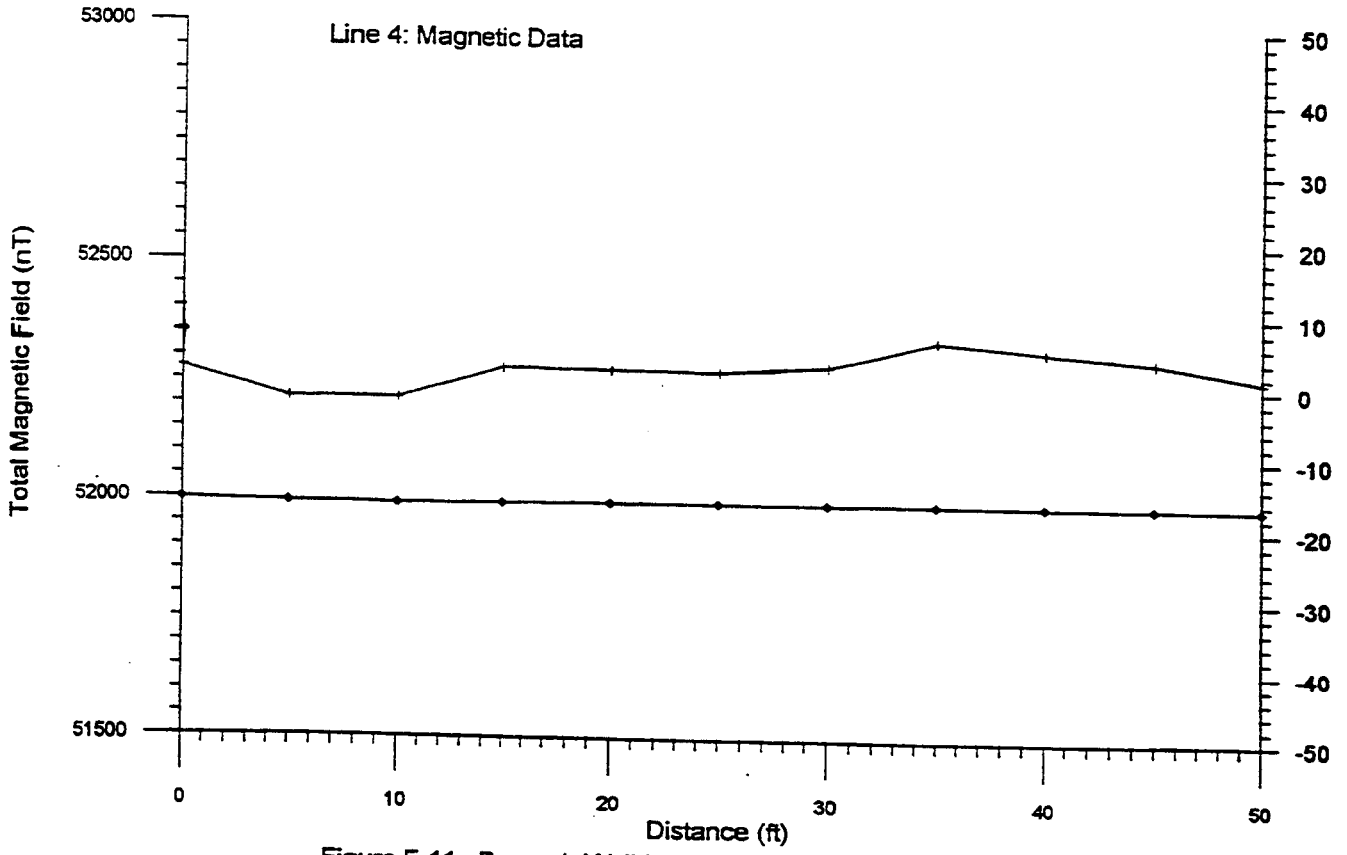
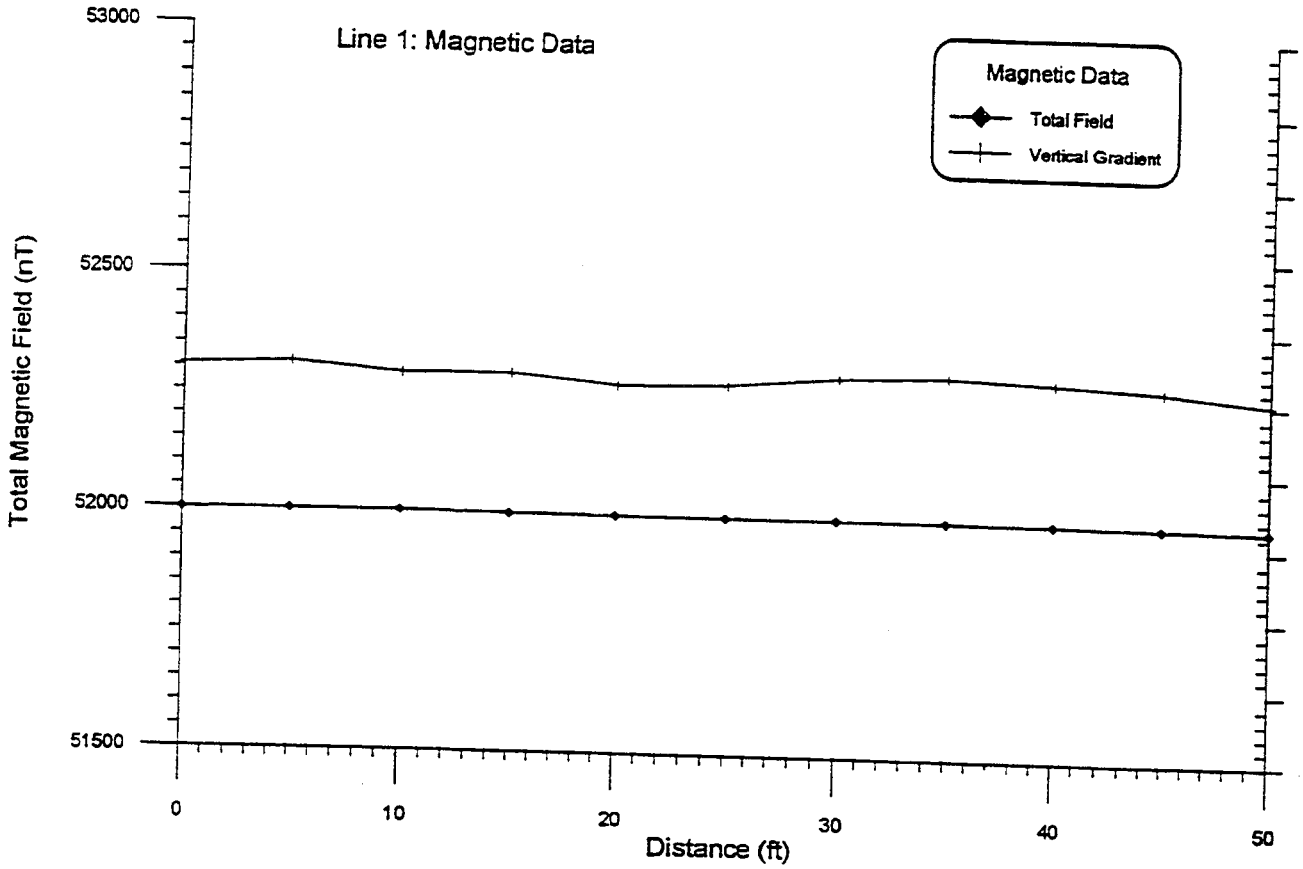


Figure F-11. Range L Well Location 2 Magnetic Data



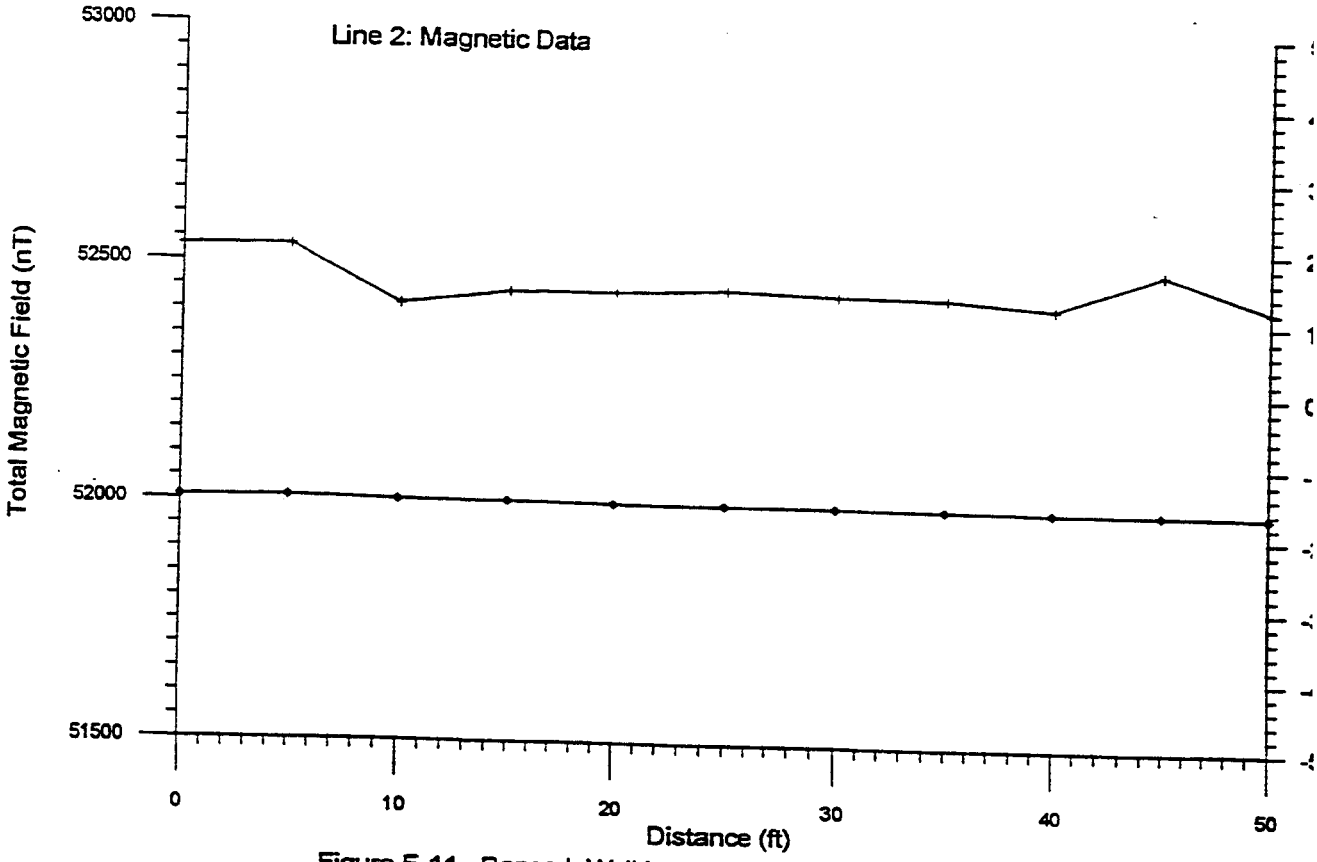
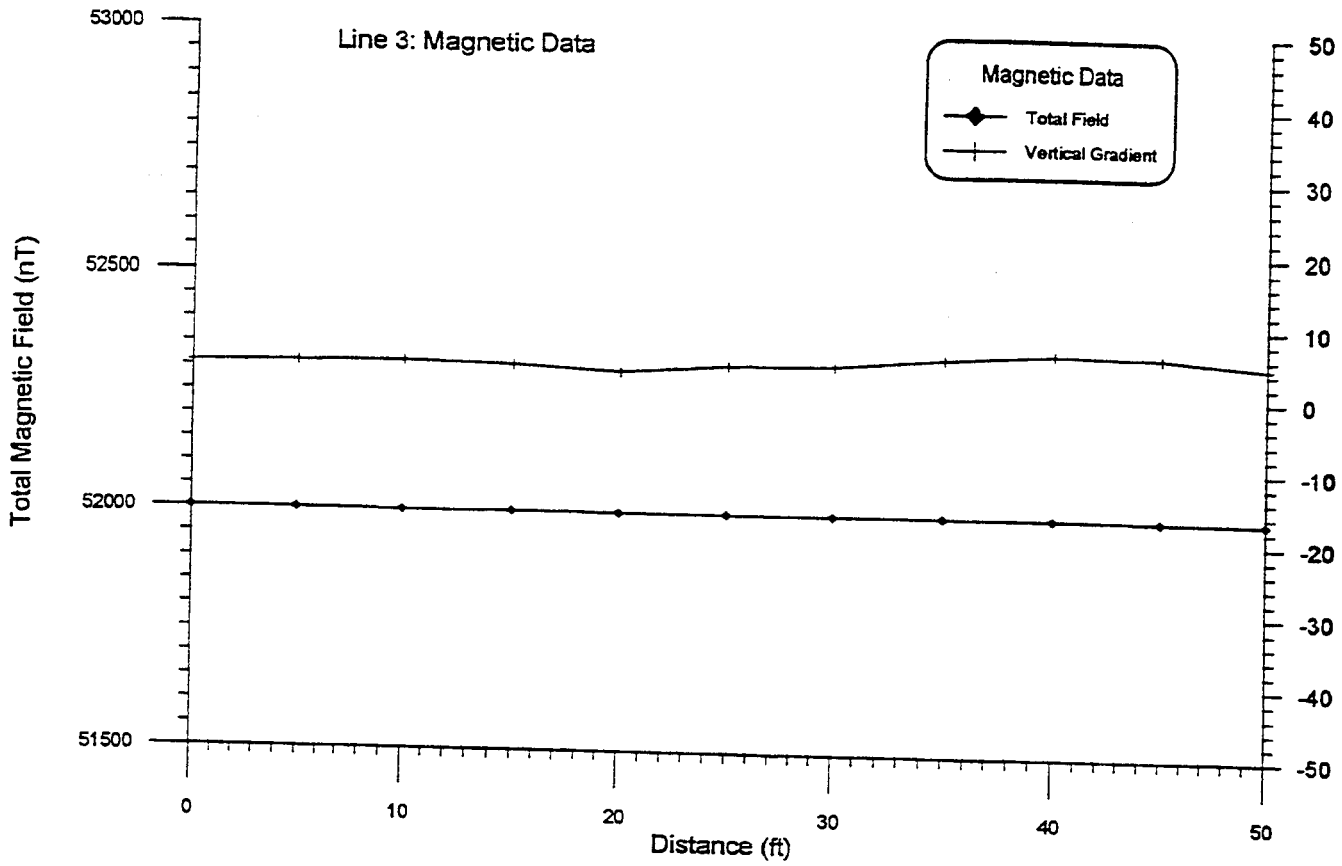


Figure F-11. Range L Well Location 3 Magnetic Data



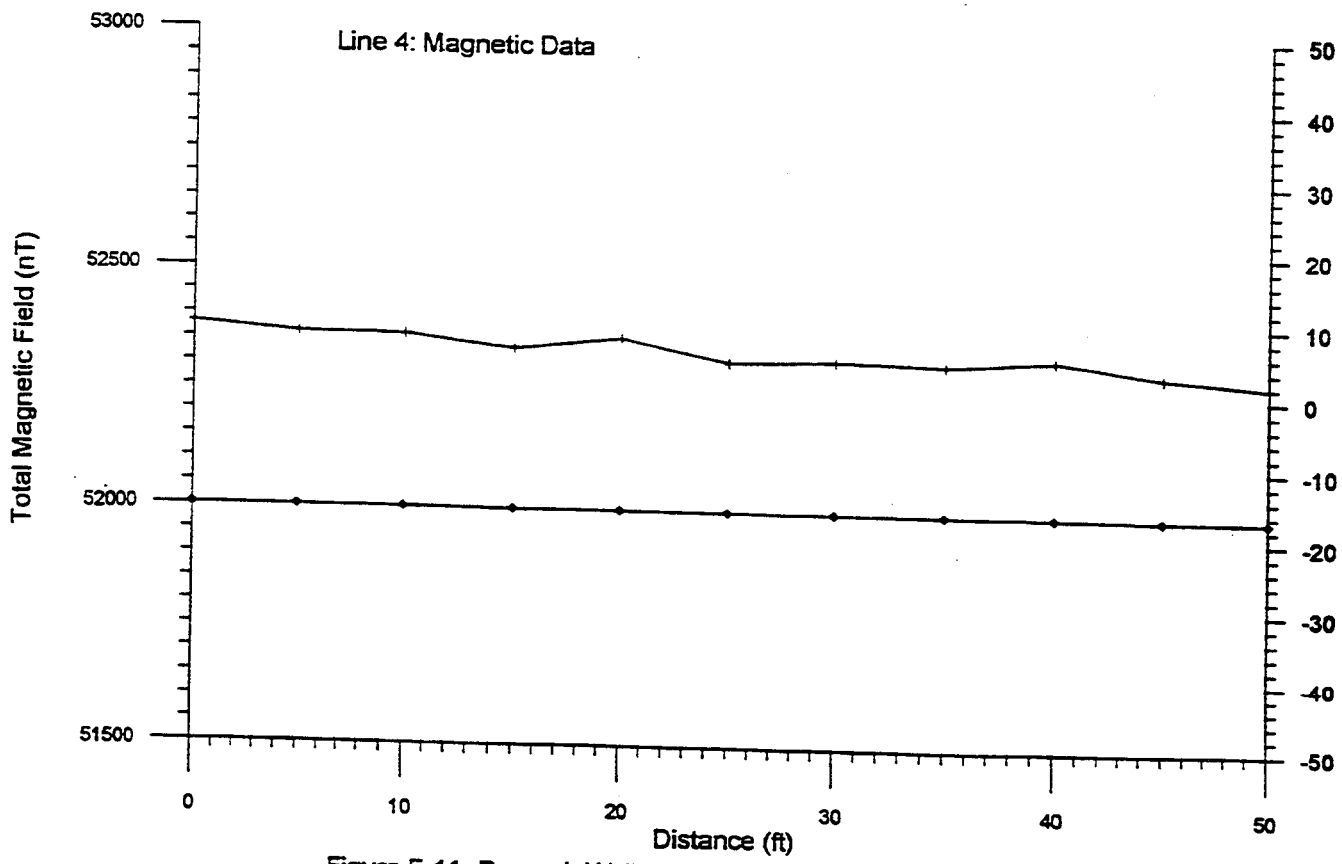
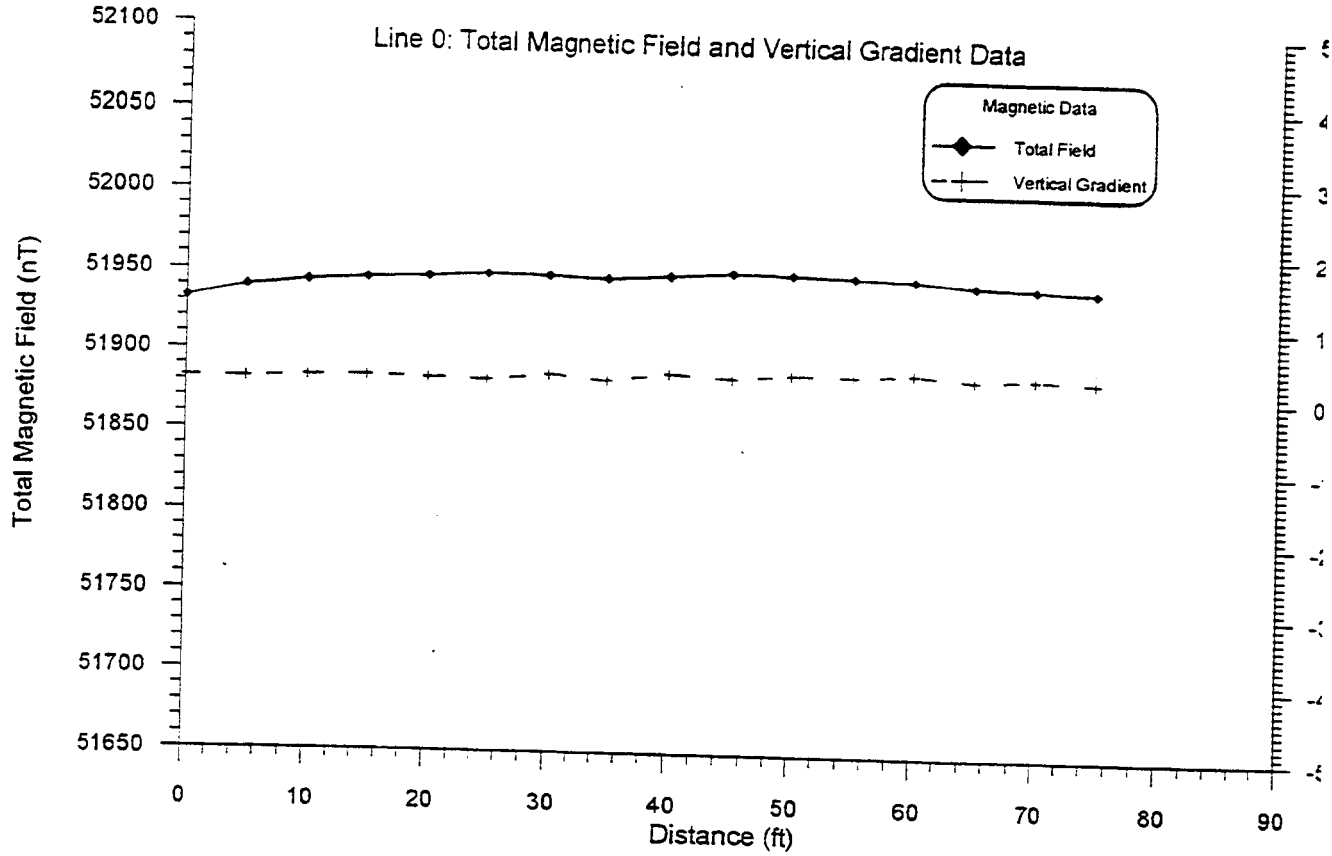


Figure F-11. Range L Well Location 3 Magnetic Data



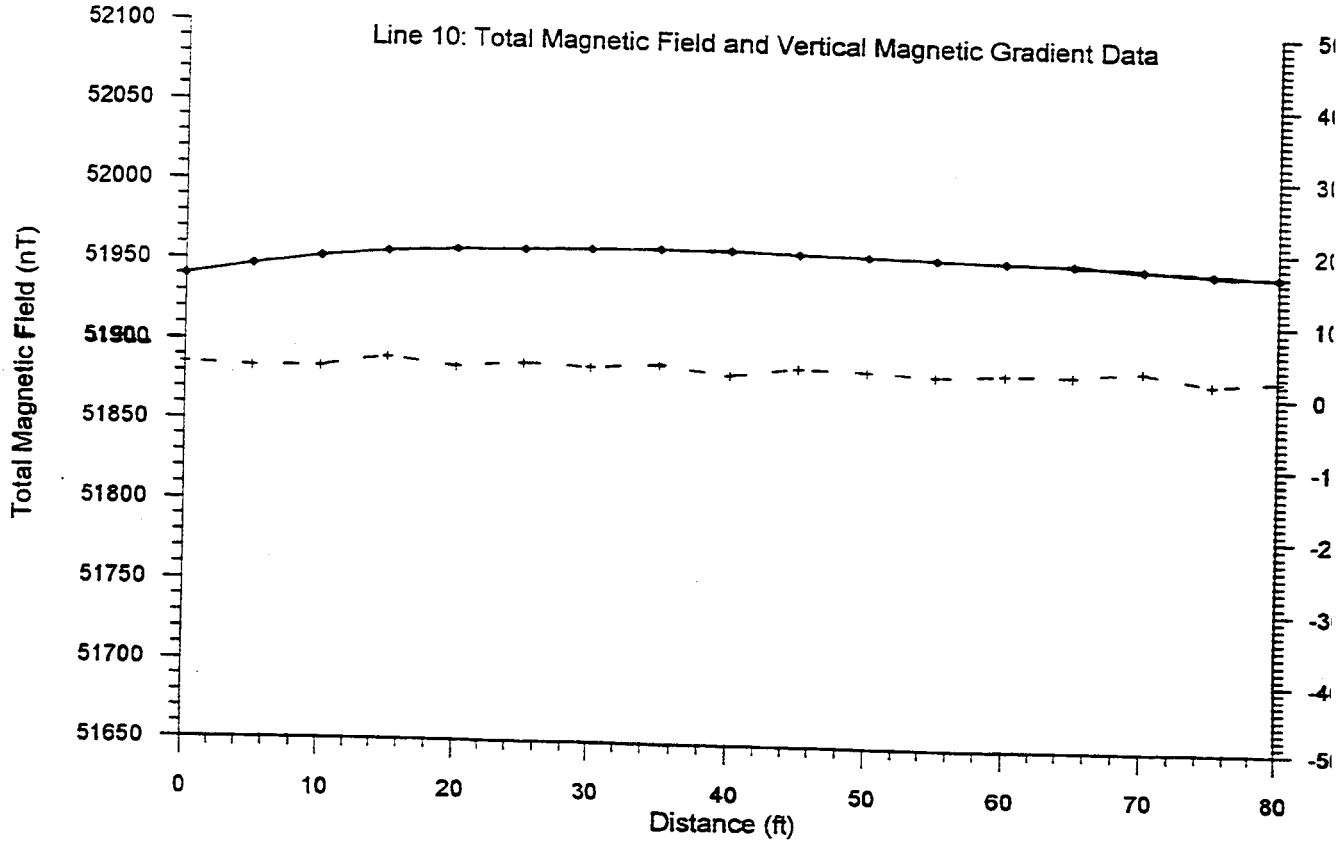
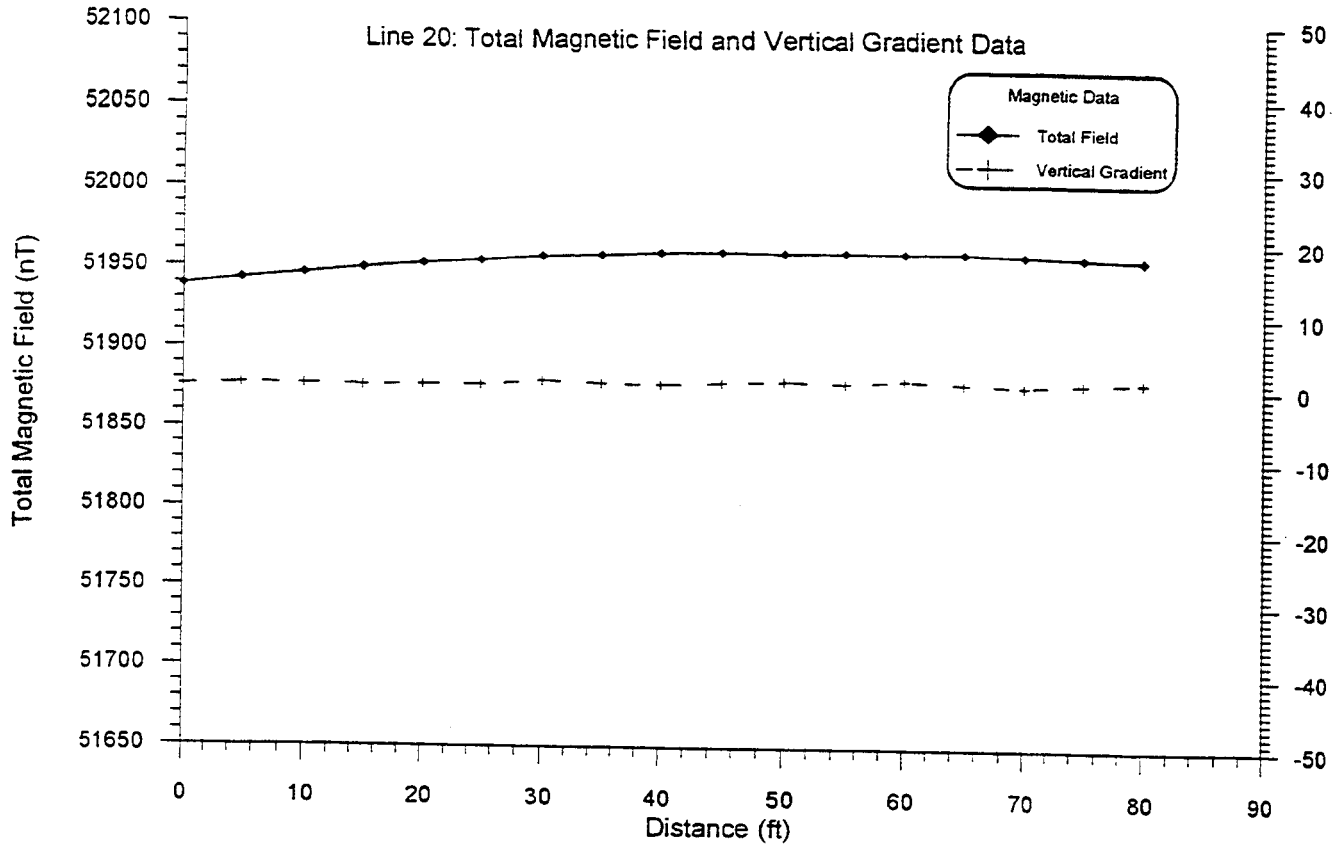


Figure F-12. Range L, Lima Pond, Magnetic Survey Data



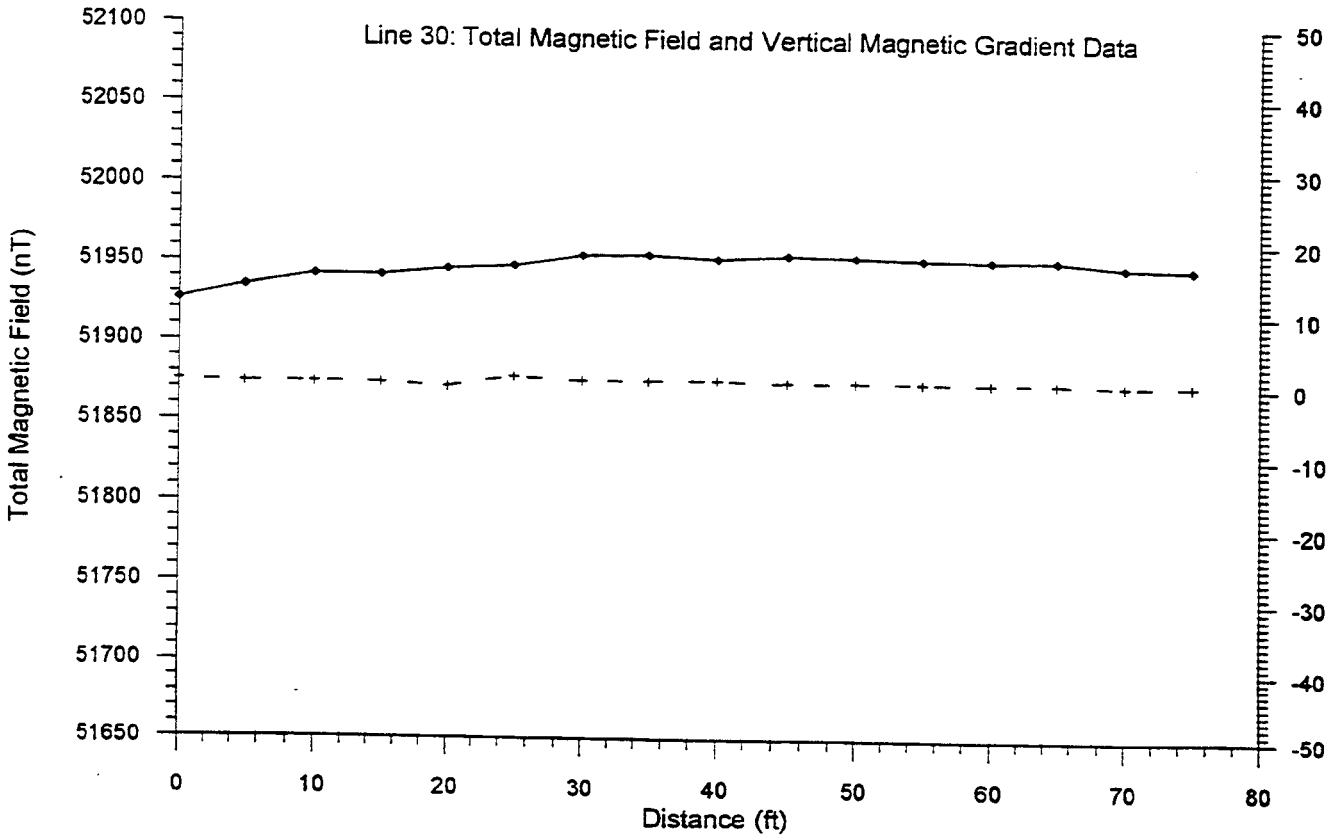
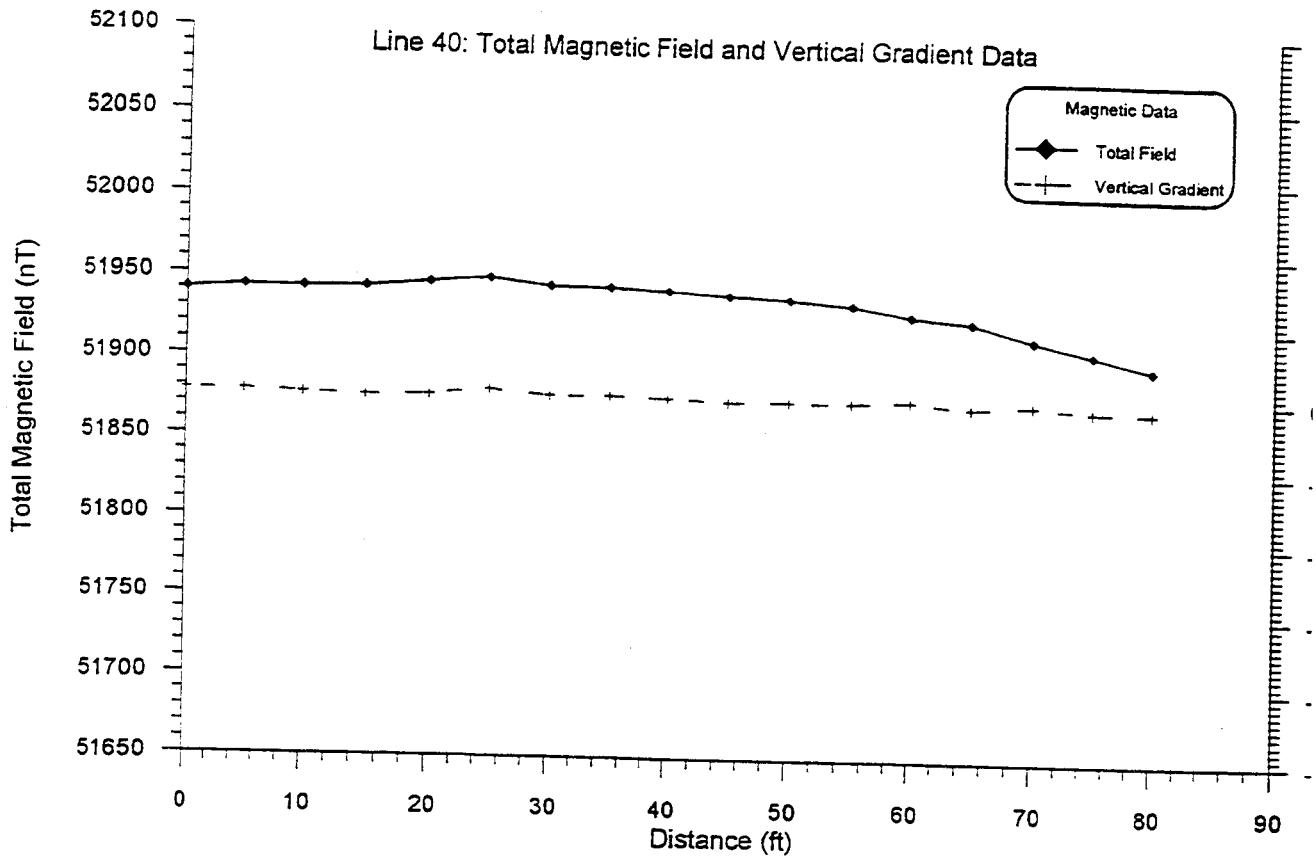


Figure F-12. Range L, Lima Pond, Magnetic Survey Data



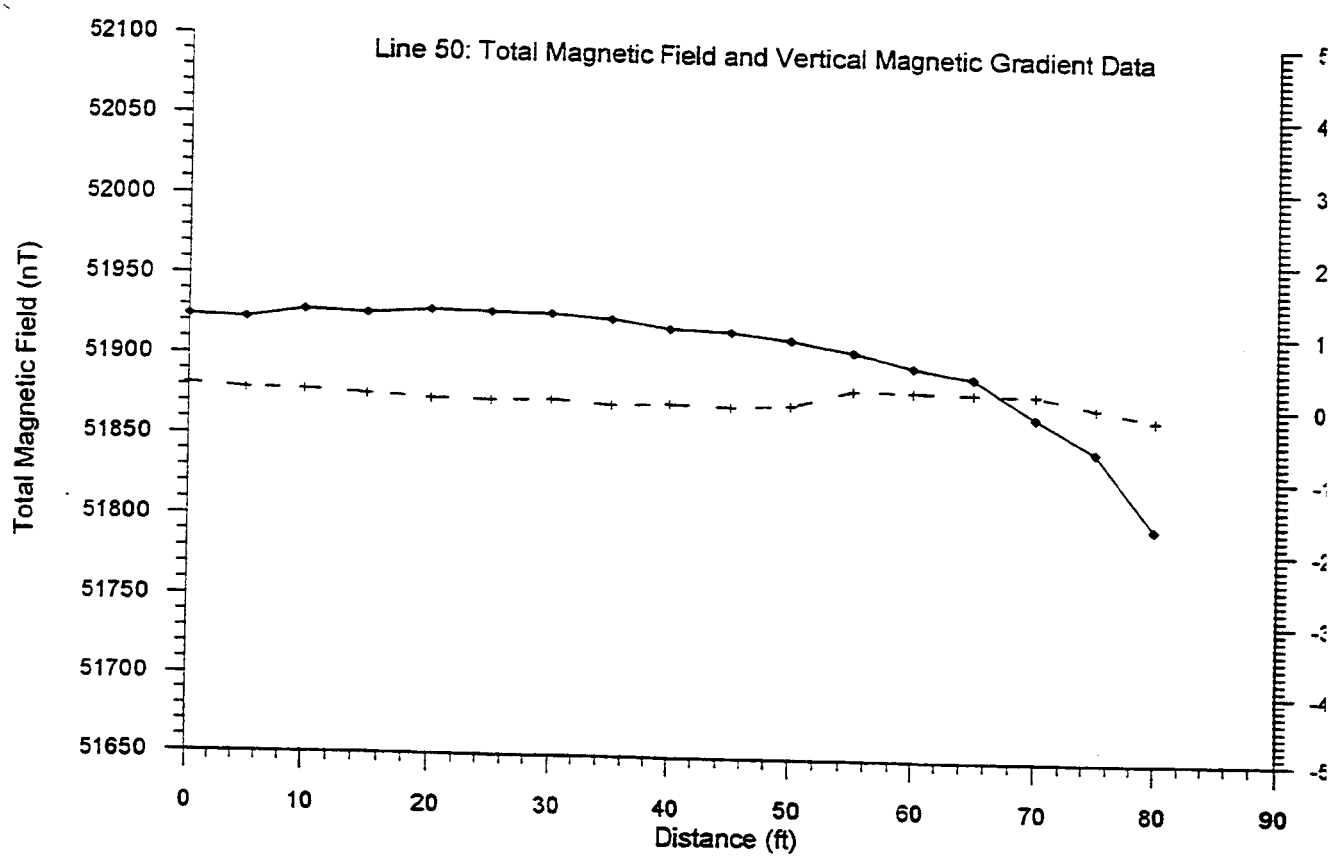


Figure F-12. Range L, Lima Pond, Magnetic Survey Data

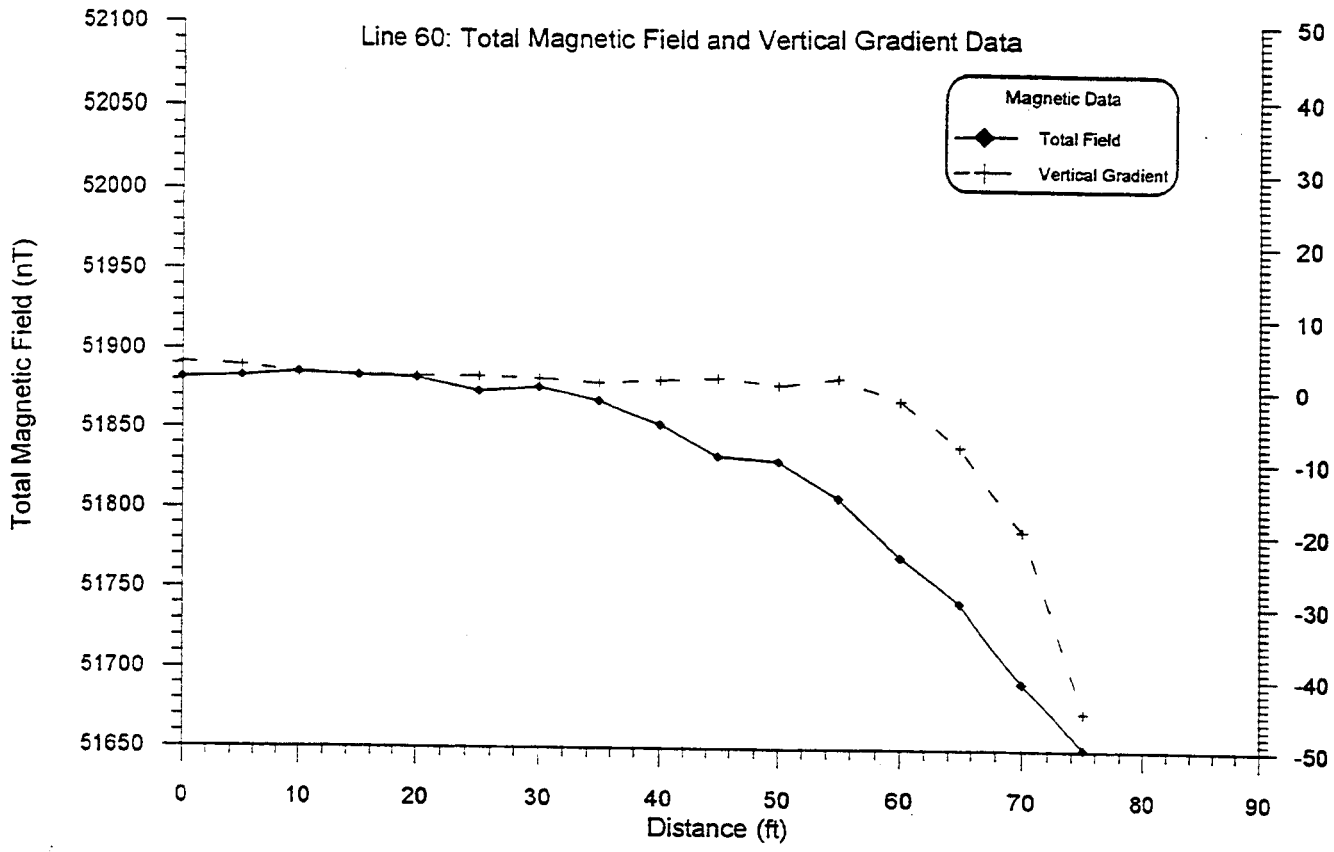


Figure F-12. Range L, Lima Pond, Magnetic Survey Data

Table F-6. Magnetic Data from Range L - Well Locations

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
Well Location No. 1			
1	0	51999.4	3.67
1	5	52001.2	4.13
1	10	52000.2	2.74
1	15	51998.2	2.78
1	20	51997.0	1.39
1	25	51997.1	1.70
1	30	51997.3	3.01
1	35	51997.5	3.32
1	40	51996.6	2.70
1	45	51994.5	1.97
1	50	51992.7	0.39
2	0	52007.1	18.84
2	5	52008.9	18.96
2	10	52005.0	10.97
2	15	52003.9	12.86
2	20	52002.1	12.90
2	25	52001.5	13.51
2	30	52002.3	13.05
2	35	52001.7	12.93
2	40	52000.4	11.81
2	45	52002.3	17.03
2	50	52000.4	12.16
3	0	52000.2	3.82
3	5	52000.1	4.17
3	10	51999.2	4.25
3	15	51999.1	3.82
3	20	51997.8	3.05
3	25	51998.3	4.09
3	30	51997.8	4.25
3	35	51998.0	5.41
3	40	51997.7	6.33
3	45	51997.2	6.06
3	50	51997.0	4.79
4	0	52001.0	8.61
4	5	52001.0	7.49
4	10	52001.2	7.38
4	15	51999.7	5.60
4	20	51999.6	7.22
4	25	51998.8	4.13
4	30	51998.9	4.60
4	35	51999.2	4.21
4	40	51998.6	5.18
4	45	51997.1	3.05
4	50	51996.3	1.93
Well Location No. 2			
1	0	51997.0	2.97
1	5	51994.2	4.71
1	10	51986.3	4.67
1	15	51993.9	3.44
1	20	51996.2	3.78
1	25	51999.1	6.49
1	30	52001.1	7.41
1	35	51997.6	2.24
1	40	51998.8	3.55
1	45	52001.2	4.09
1	50	51999.1	0.19
2	0	51990.7	-8.88
2	5	51982.2	7.80
2	10	51990.7	14.21
2	15	51994.9	12.93
2	20	51997.5	11.93
2	25	52002.9	13.51
2	30	52001.3	10.97
2	35	52000.9	9.92
2	40	52001.8	12.12
2	45	52000.8	11.43
2	50	51997.6	5.41
3	0	51992.7	0.15
3	5	51994.6	3.86

Table F-6. Magnetic Data from Range L - Well Locations

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
3	10	51994.8	4.13
3	15	51994.1	4.98
3	20	51996.5	5.41
3	25	51996.7	3.63
3	30	52000.8	9.11
3	35	51999.6	6.26
3	40	52000.0	5.64
3	45	52000.1	5.52
3	50	52001.0	6.64
4	0	51997.2	1.74
4	5	51991.8	-2.47
4	10	51990.9	-2.36
4	15	51993.5	1.97
4	20	51995.3	1.81
4	25	51996.2	1.78
4	30	51996.6	2.66
4	35	51998.0	6.26
4	40	51998.0	4.98
4	45	51998.7	3.82
4	50	51998.6	1.43
Well Location No. 3			
1	0	51987.6	0.58
1	5	51982.9	-1.04
1	10	51989.1	-0.19
1	15	52000.5	-1.62
1	20	52022.8	4.75
1	25	52037.8	7.76
1	30	52030.4	6.33
1	35	52019.4	4.52
1	40	52013.5	4.52
1	45	52011.2	3.36
1	50	52010.0	3.67
2	0	52013.2	14.40
2	5	52009.2	11.31
2	10	52012.0	9.85
2	15	52012.7	8.15
2	20	52024.9	10.81
2	25	52044.0	17.76
2	30	52053.4	17.30
2	35	52051.4	20.46
2	40	52027.0	9.27
2	45	52009.8	5.33
2	50	52003.1	4.44
3	0	51998.4	0.46
3	5	52003.0	5.33
3	10	52007.6	5.29
3	15	52016.7	6.99
3	20	52024.7	10.58
3	25	52039.1	7.41
3	30	52053.3	17.41
3	35	52050.2	14.44
3	40	52035.9	9.96
3	45	52029.0	6.83
3	50	52014.5	2.90
4	0	51990.6	4.67
4	5	51997.5	4.25
4	10	52004.6	5.10
4	15	52014.8	5.17
4	20	52025.0	6.26
4	25	52038.9	11.97
4	30	52047.8	20.69
4	35	52027.0	7.92
4	40	52007.3	4.29
4	45	51998.1	3.98
4	50	51995.1	5.52

Table B-7. FDEM (EM 31) Data from the Gridded Area Over Lima Pond.

Distance (ft)	Line #	Horiz. Mode Conductivity (mS/m)	Horiz. Mode In-Phase (ppt)	Vert. Mode Conductivity (mS/m)	Vert. Mode In-Phase (ppt)
0	0	7.50	-0.75	11.10	3.07
5	0	7.26	-0.66	11.10	3.07
10	0	7.08	-0.76	10.98	2.78
15	0	7.68	-0.73	10.62	2.50
20	0	7.14	-0.83	10.62	2.52
25	0	7.50	-0.73	10.26	2.52
30	0	7.98	-0.59	10.32	2.63
35	0	8.22	-0.77	10.38	2.58
40	0	8.28	-0.85	10.68	2.59
45	0	7.14	-0.88	11.04	2.53
50	0	7.98	-0.59	10.74	2.69
55	0	7.14	-0.93	10.62	2.53
60	0	7.74	-0.70	10.80	2.73
65	0	9.00	-0.77	10.80	2.81
70	0	8.04	-0.66	10.80	3.31
75	0	8.46	-0.49	10.44	3.35
80	0	7.62	-0.40	10.86	3.91
85	0	7.26	-0.82	10.74	4.26
90	0	7.50	-0.18	11.10	4.97
0	10	8.22	-0.87	11.40	2.52
5	10	8.76	-0.46	11.58	2.53
10	10	8.16	-0.64	11.40	2.42
15	10	7.38	-0.89	11.10	2.46
20	10	7.38	-0.67	11.04	2.46
25	10	7.50	-0.73	10.86	2.41
30	10	8.70	-0.77	11.04	2.46
35	10	7.68	-0.90	11.04	2.48
40	10	8.70	-0.90	11.16	2.43
45	10	7.08	-1.26	10.86	2.44
50	10	8.28	-0.69	10.80	2.40
55	10	8.82	-0.82	10.80	2.42
60	10	8.82	-0.66	10.86	2.58
65	10	8.52	-0.87	10.26	2.61
70	10	7.80	-0.82	10.74	2.72
75	10	8.10	-1.07	10.86	2.83
80	10	7.44	-0.51	10.56	3.34
85	10	7.02	-0.87	10.50	3.49
90	10	7.26	-0.54	10.44	3.95
0	20	10.92	-1.61	12.12	1.48
5	20	9.90	-1.55	11.64	1.42
10	20	7.74	-1.54	11.52	1.45
15	20	9.24	-1.90	11.40	1.16
20	20	8.16	-1.61	11.34	1.08
25	20	8.70	-1.37	11.04	1.00
30	20	8.46	-1.38	11.04	1.01
35	20	8.76	-1.24	10.92	1.08
40	20	8.70	-1.52	10.68	1.02
45	20	7.92	-1.48	10.50	1.04
50	20	8.40	-1.31	10.62	1.19
55	20	8.58	-1.76	10.50	1.24
60	20	7.62	-1.42	10.74	1.17
65	20	7.98	-1.94	10.56	1.23
70	20	7.80	-1.51	10.44	1.38
75	20	7.50	-1.83	10.32	1.48
80	20	7.50	-1.77	10.50	1.75
0	30	8.46	-1.64	11.58	0.85
5	30	9.78	-1.57	11.16	0.70
10	30	8.28	-2.07	10.74	0.61
15	30	8.76	-1.90	10.44	0.54
20	30	8.28	-1.65	10.32	0.66
25	30	8.52	-2.17	10.26	0.81
30	30	8.58	-2.07	10.20	0.70
35	30	7.92	-1.91	10.08	0.67
40	30	8.52	-1.96	10.08	0.83
45	30	8.82	-1.89	9.72	0.81
50	30	8.76	-1.83	9.30	0.77
55	30	8.94	-1.97	9.36	0.85
60	30	8.58	-1.76	9.30	1.00
65	30	7.86	-1.83	9.66	1.16
70	30	7.44	-1.95	9.84	1.31
75	30	7.56	-1.97	9.90	1.43
80	30	7.86	-1.75	9.90	1.83

Table B-7. FDEM (EM 31) Data from the Gridded Area Over Lima Pond.

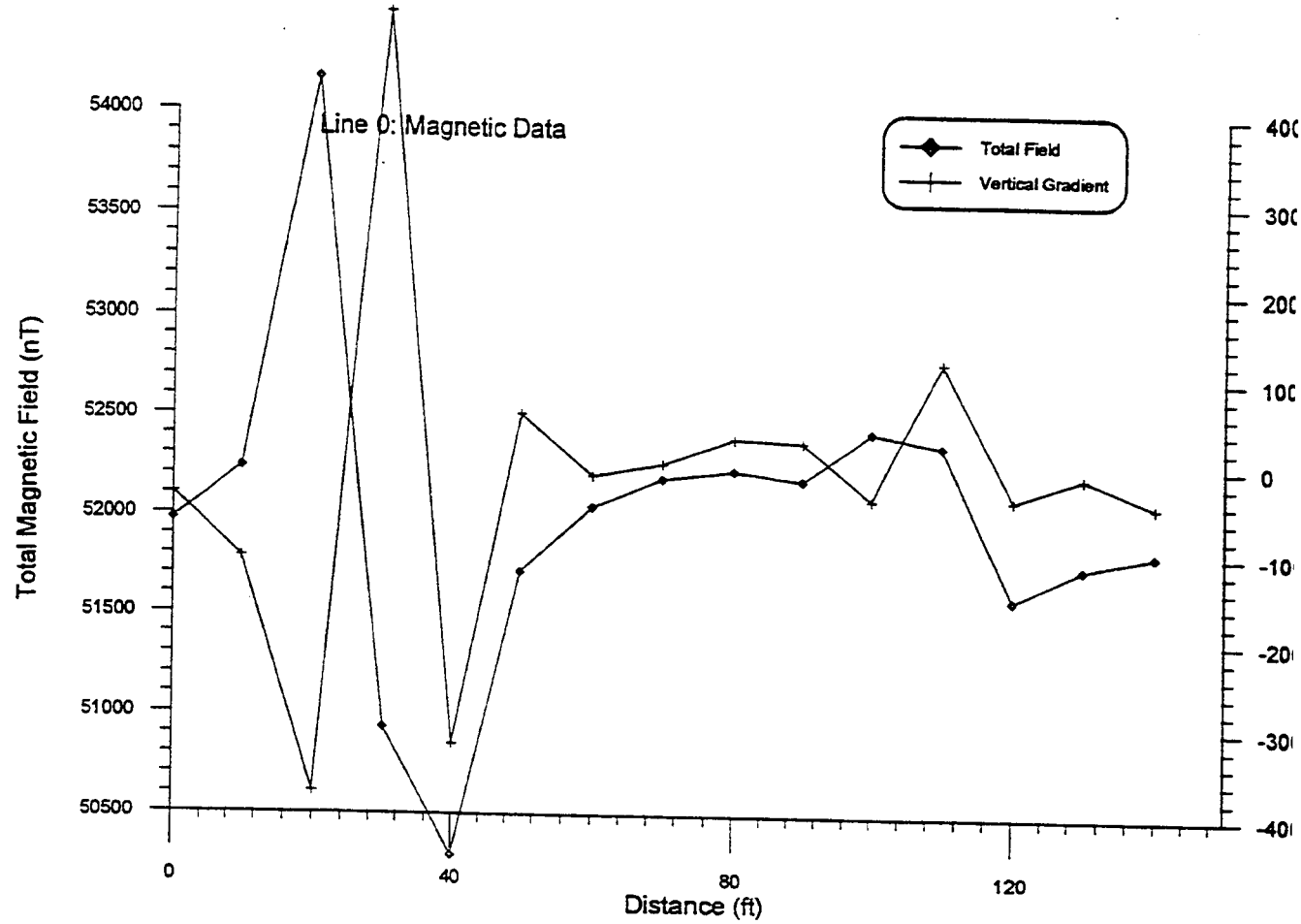
Distance (ft)	Line #	Horiz. Mode Conductivity (mS/m)	Horiz. Mode In-Phase (ppt)	Vert. Mode Conductivity (mS/m)	Vert. Mode In-Phase (ppt)
0	40	8.58	-1.18	10.68	1.31
5	40	8.58	-1.53	10.62	1.24
10	40	8.64	-1.53	10.02	1.28
15	40	9.66	-1.85	9.54	0.95
20	40	8.40	-1.67	9.54	0.84
25	40	8.10	-1.66	9.36	0.70
30	40	8.34	-1.83	9.30	0.76
35	40	8.58	-1.85	9.30	0.73
40	40	8.40	-1.70	9.66	0.84
45	40	8.82	-1.82	9.36	0.88
50	40	7.62	-1.87	9.24	0.98
55	40	7.38	-1.65	9.48	1.28
60	40	6.66	-1.14	9.72	1.37
65	40	7.44	-1.07	9.72	2.14
70	40	7.20	-1.20	9.90	2.50
75	40	8.04	-1.02	9.84	2.81
80	40	8.70	-0.72	10.08	3.08
0	50	7.98	-0.13	10.26	3.09
5	50	8.52	-0.83	10.26	2.84
10	50	10.26	-0.78	9.84	2.53
15	50	6.96	-0.77	9.72	2.56
20	50	8.16	-0.78	9.78	2.55
25	50	8.10	-0.75	9.54	2.60
30	50	7.50	-0.64	9.60	2.63
35	50	7.68	-0.71	9.48	2.55
40	50	7.62	-0.52	9.60	2.66
45	50	7.32	-0.95	9.54	2.66
50	50	7.38	-0.47	9.54	2.70
0	60	8.34	-0.19	11.46	5.55
5	60	7.32	-0.25	10.92	4.94
10	60	7.98	-0.54	10.50	4.56
15	60	7.02	-0.41	10.38	4.38
20	60	7.08	-0.39	10.14	4.47
25	60	6.84	-0.37	10.02	4.30
30	60	6.78	-0.42	9.84	4.41
35	60	6.90	-0.23	9.84	4.50
40	60	6.72	-0.18	9.90	4.64
45	60	6.18	-0.73	10.08	5.01
50	60	7.08	-0.16	10.38	5.36
55	60	7.14	-0.18	11.10	5.76
60	60	7.74	0.00	11.58	6.29
65	60	8.28	0.48	12.66	6.90
70	60	12.12	1.60	15.84	9.40

Table F-7. Magnetic Data from Range L, Lima Pond Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
0	0	51932.5	1.58
0	5	51940.1	1.58
0	10	51943.5	1.97
0	15	51945.3	2.05
0	20	51946.5	1.81
0	25	51948.4	1.70
0	30	51947.9	2.43
0	35	51946.9	1.78
0	40	51948.9	2.74
0	45	51951.1	2.24
0	50	51950.4	2.86
0	55	51949.4	2.74
0	60	51948.2	3.21
0	65	51945.0	2.43
0	70	51943.9	2.82
0	75	51942.2	2.47
10	0	51940.0	2.39
10	5	51947.0	1.97
10	10	51952.4	2.05
10	15	51956.2	3.48
10	20	51958.1	2.28
10	25	51958.8	2.97
10	30	51959.9	2.59
10	35	51960.6	3.09
10	40	51960.7	1.85
10	45	51959.3	3.01
10	50	51958.9	2.78
10	55	51958.1	2.36
10	60	51956.8	2.78
10	65	51955.9	2.74
10	70	51953.8	3.51
10	75	51951.7	1.81
10	80	51950.4	2.47
20	0	51938.7	0.23
20	5	51942.9	0.54
20	10	51946.3	0.43
20	15	51949.4	0.35
20	20	51952.0	0.39
20	25	51953.9	0.39
20	30	51957.1	0.93
20	35	51958.0	0.62
20	40	51959.3	0.50
20	45	51959.6	0.77
20	50	51959.2	0.97
20	55	51959.5	0.70
20	60	51958.8	1.08
20	65	51959.0	0.73
20	70	51958.0	0.46
20	75	51956.8	0.89
20	80	51955.7	1.08
30	0	51926.1	0.04
30	5	51934.8	-0.23
30	10	51942.1	-0.19
30	15	51942.0	-0.23
30	20	51946.2	-0.66
30	25	51948.3	0.77
30	30	51954.9	0.27
30	35	51955.6	0.35
30	40	51953.5	0.46
30	45	51955.8	0.19
30	50	51955.0	0.27
30	55	51953.9	0.31
30	60	51953.5	0.35
30	65	51953.7	0.39
30	70	51950.1	0.19
30	75	51949.4	0.27
40	0	51940.7	0.70
40	5	51942.4	0.66
40	10	51942.3	0.35
40	15	51942.8	0.04

Table F-7. Magnetic Data from Range L, Lima Pond Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
40	20	51945.4	0.15
40	25	51948.0	0.93
40	30	51943.8	0.12
40	35	51943.3	0.19
40	40	51941.6	0.00
40	45	51939.0	-0.46
40	50	51937.3	-0.39
40	55	51933.9	-0.43
40	60	51927.3	-0.16
40	65	51923.4	-1.04
40	70	51913.5	-0.50
40	75	51905.4	-1.20
40	80	51896.4	-1.24
50	0	51924.3	1.39
50	5	51922.8	0.81
50	10	51928.3	0.70
50	15	51926.5	0.23
50	20	51928.9	-0.27
50	25	51928.1	-0.39
50	30	51927.6	-0.16
50	35	51924.9	-0.77
50	40	51919.6	-0.46
50	45	51918.2	-0.81
50	50	51913.6	-0.42
50	55	51906.7	1.81
50	60	51897.9	1.70
50	65	51891.9	1.58
50	70	51867.3	1.51
50	75	51846.8	-0.19
50	80	51799.6	-1.74
60	0	51881.5	3.63
60	5	51882.7	3.17
60	10	51885.4	2.20
60	15	51883.0	1.85
60	20	51881.9	1.78
60	25	51873.2	1.66
60	30	51875.6	1.39
60	35	51867.0	0.77
60	40	51852.3	1.24
60	45	51832.6	1.51
60	50	51829.7	0.50
60	55	51806.8	1.43
60	60	51769.9	-1.78
60	65	51741.6	-8.03
60	70	51692.1	-19.69
60	75	51651.3	-44.75



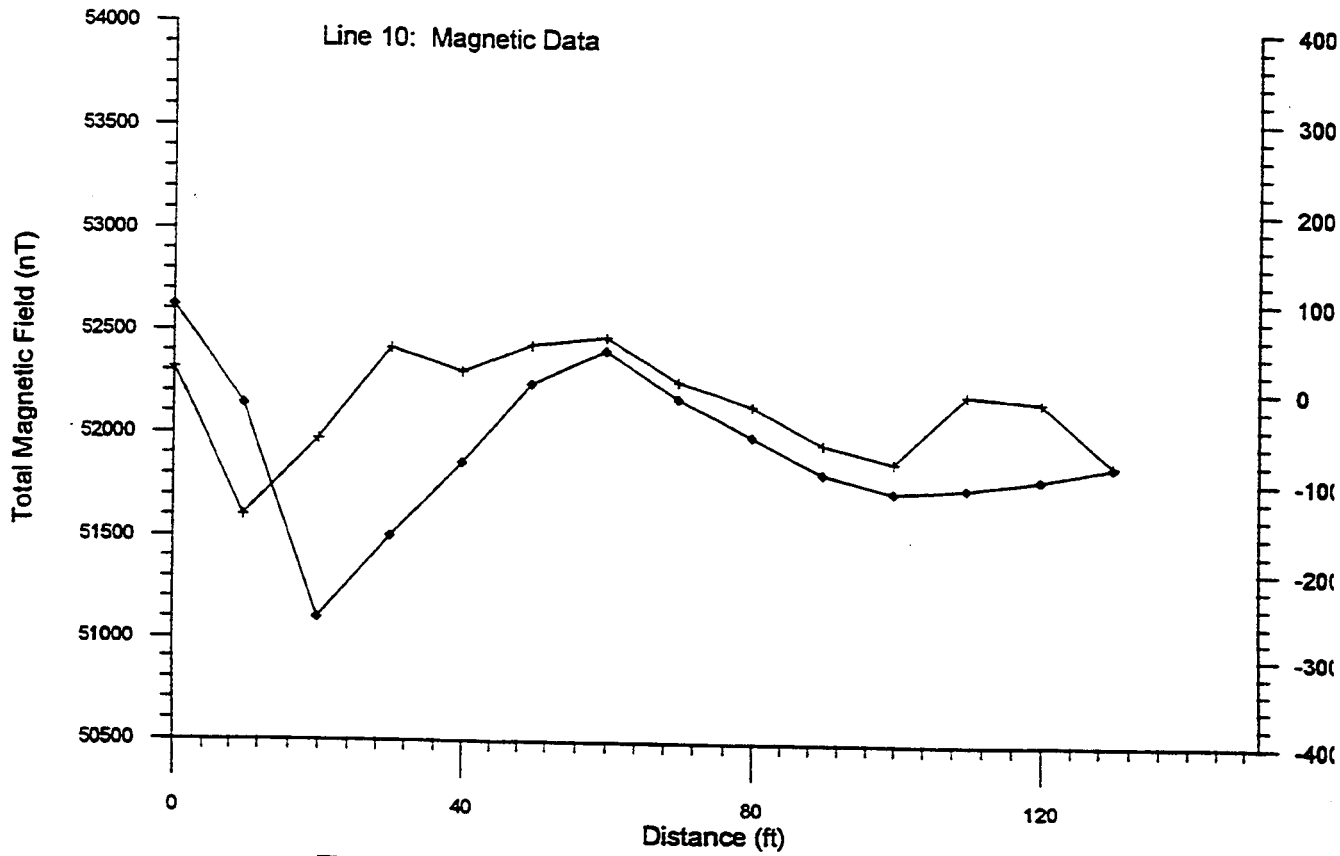
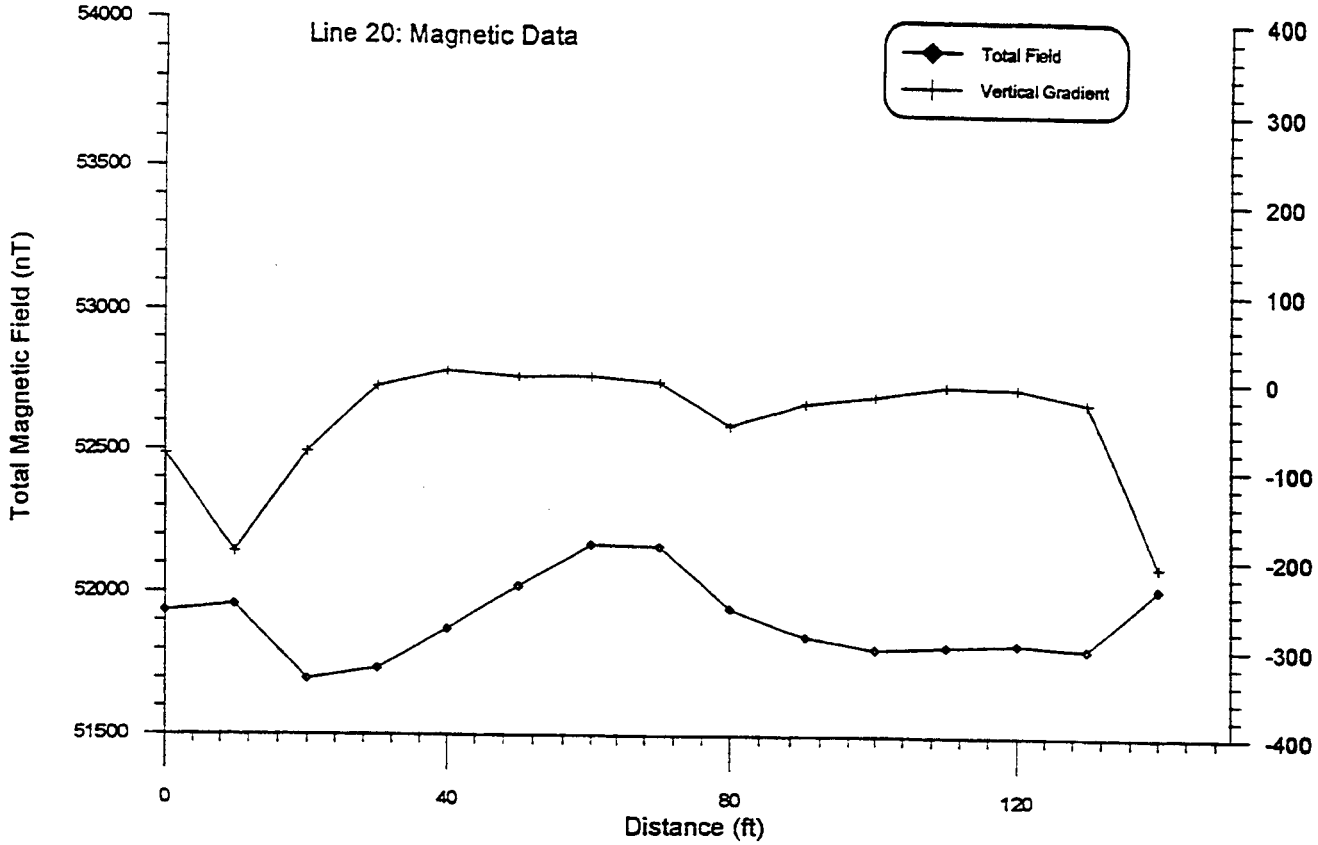


Figure F-14. Site T-38 Magnetic Data



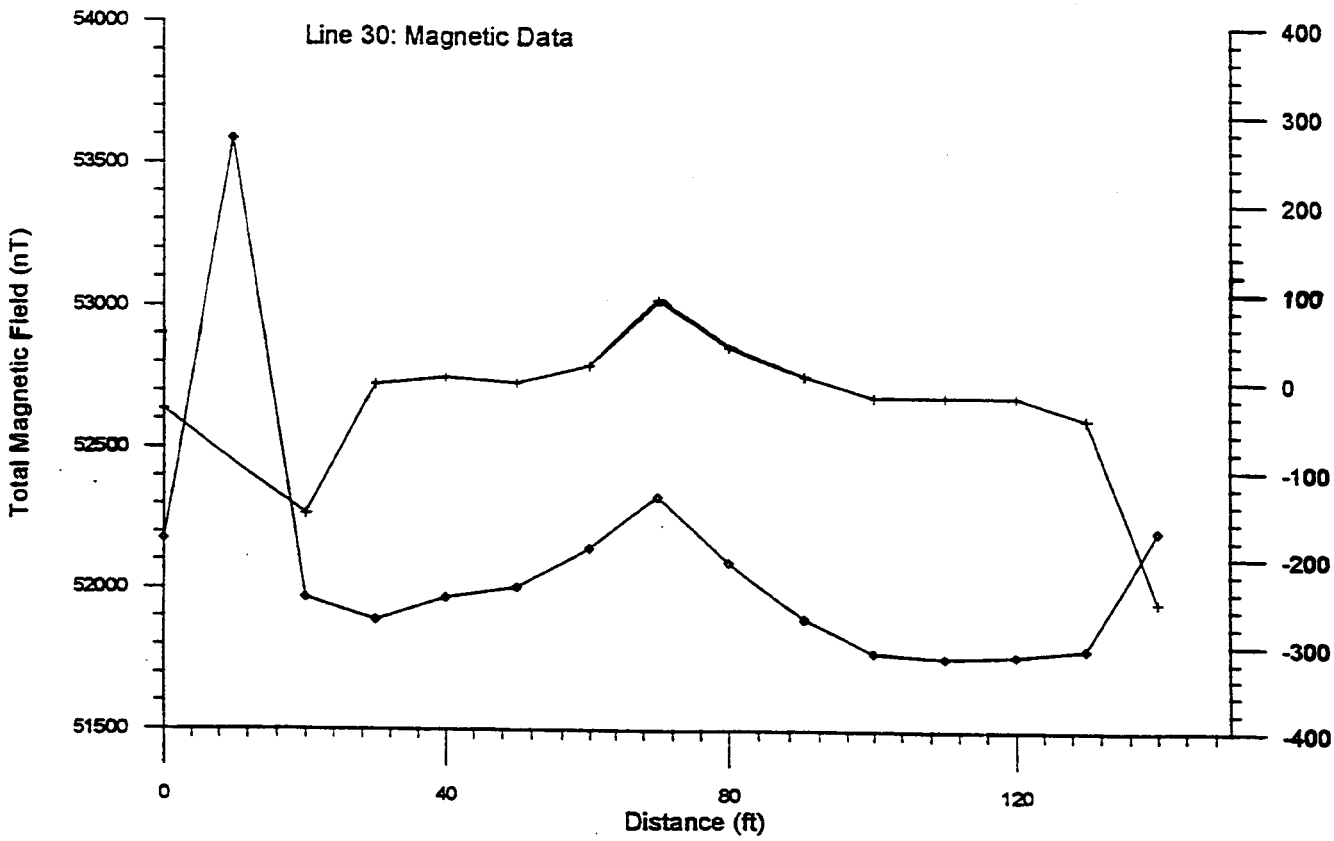
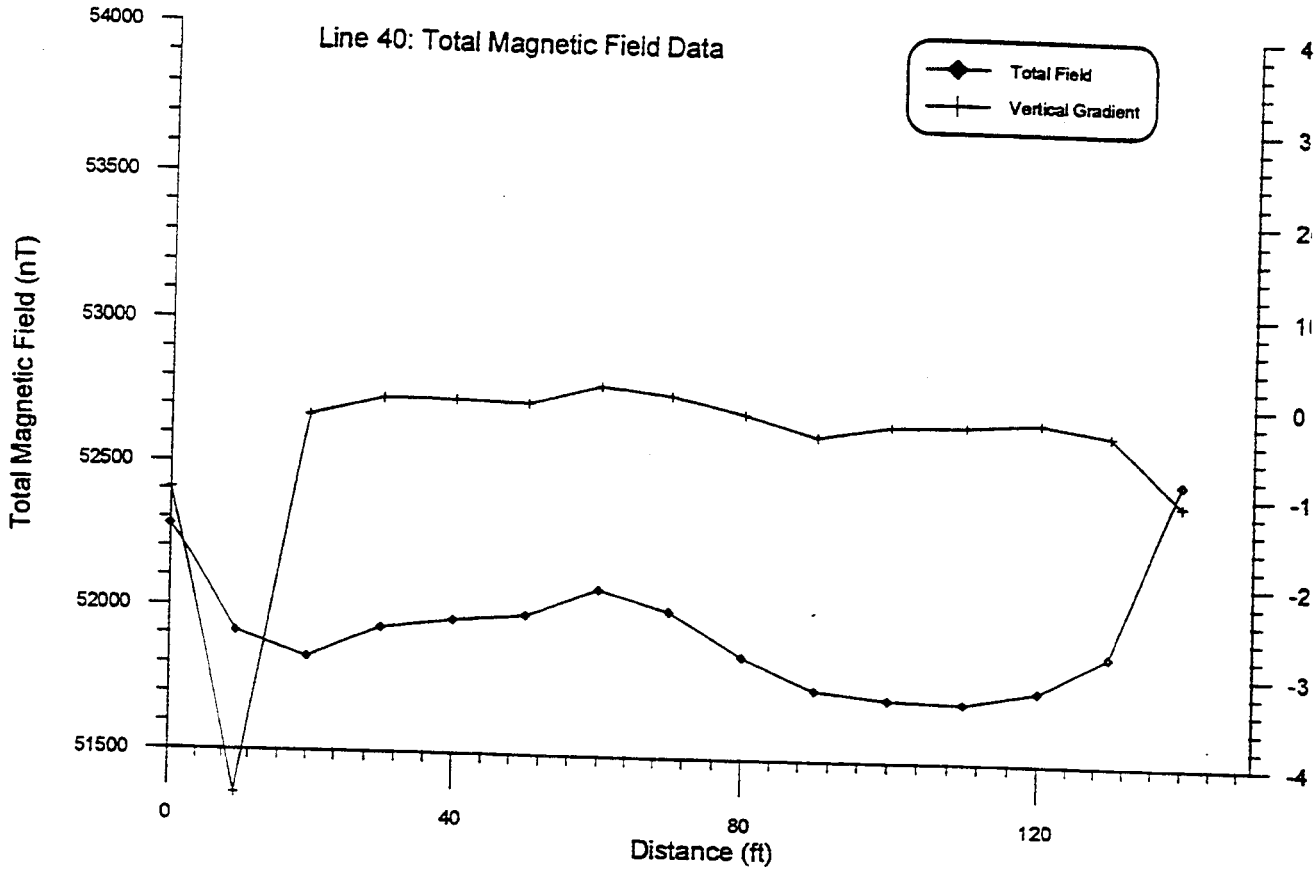


Figure F-14. Site T-38 Magnetic Data



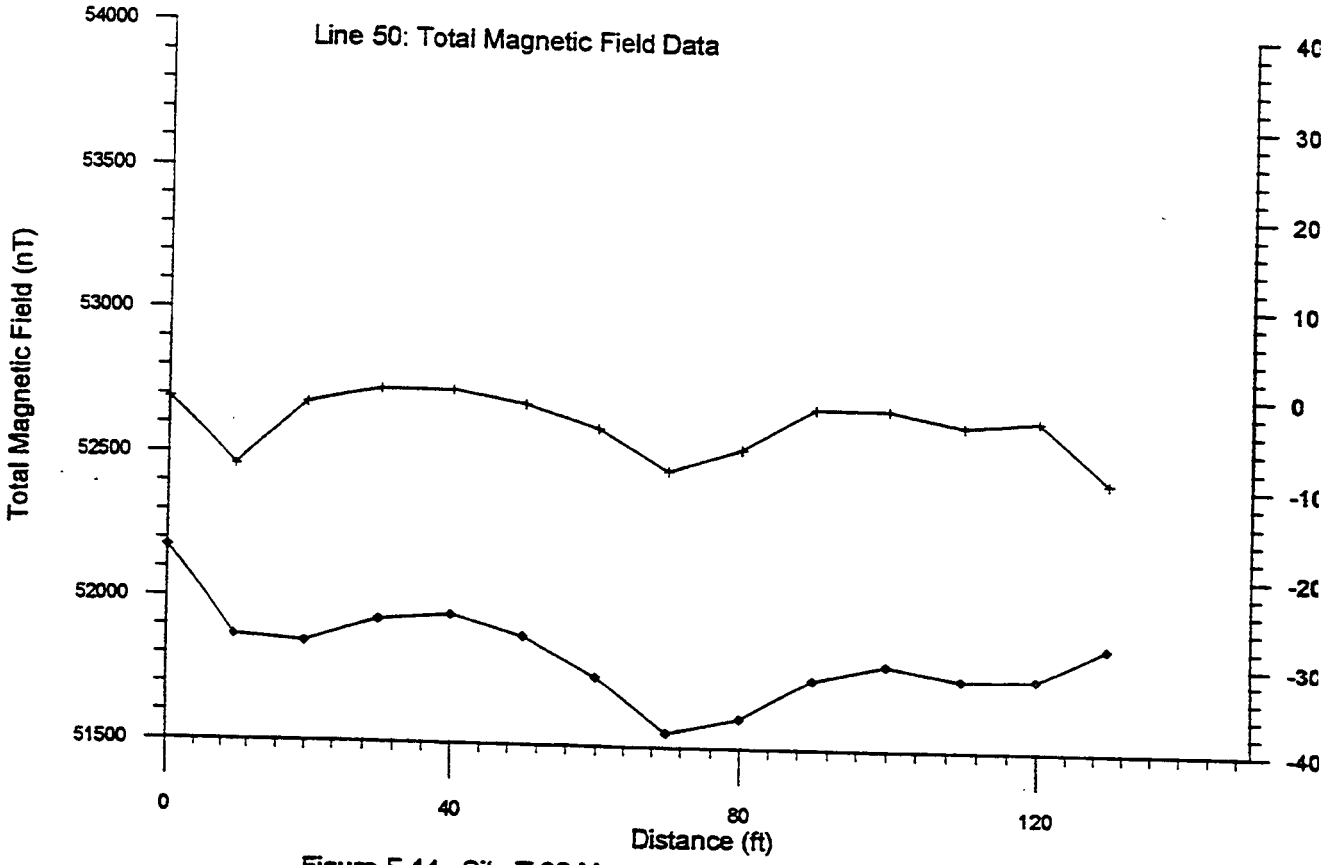
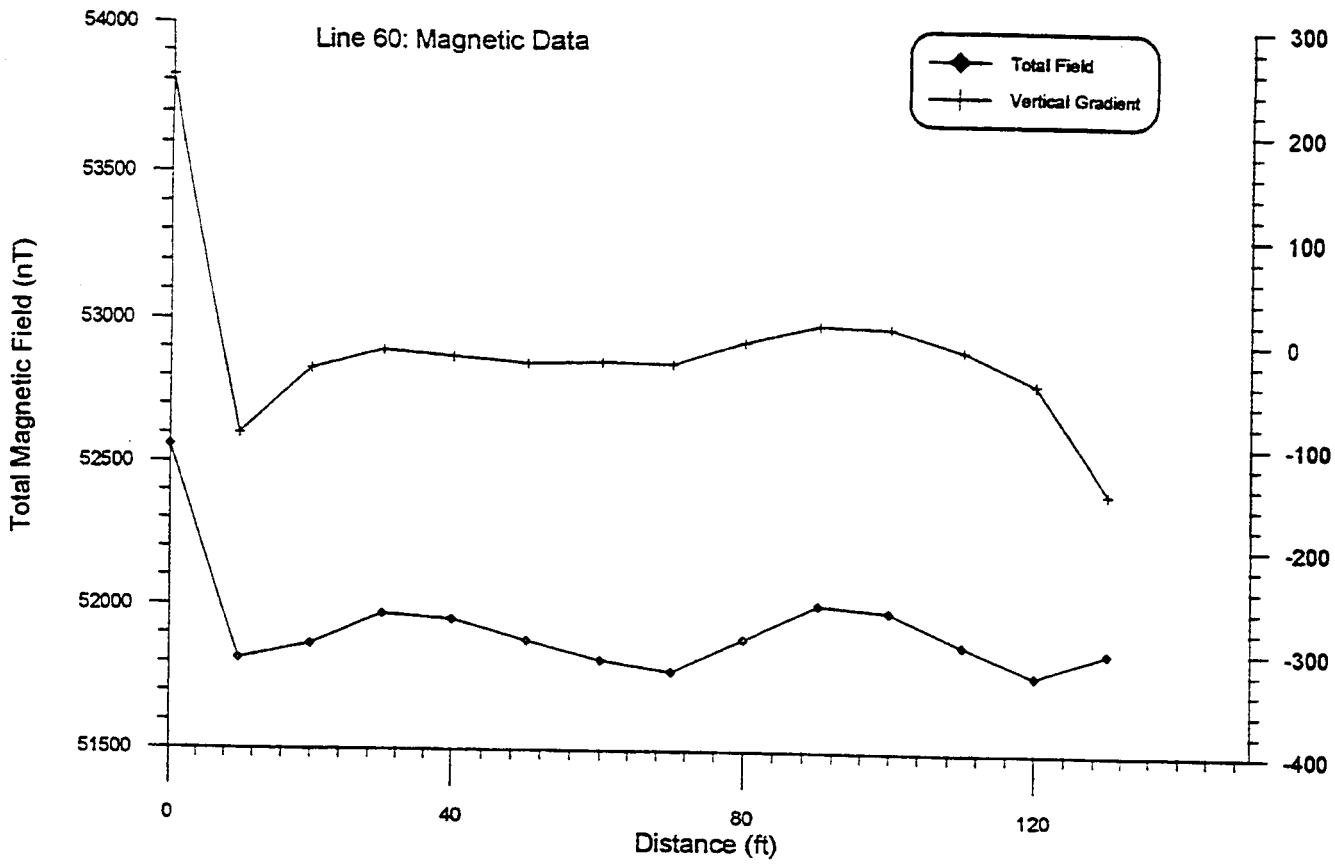


Figure F-14. Site T-38 Magnetic Data



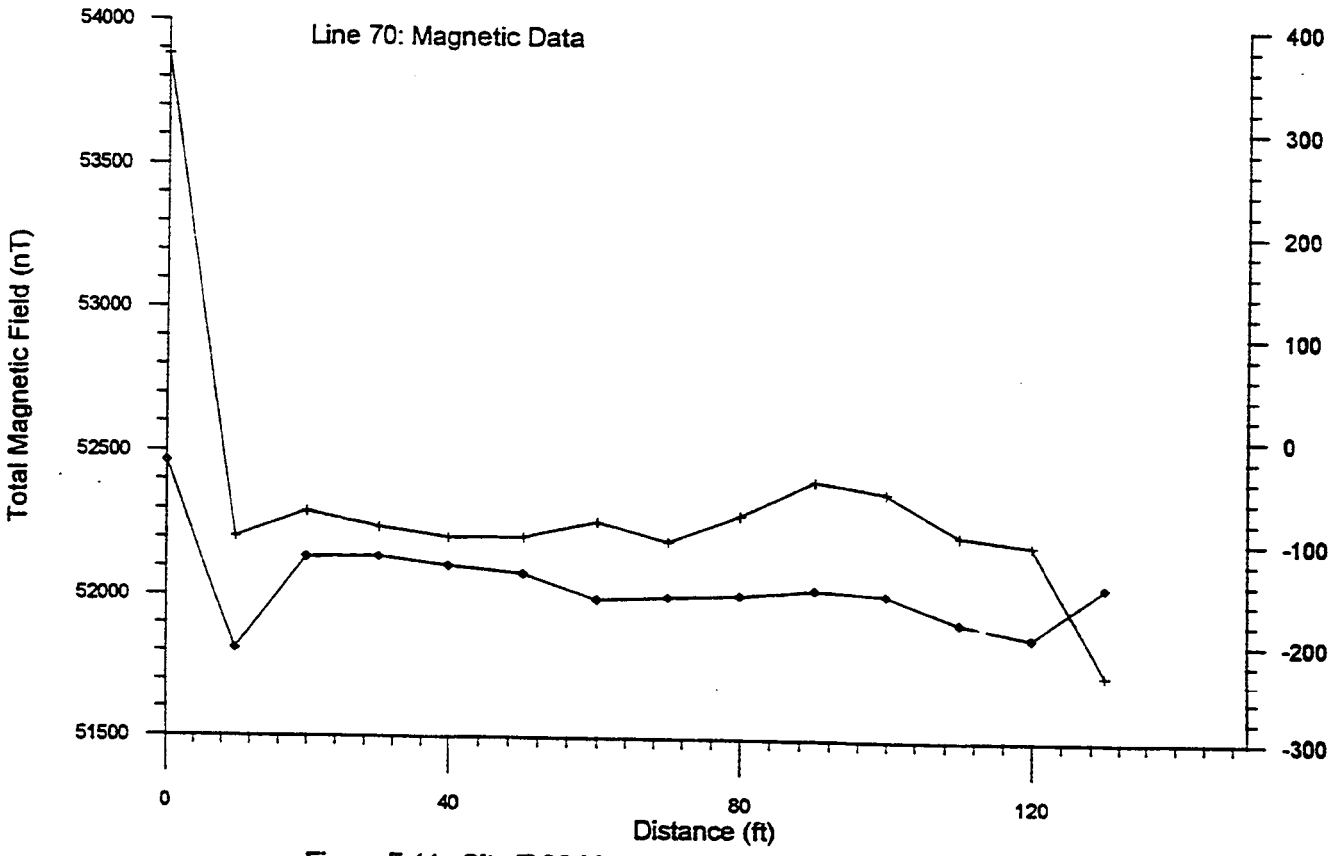


Figure F-14. Site T-38 Magnetic Data

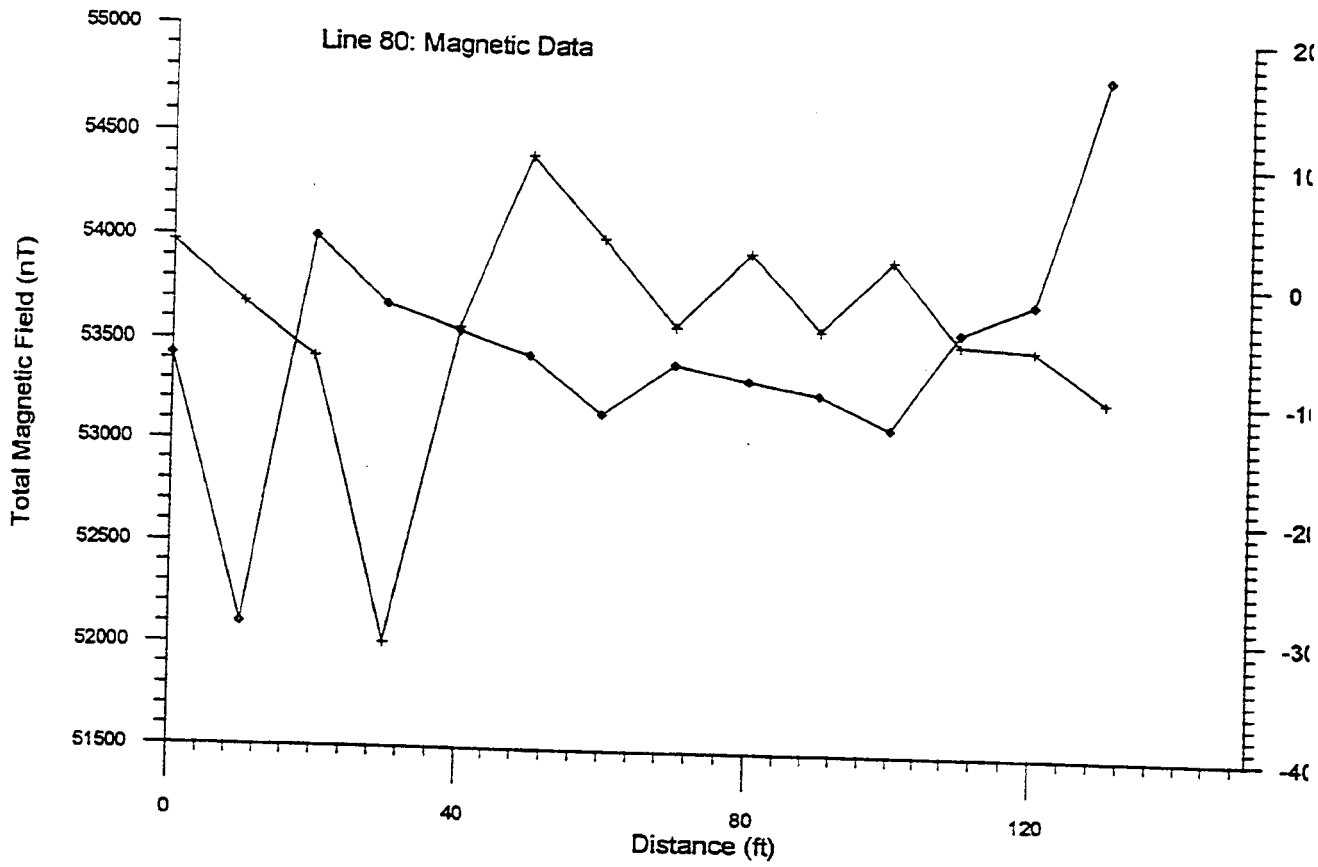


Figure F-14. Site T-38 Magnetic Data

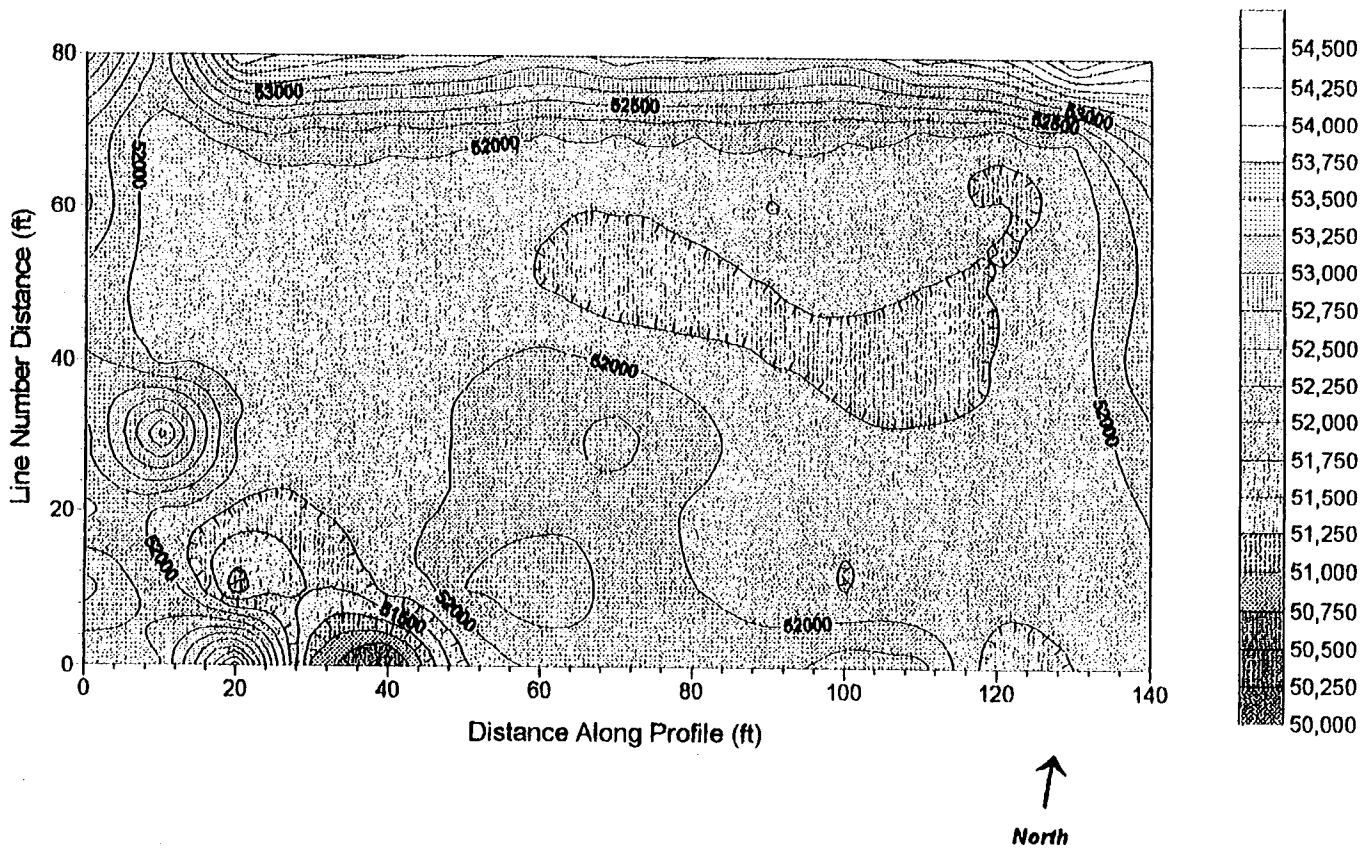


Figure F-15a. Contour Plot of Total Field Magnetic Data Site T-38

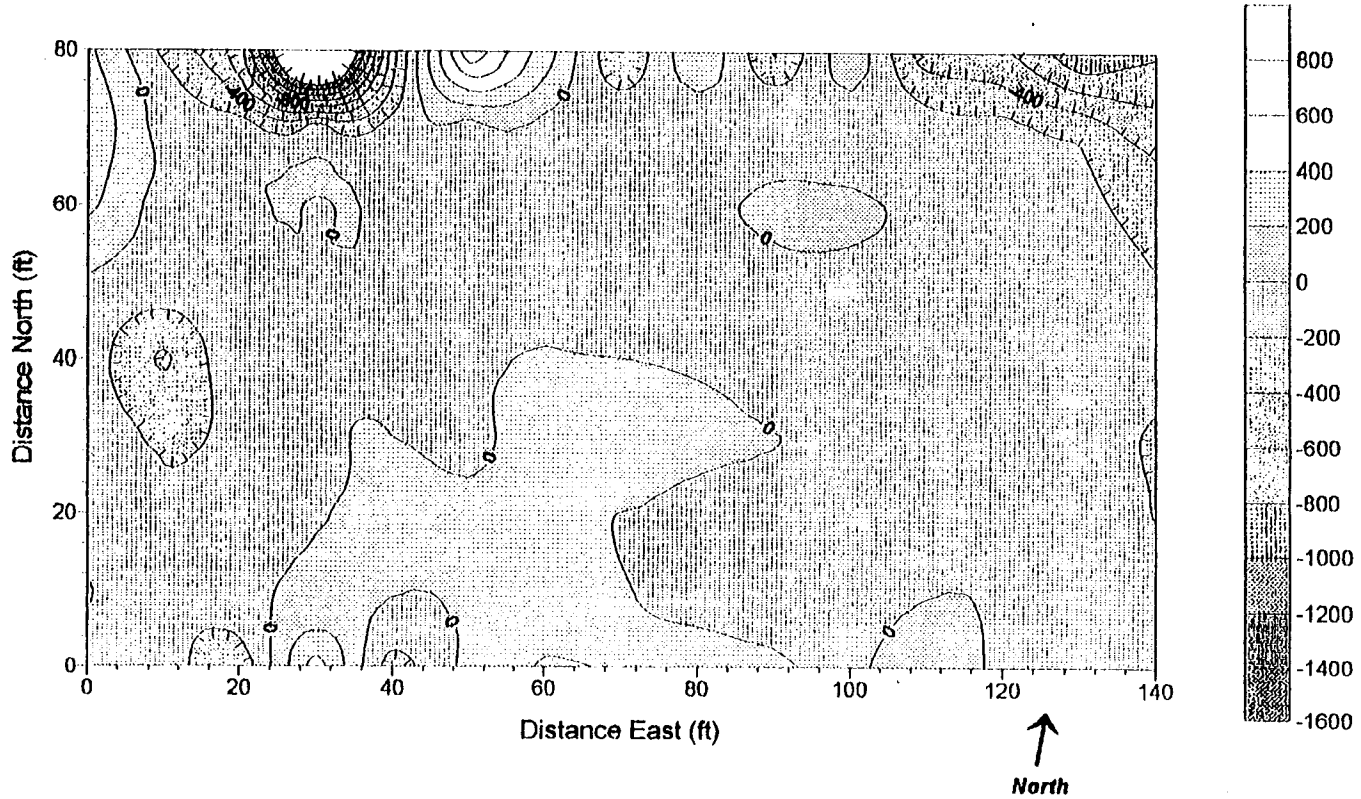


Figure F-15b. T-38: Contour Plot of Vertical Magnetic Gradient

Table F-9. Magnetic Data from Site T-38 - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
0	0	51974.3	-33.13
0	10	52237.4	-105.75
0	20	54164.3	-374.67
0	30	50929.8	513.78
0	40	50290.6	-319.50
0	50	51715.3	59.69
0	60	52043.0	-11.55
0	70	52186.5	2.24
0	80	52228.0	31.08
0	90	52178.9	27.80
0	100	52421.3	-37.14
0	110	52353.0	119.88
0	120	51588.4	-36.72
0	130	51748.1	-9.92
0	140	51825.3	-41.51
10	0	52620.1	14.56
10	10	52141.8	-147.88
10	20	51102.1	-62.47
10	30	51506.8	38.92
10	40	51867.3	13.24
10	50	52251.8	43.94
10	60	52418.8	53.48
10	70	52187.4	4.90
10	80	52007.8	-21.82
10	90	51835.5	-62.55
10	100	51747.0	-81.58
10	110	51770.9	-6.80
10	120	51816.5	-13.86
10	130	51882.7	-81.62
20	0	51934.9	-84.67
20	10	51956.1	-194.02
20	20	51698.6	-81.62
20	30	51735.4	-6.95
20	40	51872.8	9.96
20	50	52023.1	4.44
20	60	52169.4	5.06
20	70	52163.2	-2.24
20	80	51946.7	-51.81
20	90	51848.1	-26.60
20	100	51806.5	-18.34
20	110	51815.9	-6.64
20	120	51824.4	-8.61
20	130	51810.6	-24.44
20	140	52024.2	-207.92
30	0	52176.3	-37.68
30	10	53586.3	-39496.30
30	20	51968.0	-155.06
30	30	51888.3	-8.11
30	40	51968.7	0.04
30	50	52007.5	-5.87
30	60	52147.4	13.90
30	70	52332.2	88.38
30	80	52098.0	35.37
30	90	51897.7	3.48
30	100	51778.4	-20.04
30	110	51763.5	-18.77
30	120	51772.5	-18.77
30	130	51798.3	-43.59
30	140	52219.4	-251.51
40	0	52278.9	-110.23
40	10	51910.1	-447.92
40	20	51824.0	-25.71
40	30	51930.4	-5.56
40	40	51961.7	-6.68
40	50	51982.4	-9.34
40	60	52076.4	11.93
40	70	52006.0	2.82
40	80	51854.2	-16.06
40	90	51744.2	-39.85
40	100	51715.5	-27.68

Table F-9. Magnetic Data from Site T-38 - Gridded Area

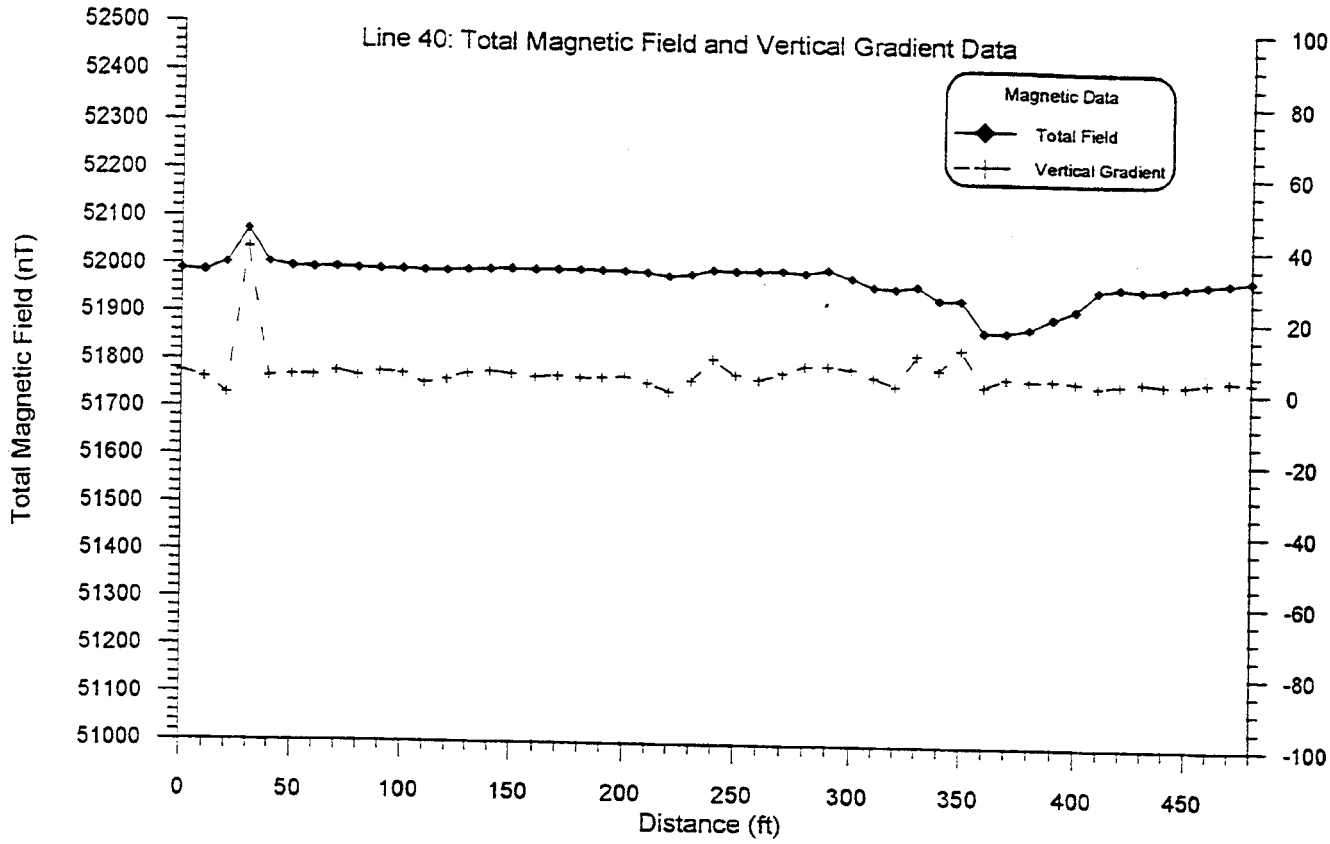
Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
40	110	51707.6	-25.60
40	120	51752.8	-20.69
40	130	51878.9	-33.28
40	140	52484.5	-108.42
50	0	52176.2	-19.73
50	10	51865.6	-93.17
50	20	51847.3	-22.78
50	30	51927.6	-6.72
50	40	51948.6	-6.72
50	50	51878.1	-20.74
50	60	51739.8	-45.68
50	70	51548.6	-90.97
50	80	51601.8	-65.87
50	90	51744.7	-19.34
50	100	51801.4	-19.31
50	110	51752.1	-36.87
50	120	51756.9	-29.23
50	130	51874.2	-95.56
60	0	52559.0	248.73
60	10	51814.0	-91.58
60	20	51866.8	-28.11
60	30	51971.7	-10.08
60	40	51952.2	-16.06
60	50	51881.0	-22.55
60	60	51813.5	-20.66
60	70	51775.2	-23.55
60	80	51888.1	-1.35
60	90	52008.5	15.41
60	100	51988.1	13.32
60	110	51873.9	-8.30
60	120	51771.8	-40.58
60	130	51853.8	-146.18
70	0	52464.4	366.72
70	10	51810.3	-101.97
70	20	52135.3	-77.07
70	30	52138.6	-92.59
70	40	52109.0	-101.70
70	50	52082.9	-101.16
70	60	51993.2	-85.48
70	70	52005.0	-103.71
70	80	52012.9	-78.03
70	90	52034.3	-43.63
70	100	52021.8	-54.25
70	110	51924.5	-95.14
70	120	51872.6	-103.94
70	130	52054.4	-231.24
80	0	53424.9	238.11
80	10	52104.0	-256.14
80	20	54001.4	-703.09
80	30	53676.0	-3122.16
80	40	53556.4	-443.17
80	50	53441.3	991.51
80	60	53152.2	304.56
80	70	53409.1	-406.37
80	80	53330.5	212.20
80	90	53264.8	-422.28
80	100	53099.0	162.86
80	110	53585.0	-528.38
80	120	53725.9	-565.48
80	130	54809.8	-993.13

Table F-3. Magnetic Data from Landfill 2

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
1	0	51891.8	-41.24
1	10	52044.2	-30.42
1	20	52516.4	-39.96
1	30	53090.4	20.85
1	40	53036.9	-96.91
1	50	52608.3	-148.07
1	60	52671.0	-43.36
1	70	52514.2	-68.80
1	80	52285.2	-85.14
1	90	52173.6	-13.44
1	100	52117.6	-47.10
1	110	52558.4	54.13
1	120	52720.6	61.43
1	130	52894.8	36.02
1	140	53018.3	51.35
1	150	52783.1	50.62
1	160	52378.4	-4.25
1	170	52195.6	13.36
1	180	52074.5	-2.20
1	190	51917.8	-7.14
1	200	51929.3	7.38
1	210	51881.5	-13.05
1	220	51826.4	-20.81
1	230	51878.6	-9.85
1	240	51922.7	-8.22
1	250	51947.3	3.51
1	260	51782.4	-26.60
1	270	51710.3	-17.41
1	280	51621.4	-33.90
1	290	51697.6	-13.21
1	300	51789.0	1.58
1	310	51949.9	49.07
1	320	51974.9	51.12
1	330	51934.9	47.88
1	340	51765.6	13.32
1	350	51670.2	-30.15
1	360	51828.4	22.66
1	370	51653.2	-55.99
1	380	51780.9	-5.41
1	390	51969.4	36.10
1	400	51827.5	-8.11
1	410	51882.1	15.56
1	420	51900.1	4.98
1	430	51854.7	-19.07
1	440	51854.8	-9.46
1	450	51869.8	0.89
1	460	51866.3	-6.22
1	470	51902.4	-0.70
1	480	51923.4	1.58
1	490	51933.7	-0.93
1	500	51948.5	-0.08
1	510	51974.5	0.62
1	520	52017.5	3.90
1	530	51940.6	-10.46
1	540	51880.5	-16.87
1	550	51964.0	-0.12
1	560	51969.8	-0.73
1	570	51974.6	-0.08
1	580	51979.8	0.89
1	590	51983.8	1.20
1	600	51985.1	0.93
2	0	51917.1	10.58
2	10	51887.6	4.17
2	20	51935.2	47.26
2	30	51127.4	384.36
2	40	51658.2	48.19
2	50	51568.7	-6.83
2	60	51370.0	-70.35
2	70	51718.6	43.75
2	80	51767.5	41.27

Table F-3. Magnetic Data from Landfill 2

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
2	90	51614.2	-20.62
2	100	51708.1	-28.30
2	110	51753.4	47.41
2	120	51185.8	-244.29
2	130	52190.7	98.34
2	140	51950.8	4.17
2	150	51777.6	-29.57
2	160	51959.2	4.67
2	170	52157.4	30.89
2	180	52085.6	5.17
2	190	52247.6	-45.83
2	200	52949.7	74.17
2	210	53180.6	68.73
2	220	52923.6	40.97
2	230	52617.2	-15.71
2	240	52655.8	1.93
2	250	52672.2	-44.60
2	260	52907.6	11.54
2	270	53278.8	111.70
2	280	53375.8	99.46
2	290	53206.1	39.88
2	300	52670.8	-13.67
2	310	52277.8	-21.43
2	320	52165.5	-12.82
2	330	52127.6	-2.16
2	340	52109.6	-2.70
2	350	52107.1	4.13
2	360	52087.8	4.09
2	370	52033.5	-4.02
2	380	52034.2	0.81
2	390	52030.6	-0.27



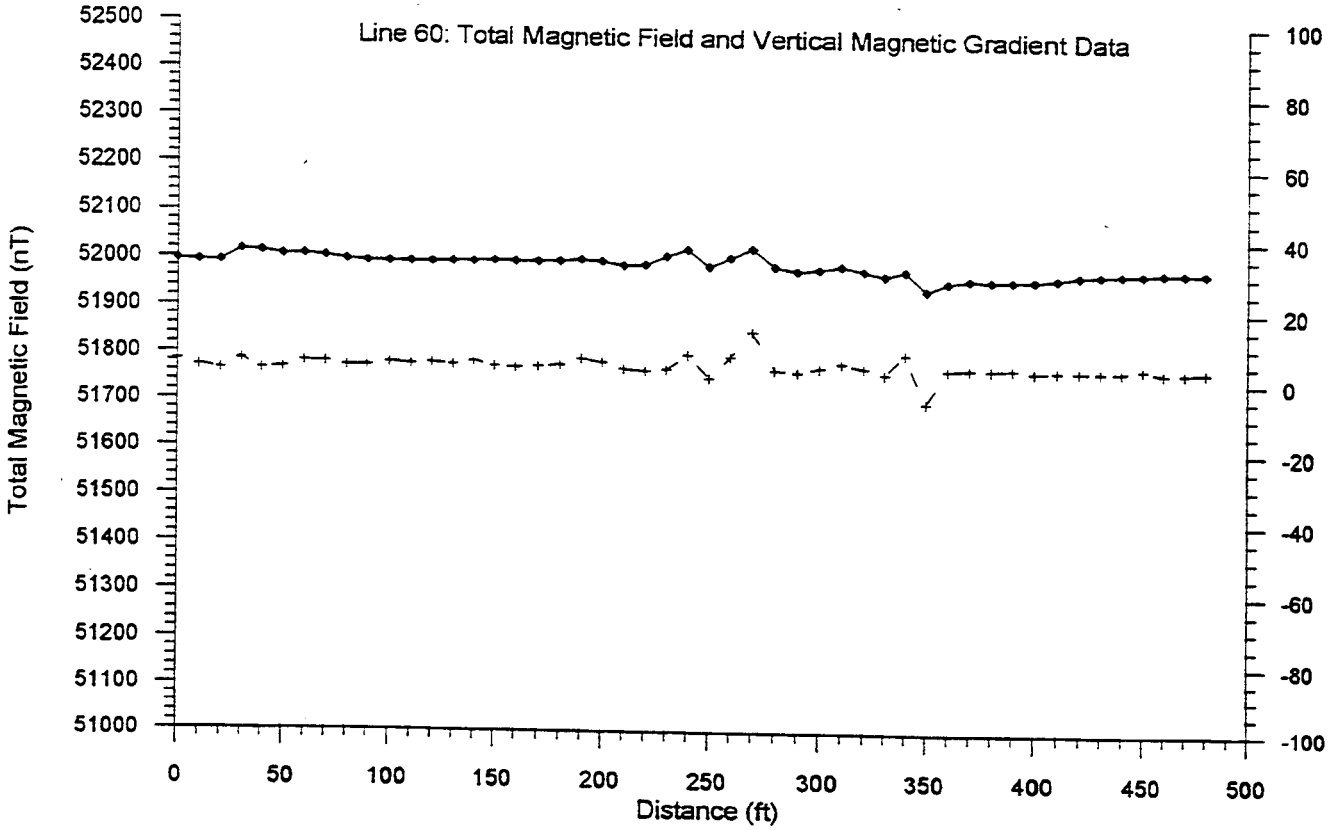
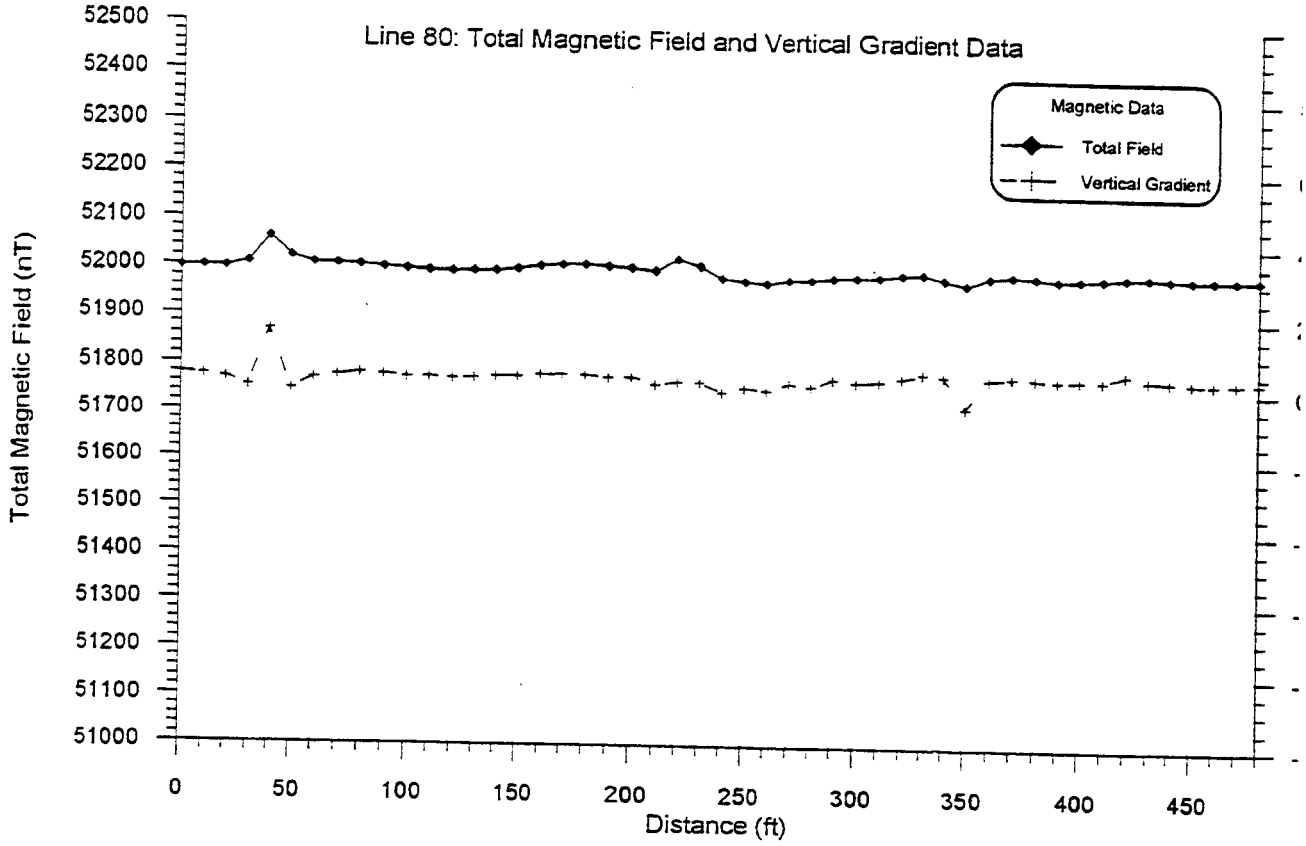


Figure F-9. Range K, Magnetic Survey Data



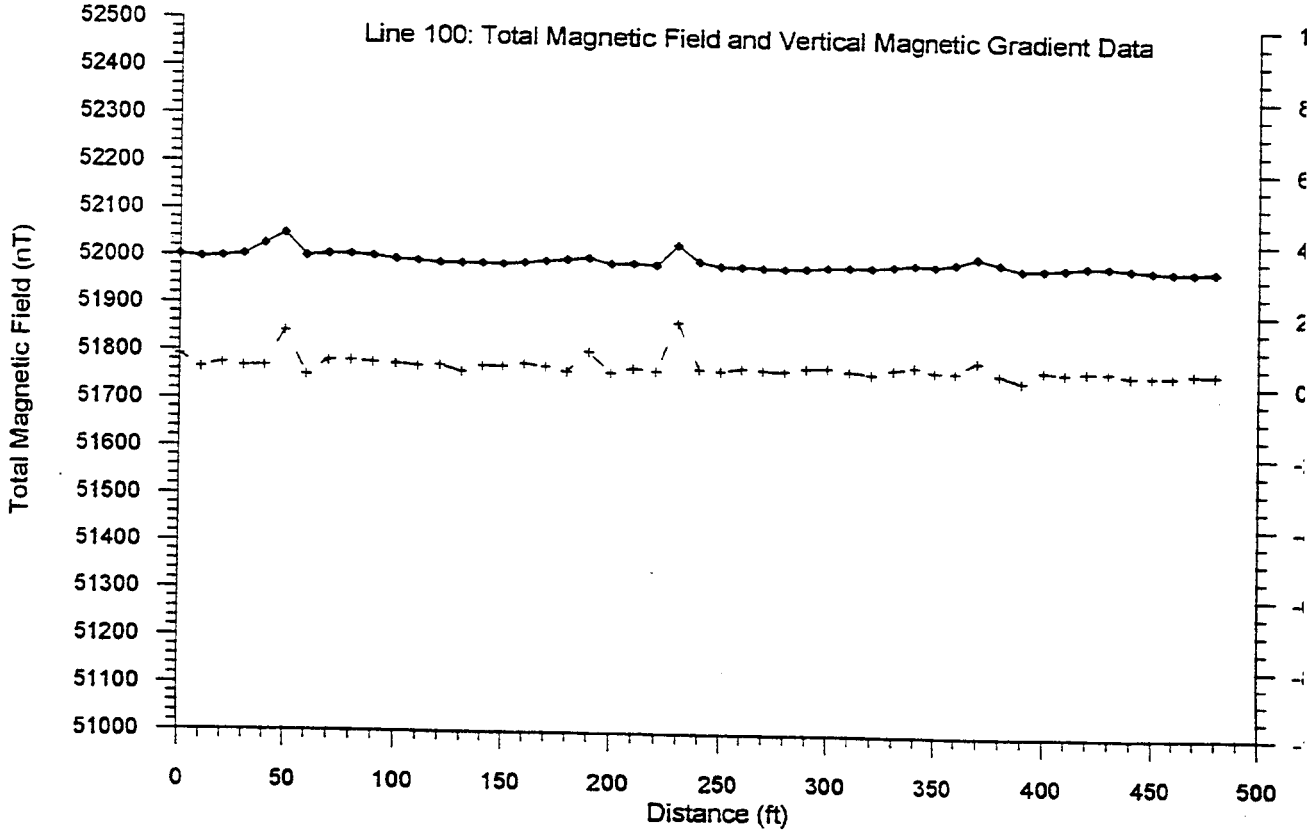
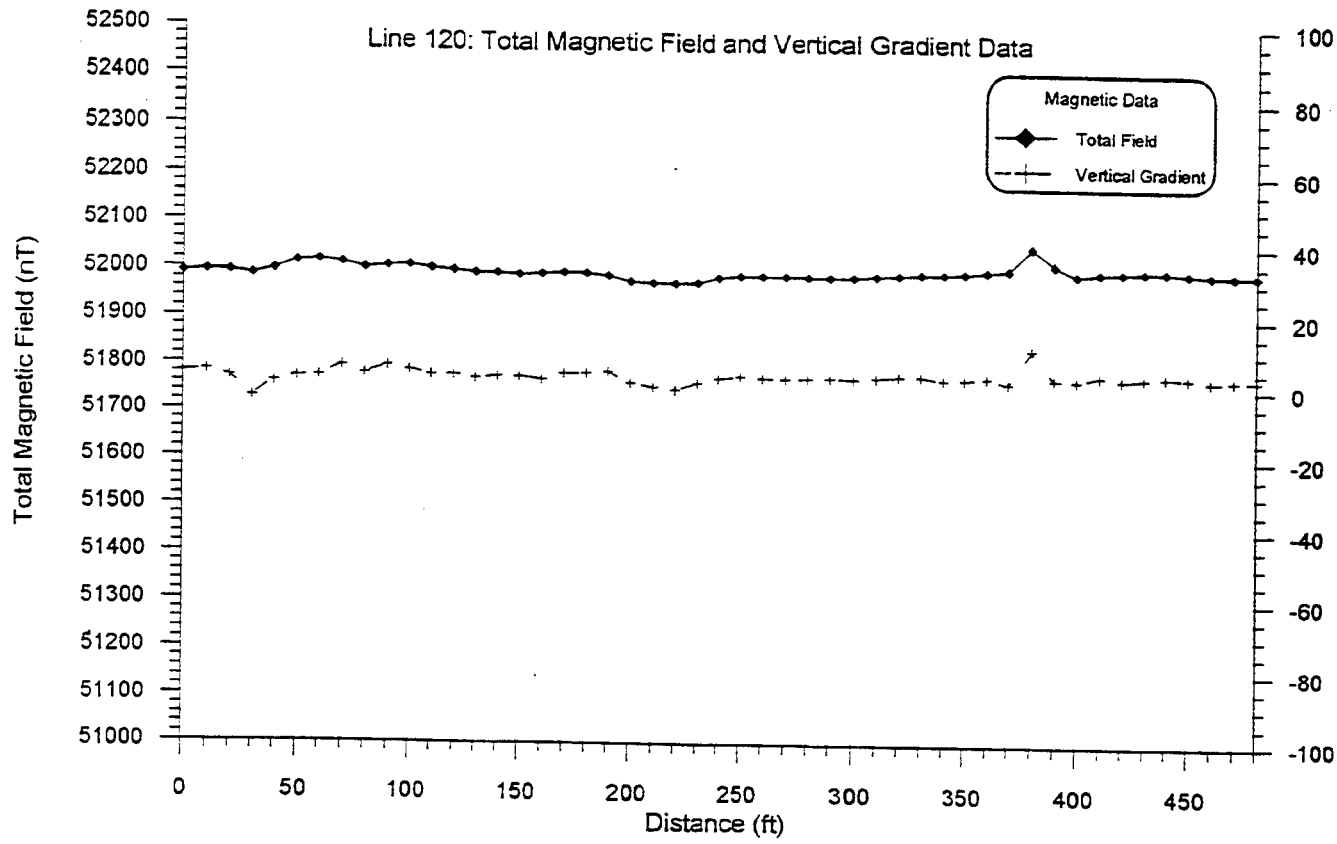


Figure F-9. Range K, Magnetic Survey Data



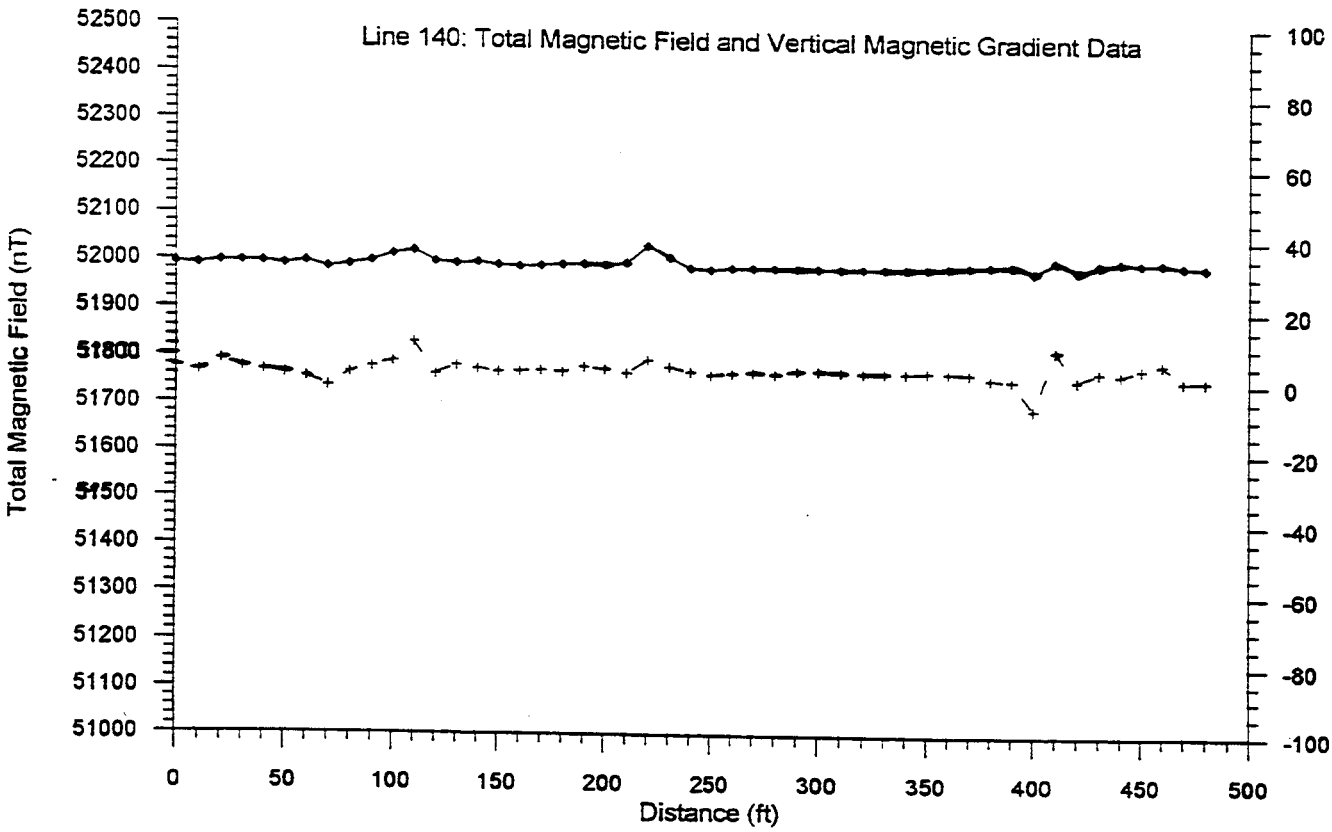
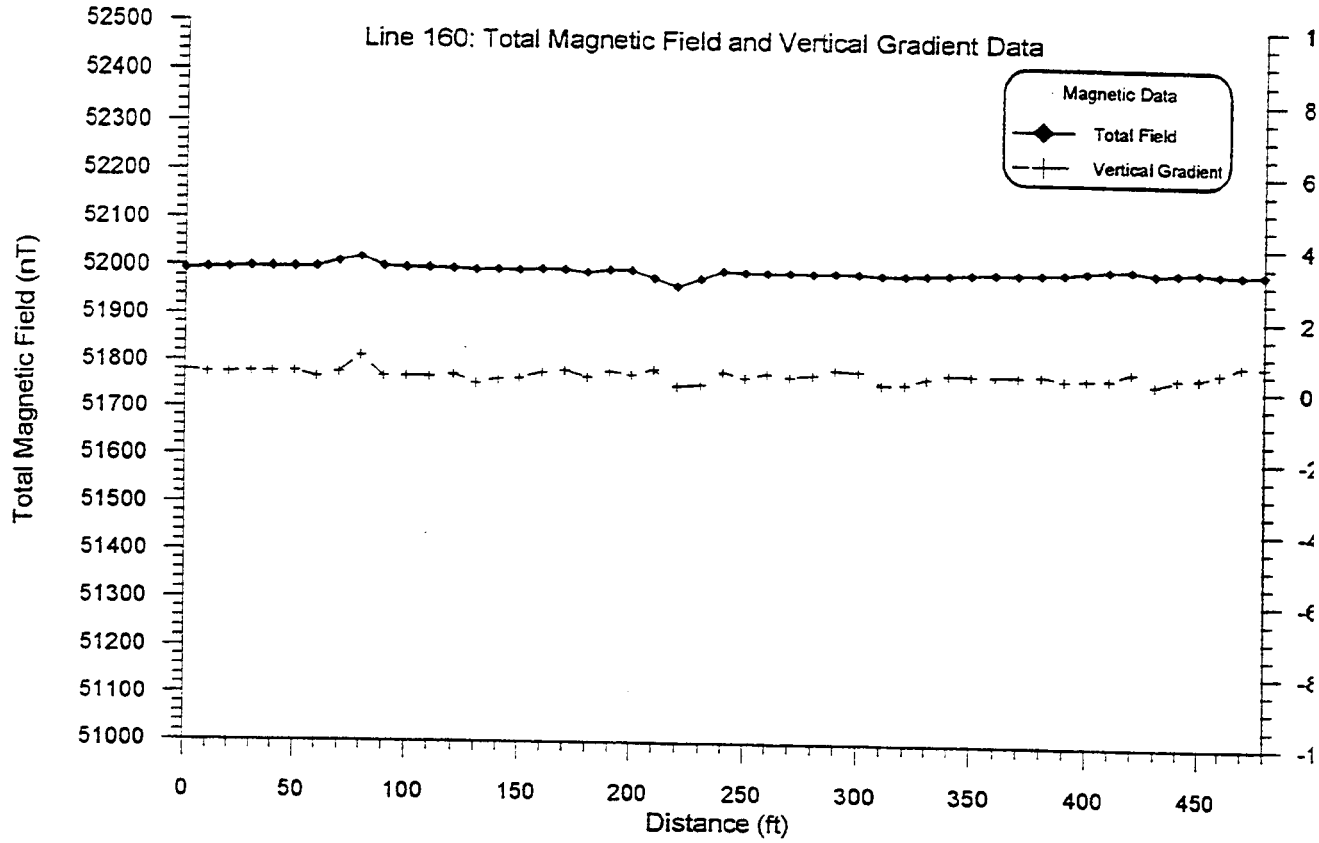


Figure F-9. Range K, Magnetic Survey Data



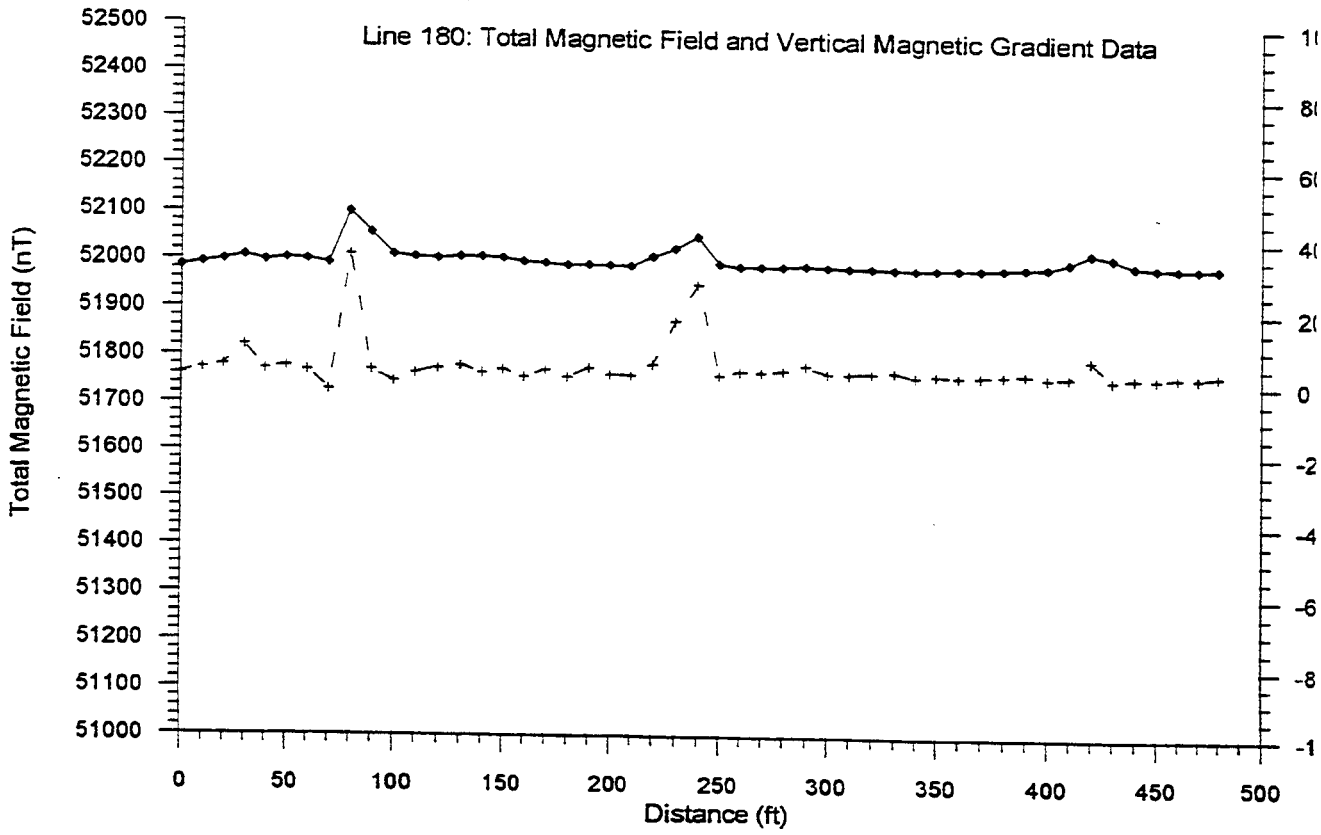
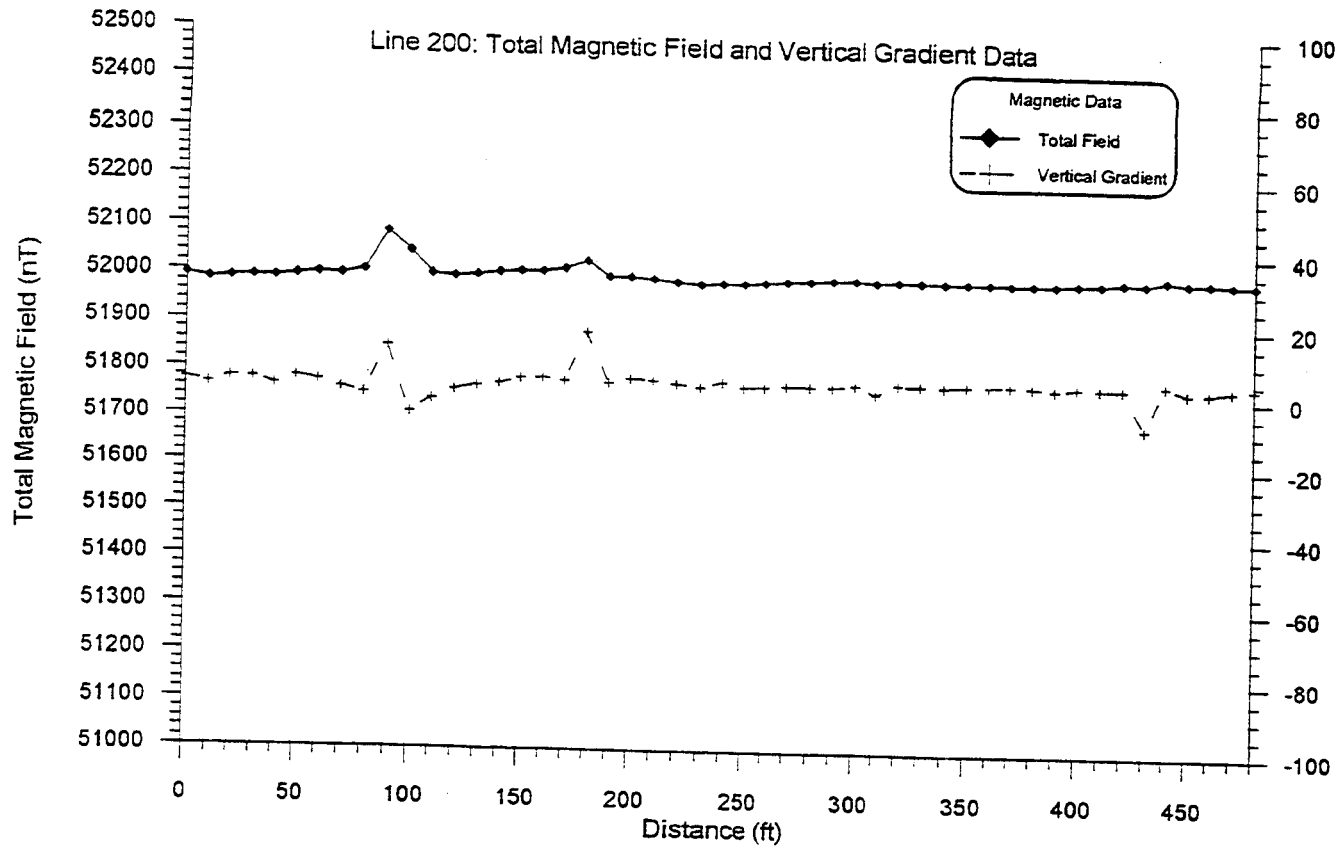


Figure F-9. Range K, Magnetic Survey Data



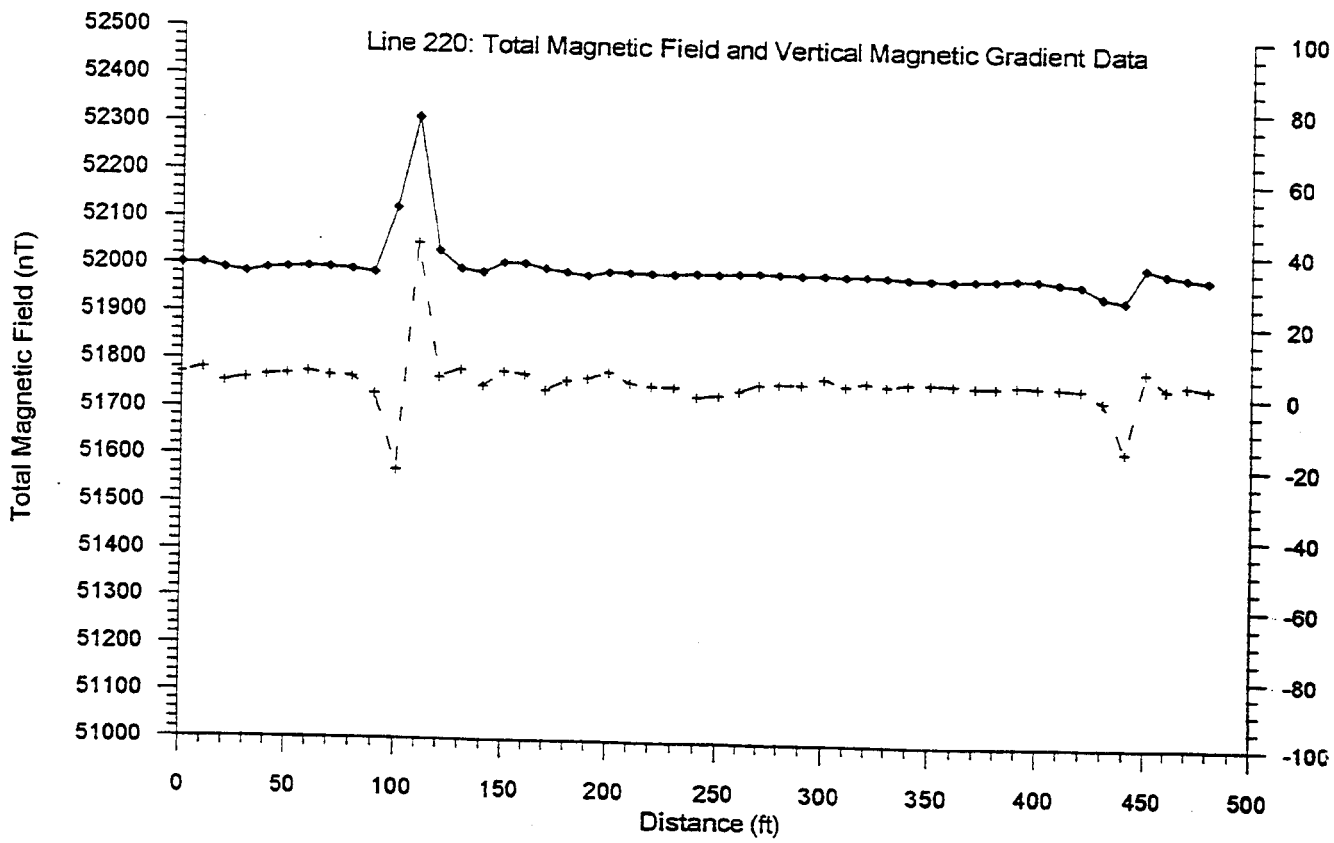
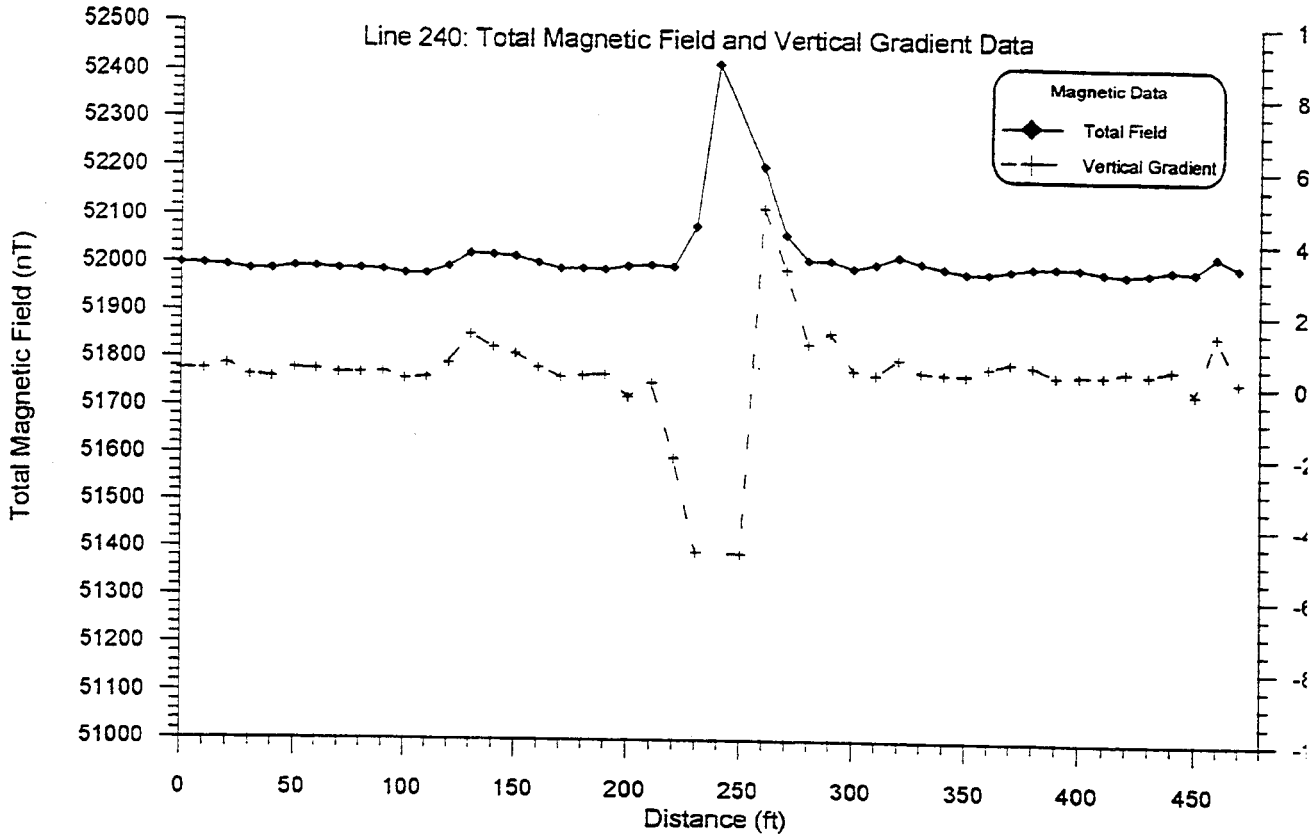


Figure F-9. Range K, Magnetic Survey Data



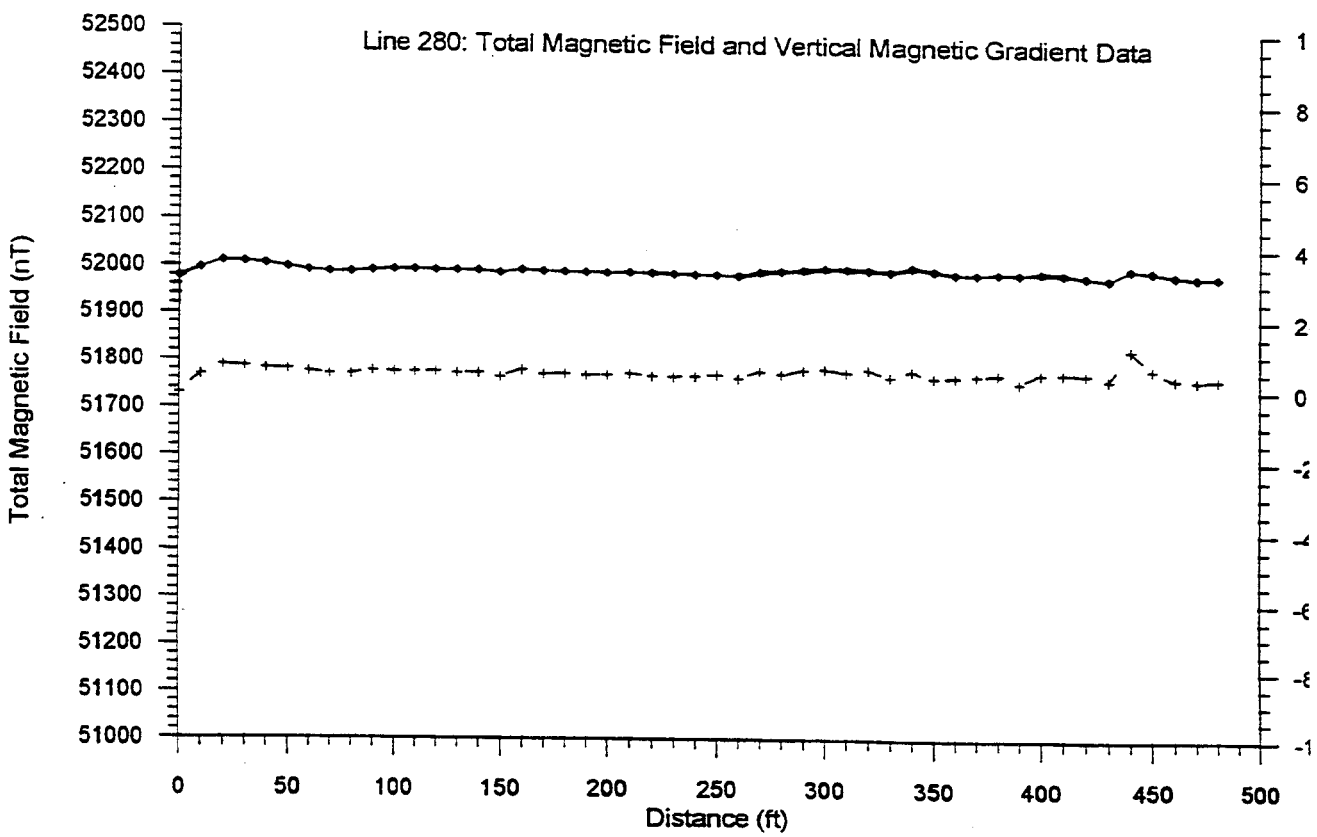


Figure F-9. Range K, Magnetic Survey Data

Table F-8. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
0	0	52031.4	-7.68
0	10	52340.8	48.73
0	20	52021.2	-6.10
0	30	52010.7	1.08
0	40	52069.6	6.87
0	50	52024.8	0.19
0	60	51985.6	0.12
0	70	52028.7	7.45
0	80	52020.1	5.83
0	90	51982.6	-2.97
0	100	51995.8	4.09
0	110	52015.2	7.76
0	120	52016.6	8.76
0	130	51980.9	-0.58
0	140	51979.5	-0.77
0	150	51993.5	1.43
0	160	51996.7	2.12
0	170	51997.0	1.81
0	180	51994.7	2.08
0	190	51991.7	1.47
0	200	51990.9	0.54
0	210	51996.5	-0.19
0	220	52022.3	1.66
0	230	52075.7	10.70
0	240	52027.4	13.13
0	250	51973.7	-2.43
0	260	51962.2	-3.24
0	270	51978.8	2.66
0	280	51977.2	2.28
0	290	51960.2	-5.48
0	300	52064.7	-40.39
0	310	52471.2	185.44
0	320	51950.8	-9.27
0	330	51933.0	-9.04
0	340	52125.4	-17.45
0	350	53351.3	268.69
0	360	52882.2	101.58
0	370	52242.6	3.94
0	380	52211.7	2.12
0	390	52174.4	5.71
0	400	51875.1	-44.90
0	410	51865.2	-13.32
0	420	51917.3	-1.27
0	430	51951.4	1.58
0	440	51964.6	3.36
0	450	51976.7	3.67
0	460	51977.0	2.78
0	470	51978.8	3.44
0	480	51978.9	2.90
20	0	51970.2	0.77
20	10	51958.3	-5.25
20	20	52019.2	8.65
20	30	51986.1	-1.27
20	40	51985.7	2.90
20	50	51983.2	2.74
20	60	51985.7	3.28
20	70	51987.7	3.32
20	80	51987.0	2.24
20	90	51988.0	3.63
20	100	51989.0	3.17
20	110	51990.3	3.17
20	120	51991.4	3.75
20	130	51990.6	3.75
20	140	51989.9	3.24
20	150	51990.7	0.77
20	160	51991.7	2.78
20	170	51991.5	3.51
20	180	51990.4	3.05
20	190	51989.8	3.01
20	200	51988.1	3.67

Table F-8. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
20	210	51978.8	-0.85
20	220	51993.5	9.30
20	230	51978.9	-0.73
20	240	51979.7	-2.01
20	250	51985.5	1.04
20	260	51990.6	2.74
20	270	51993.0	5.64
20	280	51977.0	2.16
20	290	51976.8	2.24
20	300	51961.1	0.15
20	310	51932.7	-5.44
20	320	51932.8	-3.94
20	330	51918.1	-1.00
20	340	51837.4	-13.13
20	350	51713.5	-35.95
20	360	51720.6	-15.17
20	370	51575.2	-99.85
20	380	51574.1	-51.85
20	390	51683.1	-20.00
20	400	51820.1	-4.17
20	410	51903.5	-1.27
20	420	51944.2	1.43
20	430	51953.1	1.74
20	440	51962.5	1.39
20	450	51969.6	2.59
20	460	51976.2	2.78
20	470	51979.4	2.12
20	480	51985.6	4.67
40	0	51989.1	3.28
40	10	51985.8	1.51
40	20	52002.4	-2.86
40	30	52072.8	38.03
40	40	52004.7	2.05
40	50	51995.5	2.51
40	60	51994.0	2.51
40	70	51995.3	3.55
40	80	51992.9	2.32
40	90	51991.4	3.44
40	100	51991.3	3.01
40	110	51990.2	0.35
40	120	51990.4	1.54
40	130	51993.7	3.40
40	140	51994.7	3.75
40	150	51995.0	3.13
40	160	51993.9	2.36
40	170	51995.6	2.86
40	180	51995.1	2.39
40	190	51994.7	2.43
40	200	51993.4	2.70
40	210	51990.7	1.04
40	220	51982.5	-1.43
40	230	51988.4	1.85
40	240	51998.2	7.92
40	250	51995.9	3.59
40	260	51996.5	2.32
40	270	51998.0	4.25
40	280	51993.0	6.29
40	290	52001.0	6.33
40	300	51983.6	5.52
40	310	51964.4	3.28
40	320	51961.1	0.77
40	330	51966.9	9.42
40	340	51938.6	5.41
40	350	51938.0	11.31
40	360	51872.2	1.04
40	370	51872.2	3.40
40	380	51881.5	2.82
40	390	51903.8	3.05
40	400	51920.7	2.67
40	410	51961.5	1.54

Table F-8. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
40	420	51969.6	2.12
40	430	51963.8	2.97
40	440	51967.3	2.32
40	450	51974.3	2.24
40	460	51979.4	3.05
40	470	51983.9	3.67
40	480	51988.0	3.17
60	0	51994.8	4.52
60	10	51992.1	2.86
60	20	51992.2	2.05
60	30	52015.9	4.90
60	40	52012.7	2.12
60	50	52005.1	2.47
60	60	52006.8	4.25
60	70	52003.0	4.13
60	80	51995.9	2.94
60	90	51992.9	3.05
60	100	51992.9	4.09
60	110	51992.8	3.67
60	120	51993.4	4.05
60	130	51994.5	3.67
60	140	51996.3	4.83
60	150	51996.6	3.21
60	160	51996.2	2.94
60	170	51995.4	3.24
60	180	51997.4	3.75
60	190	52000.5	5.68
60	200	51996.8	4.63
60	210	51987.5	2.78
60	220	51990.9	2.20
60	230	52008.8	2.74
60	240	52024.0	7.03
60	250	51987.9	0.43
60	260	52007.0	6.49
60	270	52026.5	13.55
60	280	51989.1	2.90
60	290	51981.0	2.35
60	300	51984.2	3.44
60	310	51991.4	5.02
60	320	51982.4	3.59
60	330	51971.4	2.01
60	340	51983.1	7.61
60	350	51942.7	-6.29
60	360	51959.6	3.24
60	370	51965.6	3.67
60	380	51963.4	3.44
60	390	51964.0	3.75
60	400	51966.0	3.01
60	410	51969.4	3.28
60	420	51976.6	3.36
60	430	51979.3	3.32
60	440	51979.9	3.40
60	450	51982.4	4.17
60	460	51984.8	2.97
60	470	51984.6	3.17
60	480	51984.5	3.48
80	0	51996.6	3.75
80	10	51997.5	3.40
80	20	51997.2	2.43
80	30	52008.3	0.31
80	40	52059.3	15.79
80	50	52021.1	-0.46
80	60	52006.2	2.66
80	70	52005.7	3.48
80	80	52003.6	4.09
80	90	51997.8	3.63
80	100	51995.1	3.01
80	110	51993.2	3.13
80	120	51992.3	2.78
80	130	51992.8	3.01

Table F-8. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
80	140	51993.4	3.24
80	150	51996.7	3.36
80	160	52003.4	3.78
80	170	52005.5	3.90
80	180	52007.3	3.78
80	190	52002.5	3.05
80	200	52000.6	3.40
80	210	51996.1	1.35
80	220	52019.0	2.08
80	230	52005.2	2.05
80	240	51981.5	-0.81
80	250	51975.6	0.54
80	260	51972.5	-0.12
80	270	51978.9	1.74
80	280	51979.3	0.93
80	290	51984.9	3.05
80	300	51986.2	2.39
80	310	51987.3	2.78
80	320	51992.5	3.55
80	330	51994.8	4.98
80	340	51983.5	4.21
80	350	51971.8	-4.75
80	360	51988.7	3.48
80	370	51991.3	4.05
80	380	51989.5	3.82
80	390	51984.3	3.44
80	400	51985.6	3.59
80	410	51988.4	3.67
80	420	51991.7	5.45
80	430	51993.3	3.98
80	440	51990.1	3.67
80	450	51989.3	3.28
80	460	51989.9	3.09
80	470	51989.2	3.32
80	480	51989.5	3.44
100	0	52001.1	5.48
100	10	51994.9	1.97
100	20	51997.7	3.36
100	30	52003.5	2.55
100	40	52025.1	2.59
100	50	52048.5	12.28
100	60	52000.9	0.15
100	70	52005.9	4.17
100	80	52005.6	4.21
100	90	52001.4	3.86
100	100	51995.7	3.51
100	110	51993.4	2.93
100	120	51989.8	3.40
100	130	51989.8	1.47
100	140	51989.4	3.05
100	150	51988.1	3.17
100	160	51992.3	3.98
100	170	51995.2	3.17
100	180	51999.3	1.81
100	190	52002.4	7.37
100	200	51990.9	1.70
100	210	51993.3	3.01
100	220	51989.1	2.36
100	230	52032.0	15.83
100	240	51998.1	3.01
100	250	51988.0	2.43
100	260	51987.4	3.32
100	270	51987.3	2.94
100	280	51986.2	2.90
100	290	51986.8	3.55
100	300	51989.3	3.78
100	310	51990.3	3.05
100	320	51990.9	2.39
100	330	51994.3	3.55
100	340	51997.7	4.36

Table F-8. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
100	350	51996.0	3.05
100	360	52001.4	3.13
100	370	52014.3	6.14
100	380	52002.2	2.59
100	390	51990.0	0.85
100	400	51991.3	3.82
100	410	51993.9	3.24
100	420	51999.5	3.78
100	430	52000.0	3.78
100	440	51995.0	2.74
100	450	51991.9	2.86
100	460	51990.0	2.86
100	470	51990.0	3.44
100	480	51990.2	3.24
120	0	51991.0	4.05
120	10	51994.2	4.56
120	20	51992.7	2.78
120	30	51987.4	-2.97
120	40	51996.9	1.39
120	50	52013.0	2.78
120	60	52016.6	3.17
120	70	52010.7	5.91
120	80	51998.9	3.82
120	90	52004.8	5.99
120	100	52005.6	4.87
120	110	51999.1	3.44
120	120	51995.0	3.44
120	130	51992.2	2.66
120	140	51991.5	3.05
120	150	51988.2	2.93
120	160	51990.4	2.12
120	170	51993.5	3.94
120	180	51992.6	4.13
120	190	51987.6	4.56
120	200	51974.0	1.35
120	210	51972.3	0.08
120	220	51972.7	-0.50
120	230	51973.7	1.43
120	240	51984.2	2.86
120	250	51988.6	3.44
120	260	51988.3	2.94
120	270	51987.9	2.90
120	280	51987.6	2.94
120	290	51987.5	3.09
120	300	51987.4	2.90
120	310	51989.8	3.17
120	320	51990.7	3.59
120	330	51993.0	3.55
120	340	51993.6	2.59
120	350	51996.0	2.86
120	360	51998.8	3.36
120	370	52003.5	1.78
120	380	52049.6	11.39
120	390	52013.8	3.09
120	400	51994.5	2.86
120	410	51999.3	4.05
120	420	52000.2	3.09
120	430	52003.2	3.59
120	440	52003.7	3.98
120	450	51999.3	3.59
120	460	51996.5	2.90
120	470	51995.0	3.13
120	480	51994.9	3.17
140	0	51991.8	3.24
140	10	51989.3	2.28
140	20	51995.7	5.37
140	30	51995.3	3.32
140	40	51994.0	2.55
140	50	51989.5	1.62
140	60	51995.3	0.70

Table F-6. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
140	70	51982.8	-1.93
140	80	51988.9	1.93
140	90	51996.8	3.67
140	100	52012.2	5.14
140	110	52019.6	10.50
140	120	51996.9	1.70
140	130	51993.5	4.09
140	140	51997.5	3.36
140	150	51990.8	2.55
140	160	51988.3	2.59
140	170	51990.9	2.97
140	180	51993.0	2.47
140	190	51994.7	4.02
140	200	51991.5	3.40
140	210	51996.6	2.39
140	220	52033.0	5.91
140	230	52009.5	4.17
140	240	51988.3	2.90
140	250	51984.2	2.05
140	260	51987.9	2.55
140	270	51988.1	2.78
140	280	51987.8	2.39
140	290	51987.8	3.32
140	300	51987.6	3.21
140	310	51987.2	2.93
140	320	51987.5	2.78
140	330	51988.0	2.90
140	340	51988.5	2.70
140	350	51989.9	3.09
140	360	51992.4	2.97
140	370	51993.8	2.78
140	380	51996.0	1.31
140	390	51996.4	0.93
140	400	51983.0	-7.10
140	410	52006.2	9.30
140	420	51987.3	1.12
140	430	52001.1	3.44
140	440	52006.8	2.90
140	450	52003.8	4.36
140	460	52004.7	5.71
140	470	51997.8	1.00
140	480	51996.3	1.20
160	0	51992.8	3.90
160	10	51995.2	3.32
160	20	51997.0	3.32
160	30	51999.0	3.63
160	40	51999.6	3.59
160	50	51999.5	3.75
160	60	51998.7	2.08
160	70	52011.0	3.67
160	80	52019.7	8.30
160	90	52000.6	2.47
160	100	51998.0	2.47
160	110	51997.9	2.35
160	120	51997.0	2.97
160	130	51994.2	0.50
160	140	51995.8	1.66
160	150	51994.8	2.05
160	160	51997.0	3.63
160	170	51995.9	4.25
160	180	51990.7	2.43
160	190	51995.4	4.17
160	200	51993.9	3.05
160	210	51980.1	4.75
160	220	51962.2	-0.08
160	230	51978.6	0.54
160	240	51994.7	4.13
160	250	51991.3	2.55
160	260	51991.5	3.71
160	270	51991.2	2.90

Table F-6. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
160	280	51990.8	3.46
160	290	51991.6	4.94
160	300	51990.7	4.40
160	310	51988.0	0.77
160	320	51988.1	1.00
160	330	51989.0	2.63
160	340	51990.2	3.78
160	350	51992.4	3.59
160	360	51992.9	3.53
160	370	51993.0	3.55
160	380	51994.6	4.02
160	390	51996.0	2.82
160	400	52000.9	3.09
160	410	52004.5	3.40
160	420	52005.4	5.25
160	430	51997.9	1.89
160	440	52001.1	3.55
160	450	52002.4	3.86
160	460	51999.3	5.33
160	470	51998.6	7.45
160	480	51998.7	7.22
180	0	51983.7	1.51
180	10	51991.5	2.97
180	20	51997.6	3.98
180	30	52006.3	9.42
180	40	51997.4	2.78
180	50	52002.3	3.67
180	60	51999.1	2.51
180	70	51992.4	-2.86
180	80	52099.3	34.75
180	90	52054.9	2.82
180	100	52010.3	-0.43
180	110	52005.9	1.97
180	120	52003.6	3.36
180	130	52007.0	4.17
180	140	52006.2	2.16
180	150	52004.5	3.17
180	160	51997.2	0.93
180	170	51993.8	2.94
180	180	51990.8	0.93
180	190	51992.1	3.59
180	200	51990.3	1.85
180	210	51989.8	1.70
180	220	52009.5	4.83
180	230	52026.6	16.76
180	240	52051.3	26.95
180	250	51995.1	1.78
180	260	51989.4	3.01
180	270	51990.3	2.90
180	280	51990.6	3.20
180	290	51993.3	4.79
180	300	51990.7	2.67
180	310	51989.2	2.51
180	320	51989.0	2.78
180	330	51988.3	3.21
180	340	51987.1	1.97
180	350	51987.6	2.51
180	360	51989.4	2.08
180	370	51989.0	2.32
180	380	51991.1	2.59
180	390	51992.8	3.01
180	400	51994.4	2.05
180	410	52005.6	2.32
180	420	52026.1	7.10
180	430	52016.4	1.62
180	440	52001.2	2.28
180	450	51997.1	2.20
180	460	51995.9	2.66
180	470	51996.2	2.43
180	480	51996.9	3.17

Table F-8. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
200	0	51993.3	3.40
200	10	51984.9	1.93
200	20	51988.2	3.90
200	30	51990.5	3.67
200	40	51989.5	1.85
200	50	51994.2	4.13
200	60	51998.0	3.13
200	70	51995.6	1.20
200	80	52004.7	-0.39
200	90	52084.2	13.01
200	100	52043.8	-5.68
200	110	51997.8	-1.81
200	120	51994.8	0.89
200	130	52000.1	2.12
200	140	52003.9	2.74
200	150	52007.1	4.29
200	160	52007.4	4.40
200	170	52013.1	3.67
200	180	52027.5	17.26
200	190	51996.6	3.17
200	200	51996.5	4.48
200	210	51993.0	4.02
200	220	51987.0	3.05
200	230	51983.6	2.20
200	240	51985.9	3.86
200	250	51985.2	2.43
200	260	51988.7	2.67
200	270	51990.2	2.94
200	280	51991.7	2.86
200	290	51994.0	2.86
200	300	51994.2	3.24
200	310	51991.1	1.00
200	320	51992.7	3.59
200	330	51991.7	3.44
200	340	51990.7	3.13
200	350	51990.4	3.51
200	360	51991.0	3.67
200	370	51989.5	3.55
200	380	51989.1	3.40
200	390	51989.4	2.90
200	400	51992.0	3.44
200	410	51992.9	3.36
200	420	51997.8	3.40
200	430	51995.4	-7.95
200	440	52005.3	4.40
200	450	51999.4	2.43
200	460	52000.3	2.59
200	470	51998.6	3.48
200	480	51997.0	3.98
220	0	51999.3	2.78
220	10	51999.2	4.13
220	20	51989.3	0.43
220	30	51981.4	1.51
220	40	51990.6	2.24
220	50	51993.0	2.82
220	60	51994.9	3.44
220	70	51994.4	2.55
220	80	51990.2	2.20
220	90	51984.2	-2.47
220	100	52122.8	-23.78
220	110	52313.0	39.73
220	120	52031.4	2.35
220	130	51994.4	4.40
220	140	51988.1	0.19
220	150	52009.3	4.13
220	160	52008.2	3.51
220	170	51996.5	-0.93
220	180	51990.7	1.97
220	190	51984.8	2.59
220	200	51992.7	4.52

Table F-8. **Magnetic Data from Range K - Gridded Area**

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
220	210	51991.2	1.62
220	220	51990.9	0.81
220	230	51991.0	0.73
220	240	51993.0	-1.85
220	250	51991.8	-1.39
220	260	51994.6	0.04
220	270	51995.7	1.89
220	280	51994.4	2.08
220	290	51992.9	2.20
220	300	51994.0	3.82
220	310	51991.4	1.89
220	320	51993.6	2.74
220	330	51992.1	1.97
220	340	51989.2	2.70
220	350	51988.6	2.86
220	360	51986.6	2.59
220	370	51987.6	2.20
220	380	51989.5	2.12
220	390	51992.0	2.66
220	400	51990.4	2.35
220	410	51984.9	2.12
220	420	51980.1	1.85
220	430	51957.1	-1.31
220	440	51947.7	-15.71
220	450	52019.5	6.72
220	460	52006.4	2.32
220	470	51999.3	3.40
220	480	51994.2	2.47
240	0	51997.7	3.20
240	10	51996.6	3.28
240	20	51992.9	4.87
240	30	51986.1	1.70
240	40	51986.6	1.16
240	50	51992.9	3.55
240	60	51991.9	3.21
240	70	51988.5	2.55
240	80	51988.2	2.47
240	90	51985.7	2.78
240	100	51978.0	0.81
240	110	51978.1	1.24
240	120	51993.5	5.18
240	130	52020.8	13.24
240	140	52018.4	9.62
240	150	52014.3	7.88
240	160	52001.3	3.90
240	170	51989.7	1.35
240	180	51990.5	1.89
240	190	51988.3	2.12
240	200	51996.2	-4.05
240	210	51997.6	-0.23
240	220	51994.8	-21.08
240	230	52078.0	-47.57
240	240	52414.6	126.18
240	250	52500.4	-48.11
240	260	52199.7	48.77
240	270	52061.1	31.97
240	280	52008.6	10.81
240	290	52007.9	13.98
240	300	51991.5	3.51
240	310	52001.5	2.20
240	320	52017.6	6.68
240	330	52004.7	3.05
240	340	51992.7	2.59
240	350	51983.5	2.35
240	360	51983.5	4.44
240	370	51991.0	5.95
240	380	51997.3	5.18
240	390	51998.5	2.47
240	400	51997.9	2.74
240	410	51989.7	2.86

Table F-8. Magnetic Data from Range K - Gridded Area

Line No.	Distance (ft)	Total Magnetic Field (nT)	Vert. Magnetic Gradient (nT/ft)
240	420	51984.4	3.90
240	430	51987.8	3.17
240	440	51995.4	4.56
240	450	51992.3	-2.05
240	460	52025.7	14.29
240	470	52002.1	1.31
280	0	51976.7	-2.63
280	10	51994.6	2.47
280	20	52009.4	5.17
280	30	52008.2	4.75
280	40	52004.2	4.29
280	50	51996.7	4.13
280	60	51990.5	3.48
280	70	51988.6	2.78
280	80	51988.7	2.86
280	90	51991.6	3.71
280	100	51994.4	3.67
280	110	51994.8	3.59
280	120	51993.3	3.71
280	130	51993.2	3.36
280	140	51993.0	3.48
280	150	51988.3	2.39
280	160	51993.8	4.29
280	170	51992.4	3.13
280	180	51991.0	3.40
280	190	51990.2	2.97
280	200	51989.5	3.17
280	210	51990.2	3.51
280	220	51989.3	2.78
280	230	51987.9	2.63
280	240	51986.5	2.86
280	250	51986.5	3.40
280	260	51985.1	2.35
280	270	51993.3	4.25
280	280	51995.4	3.63
280	290	51998.6	4.71
280	300	52001.6	5.06
280	310	52000.3	4.32
280	320	51998.7	5.17
280	330	51997.4	3.09
280	340	52006.3	4.86
280	350	51998.7	3.13
280	360	51992.8	3.24
280	370	51993.6	3.82
280	380	51995.9	4.09
280	390	51994.4	1.85
280	400	51997.8	4.48
280	410	51995.7	4.63
280	420	51990.7	4.36
280	430	51985.5	3.05
280	440	52006.4	11.43
280	450	52002.4	5.87
280	460	51994.5	3.36
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280	480	51991.7	3.40

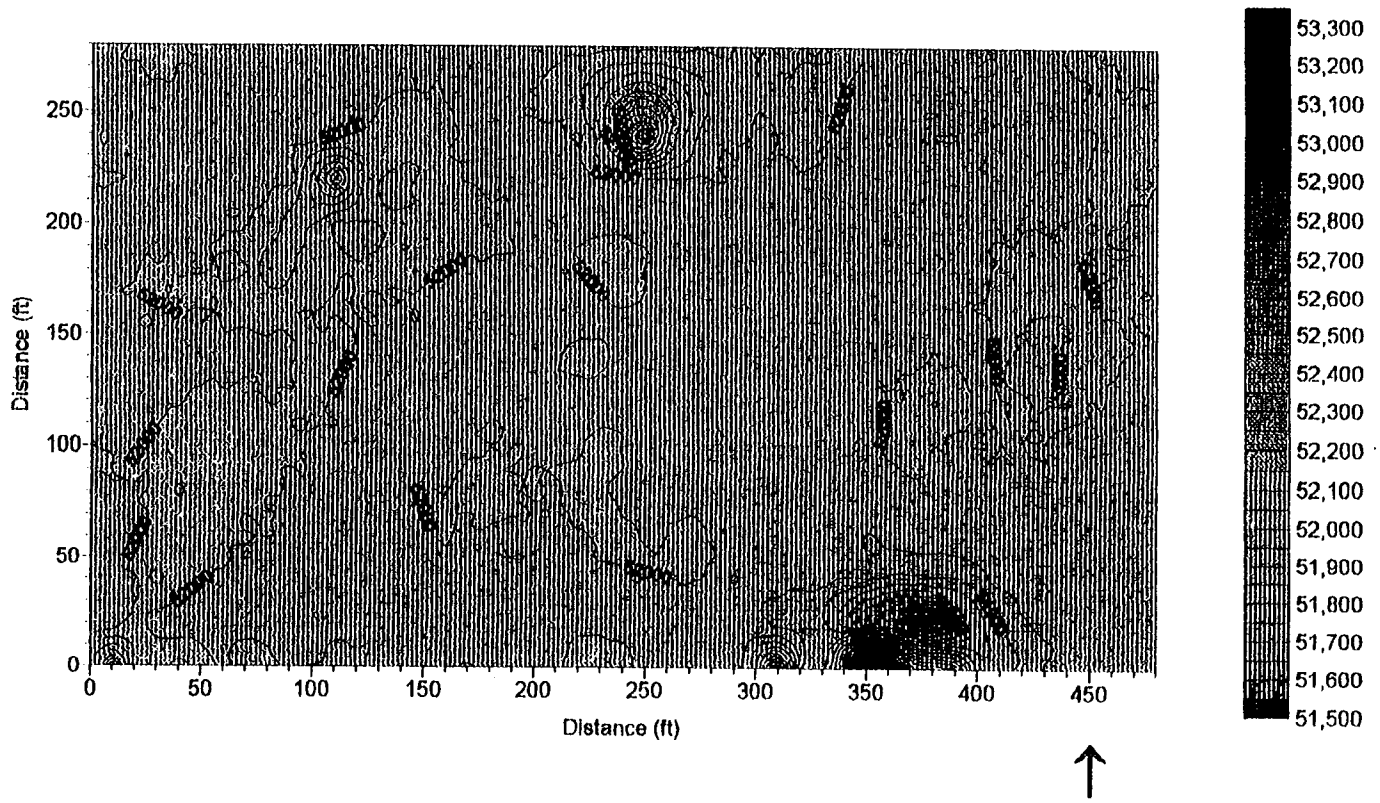


Figure F-10a. Range K, Contours of Total Magnetic Field

North

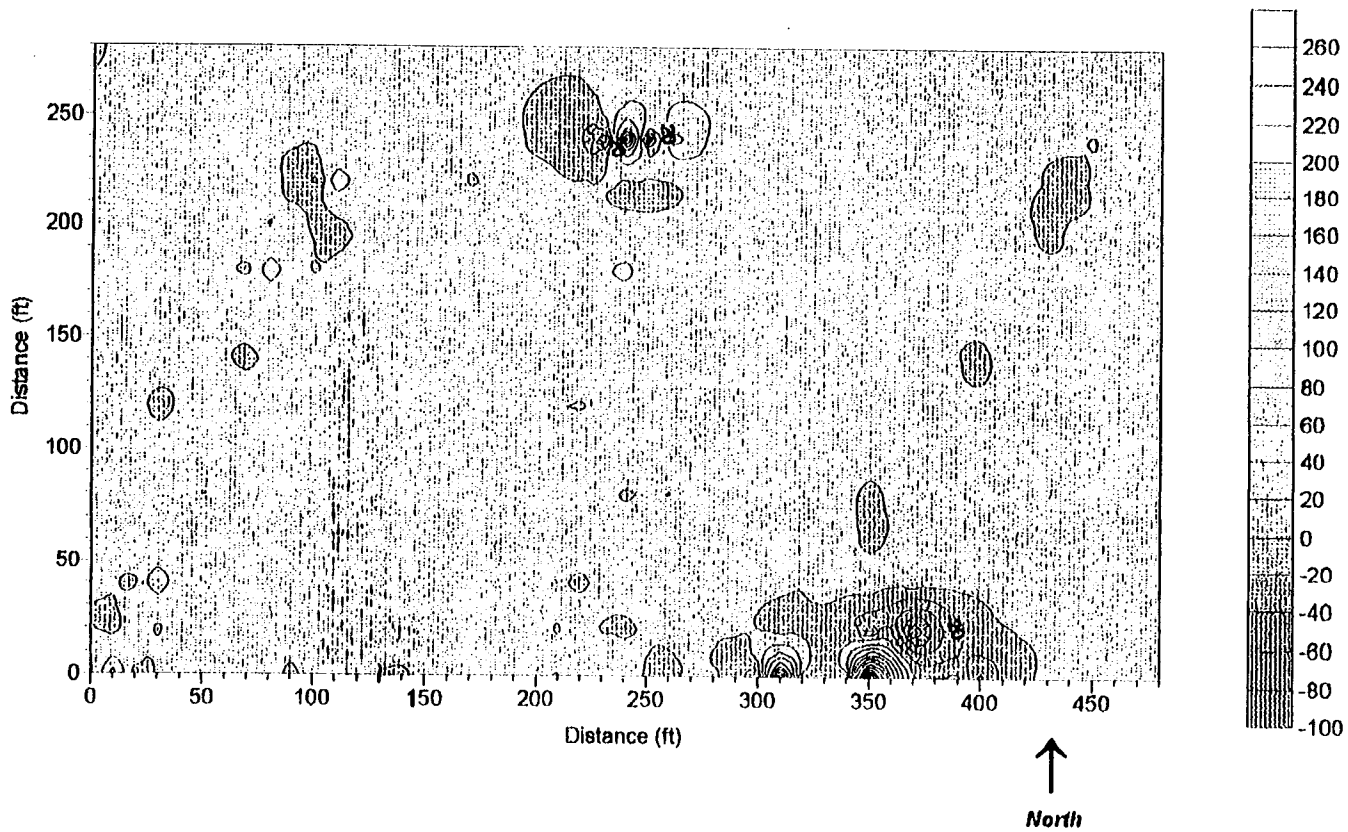


Figure F-10b. Range K, Contour Plot of Vertical Magnetic Gradient

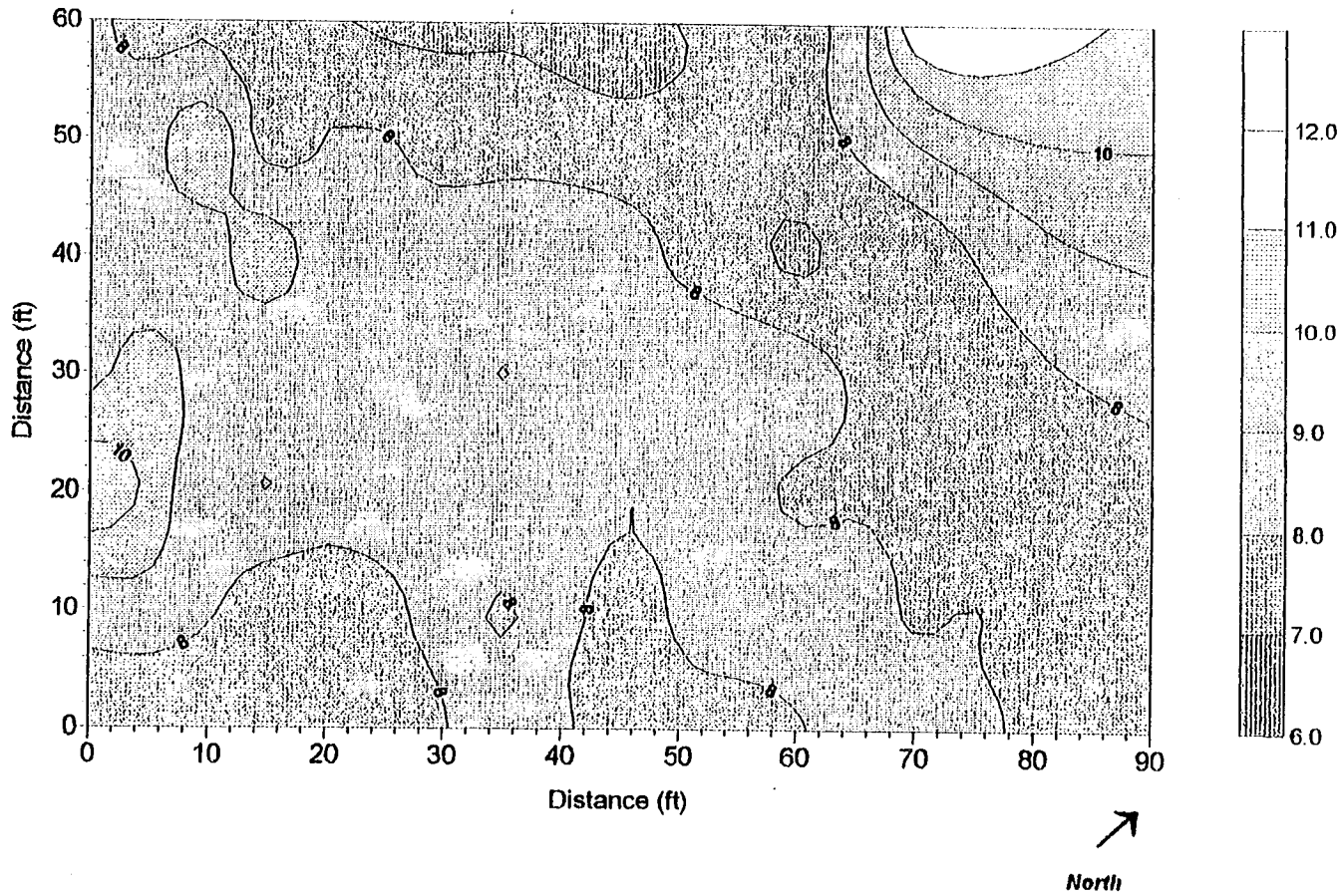


Figure B-11a. Range L, Lima Pond; Contour Plot of Horizontal Mode Conductivity Data

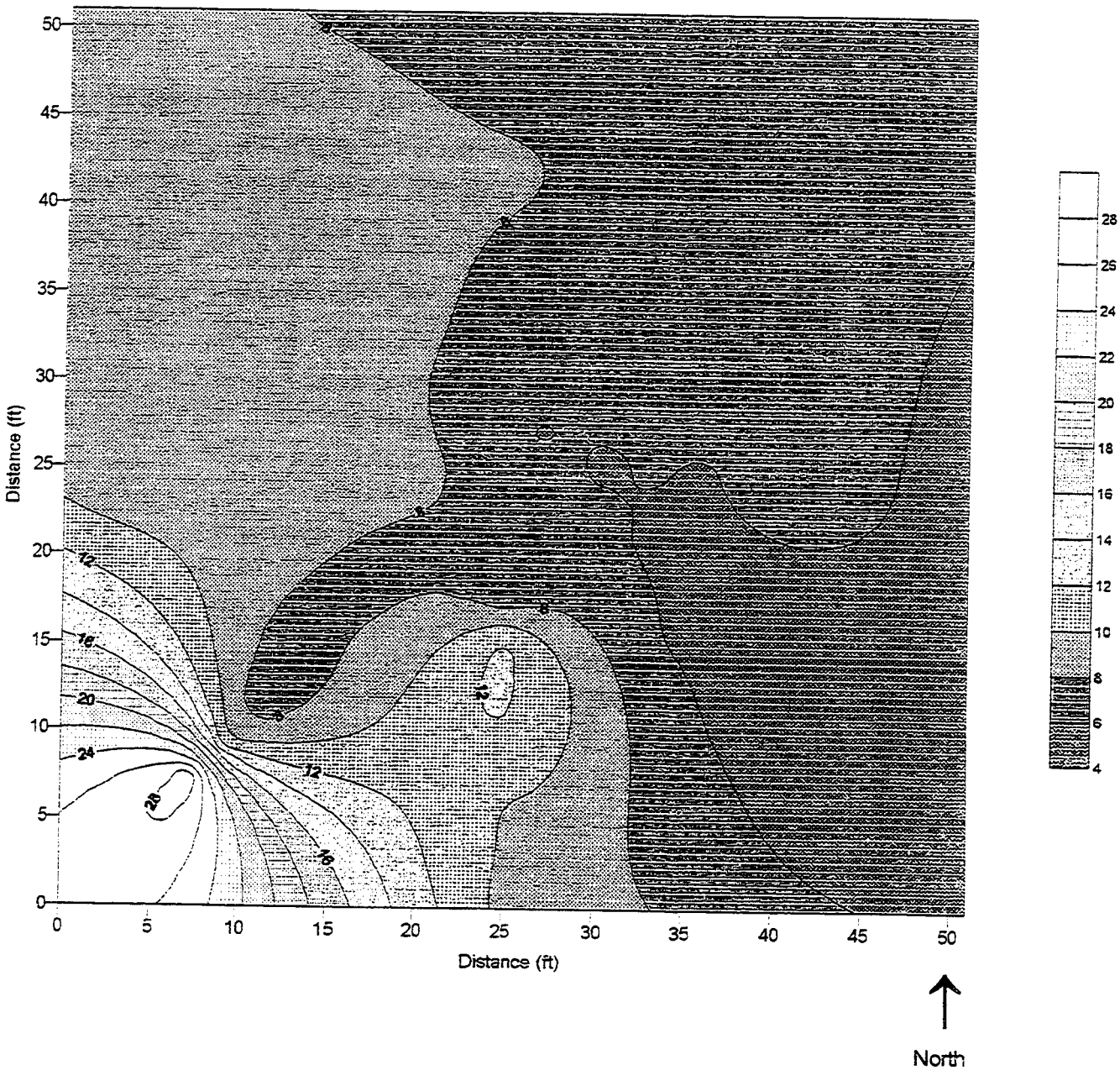


Figure B-9a. Contour Plot of Horizontal Mode Conductivity Data for Range L, Well Location 2.

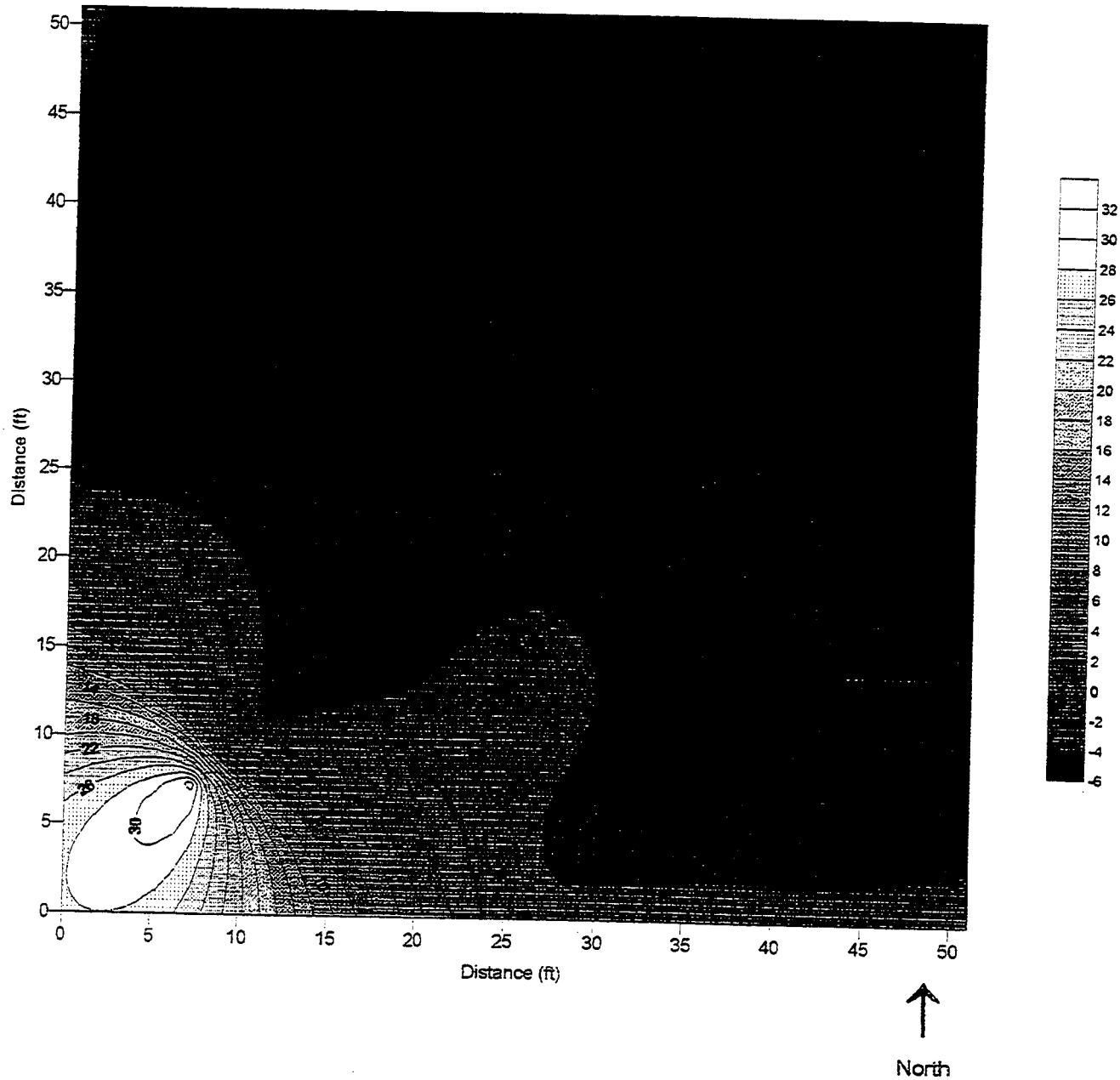


Figure B-9b. Contour Plot of Horizontal Mode In-Phase Data for Range L, Well Location 2.

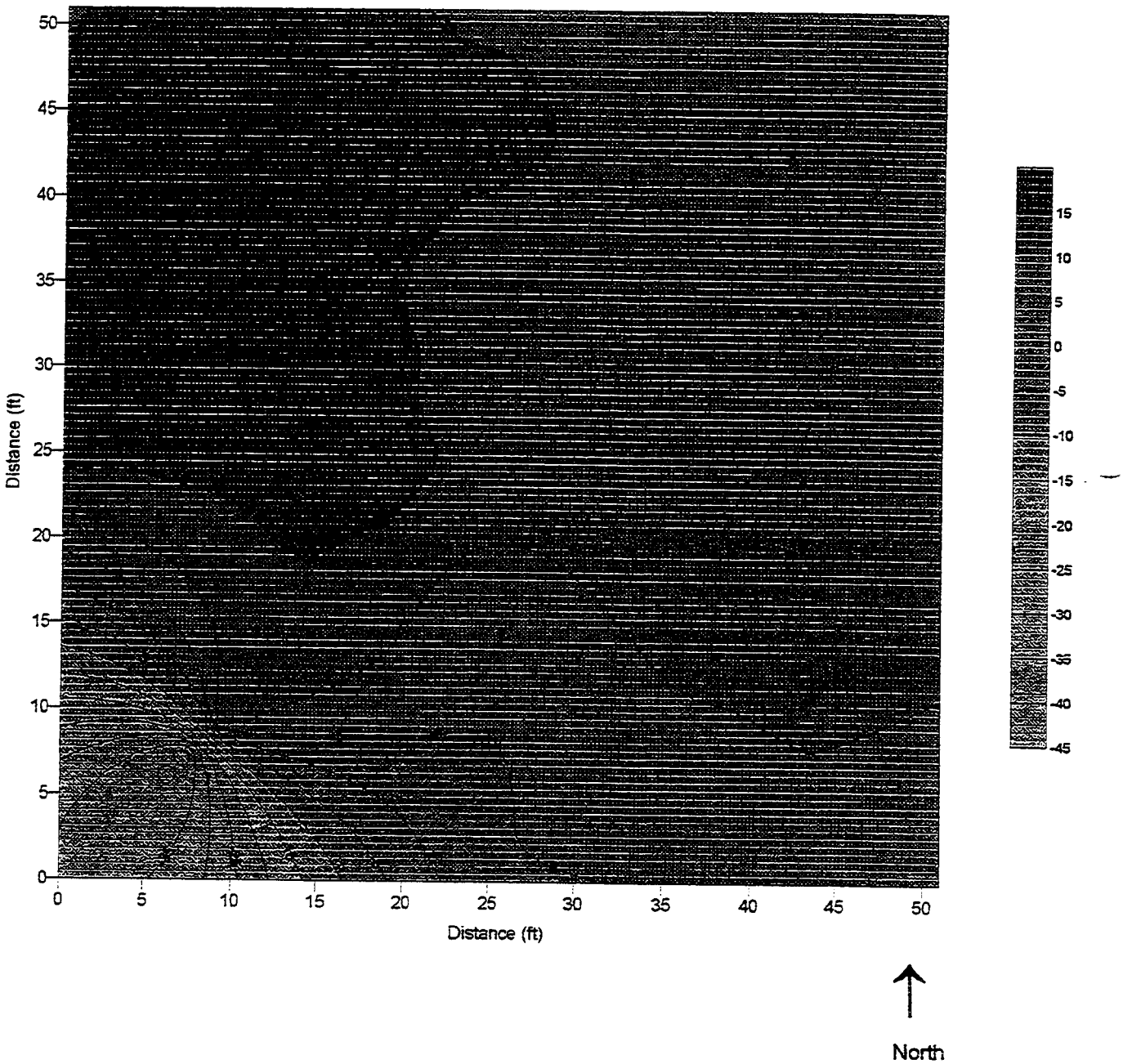


Figure B-9c. Contour Plot of Vertical Mode Conductivity Data for Range L, Well Location 2.

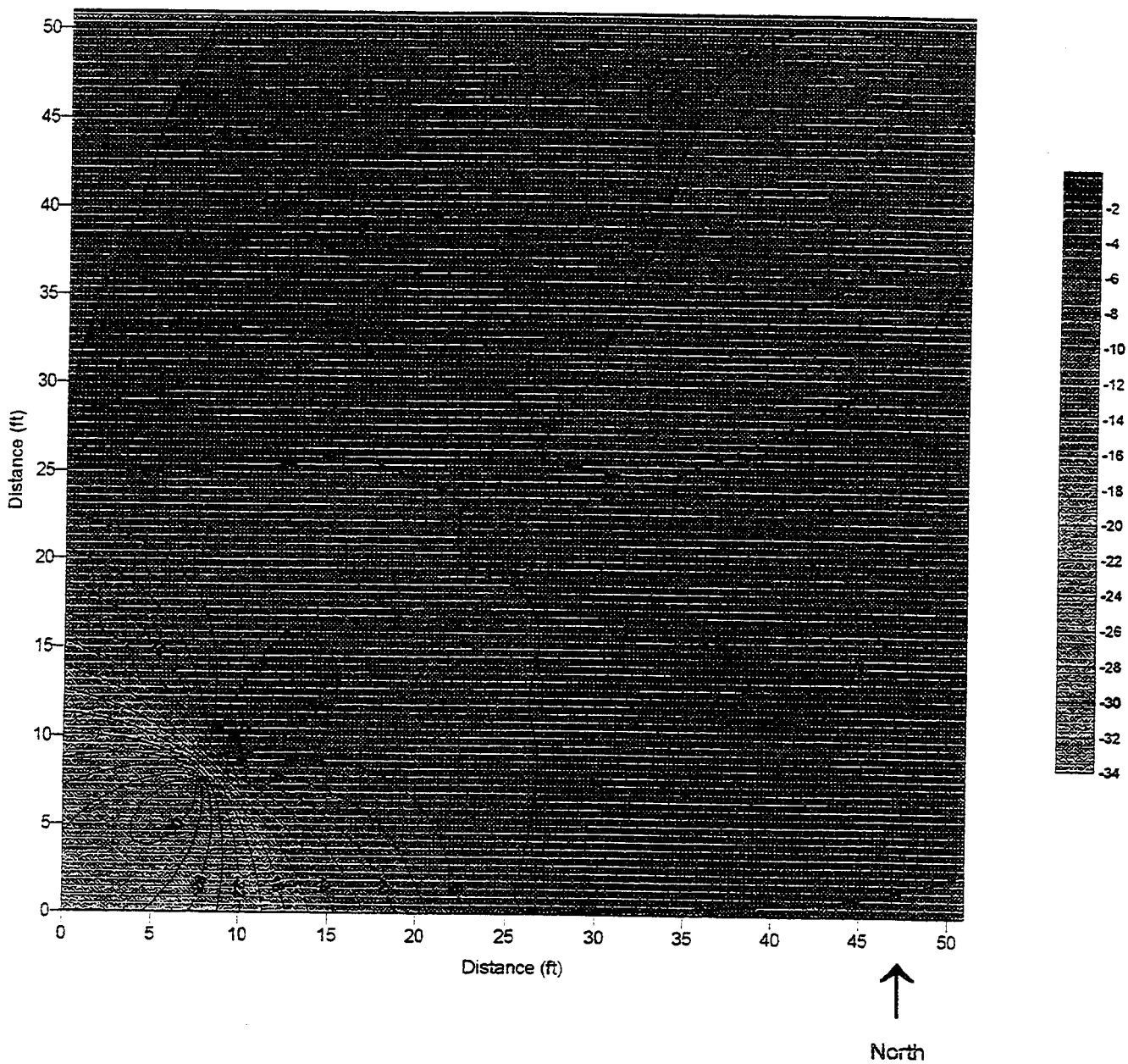


Figure B-9d. Contour Plot of Vertical Mode In-Phase Data for Range L, Well Location 2.

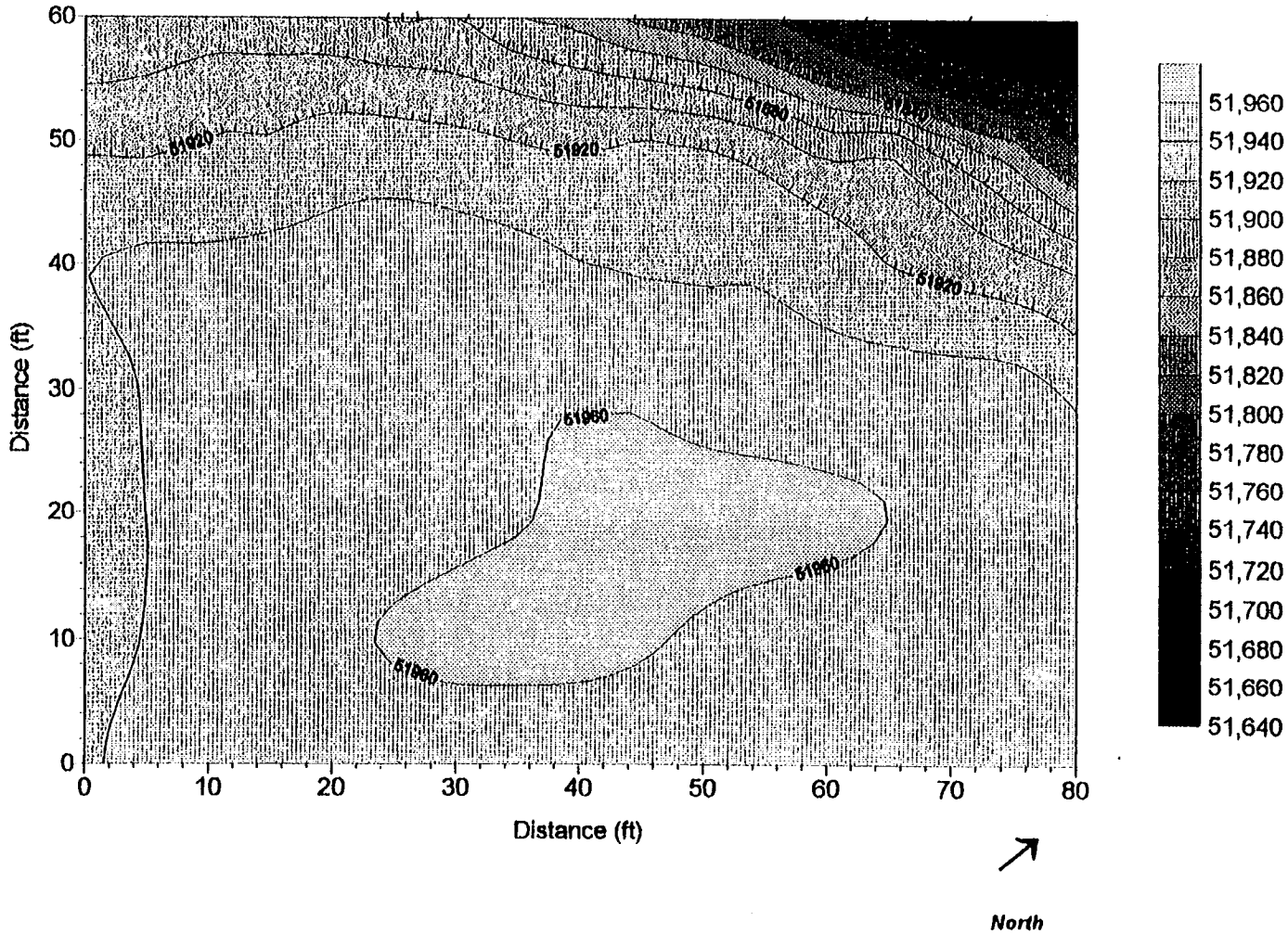


Figure F-13a. Range L, Lima Pond; Contour Plot of Total Magnetic Field

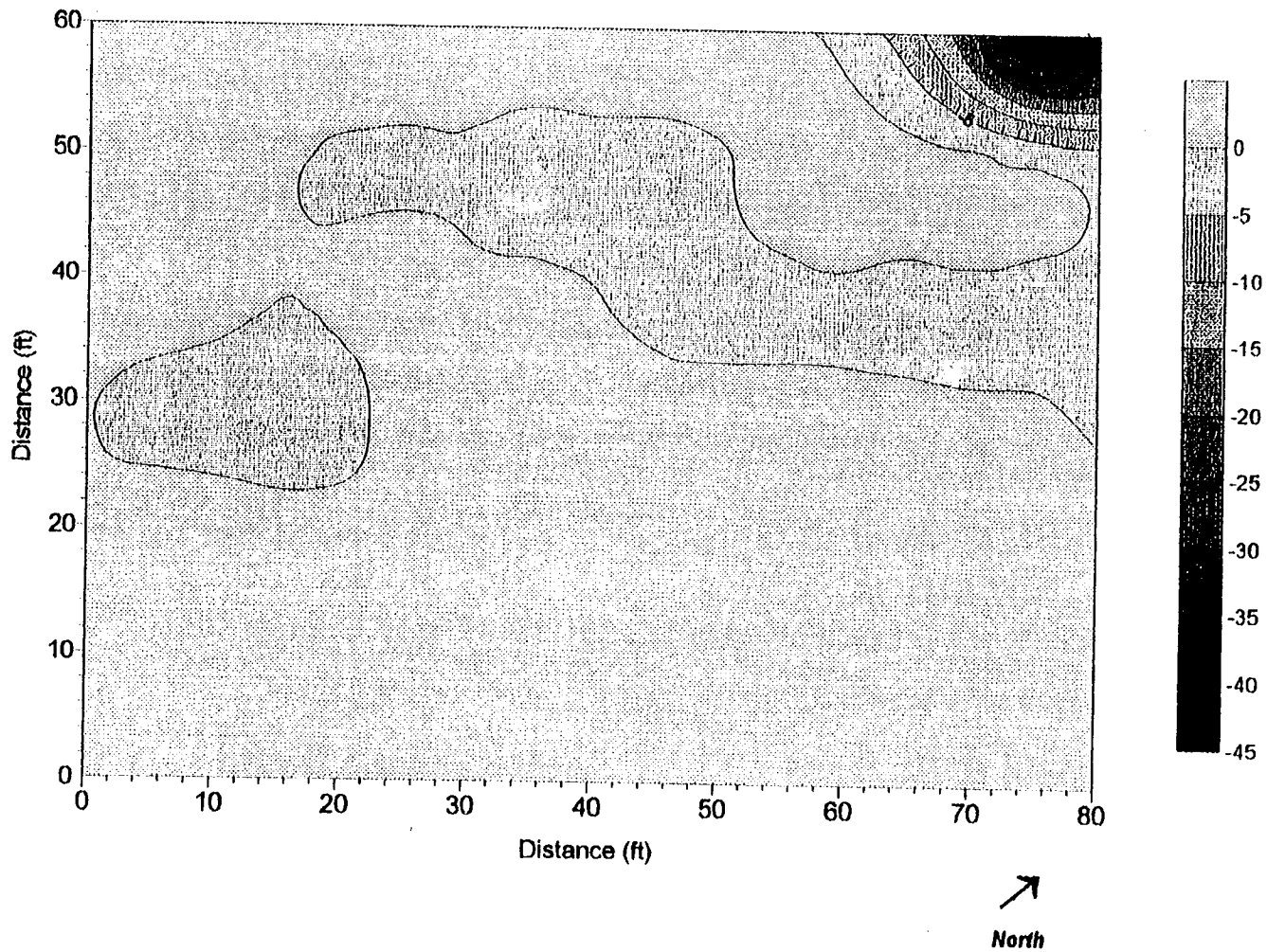


Figure F-13b. Range L, Lima Pond; Contour Plot of Vertical Magnetic Gradient

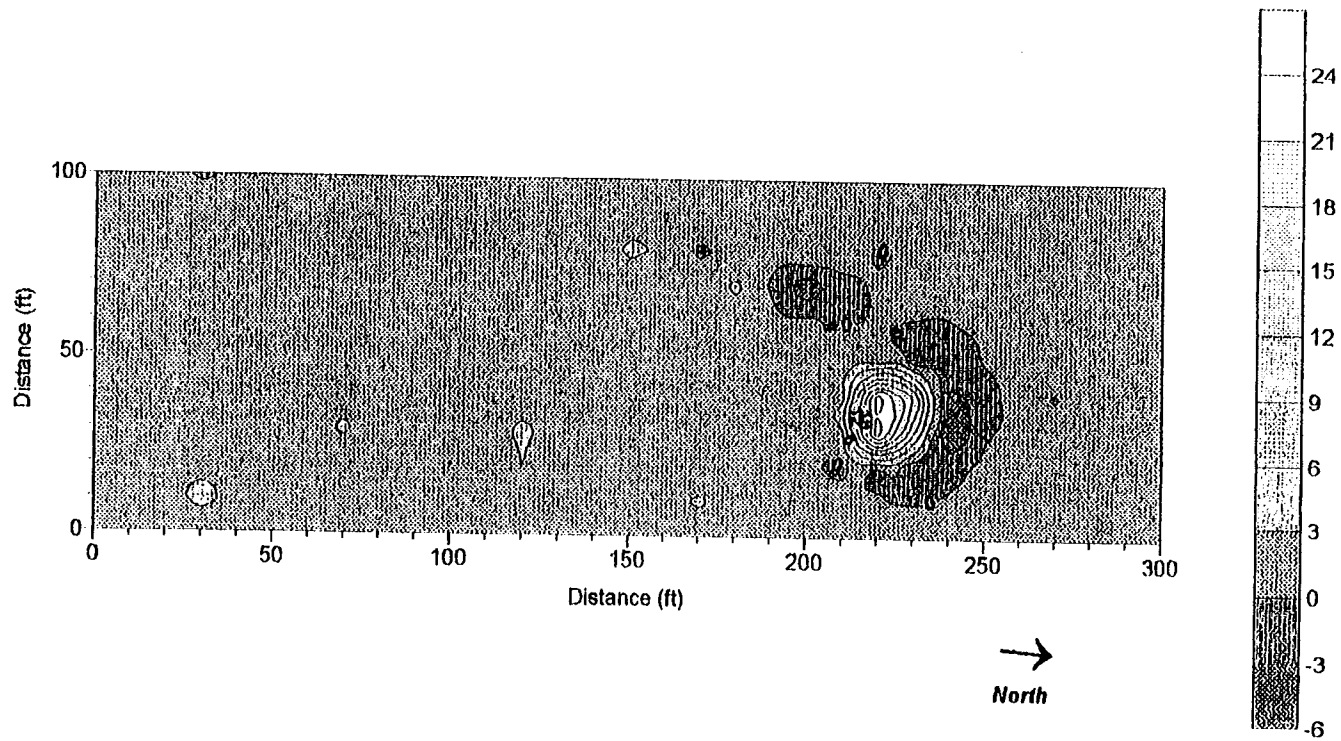


Figure F-8b. Old Water Hole, Contour Plot of the Vertical Magnetic Gradient

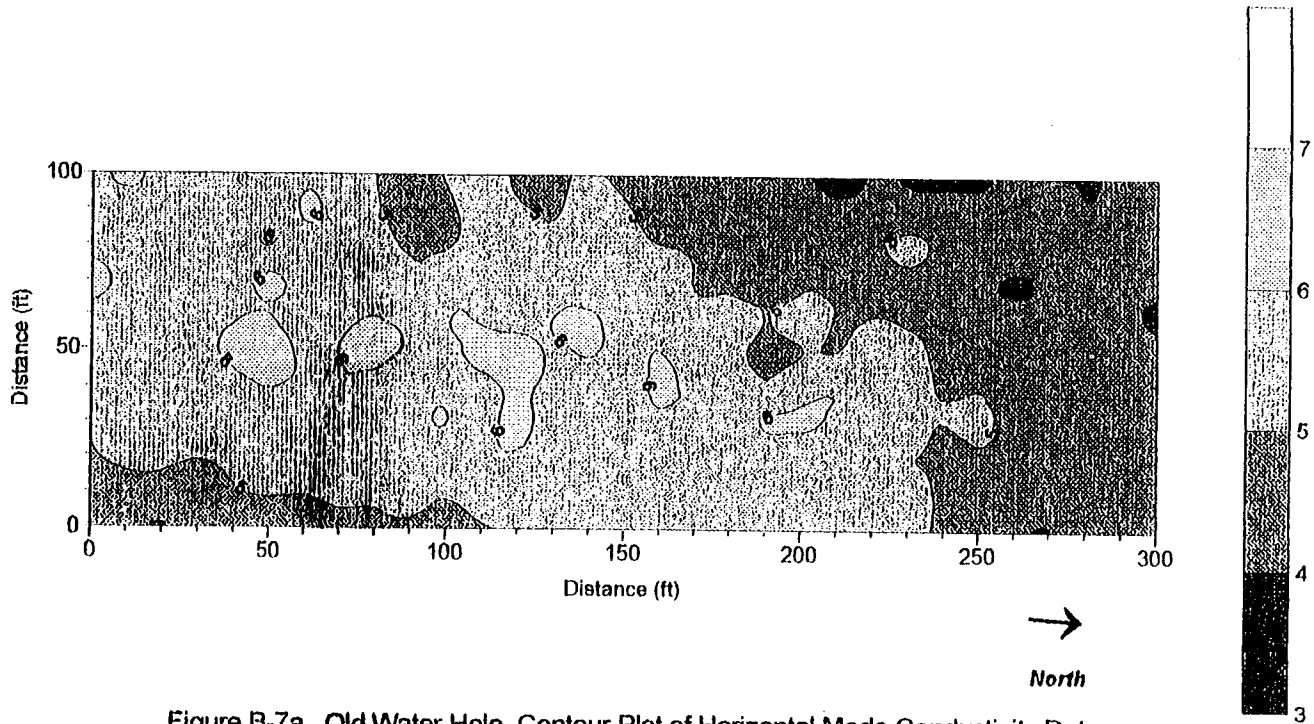


Figure B-7a. Old Water Hole, Contour Plot of Horizontal Mode Conductivity Data

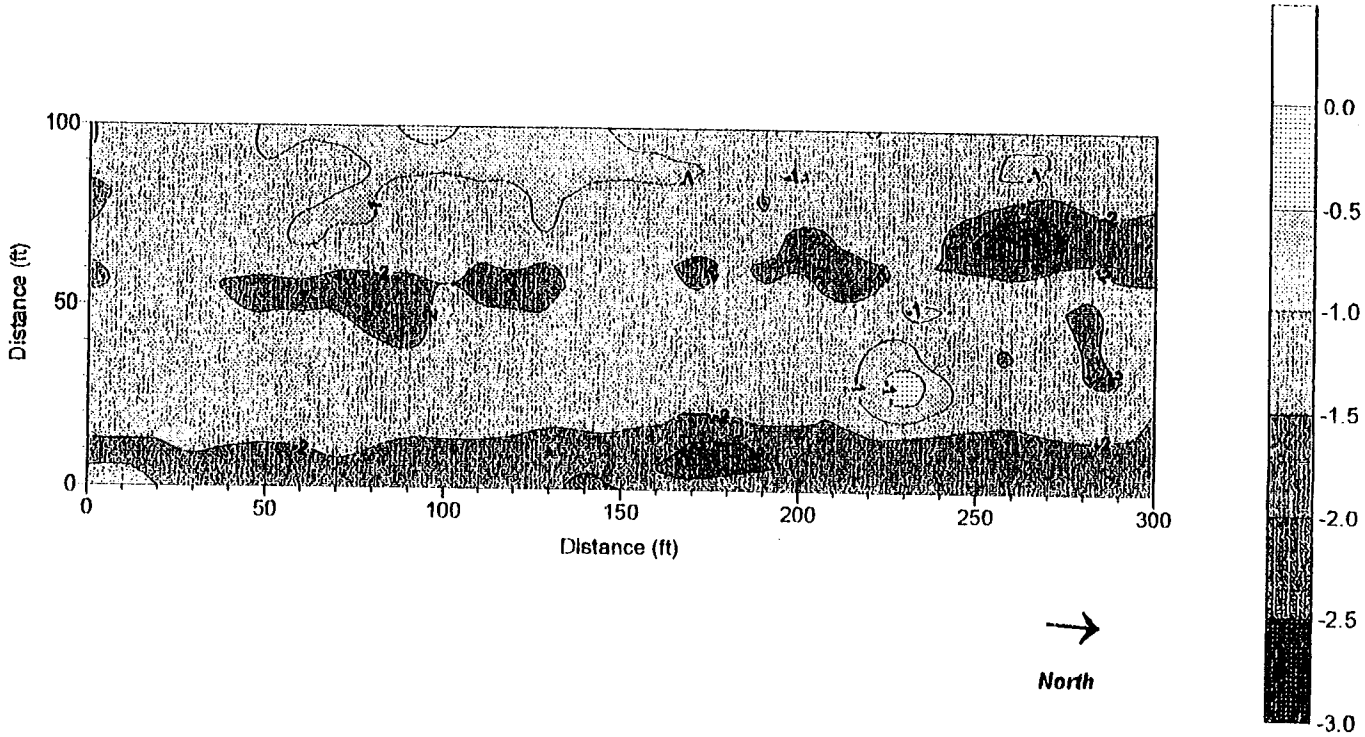


Figure B-7b. Old Water Hole, Contour Plot of Horizontal Mode In-Phase Data

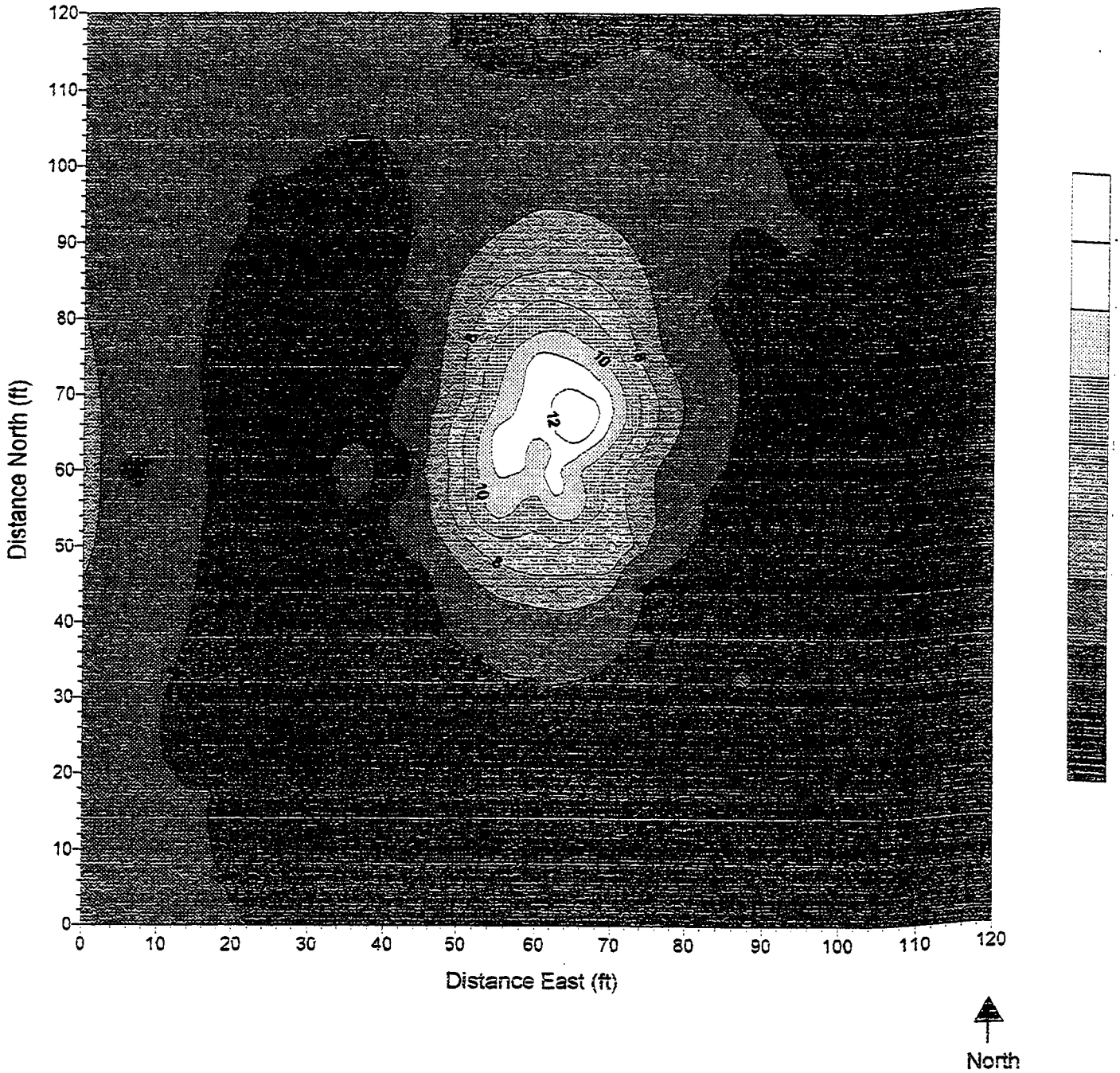


Figure B-2a. D & I Area: Contour Plot of Horizontal Mode Conductivity Data

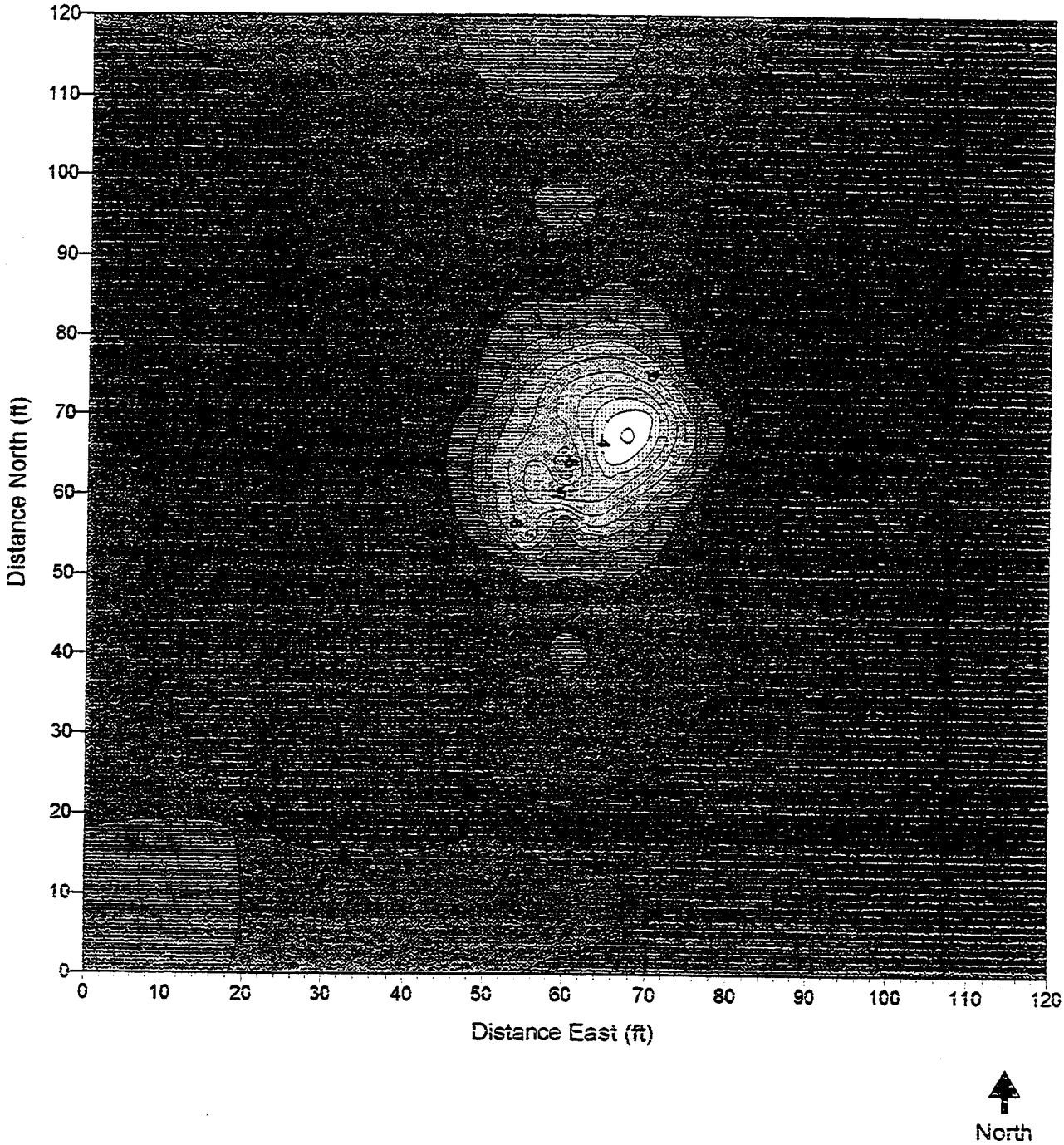


Figure B-2b. D & I Area: Contour Plot for Horizontal Mode In-Phase Data

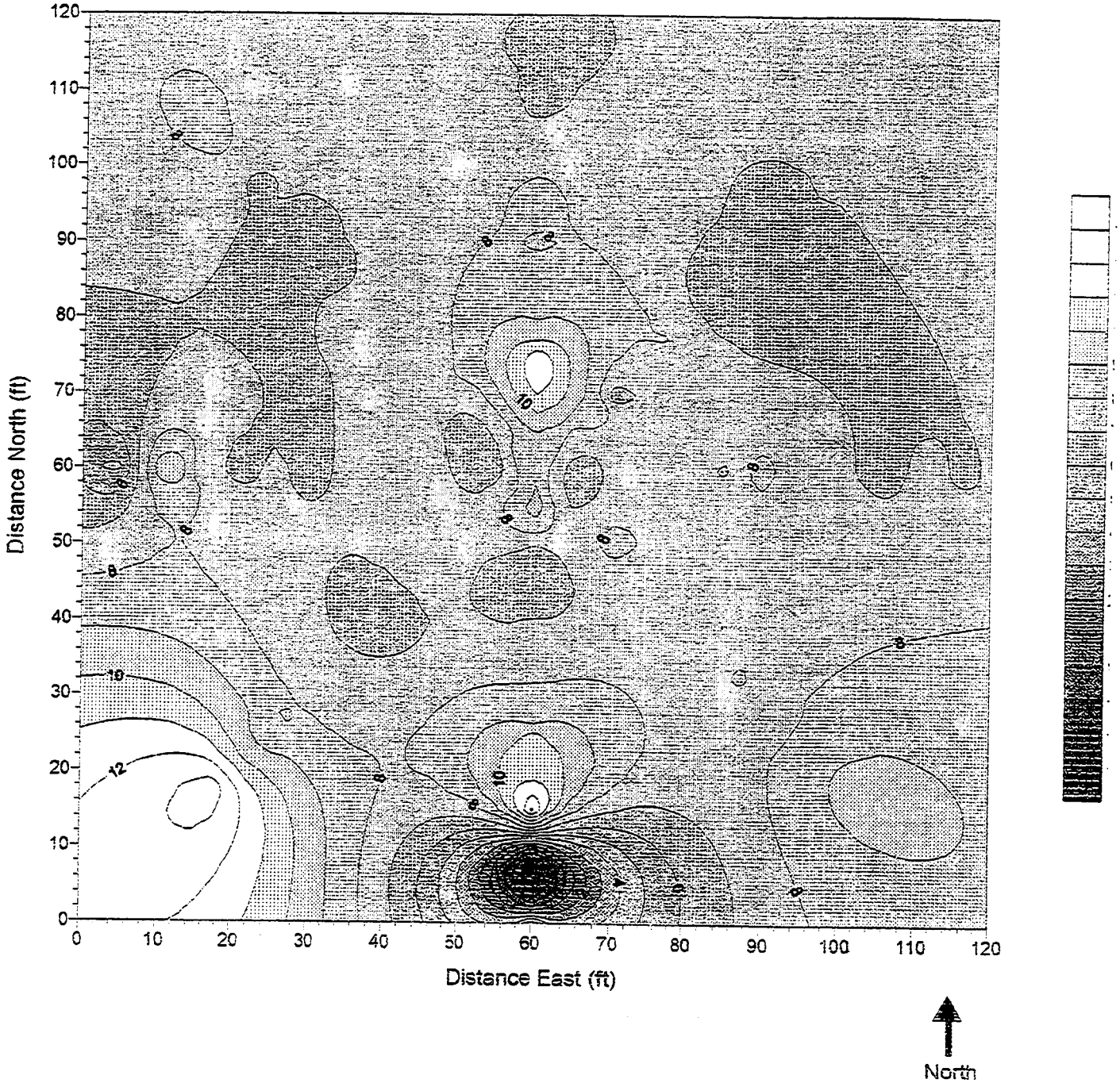


Figure B-2c. D & I Area: Contour Plot of Vertical Mode Conductivity Data

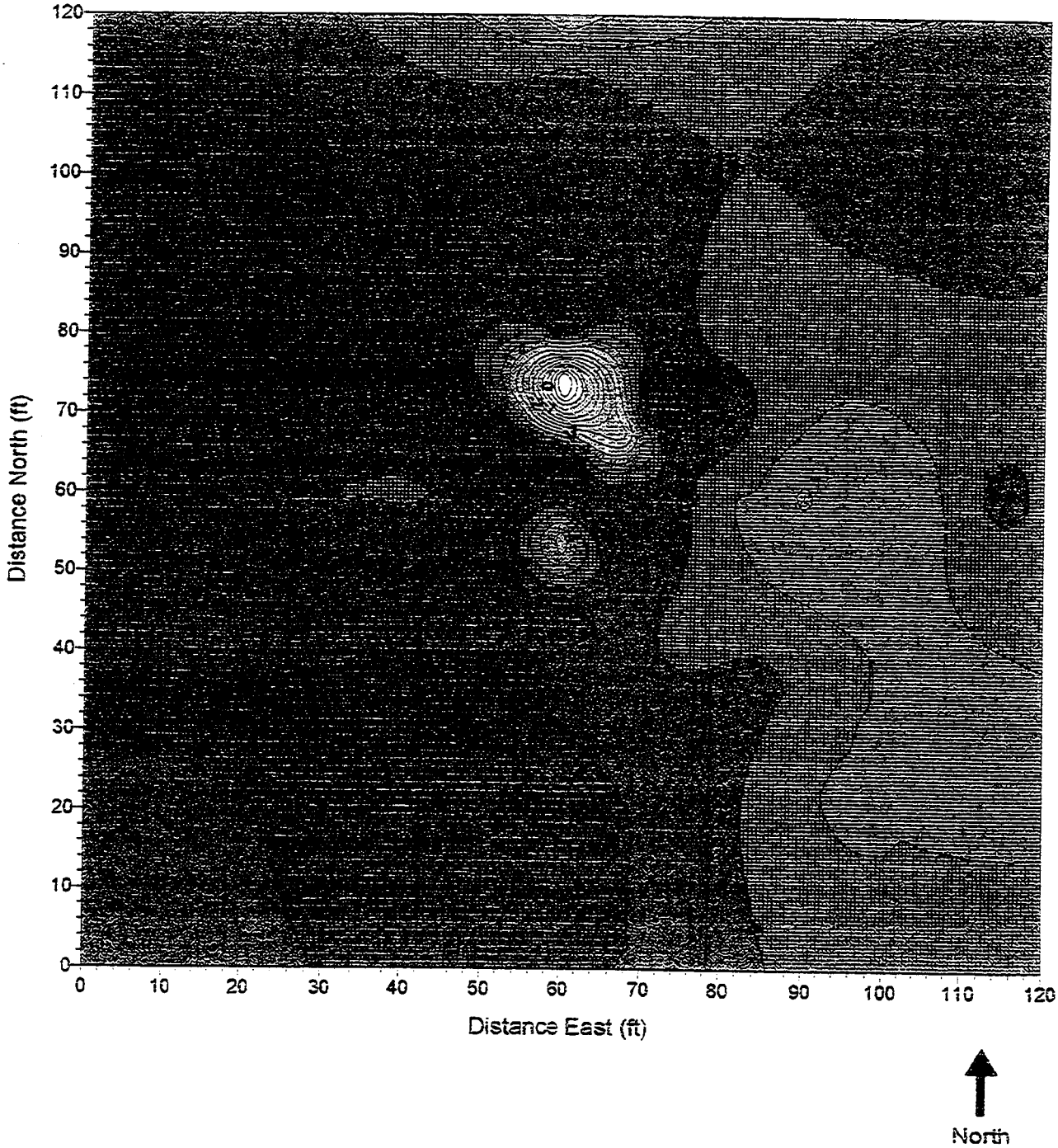
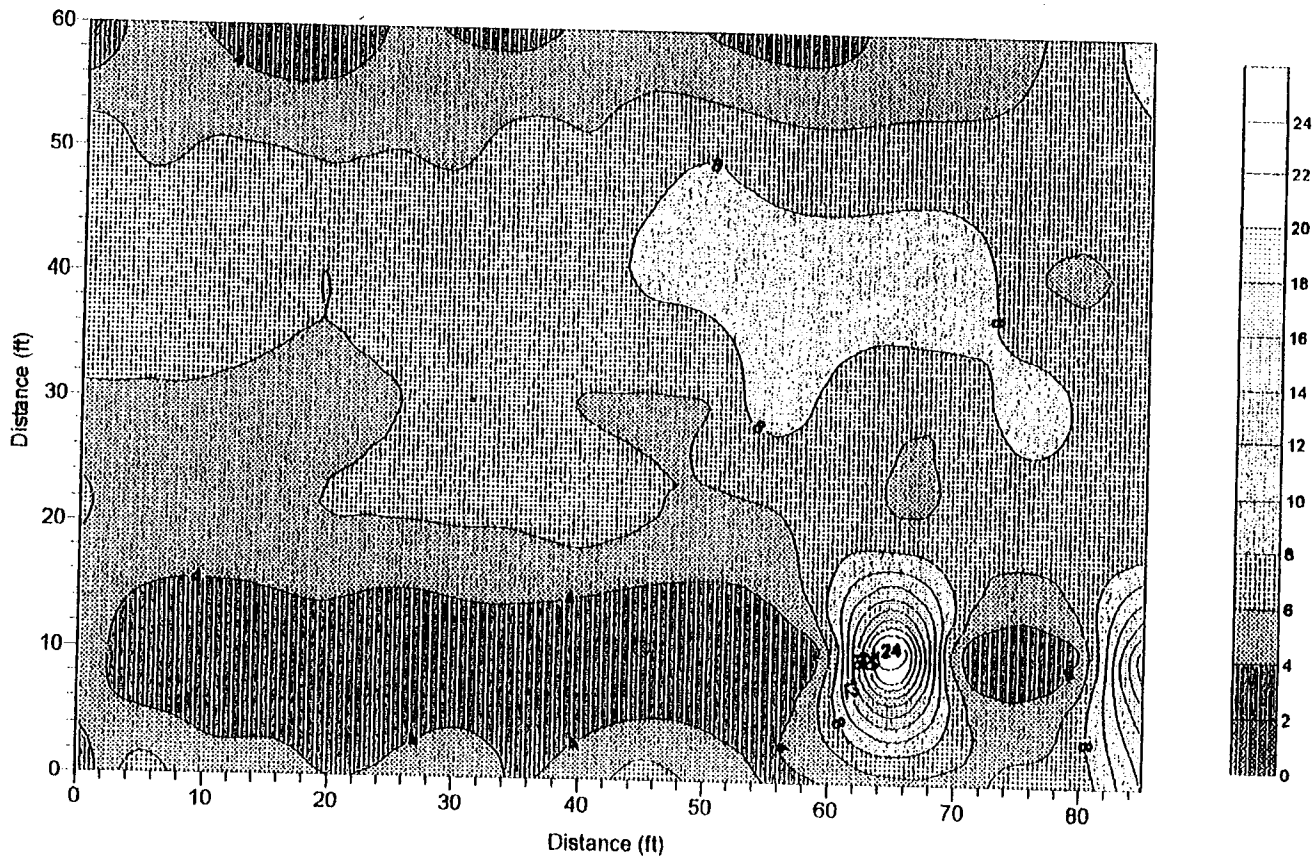
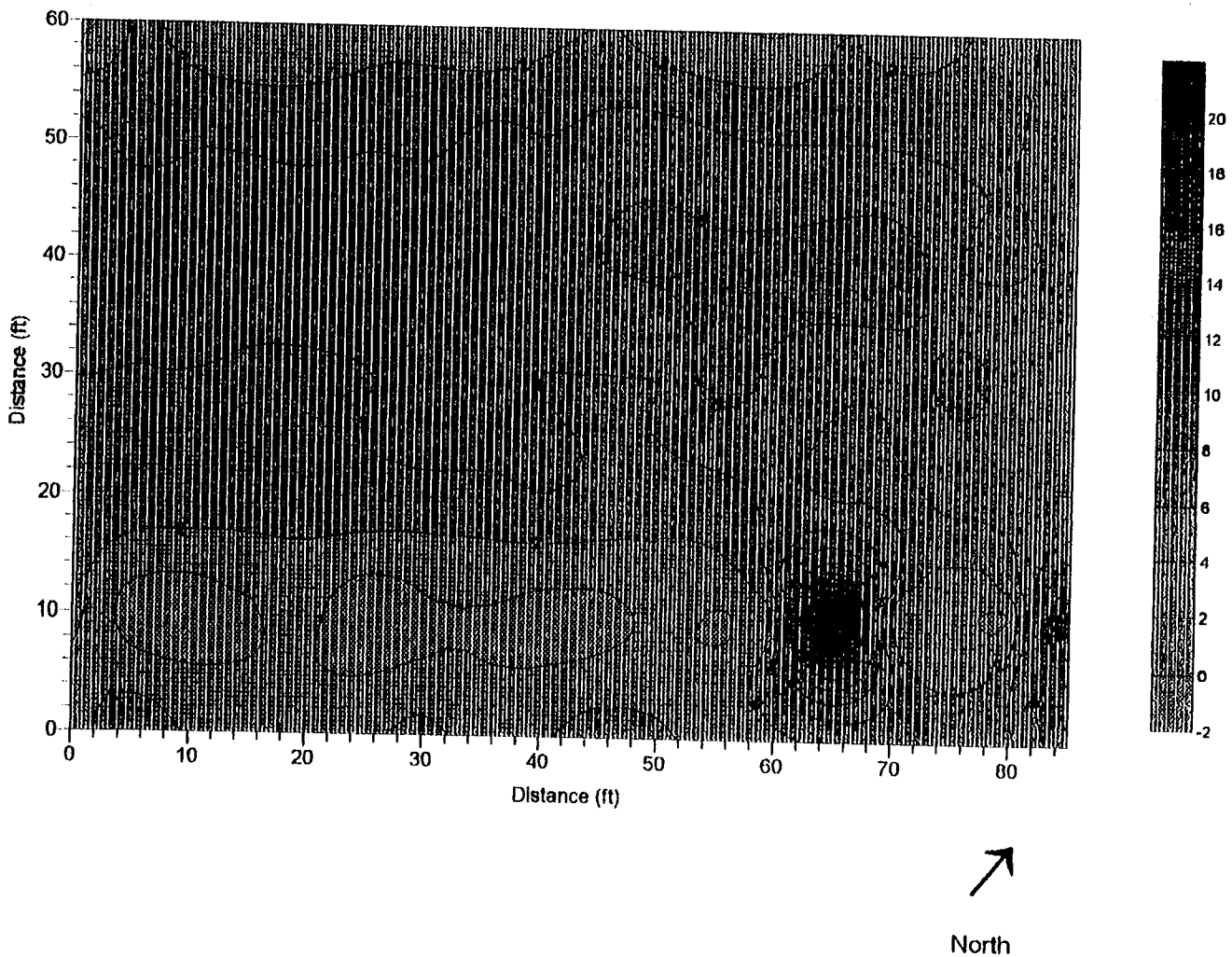


Figure B-2d. D & I Area: Contour Plot of Vertical Mode In-Phase Data



North

Figure D-6a. Contour Plot of TDEM Channel 2 Response - Range L Lima Pond.



Figur D.6b Contour Plot of TDEM Differential Data

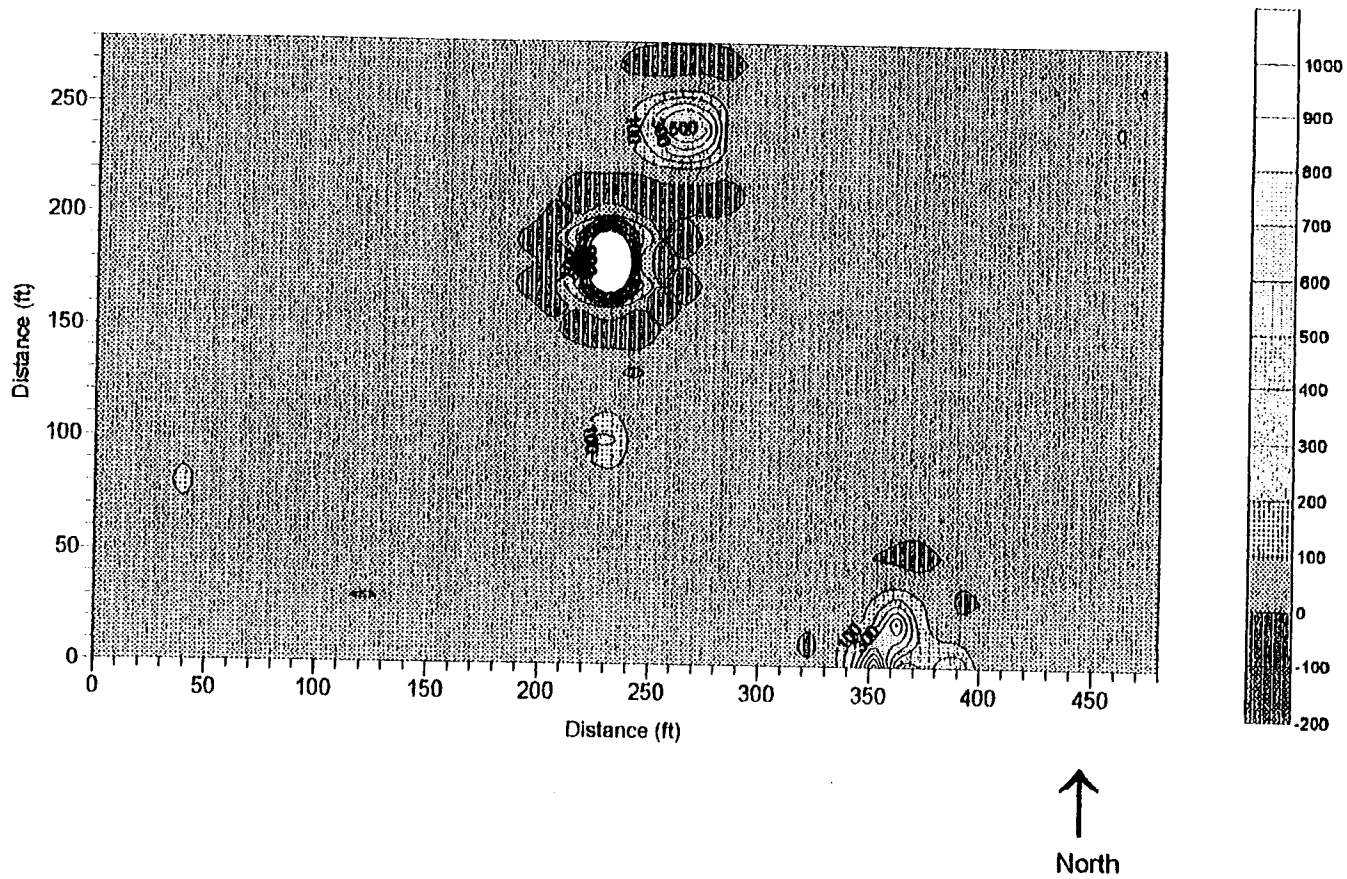


Figure D-4a. Contour Plot of the TDEM Channel 2 Response - Range K.

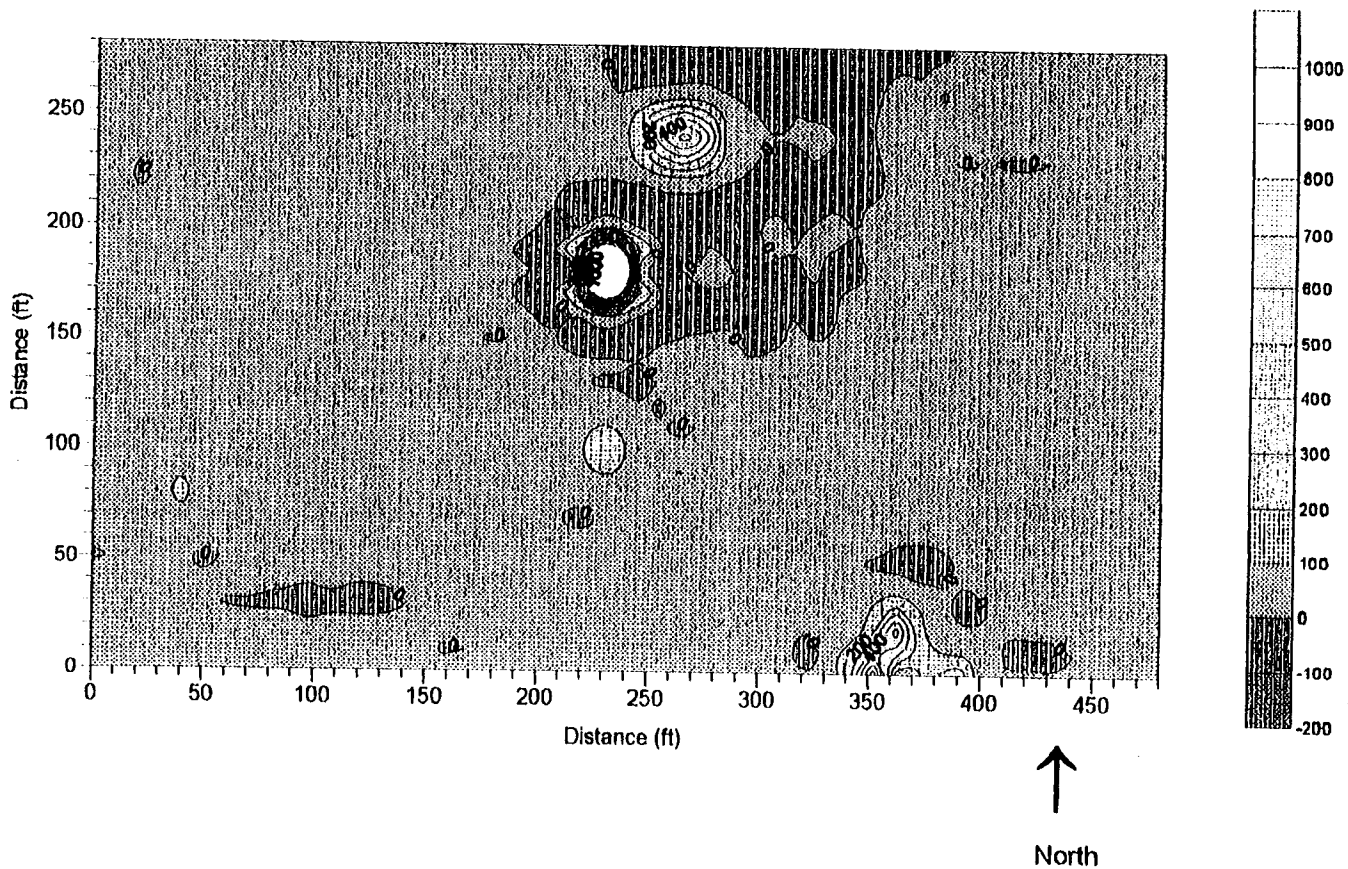


Figure D-4b. Contour Plot of TDEM Differential Response

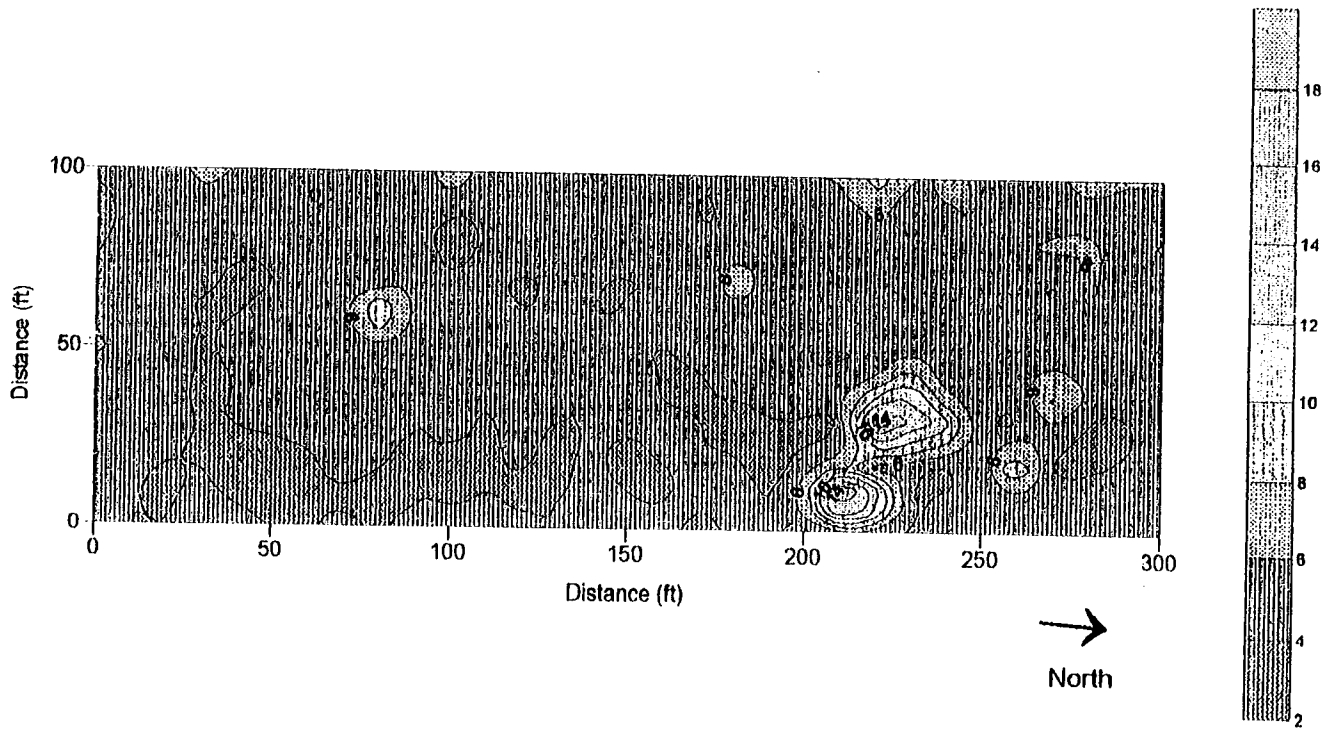


Figure D-2a. Contour Plot of the TDEM Channel 2 Response - Old Water Hole Gridded Area.

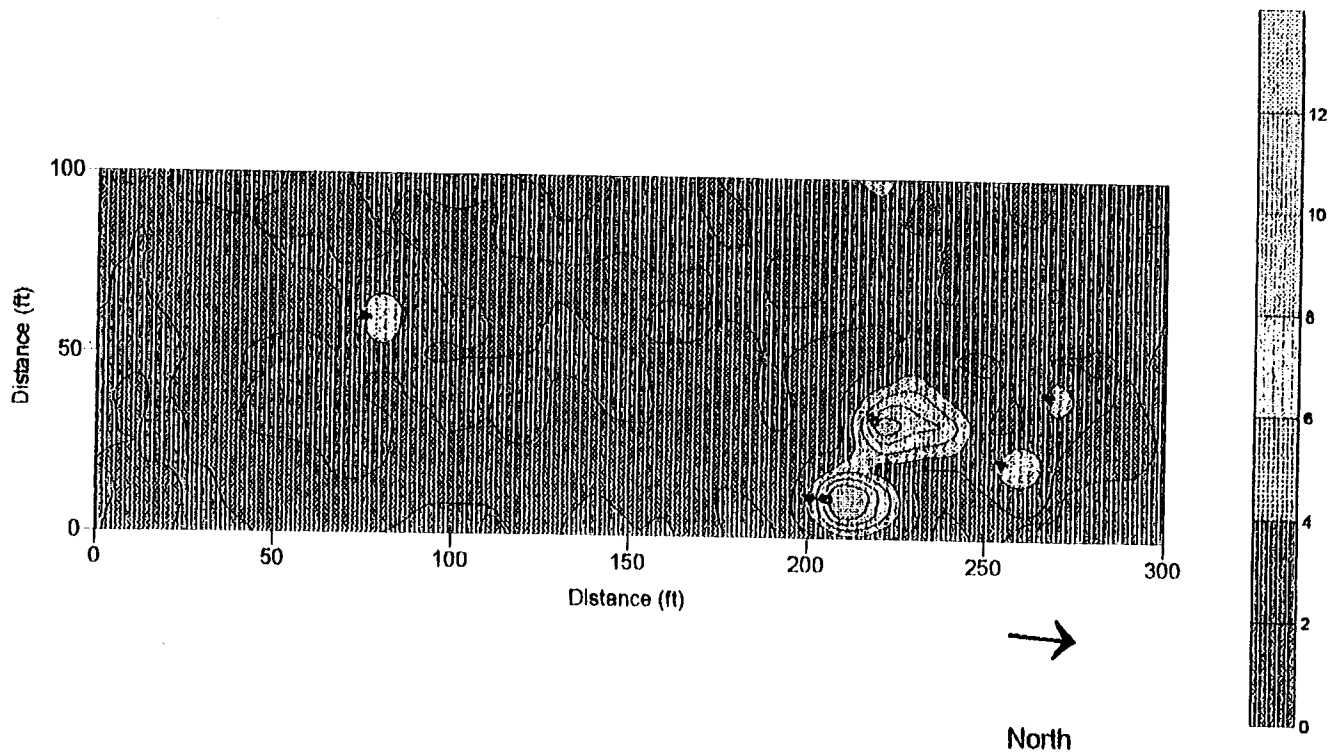


Figure D-2b. Contour Plot of TDEM Differential Data - Old Water Hole Gridded Area.

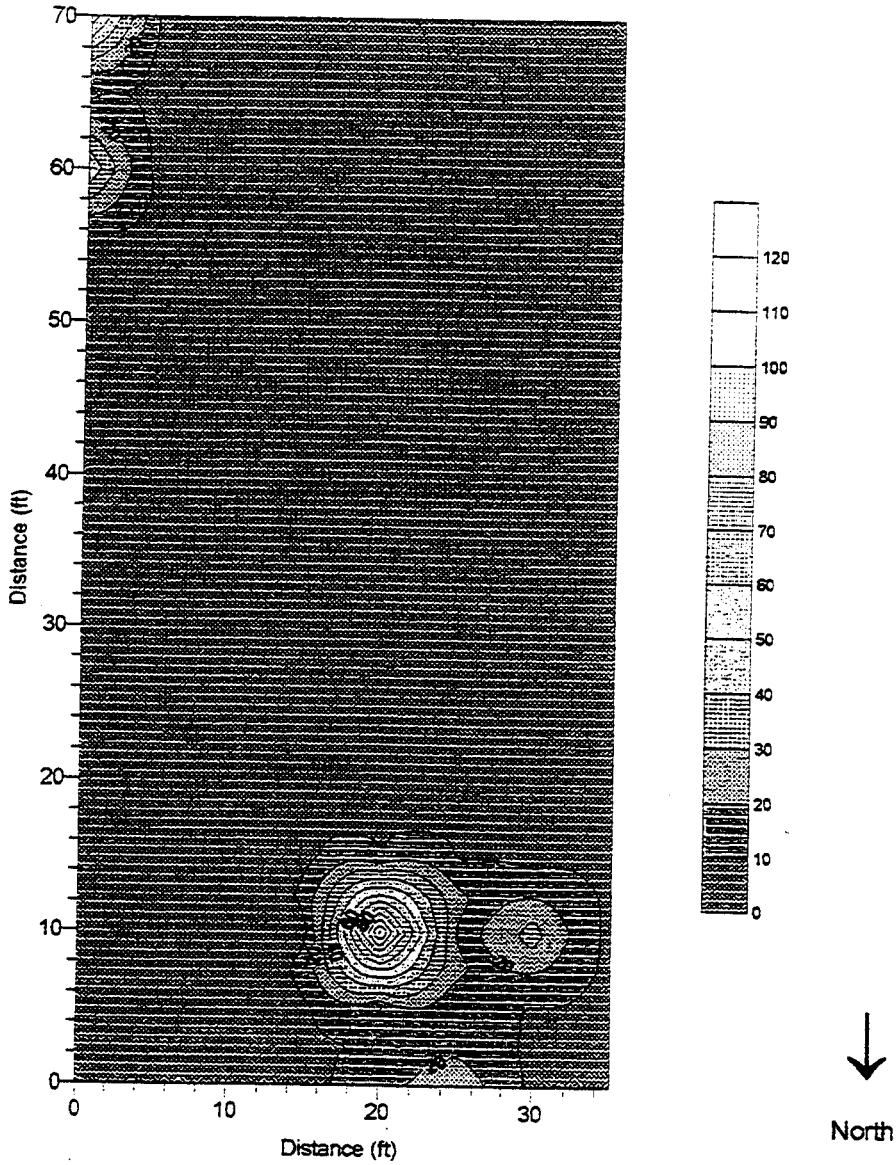


Figure D-8a. Contour Plot of TDEM Channel 2 Data - Site T-38 Drum Search.

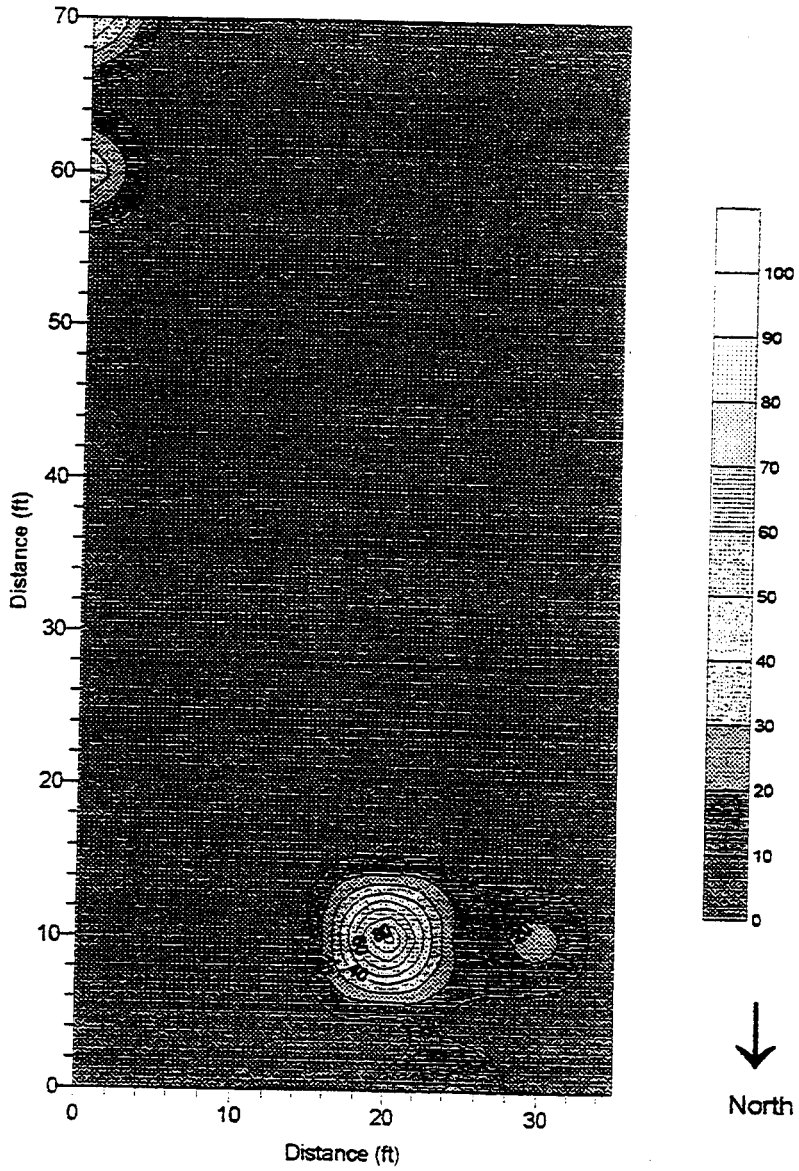


Figure D-8b. Contour Plot of TDEM Differential Response - Site T-38 Drum Search.

GC-FR-95-2866

FINAL TECHNICAL REPORT FOR STOLS® SURVEY OF AREA T24A, FORT McCLELLAN, ALABAMA

Under Subcontract #08-950323-53

Prepared for

SCIENCE APPLICATIONS INTERNATIONAL INCORPORATED
1710 Goodrich Drive
McLean, VA 22102

Under Prime Contract #DAAA15-91-D-0017, Delivery Order 0005

Presented by

GEO-CENTERS, INC.
Seven Wells Avenue
Newton Centre, Massachusetts

MARCH 1995

GEO-CENTERS, INC.

TABLE OF CONTENTS

		PAGE
1.0	FIELD NOTES	1
2.0	STOLS® SYSTEM DESCRIPTION	4
3.0	STOLS® DATA PROCESSING	4
4.0	QUADRANT REVIEW	6
5.0	DATA DELIVERABLES	8

1.0 FIELD NOTES

Saturday, February 18, 1995

Departed Montgomery, Alabama with STOLS® trailer, tractor, and chase car. Arrived Fort McClellan, Alabama at 0706. Parked at the McClellan Lodge to meet Mr. Wayne Stoner. A communication failure kept us apart until we met at the site to be surveyed, area T24A. Accompanying Mr. Wayne Stoner, of SAIC, was Mr. Brad Perkins, of the Fort McClellan Environmental Directorate. Members of the STOLS® team included:

Mr. Alan Crandall -	Field Team Leader
Dr. Denis Reidy -	Geophysicist
Mr. Rob Siegel -	Data Processor and Analyst
Mr. Dick Kimball -	Truck Driver
Mr. Rex Davis -	Candidate STOLS® sales representative

The Global Positioning System (GPS) base station was set up over the North East (NE) corner of Monitoring Well T24A-G01. Mr. Stoner said that he would forward the survey coordinates, in Alabama (east) State Plane, for this monitoring well. The station was set up using a local "here" position as determined by the base receiver.

A diurnal variation monitoring magnetometer station was set up to log changes in the Earth's magnetic field strength, over the course of the survey.

The STOLS® Tow Vehicle and Tow Platform were set up. A set of landmark files, site perimeter and start/stop files, were acquired for track guidance purposes. During these runs, it was decided that the large mud tires would be necessary for the Tow Vehicle. The large mud tires were installed, while the Command Center was set up with the data processing equipment.

The site survey began along the North East edge. With a flagger at each end of the site, survey lines were acquired in a "running race track" or "zamboni" style. During the second line running South East to North West, the port boom swung open. While waiting for it to be restored, it was noticed that magnetometer channel B (second from port) was not functioning properly. When the boom was restored, the operator continued the survey, but continued to observe the faulty magnetometer channel, and as a result failed to acquire the remainder of that line's data. This resulted in a missed area in the survey data. The loss of one magnetometer channel was compensated for by running survey lines with greater overlap. The survey was completed and survey data evaluated in the field. All data was transferred to the command center.

Based on initial data evaluation, the base navigation and diurnal variation stations were broken down, and the Tow Vehicle tires exchanged for the normal "street" tires.

Survey data (Survey magnetometer and Diurnal magnetometer data) were processed in the Command Center. Magnetometer B showed intermittent and faulty steaks and was stripped from the data. Color hard copy images were made of the "raw" and "stripped" data and delivered to Mr. Stoner and Mr. Perkins.

The missed area was discussed, with the decision made to "fill in" the missed data at some future date, most likely in mid to late March 1995.

The Command Center was broken down and all equipment packed and secured in the trailer for transport.

Departed T24A around 1300.

Monday, February 20, 1995

It was decided to return to Fort McClellan, to "fill in" the missed area in T24A, Friday, 24 February 1995, and to use the Portable STOLS®, as originally proposed. A set of four "waypoints" were established that marked the corners of the missed area in the T24A Vehicular STOLS® survey. These "waypoints" formed a 6 meter wide area, around the 2 meter wide missed area, running its full length.

Wednesday, February 22, 1995

Packed all Portable STOLS® equipment and shipped to Atlanta, GA.

Thursday, February 23, 1995

Alan Crandall and Denis Reidy traveled to Atlanta, GA. Called SAIC, Fort McClellan, to arrange access to area T24A on Friday, 24 February 1995. Got verbal access through Range Control. SAIC directed us to check in with Range Control first thing in the morning. Picked up the Portable STOLS® equipment and drove to Oxford, Alabama.

Friday, February 24, 1995

Drove to Fort McClellan Range Control. Officer in charge was concerned about some live range activity and requested that we wait for Staff Sergeant (SSGT) Bishop to confirm access to area

T24A. Called the Environmental Directorate and spoke with Mr. Brad Perkins, who hosted us until SSGT. Bishop's return and confirmed access to T24A.

Set up Base navigation Station over NE corner of monitoring well T24A-G01 and used the same coordinate as the Vehicular survey on 18 February 1995.

The Portable STOLS® was set up. The four "waypoints" that marked the corners of the missed area were located and marked with flags. Two measuring tapes were stretched between the SE and SW corners and the NE and NW corners. Flags were placed every 1 meter along each tape measure. Portable STOLS® survey lines were acquired along each 1 meter line between tape measures. Additional files were acquired to extend area coverage over a dirt pile along the NW fence and around the site gate. Six "Landmark" files were acquired to provide navigation coordinates for the following site specific locations:

Landmark 01: Concrete monument
Landmark 02: Trench 4 (center)
Landmark 03: Wooden Pole with Yellow Tape
Landmark 04: Dirt Pile near NW Fence
Landmark 05: Dirt Pile in center
Landmark 06: Center of Gate

All data was transferred to the field PC and verified. Survey data was merged with historical Vehicular survey data and imaged on the PC. From our hotel, the Portable STOLS® survey data was sent by modem to GEO-CENTERS, INC., Boston, where it was merged and processed on the work station, with the historical Vehicular data.

With the Portable STOLS® survey data merged and validated, we returned to T24A and broke down the base navigation station. A composite site image was then sent by modem back to us in the hotel, later that night.

Saturday, February 25, 1995

Checked in with Range Control and visited T24A for final site walk over. Saw numerous surface ferrous objects as well as several lengths of barbed wire. Locked gate and departed for Atlanta. Shipped all equipment and caught plane home.

2.0 STOLS® SYSTEM DESCRIPTION

The STOLS® technology is basically a magnetometer-based survey system which rapidly acquires magnetic data over areas of interest and produces same-day images of the magnetic fields of buried unexploded ordnance, underground storage tanks, pipes and containers. Deployed in its vehicular form, it can cover tens of acres per day and deployed in its portable form, it can be deployed freely in small areas providing full coverage of a given site. When deployed with alternative sensors such as conductivity sensors, STOLS® can provide complementary sensor information to the magnetics that can be overlaid for comparison due to the precise positioning associated with STOLS® data acquisition.

The STOLS® technology utilizes data from a differential global positioning system (DGPS) which locates every data point acquired with a relative precision in centimeters from point to point and a submeter accuracy in any subsequently located targets. The distances of these locations are relative to a base station that is set up prior to surveying. The coordinates of this base station can be determined by radio contact with overhead satellites which calculate a location for this base station. All subsequent location information is calculated relative to this base station location and, if the base station is subsequently surveyed with benchmark accuracy, all locations can then be calculated off this benchmark into any standard coordinate system (e.g., UTM, Alabama (East Zone) State Plane).

Onsite data processing takes the sensor data with the satellite positioning data and creates data images of the surveyed area, using a Unix based work station. Surface landmarks can be surveyed with the DGPS to create a data set of landmarks that can be overlaid on the data image to correlate the data with known, site specific features. The result is a visual output indicating areas in which buried objects or utilities are located as well as areas which are clear for further excavation.

3.0 STOLS® DATA PROCESSING

The combined Vehicular and Portable STOLS® survey data from T24A were processed and analyzed in our Newton Center, Massachusetts office. Standard STOLS® target analysis, outputs, and reports were generated. Interactively, an operator selects an area of interest (AOI) that includes a suspect target. The work station then compares the selected data to a magnetic dipole model for an isolated point dipole. A resulting match provides target location (X,Y,Z) and an estimate of the target's size category as small, medium, or large, based on the derived magnetic moment. A nonstandard output was also included, posting the target orientation (azimuth) and target inclination (derived from a successful model match).

If the model match is not successful, the target location and depth are derived from a "full-width at half maximum" algorithm with a "?" posted for size category, and no orientation or inclination. Targets that are obviously not isolated, or too small for model matching are "pinpointed" by the operator. In these cases, the location corresponds to the selected curser location (X, Y) in the

image. No depth, orientation, or inclination estimates are provided for these targets and a "p" is posted in the size category column.

The targets are then logged with a sequential identification number (ID) and any operator comments.

With the surveyed position of the T24A-G01 monitoring well provided, the navigation file was post processed to convert the relative, local Latitude/Longitude file to absolute Alabama (east) State Plane Coordinates.

Some interesting survey statistics for both the vehicular and Portable surveys include:

Total surveyed area	=	1.81 acres
Total survey time	=	41 minutes, 2 seconds
Vehicular survey time	=	30 minutes, 34 seconds
Portable survey time	=	10 minutes, 28 seconds

4.0 QUADRANT REVIEW

This section briefly reviews each quadrant image, describing significant and interesting features.

Quadrant A1:

No targets are evident in quadrant A1. The negative (blue) signature of the chain link fence is evident in all perimeter quadrants.

Quadrant A2:

The very large target (179), in the center, right area corresponds with the Landmark 03: Wooden Pole with Yellow Tape. This is a complex, compound target, with a second, overlapping object probably SW of the primary object. This target location was pinpointed.

There are 3 large objects in this quadrant (targets 13, 16, and 23) ranging in depths from 1.0 to 1.4 meters.

There is a large target (27 and 28) on the border of quadrant A2 and A3. Target 28 shares a positive lobe with target 27, and was pinpointed.

Target 169 is a medium sized object, 1.3 meters deep, right next (NE) to the large target 16. The other medium targets in this quadrant are 5, near the bottom of the quadrant, and target 22, near the top of the quadrant.

There is a cluster of small objects (targets 10, 11, 12, 14, and 15) between the two large targets 13 and 16.

Note: Quadrants A3, B3, and C3 are only 40 meters long, as this length totally contains the site survey data.

Quadrant A3:

This quadrant has the two dirt piles, marked as landmarks 04 and 05, and the center of the access gate, landmark 06.

The large targets in this area include target 27, (1.1 meters deep) near the bottom of the quadrant, 34, (1 meter deep) on the east side of the dirt pile in the center, 37, (1.2 meters deep) in the shadow of the NW fence, and 38, (0.8 meters deep) along the east edge of the quadrant.

Quadrant B1:

The biggest feature in this quadrant is object 61. This is a large object (2.6 meters deep) surrounded by several smaller ones (62, 63, and 64). Object 55, just NE of 61, is also a small target in close proximity.

There is a string of small targets along the SW fence line.

Quadrant B2:

This is the most target rich quadrant. The concrete monument, Landmark 01, and Trench #4, Landmark 02, are in this quadrant. From the image, it is apparent that the area around trench #4 (red cross hair) is clear of anomalies.

Target 176, in the NW section of the quadrant, is the largest anomaly in the site. It is sufficiently surrounded by other objects that it does not match to our isolated dipole model, requiring the analyst to pinpoint it.

Just N of 176 is a large, faint anomaly, target 121, 4.6 meters deep.

Target 93 is a very large anomaly, (4.1 meters deep) located near the concrete monument. There are several objects in the shadow of this anomaly which extend its signature.

Targets 84 and 85 are medium sized objects, in the SW shadow of target 93. Also classified as medium, is target 99, in the N shadow of the largest target 176.

The linear feature running E from the largest target (176) through quadrant B2 and into C2, is most likely a section of barbed wire. Sections of barbed wire were observed during the site walk over. The feature is logged as a series of targets (107, 110, 111, 112, 113, 114, 115, and ending at 162, 161, and 108 in quadrant C2), typical of extended, multi-element objects.

Quadrant B3:

There are two large, extended targets (131, and 143) in this quadrant. Target 131 is an extended object (not an isolated point dipole) with one positive lobe and two negative lobes requiring pinpoint selection. It is located near the bottom of the quadrant. Target 143 is just N of 131, and closer to the eastern fence line. This target successfully categorized as a large object, on or above the ground.

There are a string of small targets all along the eastern fence line.

Note: C quadrants are only 30 meters wide, as this width totally contains the site survey data.

Quadrant C1:

There are only two targets in this quadrant. Target 147, right along the southern fence line categorized as a large object, 0.7 meters deep.

Target 186 was not coherent enough to categorize, so it was pinpointed.

Quadrant C2:

Two targets categorized as medium in this quadrant. All others are small or pinpointed. Target 158 is near the center of the quadrant. Target 164 is at the northern edge. Both of these targets are shallow, at 0.1 meters deep.

Quadrant C3:

There is no survey data in this quadrant.

5.0 DATA DELIVERABLES

This section summarizes and includes the data deliverables:

5.1 "Raw Data"

The "raw data" is provided on 3.5" high density computer disk. File "T24AVEH.ZIP", which unzips to "T24AVEH0.PTS", lists a sequential line number, coordinates in Alabama (east) State Plane (NAD '27), and each magnetometer value, in gammas, after the reference magnetometer value has been subtracted. A separate file, T24APOR.ZIP", unzips to "T24APOR0.PTS", lists the missed area "fill in" data, acquired with the Portable STOLS®.

5.2 Site Images

As requested, three sets of scaled survey images, showing the complete site, are provided in Alabama (east) State Plane Coordinates. The yellow grid (Quadrant) overlay are 45 meters square, with vertical pointing true north. Also provided are three sets of the same image with the acquired landmarks overlaid. Additionally, three sets of the site image are provided with targets overlaid.

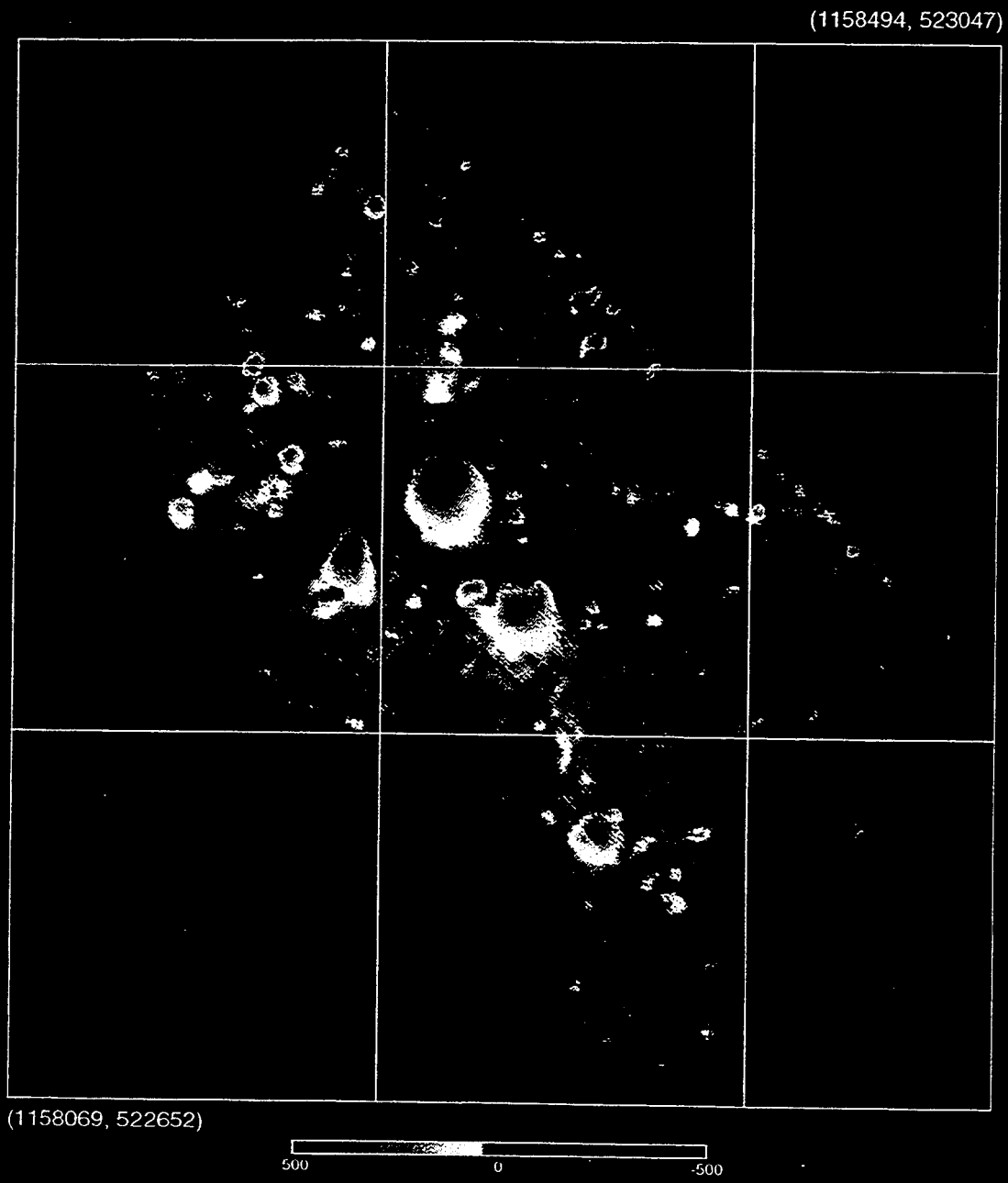
Three site images in *.GIF format are provided. File "T24A.GIF" is the site image. File T24A-L.GIF" is the image with the landmarks overlaid, and file "T24A-T.GIF" is the site image with the targets overlaid. All *.GIF images are provided without the GEO-CENTERS, INC. logo, as requested. A separate "GEO-LOGO.GIF" file is provided for your use.

We have also provided two sets of quadrant level images (45 meters square, with 5 meter hash marks), with targets overlaid. We find these images particularly useful for target relocation.

5.3 Site Target Reports

Tabulated field data is also provided in ASCII format on a 3.5" high density computer disk. File "T24ATAR.TXT" contains the standard STOLS® target report in degrees.minutes. File "T24AASP.TXT" contains the target report in Alabama (east) State Plane coordinates.

A tabulated TARGET REPORT is provided. This is STOLS® standard report listing target number, the Mission (a large site parameter) number, Quadrant (45 meter square), x location in degrees, minutes, decimal minutes, y location in degrees, minutes, decimal minutes, depth (meters), size category, orientation, and inclination. Also provided are the TARGET REPORTS in Alabama (east) State Plane coordinates, NAD 1927, in feet. Please note that target ID numbers correspond to STOLS® TARGET REPORT which lists depth and size. A total of 204 targets are reported for this site. These targets can be sorted by size or depth, for further discrimination.



Coordinates in Feet: Alabama (east) State Plane

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GC-FR-95-2866-002

FINAL TECHNICAL REPORT
FOR
GEOPHYSICAL SURVEY OF AREAS
T4, T38, and RANGE K
FORT McCLELLAN, ALABAMA

Under Subcontract #36-96-0067-53

Prepared For:

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GEO-CENTERS, INC.

TABLE OF CONTENTS

PAGE

1.0 INTRODUCTION 1

2.0 SYSTEM DESCRIPTION 2

3.0 DATA PROCESSING 2

4.0 DATA REVIEW 4

5.0 DATA DELIVERABLES 10

5.1 Field Notes 10
5.2 Site Target Reports (Alabama State Plane, NAD 1927, East Zone, Units = feet) 12
5.3 Site Images 13
5.4 Site Data 14

T4 TARGET RFEPORT AND SITE IMAGES
T38 TARGET REPORT AND SITE IMAGES
RANGE K TARGET REPORT AND SITE IMAGES

1.0 INTRODUCTION

The Search Technologies Division of GEO-CENTERS, INC. was subcontracted to provide geophysical surveying at three additional sites at Fort McClellan, Alabama. Two sites, areas T4 and T38, are located on the fort itself. The third site, Range K, is located on Pelham Range.

The Portable system was packaged and shipped overnight (Federal Express). The survey crew flew to Atlanta, GA, the next day, picked up the equipment, and drove to Fort McClellan. On base, we met Ms. Cary Gordon, the SAIC technical point of contact.

All three sites were visited to assess satellite coverage and to locate suitable locations for a Base Navigation Station and Reference Magnetometer Station at each site. Concern was expressed to Ms. Cary Gordon that the amount of tree cover at all three sites would be a limiting factor in the amount of area that could be surveyed due to diminished satellite visibility created by the foliaged tree cover. Original projections were that some clearance would be provided and the area would be surveyed in the winter prior to foliage growth. It was agreed to survey all "clear areas" first, and then "push" the system into more wooded areas. The surveyed coordinates for each site were provided, and most likely locations for the Base Navigation Station and Reference Magnetometer Station were identified.

Data Acquisition Summary

Area T4 was surveyed first. Stake T4-10 was used as the Base Navigation Station location. T4 survey data was modemed to Boston for processing, while the survey was moved to area T38. Monitoring well T38-G-05 was used as the Base Navigation Station location. The site survey began in the NW corner, and progressed S. T38 data was modemed to Boston. A faxed copy from Boston, of the T4 data showed that a significant portion of T4 would need to be resurveyed.

Area T38 survey was completed the next day. The NE section, "sump" area with bleachers and large Leanto, the SW corner, the middle area field, and the area connecting to the previous days survey were surveyed. The survey was then moved to T4, and that area was resurveyed. All data was modemed to Boston, where it was processed. Preliminary images of T38 and T4 were modemed from Boston to the office at Fort McClellan and reviewed.

Range K was surveyed the last day. The NE site corner stake was used as the Base Navigation Station location. This entire site is covered with 30 year tree growth which severely limited the accessible survey area and satellite coverage. The relative clearing along the E edge was surveyed. Data was modemed to Boston.

At all three sites, the Portable was "pushed" beyond the point were useful navigation data was available, due to tree cover. Area coverage, at each site, was controlled by deploying a tape measure across each survey end. Data lines were acquired by walking between the tape measures, every meter. After all data was validated. The system was packed and the survey was concluded. A more detailed description of the survey operation is included in section 5.1, Field Notes.

2.0 SYSTEM DESCRIPTION

The Search Technologies system is basically a magnetometer-based survey system which rapidly acquires magnetic data over areas of interest and produces same-day images of the magnetic fields of buried unexploded ordnance, underground storage tanks, pipes and containers. Deployed in its vehicular form, it can cover tens of acres per day and deployed in its portable form, it can be deployed freely in small areas providing full coverage of a given site. When deployed with alternative sensors such as conductivity sensors, it can provide complementary sensor information to the magnetics that can be overlaid for comparison due to the precise positioning associated with proprietary data acquisition.

This technology utilizes data from a differential global positioning system (DGPS) which locates every data point acquired with a relative precision in centimeters from point to point and a submeter accuracy in any subsequently located targets. The distances of these locations are relative to a base station that is set up prior to surveying. The coordinates of this base station can be determined by radio contact with overhead satellites which calculate a location for this base station. All subsequent location information is calculated relative to this base station location and, if the base station is subsequently surveyed with benchmark accuracy, all locations can then be calculated off this benchmark into any standard coordinate system (e.g., UTM, Alabama (East Zone) State Plane).

On-site or home office data processing takes the sensor data with the satellite positioning data and creates data images of the surveyed area, using a Unix based work station. Surface landmarks can be surveyed with the DGPS to create a data set of landmarks that can be overlaid on the data image to correlate the data with known, site specific features. The result is a visual output indicating areas in which buried objects or utilities are located as well as areas which are clear for further excavation.

3.0 DATA PROCESSING

The Portable survey data from T4, T38, and Range K were processed and analyzed in our Newton Centre (Boston), Massachusetts office. Extreme efforts were made to correct and utilize as much navigation position data as possible. Where the position data was unusable, that line, or portion

of that line, was deleted. Final images were generated and sent to Mr. Christopher Manakis. Standard target analysis, outputs, and reports were then generated.

Interactively, an operator selects an area of interest (AOI) that includes a suspect target in the image data. The work station then compares the selected data to a magnetic dipole model for an isolated point dipole. A resulting match provides target location (X,Y,Z) and an estimate of the target's size category as small, medium, or large, based on the derived magnetic moment. A nonstandard output was also included, posting the target orientation (azimuth) and target inclination (elevation) , derived from a successful model match.

If the model match is not successful, the target location and depth are derived from a "full-width at half maximum" algorithm with a "?" posted for size category, and no orientation or inclination. Targets that are obviously not isolated, or too small for model matching are "pinpointed" by the operator. In these cases, the location corresponds to the selected curser location (X, Y) in the image. No depth, orientation, or inclination estimates are provided for these targets and a "p" is posted in the size category column.

The targets are then logged with a sequential identification number (ID) and any operator comments.

With the surveyed positions of each of the Base Navigation Station locations provided, the United State Plane, 1927 survey system, North Atlantic Datum 1927 - CONUS, Alabama East Zone, and Units of Feet verified, each data file was relocated to convert the relative, local Latitude/Longitude file to absolute Coordinates. The resulting target files were then output and converted to Alabama (East) State Plane coordinates. Target report printouts are included in section 5.2, along with copies on 3.5 inch, high density computer disk.

Site images were then created for each site, as follows:

- An overall site image, with the GPS Base Station Landmark shown
- A site image without the grid overlay
- Quadrant images with targets

Site images are found in section 5.3, along with *.GIF files of the two site images, for each site, on 3.5 inch, high density computer disk.

Notes for all images:

- True North (N) is always vertically up (top of the page)
- Normal quadrant size is 45 meters square.
- Quadrants that completely bound the edges of a survey area are typically less than 45 meters square
- Target locations are marked with a "+" sign. Target ID number is offset NW of each "+" location, and target category is offset SE of each "+" location.
- Tick marks on quadrant boundaries are at 5 meter intervals
- Background colored areas are areas where there is no available sensor information (missed areas or deleted due to poor position data)
- Isolated "blue" squares are caused by sensor misalignment

4.0 DATA REVIEW

This section describes each site image and briefly reviews each site quadrant image, describing significant and interesting features. Please note that the position data for all three sites required substantial correction to produce these images. Copies of the raw data are provided on 3.5 inch, high density computer disk, in Section 5.3

Site T4 :

Figure T4-1 shows the T4 site image (Figure T4-2 is the same as Figure T4-1, but without the grid overlay). Overlaid is the location and label for the GPS Base Station (site stake T4-10), in the lower right portion of quadrant A2. The long length of the site runs NW to SE. The large missed area, in the center of quadrant A2, is the clump of trees at the entrance of the site. The blue line above this missed area is where the road circles around the trees and continues along the NE portion of the survey area. The single line to the SE represents the only useful data in a narrow neck that was cleared off the main site. The most significant target in this area is target 20. It is the northern most target in quadrant A2, at the top of the image (Figure T4-4, described below). This target lies across the road, in a small clearing, down slope into the woods. Overall there are 50 targets identified in this area (file T4RF.TAR), the most interesting are described below. Two quadrant level images are provided. The two site image files are:

- T4SITE.GIF
- T4SITENG.GIF

The coordinates used for the GPS Base Station, site stake T4-10, are:

- U.S. State Plane, 1927
- NAD 1927 - CONUS
- Alabama East Zone
- Units = feet

Northing: 1164924.6062
Easting: 506466.7393

Geodetic (meters)

Latitude: 33 42 8.6539 N
Longitude: 85 48 43.3253 W

T4 - Quadrant A1(Figure T4-3):

There are a string of targets along the W edge of the site, starting with target 1, in the most SW portion, through target 10. The larger missed area between targets 41 and 6 is due to a clump of trees. The long missed area, running the length of the site, is due to unusable position data. There are a cluster of small, medium and large targets in the NE corner. Targets 4 and 5, in the SE corner, indicate that there are significant (target 4 is large) ferrous objects buried in the cleared site extension.

T4 - Quadrant A2 (Figure T4-4):

The GPS Base Station is located in the S Eastern portion of this quadrant. Target 33 is located right next to the GPS location and is most likely a buried object, and not the GPS equipment signature. There are several large targets in this quadrant. These include targets 20, 22, 23, 25,26, 28, and 33. Target 20, in the N portion of the quadrant, is the most significant of these large targets. Targets 22, 23, and 25 are located along the W edge of the site access road.

The large missed area, in the W Central portion, the missed area between targets 30 and 50, the missed area bounded by targets 19,21, and 22, and the missed area running beside target 50 are due to stands of trees. The other missed areas are literal missed areas or areas that had their data deleted due to poor position data.

Quadrant B1 (Figure T4-3):

There are two small targets in the single line of data in this quadrant.

Quadrant B2 (Figure T4-4):

There is no survey data in this quadrant.

Site T38:

Figure T38-1 shows the area surveyed (Figure T38-2 is the same as Figure T38-1, but without the grid overlay). The GPS Base Station location used Monitoring Well T38-G05, in the NW corner of the site (quadrant A6). This site also is aligned NW to SE. This site was surveyed in several sections. The survey began in the NW corner and continued E to the E/W dividing fence, and S to the next section N/S dividing fence. The first section surveyed included quadrants A6, B6, A5, B5 (western portion), and B4 (northern portion). The next day added the NE section, shown as the eastern portion of quadrant B5 and C5. This section shows very high magnetometer values over the extended "U" shaped survey. The "sump" area was surveyed next. This area is shown in quadrants C4, D4, and extending minimally into quadrants C5 and D5. This area hosts a set of bleachers (the missed area in the center of C4, and a large leanto (large rectangular missed area in SE portion of the site. Several lines were acquired along the E fence and just N of the leanto. Additional surveying N of the leanto resulted in truncated lines due to a patch of woods. The SW section was then surveyed (quadrants C1, C2 and extending E into D1 and D2. The smaller rectangular missed area in C2 is a storage leanto. The larger missed area, just to the N of the leanto is a patch of woods up to the N/S dividing fence. Several lines were acquired along the "loop road" in this section, however only portions of three lines were useable, due to the limited view of the sky. The survey continued with a survey of the open field with a small storage leanto in the center (missed area in NW portion of quadrant D3). This survey was extended W, past a building (square missed area in Northern section of quadrant C2) to the W fence. Wooded sections spoiled the survey data to the N of this building. The last section to be surveyed continued N to where we left off the day before, and includes data in the Northern portions of quadrants B3 and C3, extending into B4 and C4. The rectangular missed area , in the NE portion of quadrant B3 is a building site.

Most of this area was obscured by trees, which limited survey access. There are chain link fence around and dividing this site. Additionally there are several buildings and structures. These structures and fences, that have a significant magnetic signature above the plane of the magnetometers result in mapping their negative (blue) signature.

There are three large, extended areas with high magnetometer values (red "hot spots"). The first is in quadrant B5, extending in to C5. The second is in the center of quadrant B4, and the third is in quadrant C4 (the expected "sump" area).

There are 153 targets identified (file T38RF.TAR) in this site. Quadrant level images are provided for the following target descriptions. The two site image files are:

- T38SITE.GIF
- T38SITENG.GIF

The coordinates used for the GPS Base Station, Monitoring Well T38-G05, are:

- U.S. State Plane, 1927
- NAD 1927 - CONUS
- Alabama East Zone
- Units = feet

Northing: 1173730.3
Easting: 518429.81

Geodetic (meters)

Latitude: 33 43 35.7237 N
Longitude: 85 46 21.6607 W

Quadrants A5 and A6 (Figure T38-3):

Data analysis began, as the survey began, in the most NW quadrant, A6. This quadrant hosts the GPS Base Station, the NW most cross hair, immediately W of the target #9. This is where monitoring well T38-G05 is. There are a string of targets, #1, 2, 3, 4, and 6, along the W edge fence. Targets 7, 8, and 9 are a set of three 55 gallon drums clustered around the monitoring well. These drums were not moved because they were full. The rectangular "blue" (low magnetometer values) is due to a concrete pad. There is a second string of targets, #11, 12, 13, 14, and 15, along the N fence. Target 10, is a large object and target 22 is a medium object in the S central portion of A6. Targets 23, 25, and 26 are large objects along the NW edge of quadrant A5. Target 24 is a long extended object. The missed areas over the concrete pad, in A6, are deleted data, due to unusable position data. Woods and brush precluded access further along the W fence.

Quadrants B5 and B6 (Figure T38-4):

Targets 31 and 32 are the significant objects in quadrant B6. There are rail road rails on the ground, along the E/W dividing fence. Target 33 is a large object in the NW corner of B5 and target 37 is a large object in the SW corner of B5, next to target 39. The Eastern portion of B5 lies inside

the NE portion of T38. This was a heavily wooded area, with limited cleared area. This area has an extended area with high magnetometer values, greater than 150 gammas above background. Several large object, (targets 40, 41, 42, 45, 46, 47, and 48) have been identified within this area. Note that target 48 is actually in quadrant C5. There is a concrete pad that is associated with targets 46, 47, and 48. An isolated large target, #43, is located in the SE corner of quadrant B5.

Quadrant B3 and B4 (Figure T38-5) :

There are two "hot" areas in this quadrant. Targets 52, 53, 55, 57, and 58 comprise one of these "hot" areas (greater than 150 gammas above background). Targets 54, 56, 59, and 60 comprise the other "hot" area (greater than 150 gammas above background). These 9 targets represent the peak signals in each "hot" zone. Target 61 is a medium object and target 62 is a large object along the E edge of quadrant B4. Target 62 is the most significant object in this quadrant. There are a string of small objects, targets 67, 68, and 69, at the S edge of this quadrant. These three targets are likely associated with the building, just to the S in quadrant B3. The missed area along the W edge is due to deleted data from poor position data under trees.

The rectangular missed area in the NE corner of quadrant B3 is due to a building. Targets 70 and 72 are large anomalies at the building's NE and SW corners. Target 71 is positioned in the center of a utility line into the building's NW corner. The small missed area on the E side of the building is due to an above ground Gas Tank. Target 73 is a small object, most likely associated with the tank plumbing. Target 74, 75, and 776 are located in the slope to the S of the building.

Quadrant C1 (Figure T38-6):

This area was completely wooded, but was a priority area. There is a significant, extended object, comprised of targets 84, 77, 86, and 87, along the northern edge of this quadrant. There several small targets and one medium target, #79, in this area. Much of this data was deleted due to poor position data. The diagonal line, with targets 78 and 85 (in quadrant C2) is the only useable data along a portion of the "loop" road, adjacent to this area. Note that target 85 may be connected to the extended object.

Quadrant C2 (Figure T38-7):

There is a storage leanto in the Eastern portion of this quadrant. Data was acquired to the S, N, and along the E edge of this structure. Targets 88 and 91 are located around the leanto's NE corner. Targets 89 and 90 are most likely due to rail road tracks lying on the ground, at the leanto's SE corner.

Quadrants D1, and D2 (Figure T38-12):

These two quadrants finish the survey of the SW corner. Four lines were acquired along the E side of the "loop" road. The most significant object along/under the road is target 94 in quadrant D2. There is an extended object, comprised of targets 95 and 96, at the N edge of D2, extending into quadrant D3, which is part of the open field survey.

Quadrants C3 and D3 (Figures T38-8 and T38-11):

These quadrants include almost all of the open field survey. The missed area in the center of the field is due to another storage leanto. There is a large object, target 138, just to the N of the leanto. The missed area in the SE corner of the field (D3) was due to heavy brush. Target 140 is a medium target to the N of this brush area. There is a string of targets along the NE edge of the field, comprised of large targets 146, 139, and 141. Target 137 is a large target in the NW corner of quadrant D3. Targets 113, 112, 110, and 107 are large targets in the NE corner of quadrant C3. There are also six medium targets in this NE corner of C3. There was an attempt to acquire data W of the field, around a building, and to the W edge fence (SW corner of C3). Poor position data, due to tree cover, caused most of this data to be deleted. There are two large objects, targets 100 and 101, along the E side of the building. Target 102 is a large object E of the building, in the SE corner of quadrant C3. Targets 120 and 121 a large objects in the NW corner of quadrant C3.

Quadrants C4, C5, D4, and D5 (Figures T38-9 and T38-10):

These quadrants include portions of two surveys. The SW corner of C4 completes the final search area survey. Most significant in this area are targets 124 and 66. THE NE portion of C4 and the other quadrants contain the "sump" area survey. This area has three very "hot spots", greater than 900 gammas above background. The first "hot spot" is comprised of targets 127, 128, and 129, around the front edge of the bleachers. The missed area W of these targets are the bleachers. The second "hot spot" is comprised of targets 130, 131, and 132. These targets are between the utility pole (small missed area W of target 132), and the large leanto. The third "hot spot" is comprised of targets 133, 134, and 135. This appears the most likely "sump" location. Targets 152 and 153 are just in front of the large leanto. The large missed area to the S is due to the leantotarget 133, and the large le to the N of target 153 is a wooded area in front of the leanto. Target 136, is a large object in the SE corner of quadrant C5.

Area Range K:

Range K is located on Pelham Range. It is covered by 30 year old trees. A relative clearing, along the eastern edge of this site was surveyed. Extensions into the woods were made to the point where the position data failed. The NE site corner stake was used for the GPS Base Station, shown

in Figure RK-1 (Figure RK-2 is the same as Figure RK-1, but without the grid overlay). There are fourteen targets (file RKRF.TAR) that were identified in this survey . Quadrant images are provided for clarity. The most significant feature in this survey is target 1, located at the bottom of quadrant A1 (Figure RK-3). This is a very large object! Target 14, in quadrant A2, is most likely an above ground object, because only the negative lobe is measured. Target 8, also in A2 is the only other significant object in this area. The two site image files are:

- RKSITE.GIF
- RKSITENG.GIF

The coordinates used for the GPS Base Station, the NE site corner stake, are:

- UTM Grid - Zone 16
- Units = meters

Northing: 3733443.85
Easting: 592967.20

Geodetic (meters)

Latitude: 33 44 19.8676 N
Longitude: 85 59 46.9085 W

5.0 DATA DELIVERABLES

This section summarizes and includes the data deliverables:

5.1 Field Notes

Field notes for second survey at Fort McClellan, Alabama

May 15, 1995
Monday
- Pack and shipped equipment overnight

May 16, 1995
Tuesday
- Survey crew flew to Atlanta
- Picked up equipment and drove to Ft. McClellan
- Met Ms. Cary Gordon (SAIC) at Range Control
- Drove to T4, T38 and Range K:

- T4 is a small clearing in the woods. Best Base Nav location is stake T4-10. Located a magnetically clean area for the reference magnetometer.
- T38 is a long rectangular area - lots of chain link fence and lots of heavily wooded portions - best Base Nav location is monitoring well in NW corner.
- Range K is covered with 30 years of growth - small, relative clearing in NE portion.

- Advised Ms. Cary Gordon that the tree cover would limit site access. We agreed to survey all clear areas and then "push" into woods.
- Returned to hotel and assembled Portable.

May 17, 1995 - Wednesday

- Met Ms. Cary Gordon at her office and drove to T4.
  - Set up Base Nav at stake T4-10. Conversion of Northing/Easting coordinate did not agree with "here" position (1 degree off in longitude) used "here" location.
- Set up reference mag.
- Set up Portable and acquired the main area survey (tracks running across the short length) - acquired a second file in the NW corner, under trees, and a third file in NE corner, across road and into woods.
- Downloaded data and modemed to Boston - nav very bad, mags saturating in some areas due to misalignment.
- Drove to T38.
- Set up Base Nav over monitoring well in NW corner. Still do not have the correct survey info to convert N/E to Lat/Lon - used "here" position.
- Located clean ref magn area and set it up.
- Set up Portable and acquired file in NW corner - acquired a second file moving S, battery died, swapped batteries and finished with a third file.
- Transferred data and modemed to Boston. Received fax of T4 image. Needs repeating to recover misaligned mag data.

May 18, 1995 - Thursday

- Met at office and proceeded to T38
  - Same Base Nav and Ref Mag set ups
- Set up Portable and acquired portions in NE fenced area. Very wooded. Concrete pad under last few lines.

- Acquired second file in "sump" area with bleachers and large leanto. Battery died, finished with another file along E side of leanto, and another file in the woods in front of leanto.
- Moved to SW corner. Acquired file in the trees and along loop road. Added another file around storage leanto and along second half of loop road.
- Set up to survey central field. Broke for lunch.
- Surveyed E portion of field. Added another file to W edge.
- Surveyed final section between field and where we left off yesterday.
- Drove to T4.
- Same Base nav and ref mag set ups.
- Surveyed T4 using lines along area's long axis.
- Transferred and modemed all data to Boston.
- Quick images were made, downloaded, and reviewed. Boston office to better correct nav and fax images to us and Mr. Chris Manakis with FedEx to follow.

May 19, 1995 - Friday

- Met at office. Drove to Range K.
- Set up Base Nav over NE stake. N/E coordinates for this site are in a different reference grid (not NAD 1927). Not able to convert to Lat/Lon in the field. Used "here" position.
- Located "clean" area for the ref mag and set it up.
- Set up Portable and acquired as much of the "relatively clear" area as possible.
- Transferred all data and modemed to Boston.
- Data review indicated that without greater site preparation, no further data acquisition was possible. Survey was terminated.
- Packed all equipment. Said goodbye to Ms. Cary Gordon.
- Dropped equipment at FedEx terminal.

5.2 Site Target Reports

Tabulated target data is provided in hard copy and also ASCII format on a 3.5" high density computer disk. Files "T4ORF.TAR", "T38RF.TAR", and "RKORF.TAR" contain the target reports, in Alabama (east) State Plane coordinates, for each site.

A tabulated TARGET REPORT is provided. This is STOLS® report listing target number, the Mission (a large site parameter) number, Quadrant (45 meter square), x Northing location (feet),

y Easting location (feet), depth (meters), orientation/azimuth (degrees), inclination/elevation (degrees), and size category (s,m,l,?,p). Coordinates are in Alabama (East) State Plane coordinates, NAD 1927, in feet.

5.3 Site Images

As requested, three sets of scaled survey images, showing the complete site, are provided . The yellow grid (Quadrant) overlay are 45 meters square, with vertical pointing true north. Also provided are three sets of the same image with no grid overlay. By site, the following figures/images are provided:

Area T4:

- Figure T4-1 Site Image with GPS Base Station,
- Figure T4-2 Site Image with no grid overlay
- Figure T4-3 Quadrants A1 and B1
- Figure T4-4 Quadrants A2 and B2

Area T38:

- Figure T38-1 Site Image with GPS Base Station
- Figure T38-2 Site Image with no grid overlay

We have also provided a set of quadrant level images (45 meters square, with 5 meter hash marks), with targets overlaid. We find these images particularly useful for target relocation.

- Figure T38-3 Quadrants A5 and A6
- Figure T38-4 Quadrants B5 and B6
- Figure T38-5 Quadrants B3 and B4
- Figure T38-6 Quadrant C1
- Figure T38-7 Quadrant C2
- Figure T38-8 Quadrant C3
- Figure T38-9 Quadrants C4 and C5
- Figure T38-10 Quadrants D4 and D5
- Figure T38-11 Quadrant D3
- Figure T38-12 Quadrant D1 and D2

Area Range K:

- Figure RK-1 Site Image with GPS Base Station
- Figure RK-2 Site Image with no grid overlay

We have also provided a set of quadrant level images (45 meters square, with 5 meter hash marks), with targets overlaid. We find these images particularly useful for target relocation.

- Figure RK-3 Quadrants A1, B1 and half A2, B2
- Figure RK-4 Quadrants Half A2, B2 and A3, B3

Two site images in *.GIF format are provided, for each site. All *.GIF images are provided without the GEO-CENTERS, INC. logo, as requested.

Area T4:

- File "T4SITE.GIF" is the site image, with the GPS Base Station overlaid.
- File "T4SITENG.GIF" is the site image, without the grid overlay.

Area T38:

- File "T38SITE.GIF" is the site image, with the GPS Base Station overlaid.
- File "T38SITENG.GIF" is the site image, without the grid overlay.

Area Range K:

- File "RKSITE.GIF" is the site image, with the GPS Base Station overlaid.
- File "RKSITENG.GIF" is the site image, without the grid overlay.

5.4 "Site Data"

The "raw data" is provided on 3.5" high density computer disk. Each file lists a sequential line number, coordinates in Alabama (east) State Plane (NAD '27), and each magnetometer value, in gammas, after the reference magnetometer value has been subtracted. The following files are provided:

File "T4MAG.ZIP", which unzips to "T4MAGA.ASP" and "T4MAGB.ASP",

File, T38MAG.ZIP", unzips to:

"T38MAG0.ASP",	"T38MAG1.ASP",	"T38MAG2.ASP",	"T38MAG3.ASP",
"T38MAG4.ASP",	"T38MAG5.ASP",	"T38MAG6.ASP",	"T38MAG7.ASP",
"T38MAG8.ASP",	"T38MAG9.ASP",	"T38MAGA.ASP",	"T38MAGB.ASP"

File RKMAG.ZIP, unzips to "RKMAG.ASP".

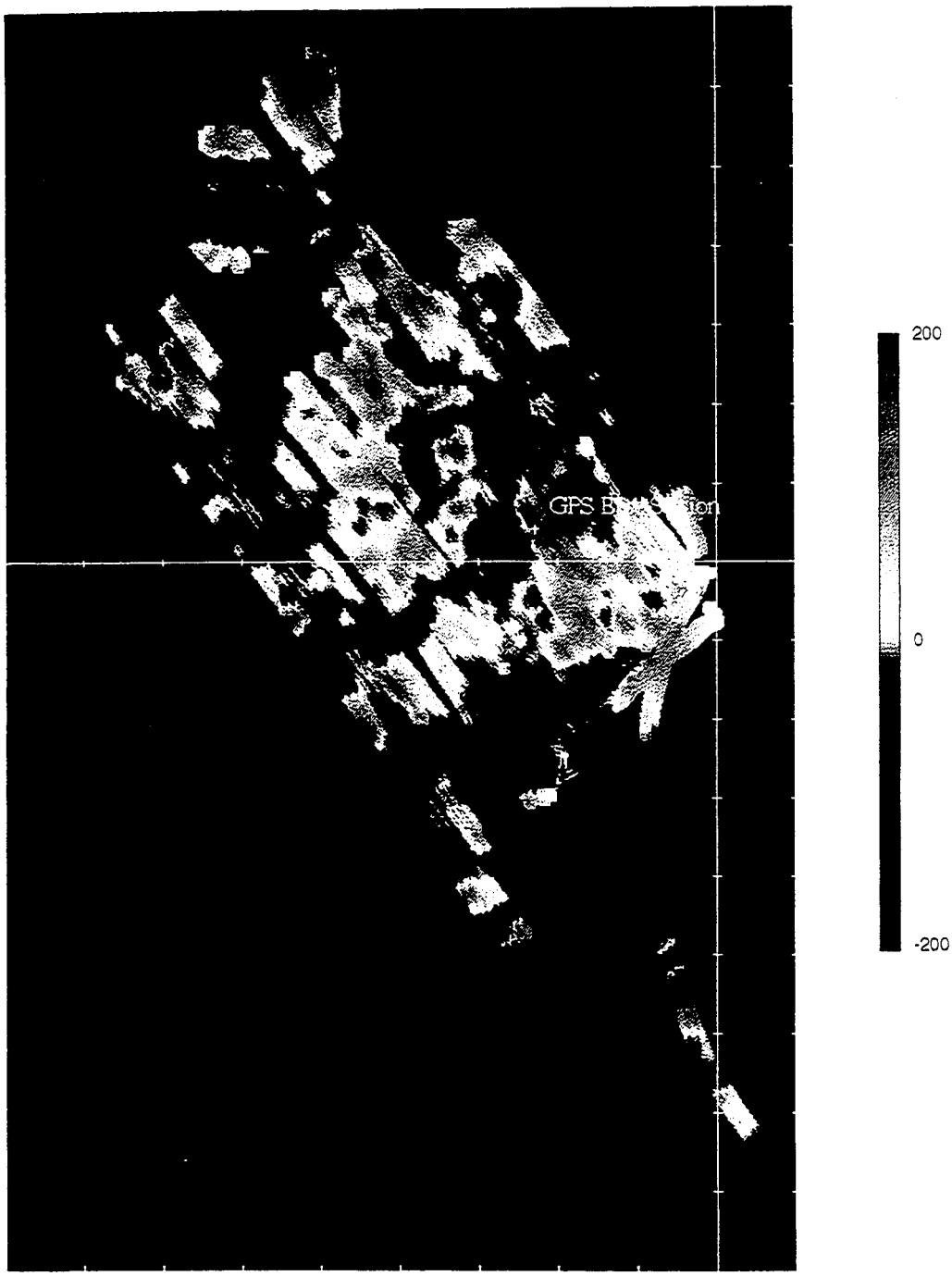

Figure T4-1. Area T4 Site Image

GEO-CENTERS, INC.

T4 TARGET REPORT (field "T4ORF.TAR") AND SITE IMAGES

GEO-CENTERS, INC.

****
****
TARGET REPORT
****

the comment goes here Tuesday May 30 1995 11:15

Site ID: t40r Filter: All[0.00,99.00] Mission: All

Alabama State Plane, NAD 1927 - CONUS, Alabama East Zone, Units = feet
****

Total number of targets: 50
Maximum target number: 50

==========

Target Num	Mission	Quad	N(ft)	E(ft)	depth(m)	az.	el.	cat.
1	1	A1	1164891.2	506472.9	1.00	-60	5	m
2	1	A1	1164900.7	506465.1	0.50	227	56	s
3	1	A1	1164912.1	506470.0	N/A			p
		comment:	not enough positive signal to model match					
4	1	A1	1164883.6	506508.1	0.70	-65	33	l
5	1	A1	1164894.8	506501.5	N/A			p
		comment:	shares negative lobe, or missing negative lobe					
6	1	A1	1164916.8	506462.8	N/A			p
		comment:	deeper target, close to pin pointed target #3					
7	1	A1	1164936.4	506445.4	1.80	71	15	l
8	1	A1	1164936.7	506454.9	0.20	182	-13	s
9	1	A1	1164943.9	506448.4	0.50	225	11	s
10	1	A1	1164953.8	506429.3	2.50	86	21	l
11	1	A1	1164958.7	506439.5	N/A			p
		comment:	very small target on edge of neg. lobe from targes 7 & 10					
12	1	A2	1164983.9	506411.3	0.30	-47	0	s
13	1	A2	1164990.5	506406.0	1.20	54	7	s
14	1	A2	1165003.2	506405.1	1.20	229	11	s
15	1	A2	1165004.2	506398.5	0.00	223	6	s
16	1	A2	1165008.8	506397.5	0.80	106	2	s
17	1	A2	1165014.4	506404.1	N/A			p
		comment:	large target close to other targets - large negative lobe associated with road					
18	1	A2	1165022.5	506406.1	N/A			p
		comment:	target close to other targets - large negative lobe associated with road					
19	1	A2	1165059.2	506414.4	1.70	146	104	m
20	1	A2	1165075.5	506433.1	0.80	20	26	l
		comment:	larget target in woods to N of road					
21	1	A2	1165059.8	506434.7	N/A			p
		comment:	small target S of target 20					
22	1	A2	1165039.2	506438.0	1.40	22	-6	l
23	1	A2	1165032.9	506451.8	1.50	50	-11	l
24	1	A2	1165036.5	506463.6	1.20	237	2	m
25	1	A2	1165030.0	506455.1	1.40	20	-9	l
26	1	A2	1165020.1	506484.7	1.80	163	33	l
27	1	A2	1165022.8	506444.9	0.80	65	16	s
28	1	A2	1165006.4	506442.5	2.30	-310	153	l

29	1	A2	1165001.5	506457.3	0.80	194	-24
30	1	A2	1164996.9	506460.6	0.70	-36	-5
31	1	A2	1164988.8	506452.4	0.90	66	4
32	1	A2	1164982.5	506462.6	0.40	-45	43
33	1	A2	1164977.6	506477.0	1.40	255	-1
34	1	A1	1164959.2	506489.2	1.50	106	61
35	1	A1	1164951.4	506485.5	1.30	184	27
36	1	A1	1164951.1	506504.6	2.70	83	103
37	1	A1	1164958.2	506495.4	0.80	-96	14
38	1	A1	1164969.1	506500.0	1.30	113	47
39	1	A2	1164982.4	506513.5	N/A		
		comment:	not enough signature to categorize				
40	1	A2	1164996.3	506435.3	0.80	99	40
41	1	A1	1164922.6	506478.9	1.40	-4	12
42	1	B1	1164860.4	506516.6	0.60	-20	12
43	1	B1	1164853.5	506520.9	1.00	102	42
44	1	A1	1164958.6	506457.6	1.00	-65	-11
45	1	A2	1164970.4	506444.1	1.40	192	50
46	1	A1	1164967.8	506453.3	1.20	109	15
47	1	A2	1164996.0	506435.3	0.60	117	36
48	1	A1	1164956.9	506504.6	1.00	156	66
49	1	A2	1165017.9	506465.2	0.40	49	19
50	1	A2	1164997.5	506487.6	0.90	-48	-42

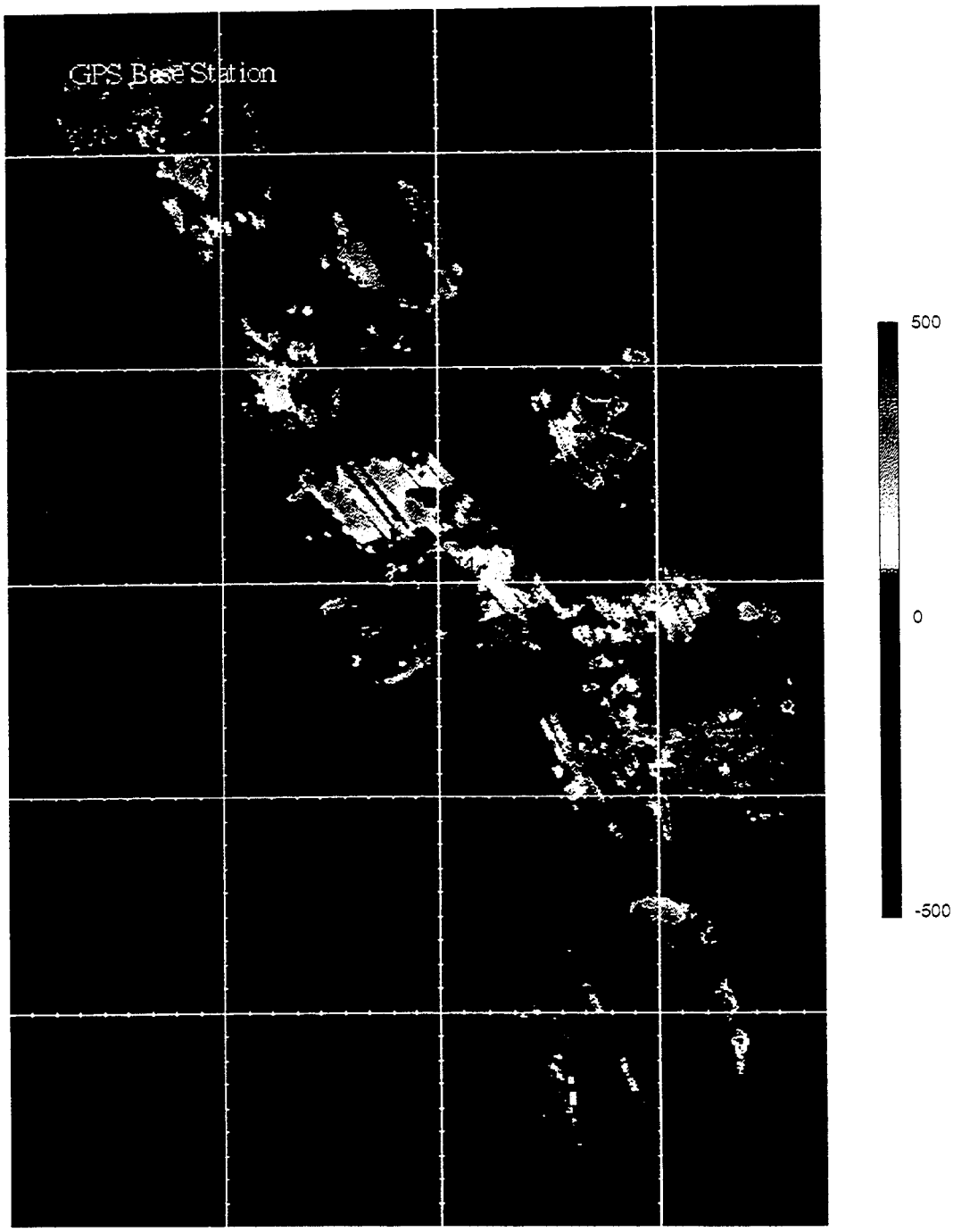

Figure T38-1. Area T38 Site Image

GEO-CENTERS, INC.

T38 TARGET REPORT (file "T38RF.TAR")
AND SITE IMAGES

GEO-CENTERS, INC.

****
****
TARGET REPORT
****

Fort McClellan, Area T38 Wednesday May 31 1995 14:39

Site ID: t38r Filter: All[0.00,99.00] Mission: All

Alabama State Plane, NAD 1927, Alabama East Zone, Units = feet
****

Total number of targets: 153
Maximum target number: 153

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Target Num	Mission	Quad	N(ft)	E(ft)	depth(m)	az.	el.	cat.
1	1	A6	1173762.5	518438.9	1.80	64	8	l
2	1	A6	1173754.3	518441.9	0.60	91	55	l
3	1	A6	1173751.0	518447.8	0.50	112	-32	s
4	1	A6	1173742.9	518448.4	N/A			p
		comment:	large target along W fence					
5	1	A6	1173757.6	518448.4	N/A			p
		comment:	not enough signature to analyze					
6	1	A6	1173751.4	518452.7	N/A			p
		comment:	not enough signature to analyze					
7	1	A6	1173785.7	518445.5	N/A			p
		comment:	one of three drums aroung monitoring well T38-G05					
8	1	A6	1173784.1	518450.5	N/A			p
		comment:	one of three drums aroung monitoring well T38-G05					
9	1	A6	1173780.5	518449.5	N/A			p
		comment:	one of three drums aroung monitoring well T38-G05					
10	1	A6	1173762.8	518500.4	0.90	-26	35	l
11	1	A6	1173796.8	518502.1	N/A			p
		comment:	one of a string or targets (or an extended target) along N fence					
12	1	A6	1173798.7	518507.4	N/A			p
		comment:	one of a string or targets (or an extended target) along N fence					
13	1	A6	1173801.0	518512.3	N/A			p
		comment:	one of a string or targets (or an extended target) along N fence					
14	1	A6	1173802.6	518517.5	N/A			p
		comment:	one of a string or targets (or an extended target) along N fence					
15	1	A6	1173802.6	518526.4	N/A			p
		comment:	one of a string or targets (or an extended target) along N fence					
16	1	A6	1173808.8	518543.9	N/A			p
		comment:	target near corner of fence					
17	1	A6	1173774.2	518514.2	0.10	275	-221	s
18	1	A6	1173753.6	518526.3	0.90	88	94	s
19	1	A6	1173765.0	518536.6	1.10	-196	182	s

20	1	A6	1173768.6	518536.2	1.00	255	-28
21	1	A6	1173752.5	518546.4	N/A		
		comment:	small target				
22	1	A6	1173751.0	518485.6	0.10	-118	-28
23	1	A5	1173728.7	518500.0	0.70	68	241
24	1	A5	1173727.0	518528.9	N/A		
		comment:	large extended target				
25	1	A5	1173724.8	518511.2	2.00	177	16
26	1	A5	1173696.9	518519.7	2.20	71	32
27	1	A5	1173680.9	518533.1	0.40	222	24
28	1	A5	1173671.1	518532.8	0.60	260	22
29	1	A5	1173667.4	518541.3	0.40	163	23
30	1	A5	1173662.6	518534.8	0.40	258	-1
31	1	B6	1173769.5	518569.8	0.40	73	-4
32	1	B6	1173751.8	518574.3	N/A		
		comment:	large extended target along dividing fence				
33	1	B5	1173713.5	518587.4	0.60	-272	58
34	1	B5	1173633.0	518608.3	0.70	41	14
35	1	B5	1173611.4	518582.3	0.50	-214	51
36	1	B5	1173606.5	518583.0	0.40	77	2
37	1	B5	1173603.9	518559.6	0.50	147	12
38	1	B5	1173604.2	518598.4	N/A		
		comment:	large target				
39	1	B5	1173594.8	518564.2	N/A		
		comment:	large target				
40	1	B5	1173671.3	518615.3	0.90	0	5
41	1	B5	1173673.6	518624.8	0.70	-15	6
42	1	B5	1173679.1	518633.4	3.20	-89	24
43	1	B5	1173610.0	518673.7	0.60	-21	70
44	1	B5	1173602.5	518644.5	N/A		
		comment:	small target near fence corner				
45	1	B5	1173715.3	518678.2	2.20	-332	12
46	1	B5	1173696.7	518692.0	0.70	-64	36
47	1	B5	1173691.1	518684.4	1.30	-167	169
48	1	C5	1173675.4	518699.8	0.90	19	72
49	1	B5	1173590.4	518603.7	-0.10	14	-34
		comment:	surface target				
50	1	B4	1173552.2	518581.3	0.00	6	62
51	1	B4	1173553.5	518592.4	0.20	-78	50
52	1	B4	1173514.6	518604.2	1.40	60	148
53	1	B4	1173517.8	518606.8	N/A		
		comment:	target near target 52				
54	1	B4	1173526.6	518648.0	2.80	-41	2
55	1	B4	1173504.7	518619.0	2.40	-288	129
56	1	B4	1173524.3	518636.8	N/A		
		comment:	target near target 54				
57	1	B4	1173507.0	518633.1	N/A		
		comment:	target near target 55, a peak area in large h zone				
58	1	B4	1173497.5	518636.7	N/A		
		comment:	target near target 55, a peak area in large h zone				
59	1	B4	1173511.2	518647.0	N/A		
		comment:	target near target 57, a peak area in large h zone				
60	1	B4	1173521.6	518672.6	1.70	84	33
61	1	B4	1173518.7	518685.1	1.10	270	101
		comment:	a peak area in large hot zone				
62	1	B4	1173497.4	518685.7	2.00	29	0
		comment:	large target on edge of large hot zone				

63	1	B4	1173482.2	518598.6	0.30	23	-30	l
		comment:	large target on edge of large cold zone					
64	1	B4	1173474.0	518605.8	0.20	206	45	s
65	1	B4	1173478.5	518620.3	0.60	37	14	s
66	1	C4	1173513.1	518701.5	N/A			p
		comment:	peak in large hot zone					
67	1	B4	1173453.6	518661.3	0.60	-81	41	s
68	1	B4	1173447.7	518661.0	N/A			p
		comment:	one of three targets (67,68,69) in front og bldg					
69	1	B4	1173442.5	518661.0	N/A			p
		comment:	one of three targets (67,68,69) in front og bldg					
70	1	B3	1173441.1	518676.8	N/A			p
		comment:	large target at NE corner of bldg.					
71	1	B3	1173426.5	518622.2	N/A			p
		comment:	Utility line entering NW corner of bldg.					
72	1	B3	1173411.4	518647.1	N/A			p
		comment:	large anomaly in SW corner of bldg.					
73	1	B3	1173431.9	518688.2	N/A			p
		comment:	small anomaly in NW corner of Gas Tank					
74	1	B3	1173397.6	518685.5	0.90	83	61	l
		comment:	large target on bank					
75	1	B3	1173374.4	518660.9	N/A			p
		comment:	target on top of bank					
76	1	B3	1173383.5	518676.7	N/A			p
		comment:	large anomaly on top of bank					
77	1	C1	1173145.1	518772.3	N/A			p
		comment:	large anomaly at top of search area, signature may cross road					
78	1	C1	1173097.6	518822.8	N/A			p
		comment:	large anomaly on edge or under road					
79	1	C1	1173091.1	518786.3	1.60	43	84	m
80	1	C1	1173083.3	518782.7	0.20	158	74	s
81	1	C1	1173101.6	518784.4	1.10	145	53	s
82	1	C1	1173118.3	518775.2	0.70	-80	66	s
83	1	C1	1173112.8	518772.2	1.00	-173	116	s
84	1	C1	1173132.7	518780.8	N/A			p
		comment:	large anomaly at top edge of search area, next to 77					
85	1	C2	1173158.2	518797.9	N/A			p
		comment:	large anomaly under road, may connect to 77 & 84					
86	1	C2	1173149.1	518760.1	N/A			p
		comment:	anomaly at top edge of search area, may connect to 77 & 84					
87	1	C1	1173145.9	518751.2	N/A			p
		comment:	anomaly at top edge of search area, may connect to 77 & 84					
88	1	C2	1173218.0	518829.3	2.10			?
		comment:	large anomaly at NE corner of leanto					
89	1	D2	1173201.3	518847.3	0.90	23	-3	l
		comment:	large target at SE corner of leanto, may be RR rails					
90	1	D2	1173192.2	518850.9	N/A			p
		comment:	small target near SE corner of leanto					
91	1	D2	1173212.8	518849.3	2.10	9	133	l
		comment:	peak signal in large hot zone on E side of leanto					
92	1	D1	1173133.5	518896.5	N/A			p
		comment:	target under loop road					
93	1	D2	1173160.4	518891.0	N/A			p
		comment:	target under loop road					

94	1	D2	1173195.1	518884.1	1.50	114	-43
		comment:	target on edge or under loop road				
95	1	D2	1173280.2	518851.7	1.00	98	1
96	1	D3	1173296.9	518843.5	0.70	6	22
97	1	C2	1173268.4	518816.8	0.00	235	37
98	1	C2	1173275.0	518811.6	0.10	74	160
99	1	C2	1173284.5	518785.7	1.00	157	3
100	1	C3	1173299.9	518779.8	1.80	-79	-3
101	1	C3	1173309.8	518774.8	2.10	356	-195
102	1	C3	1173313.3	518796.9	0.90	-64	121
103	1	C3	1173316.3	518787.7	N/A		
		comment:	target NW of target102				
104	1	C3	1173352.0	518773.3	N/A		
		comment:	target NE of bldg.				
105	1	C3	1173370.6	518818.0	1.10	153	46
106	1	C3	1173372.2	518799.3	0.90	19	54
107	1	C3	1173388.2	518803.2	0.90	179	80
108	1	C3	1173356.1	518827.2	1.50	60	58
109	1	C3	1173370.5	518827.2	1.90	144	39
110	1	C3	1173406.2	518818.7	2.40	115	56
		comment:	target peak in hot zone				
111	1	C3	1173407.2	518803.3	1.90	60	138
		comment:	target peak in hot zone				
112	1	C3	1173411.8	518787.2	2.90	289	6
		comment:	target peak in hot zone				
113	1	C3	1173430.1	518820.4	0.80	-54	19
114	1	C3	1173428.5	518801.3	0.30	238	19
115	1	C3	1173417.3	518817.1	0.90	237	48
116	1	C3	1173423.9	518806.9	1.20	33	118
117	1	C3	1173430.1	518790.5	1.30	182	127
118	1	C3	1173423.3	518780.6	N/A		
		comment:	may be cluster of three targets				
119	1	C3	1173438.7	518768.8	N/A		
		comment:	target at woodline				
120	1	C3	1173435.8	518752.0	1.90	18	33
		comment:	target peak in hot zone				
121	1	C3	1173425.7	518726.4	1.20	241	26
122	1	C4	1173446.9	518733.0	N/A		
		comment:	target peak in hot zone				
123	1	C4	1173457.7	518736.3	N/A		
		comment:	target peak in hot zone				
124	1	C4	1173469.5	518708.0	1.50	27	26
		comment:	target peak in hot zone				
125	1	C4	1173463.0	518717.5	N/A		
		comment:	target peak in hot zone				
126	1	C4	1173462.6	518726.4	N/A		
		comment:	target peak in hot zone				
127	1	C4	1173524.1	518781.1	N/A		
		comment:	target around NE corner of bleachers				
128	1	C4	1173522.8	518792.9	N/A		
		comment:	target in front of bleachers				
129	1	C4	1173515.5	518797.2	N/A		
		comment:	target in front of bleachers				
130	1	C4	1173531.5	518814.7	1.60	175	19
		comment:	large, high amplitude target under road				
131	1	C4	1173534.5	518809.1	N/A		
		comment:	large, high amplitude target under road				
132	1	C4	1173532.9	518803.8	N/A		
		comment:	large, high amplitude target E of pole				
133	1	C4	1173561.3	518804.5	N/A		

		comment:	very large, high amplitude target in old sump area					
34	1	C4	1173567.9	518795.6	N/A			p
		comment:	smaller, high amplitude target in old sump area					
35	1	C4	1173563.3	518813.7	N/A			p
		comment:	another high amplitude target in old sump area					
36	1	C5	1173592.1	518832.5	1.50	177	-29	l
		comment:	large target in woods in front of leanto					
37	1	D3	1173437.3	518844.4	1.20	71	97	l
38	1	D3	1173403.2	518859.8	1.50	176	20	l
		comment:	large target N of leanto					
39	1	D3	1173416.9	518919.0	1.10	202	-25	l
40	1	D3	1173359.2	518933.7	0.60	32	66	m
41	1	D3	1173418.5	518908.8	2.10	169	12	l
42	1	D3	1173373.9	518933.1	0.20	239	23	s
43	1	D3	1173404.8	518912.4	0.00	-291	155	s
44	1	D3	1173349.5	518893.3	1.10	67	155	s
45	1	D3	1173320.4	518847.5	1.20	182	126	s
46	1	D3	1173423.1	518925.6	0.60	50	-41	l
47	1	D2	1173293.9	518887.2	0.20	171	30	s
48	1	D2	1173281.4	518917.5	N/A			p
		comment:	long anomaly near fence (wire?)					
49	1	C4	1173516.2	518818.9	0.00	70	9	s
50	1	C4	1173494.6	518822.8	0.20	125	-2	s
51	1	C4	1173499.8	518839.3	0.30	-19	4	m
52	1	D4	1173550.1	518851.2	N/A			p
		comment:	small target behind leanto					
53	1	D4	1173555.7	518854.2	N/A			p
		comment:	small target behind leanto					

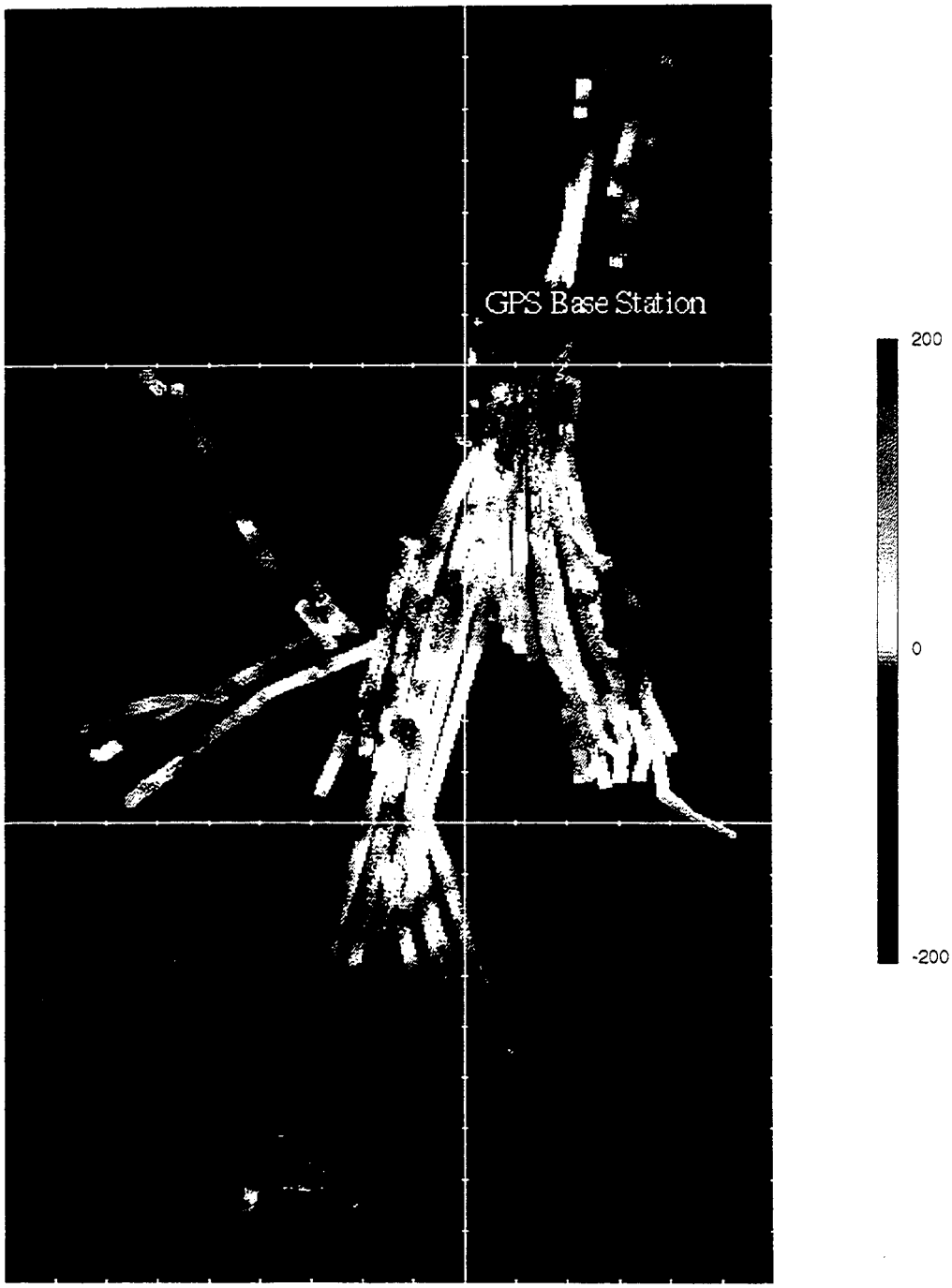

Figure RK-1. Range K Site Image

GEO-CENTERS, INC.

RANGE K TARGET REPORT (file "RKORF.TAR")
AND SITE IMAGES

GEO-CENTERS, INC.

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TARGET REPORT

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the comment goes here Tuesday May 30 1995 12:27

Site ID: rk0r Filter: All[0.00,99.00] Mission: All

Alabama State Plane, NAD 1927 - CONUS, Alabama East Zone, Units = feet

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Total number of targets: 14
Maximum target number: 14

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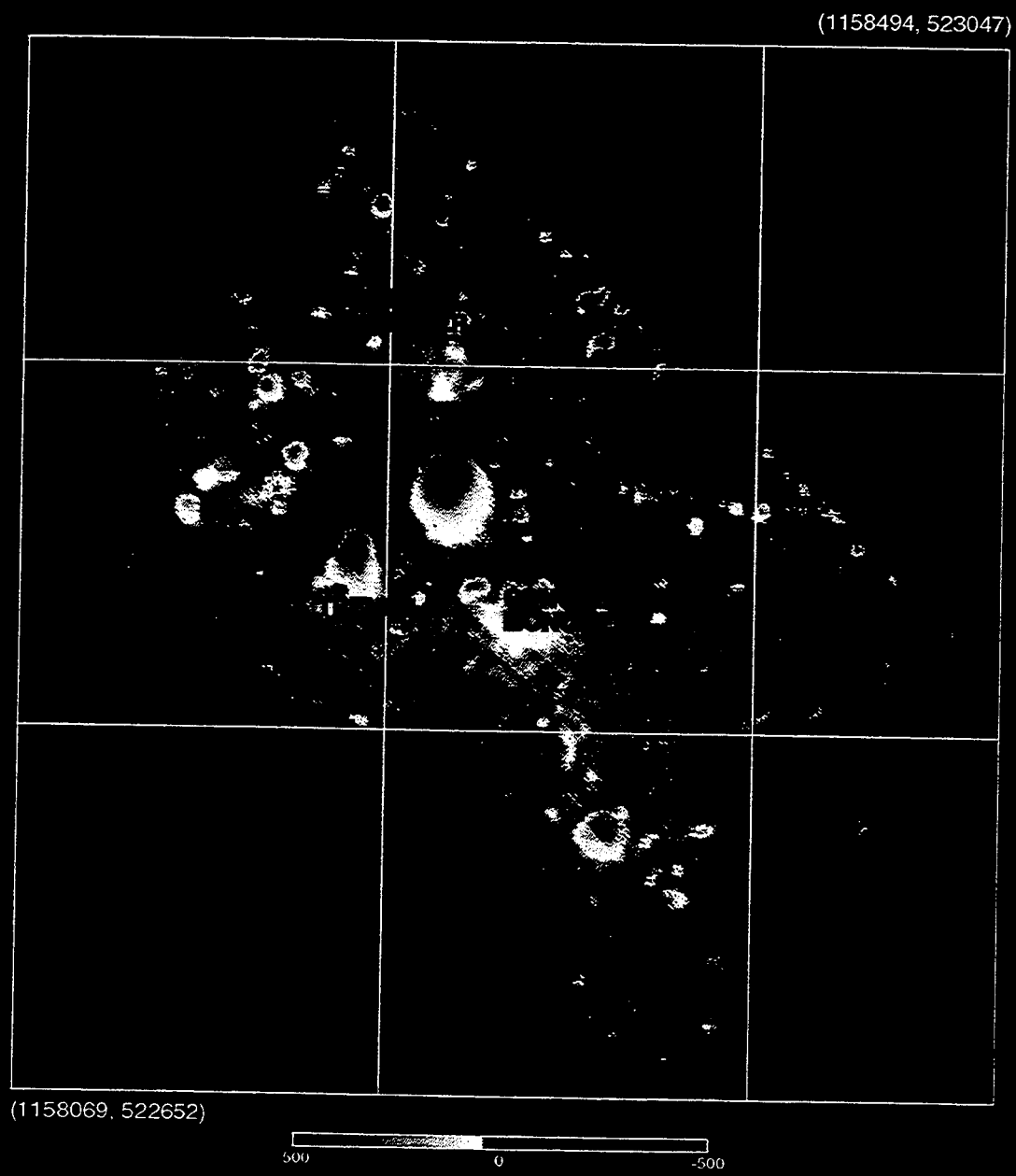
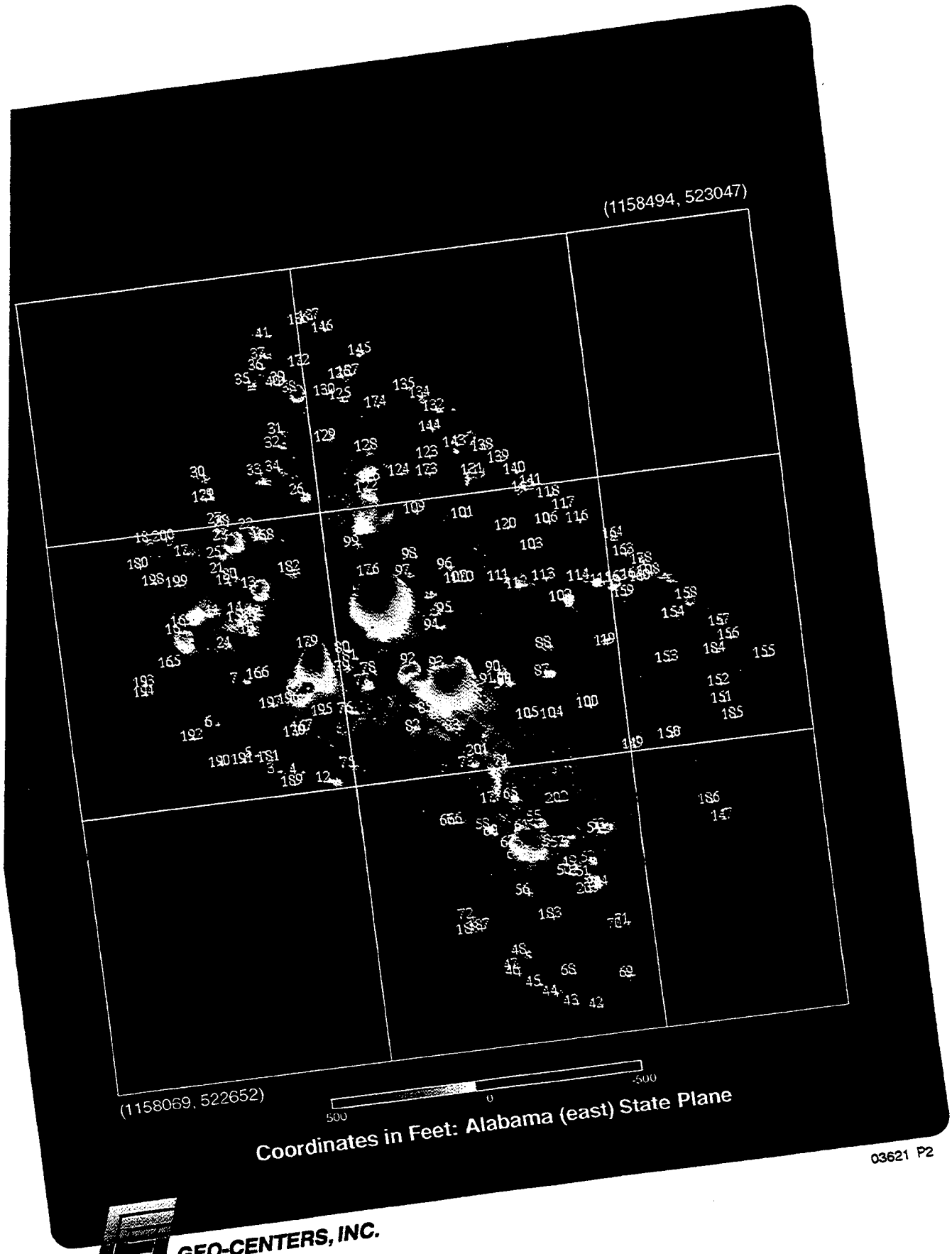
Target Num	Mission	Quad	x(ft)	y(ft)	depth(m)	az.	el.	cat.
1	1	A1	1177999.2	450380.5	N/A			p
		comment:	lery large anomaly near SE corner of Range K					
2	1	B1	1178047.5	450445.7	0.90	-125	-37	s
3	1	A2	1178144.4	450399.8	0.10	-39	12	s
4	1	A2	1178164.1	450384.4	0.40	150	34	s
5	1	A2	1178133.1	450340.6	1.20	120	-31	s
6	1	A2	1178140.0	450322.2	0.90	100	27	s
7	1	A2	1178185.0	450386.4	0.70	0	116	s
8	1	A2	1178202.0	450410.8	N/A			p
		comment:	anomaly at edge of search area					
9	1	A2	1178258.7	450330.0	-0.80	13	283	s
10	1	B2	1178200.2	450479.2	0.20	130	0	s
11	1	B3	1178354.1	450469.5	0.60	262	70	s
12	1	A2	1178174.8	450411.4	0.40	-102	30	s
13	1	B3	1178301.0	450486.5	0.60	11	-20	s
14	1	A2	1178156.2	450402.1	N/A			p
		comment:	near surface object					

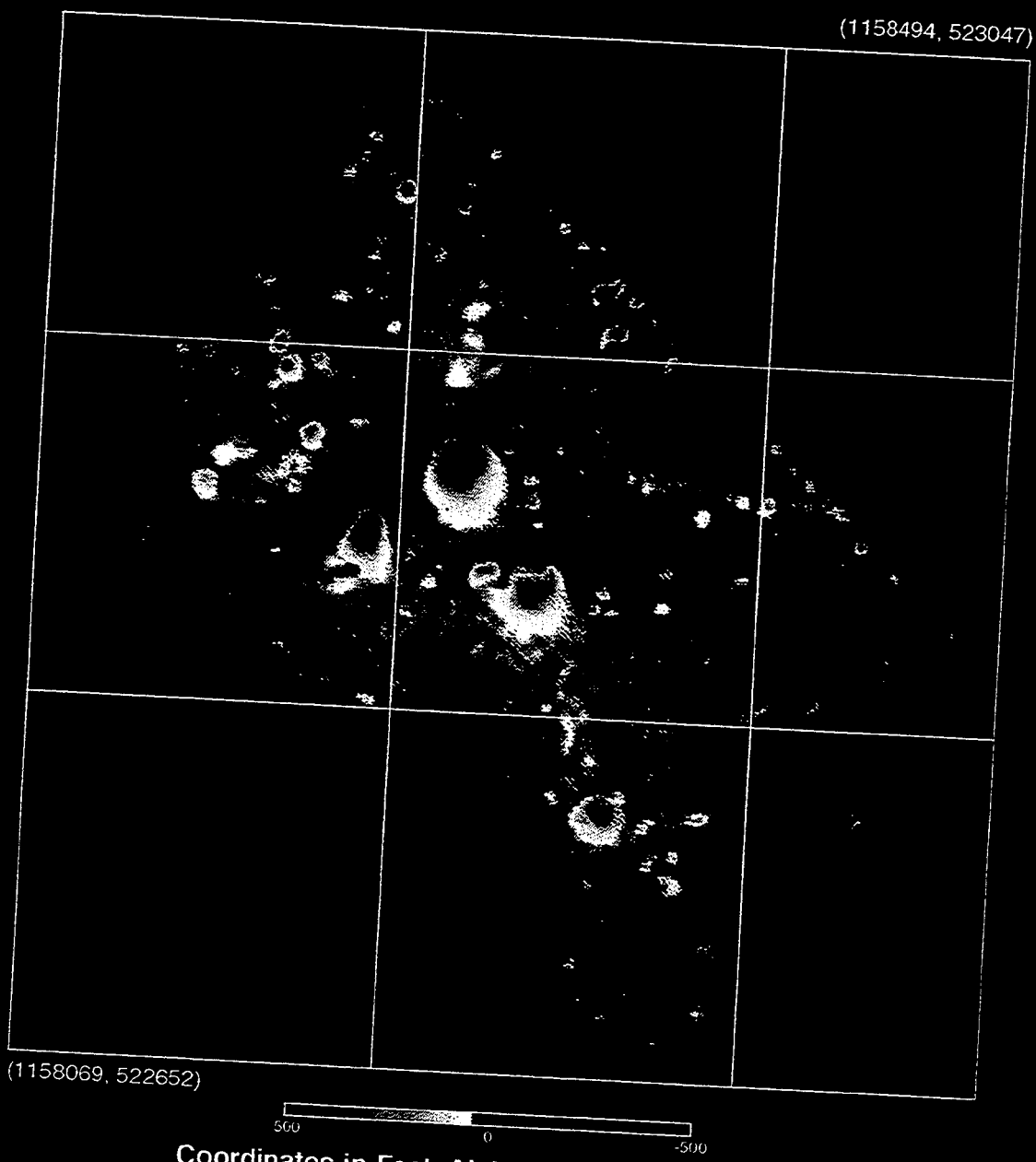


Coordinates in Feet: Alabama (east) State Plane

GEO-CENTERS, INC.

03621 P1


(1158494, 523047)
(1158069, 522652)
500
0
500
Coordinates in Feet: Alabama (east) State Plane
03621 P2
GEO-CENTERS, INC.



Coordinates in Feet: Alabama (east) State Plane

GEO-CENTERS, INC.

03621 P3

03726 P1

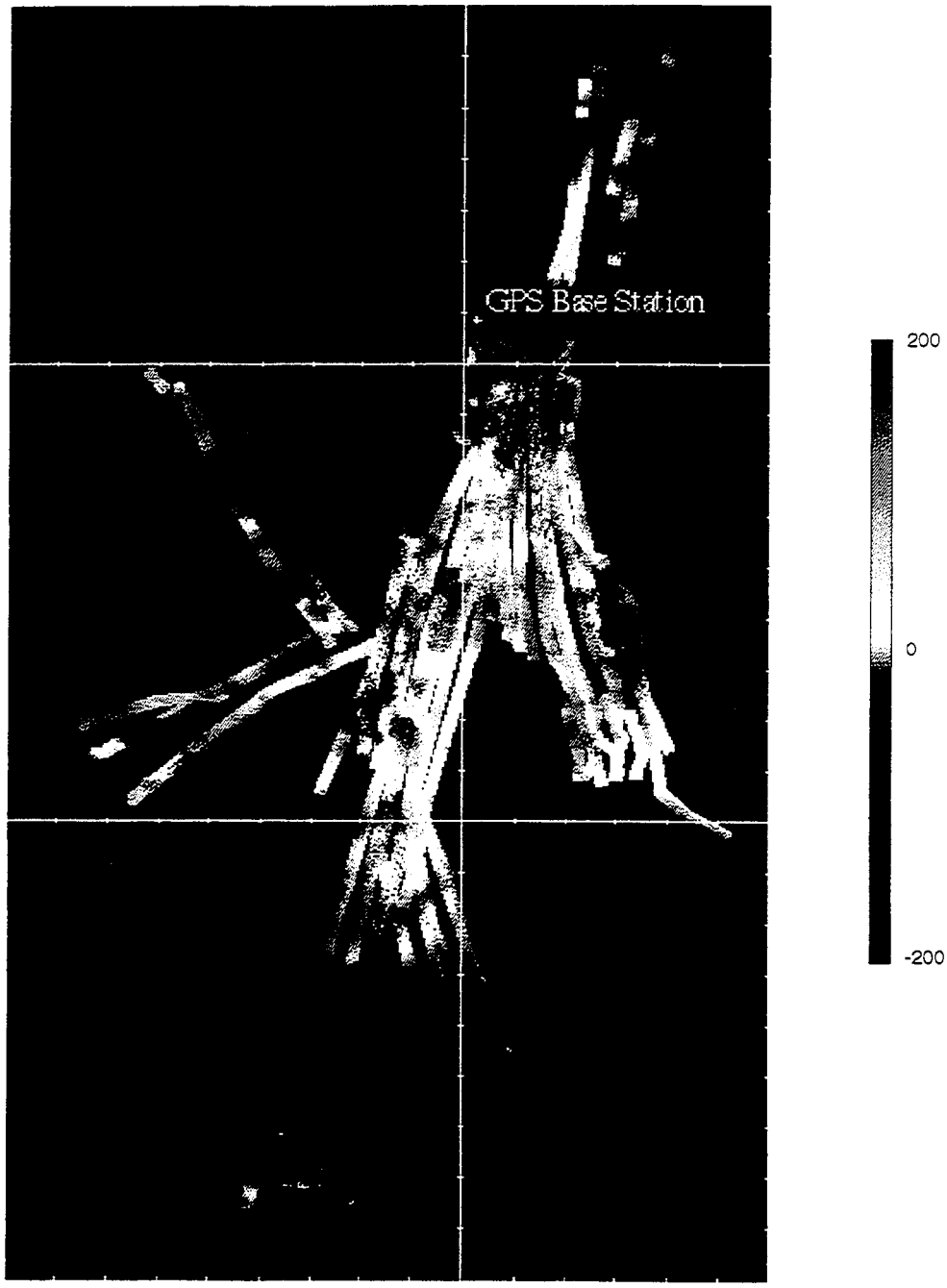


Figure RK-1. Range K Site Image

GEO-CENTERS, INC.

03726 P2

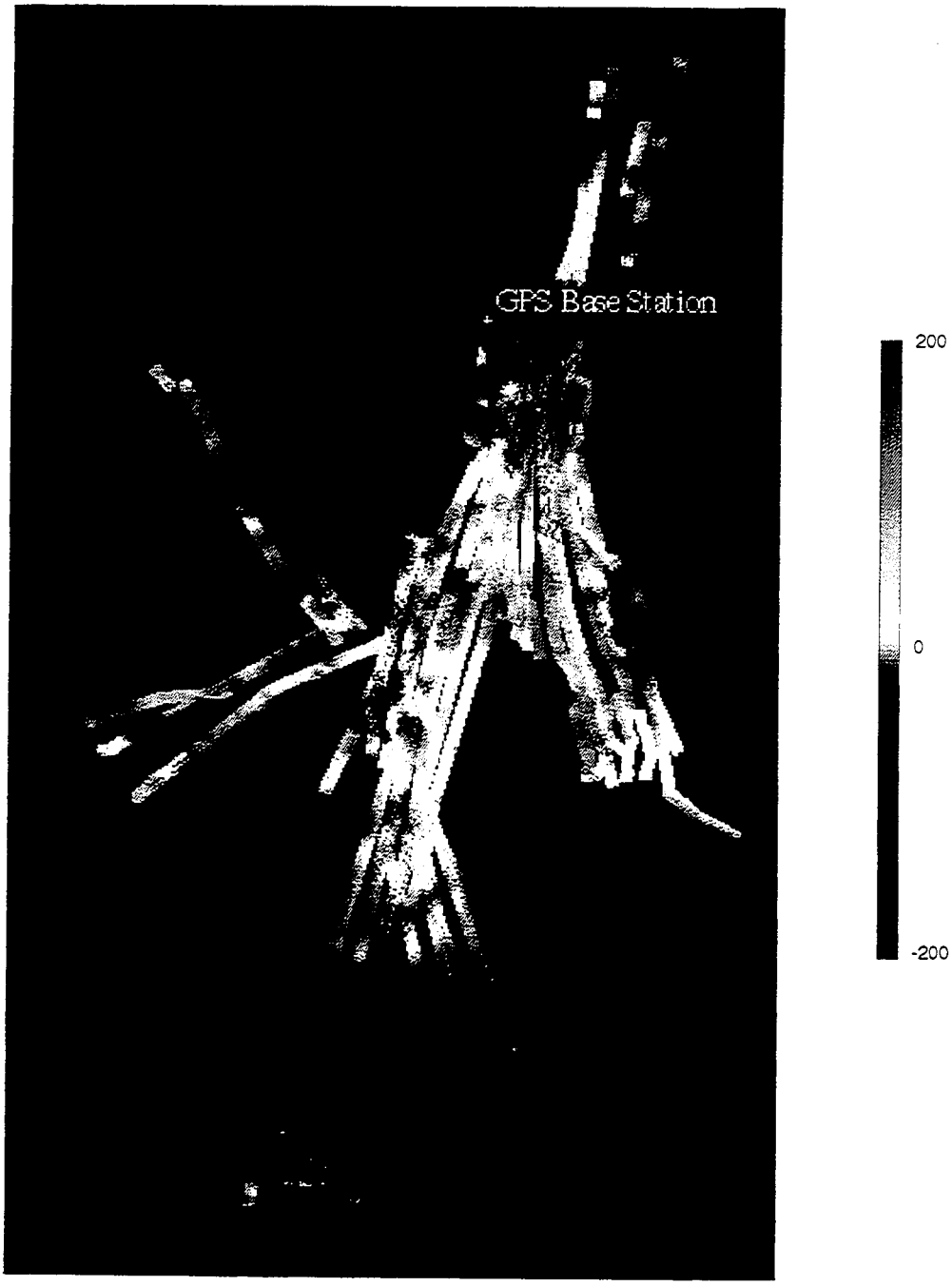


Figure RK-2. Range K Site Image, No Grid

GEO-CENTERS, INC.

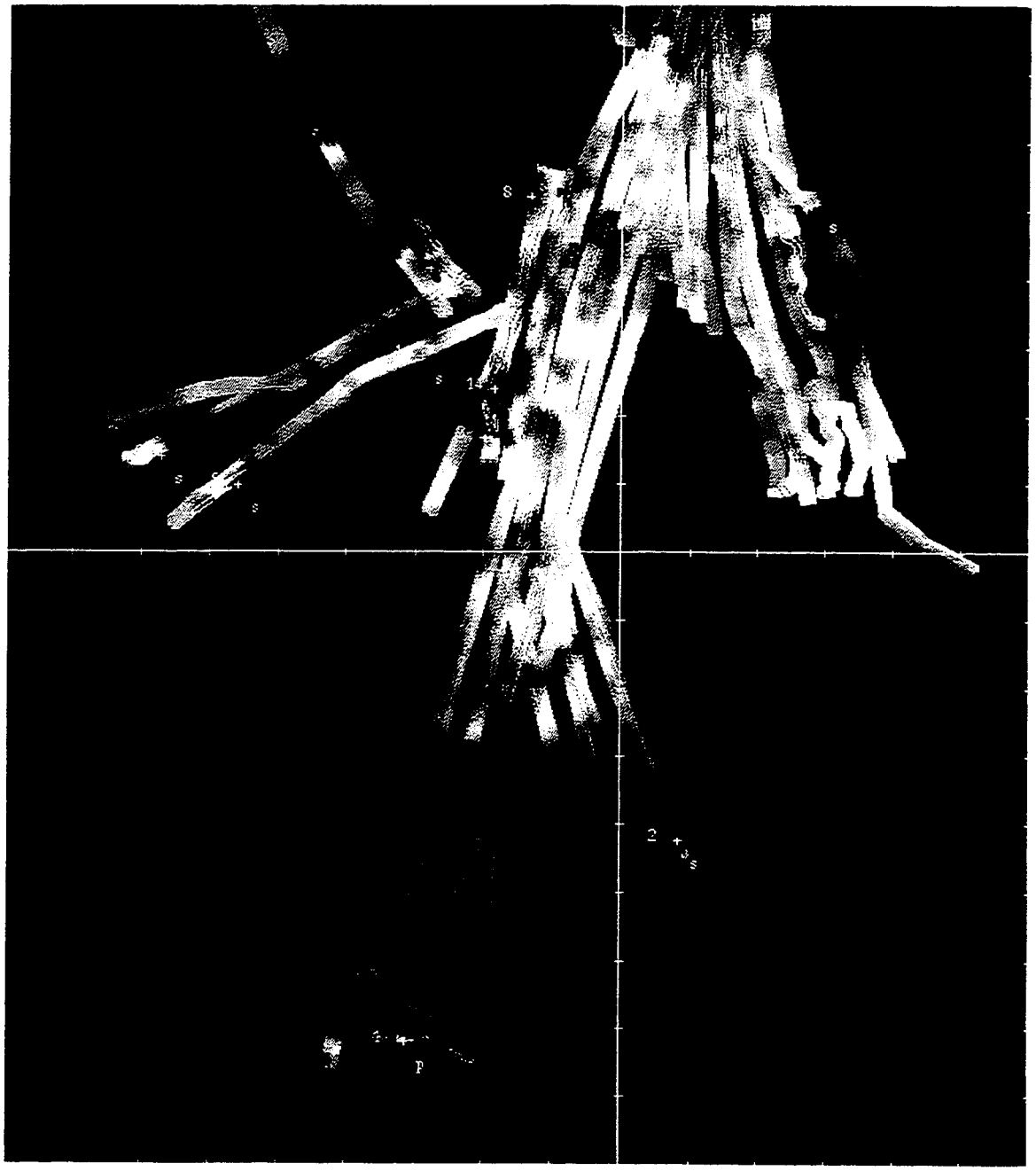


Figure RK-3. Quadrants A1 and B1

GEO-CENTERS, INC.

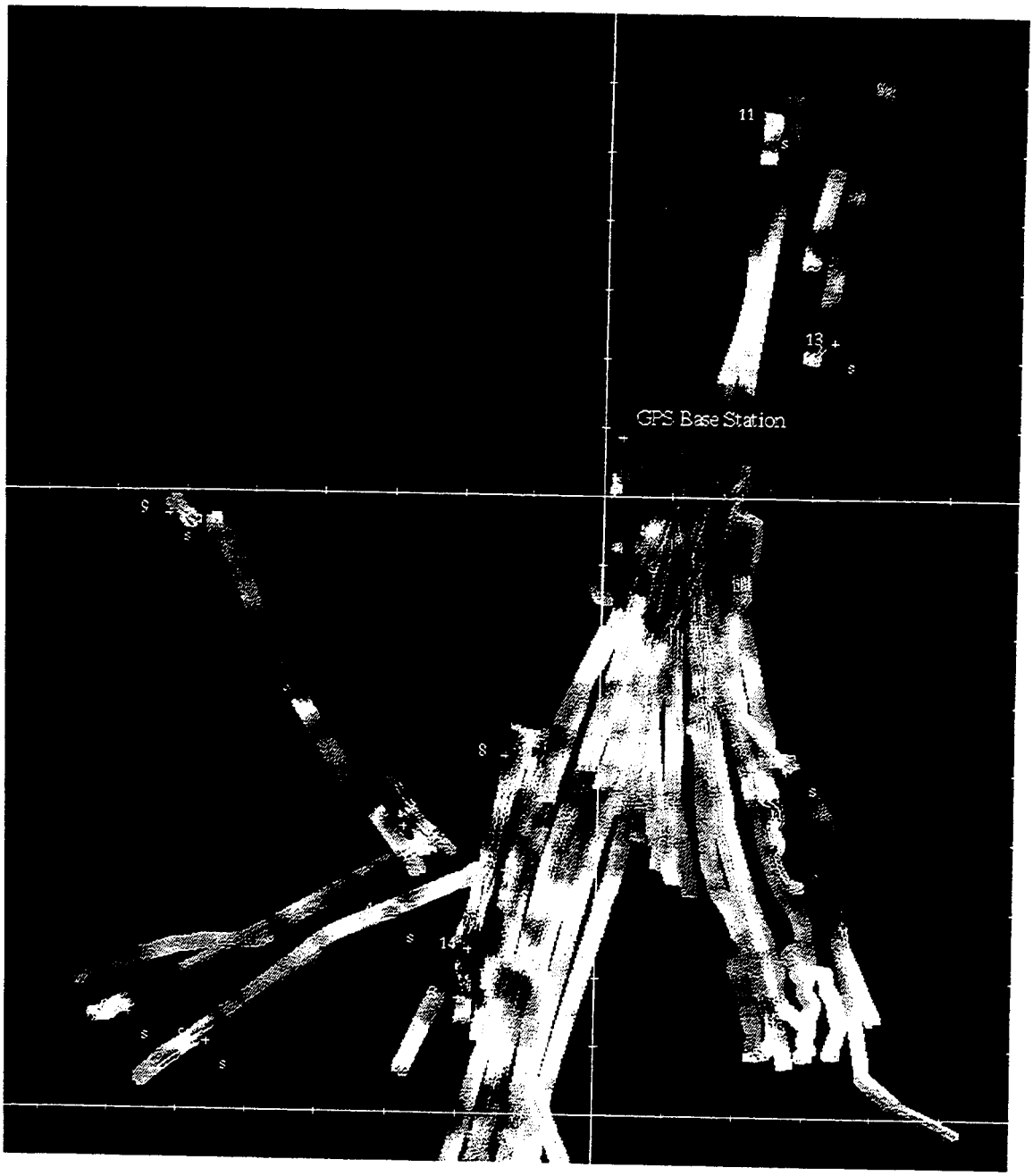


Figure RK-4. Quadrants A2, B2, A3 and B3

GEO-CENTERS, INC.

03724 P1

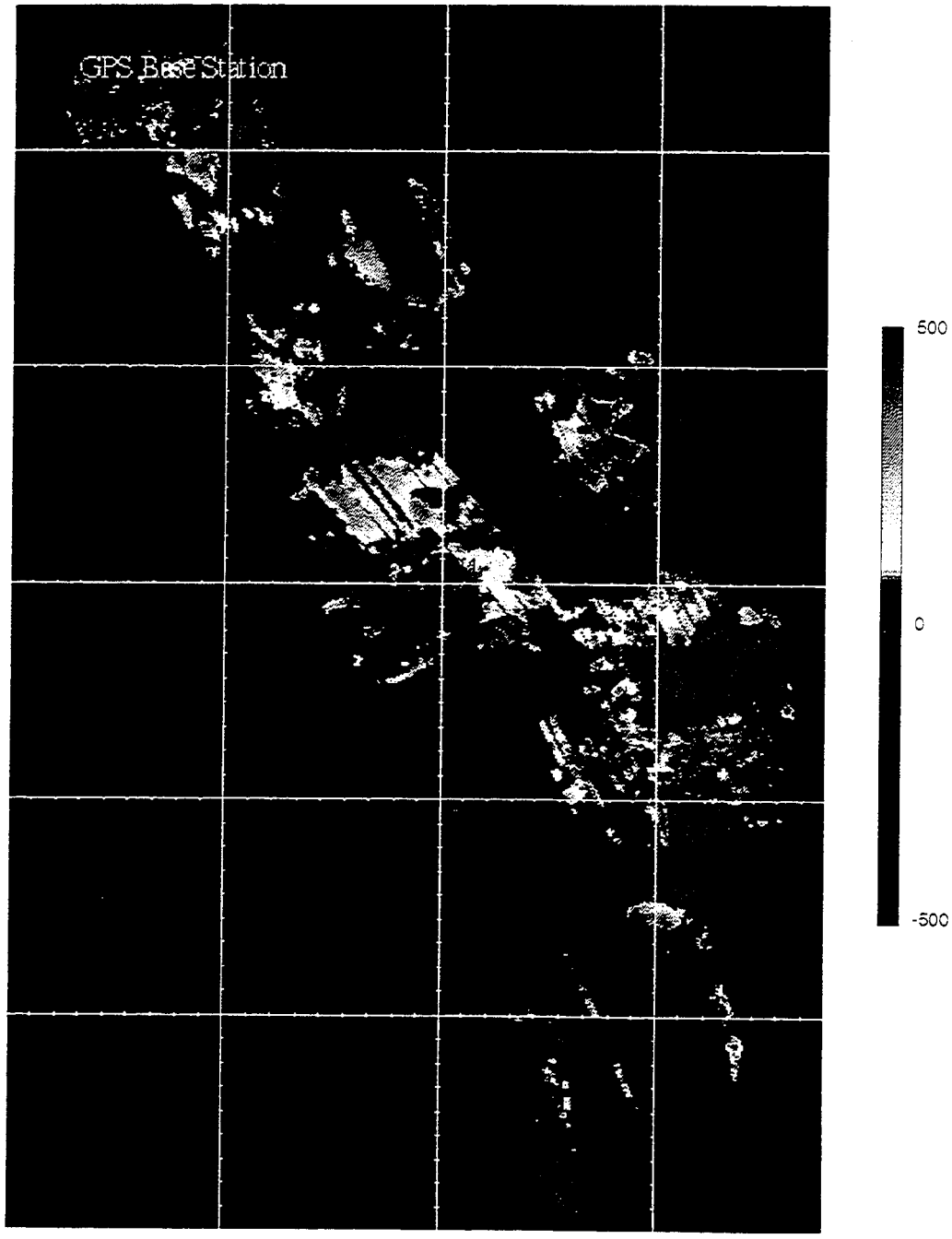


Figure T38-1. Area T38 Site Image

GEO-CENTERS, INC.

03724 P2

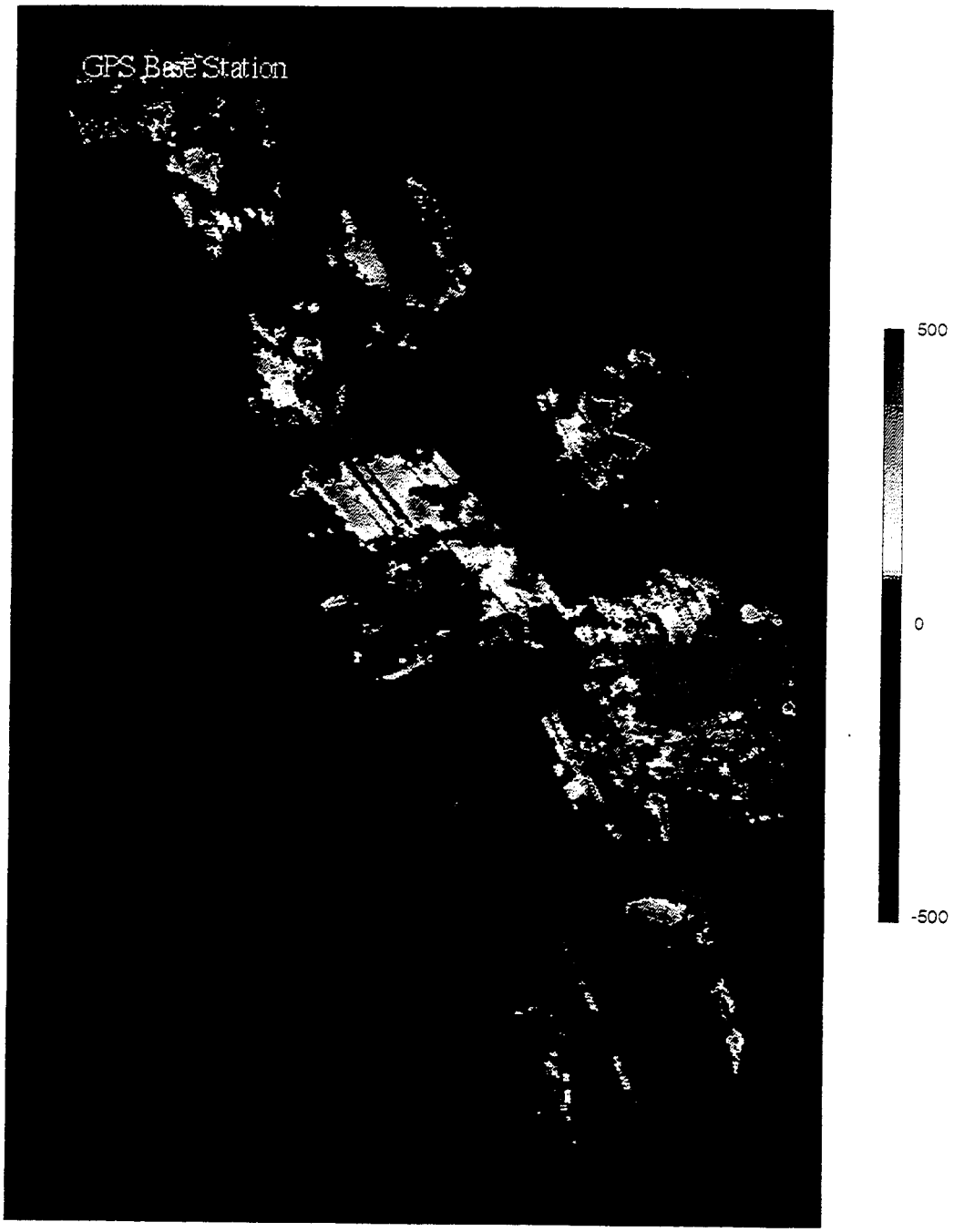


Figure T38-2. Area T38 Site Image, No Grid

GEO-CENTERS, INC.

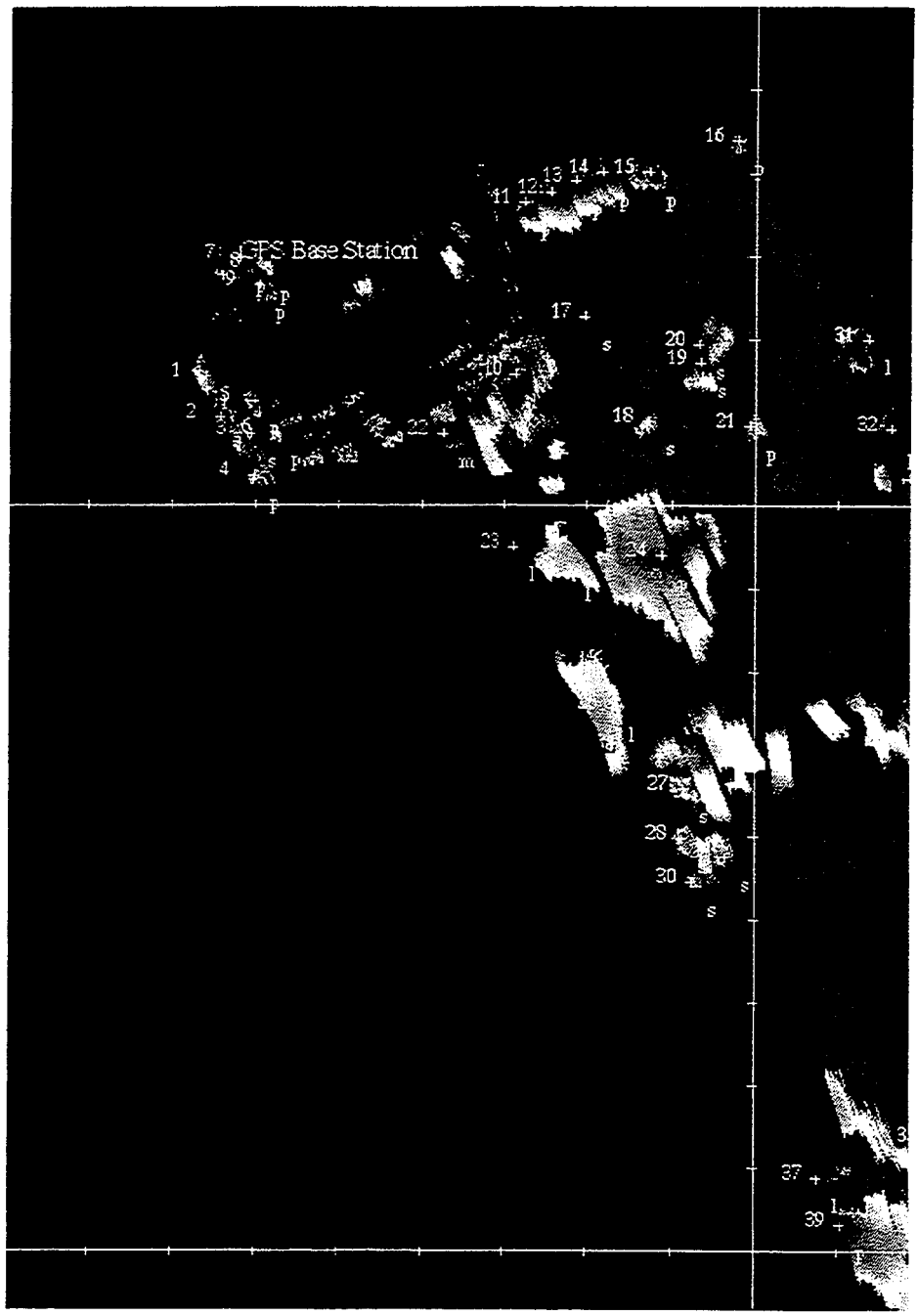


Figure T38-3. Quadrants A5 and A6

GEO-CENTERS, INC.

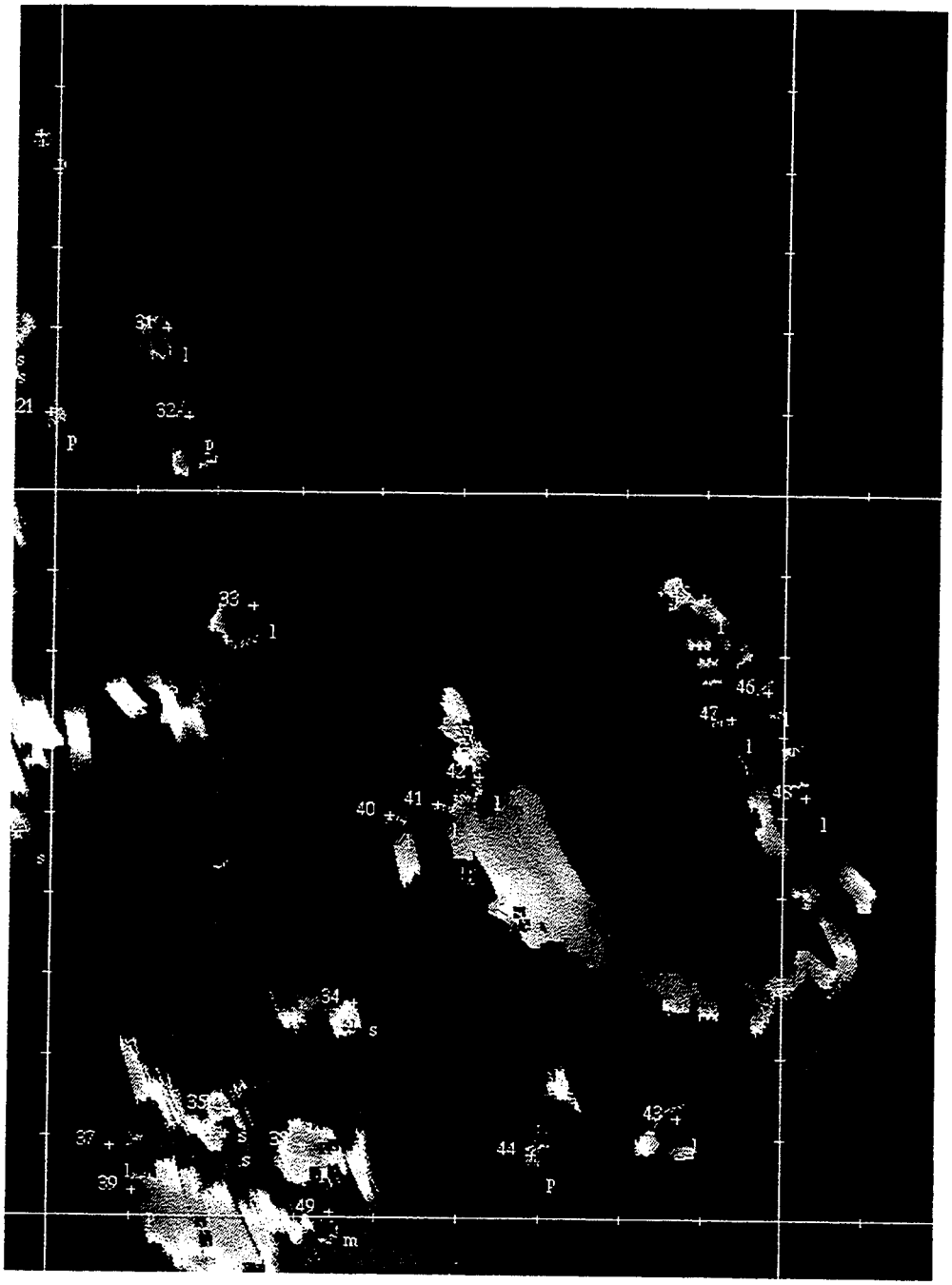


Figure T38-4. Quadrants B5 and B6

GEO-CENTERS, INC.

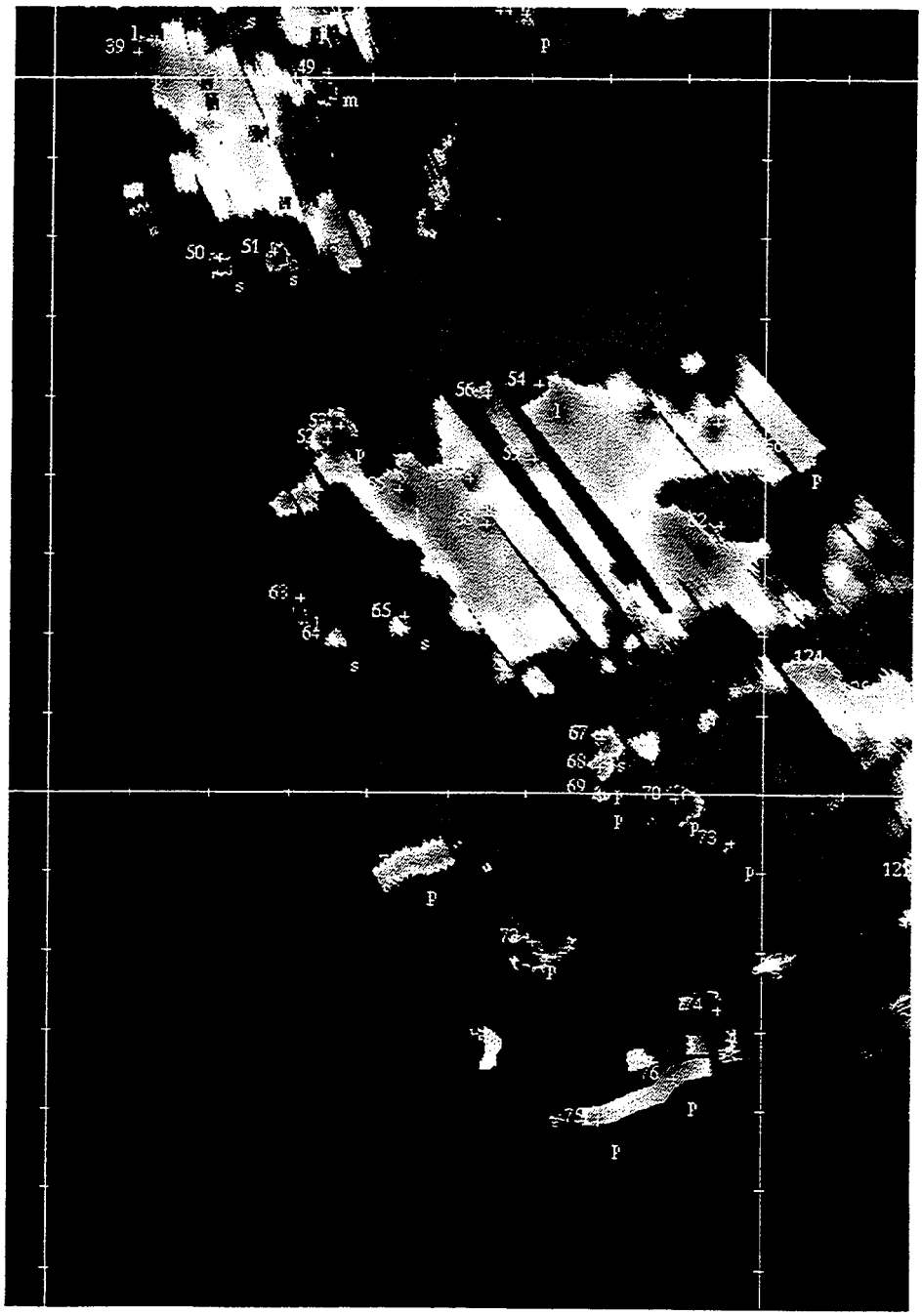


Figure T38-5. Quadrants B3 and B4

GEO-CENTERS, INC.

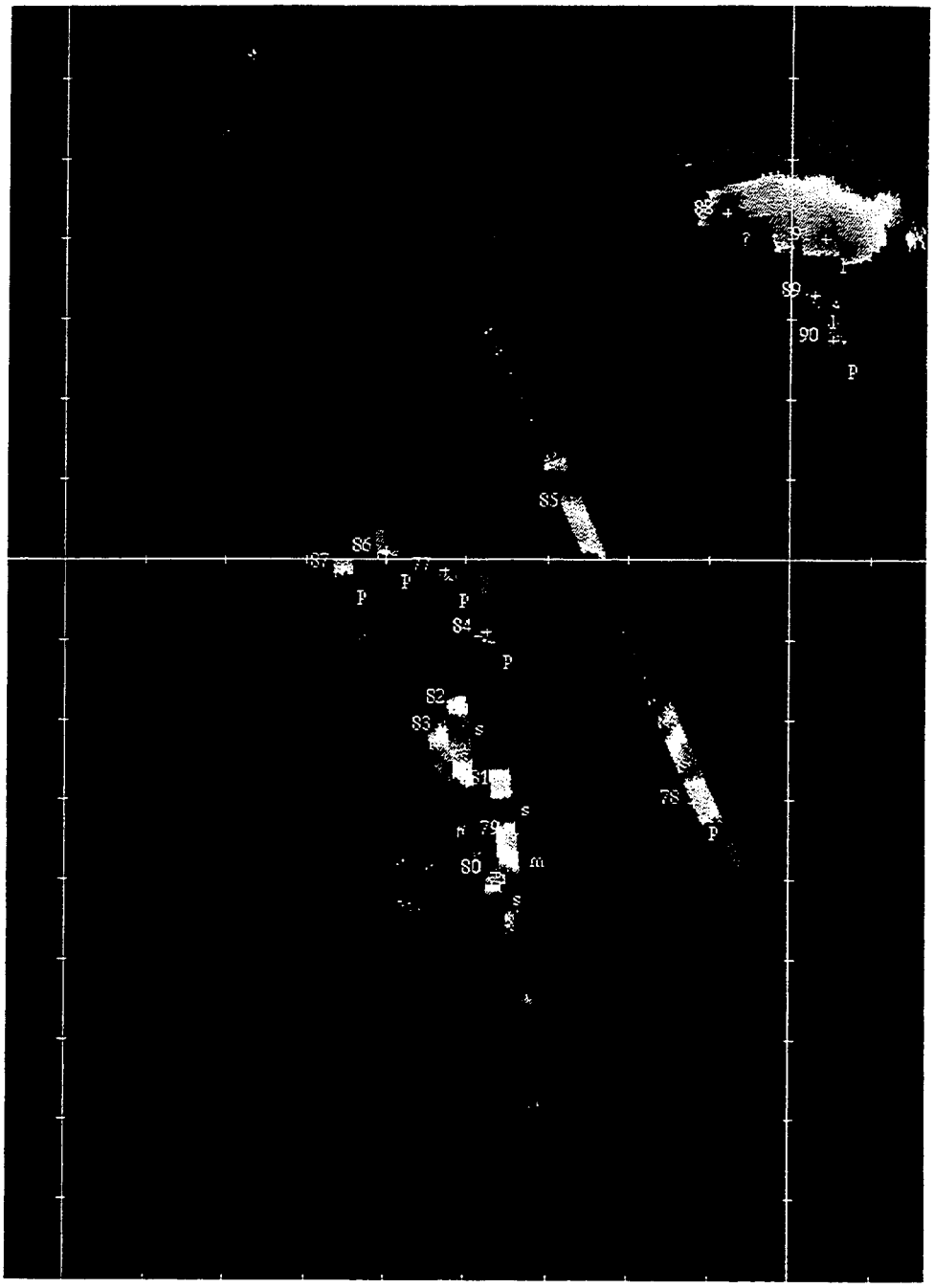


Figure T38-6. Quadrant C1

GEO-CENTERS, INC.

Figure T38-7. Quadrant C2

GEO-CENTERS, INC.

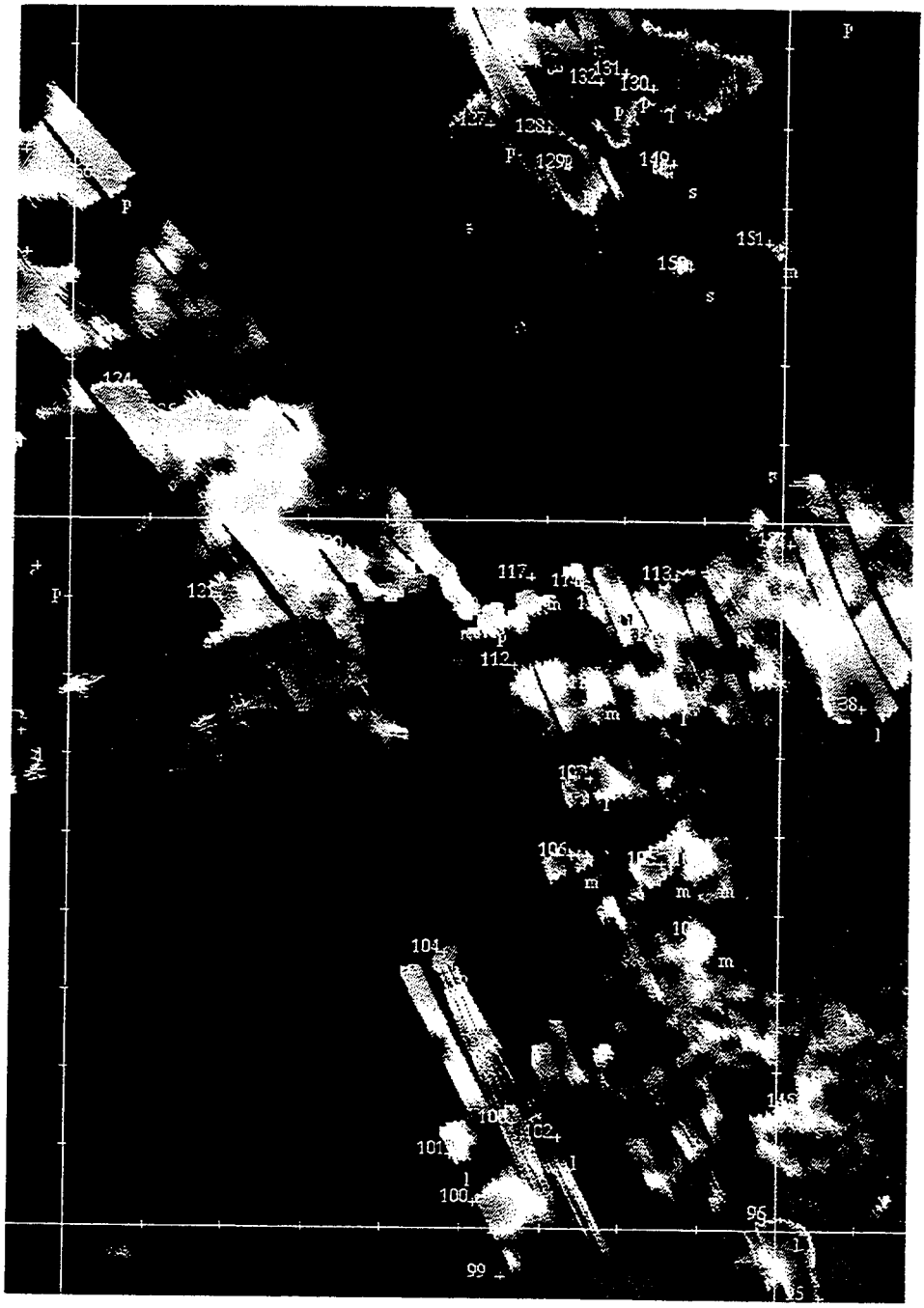


Figure T38-8. Quadrant C3

GEO-CENTERS, INC.

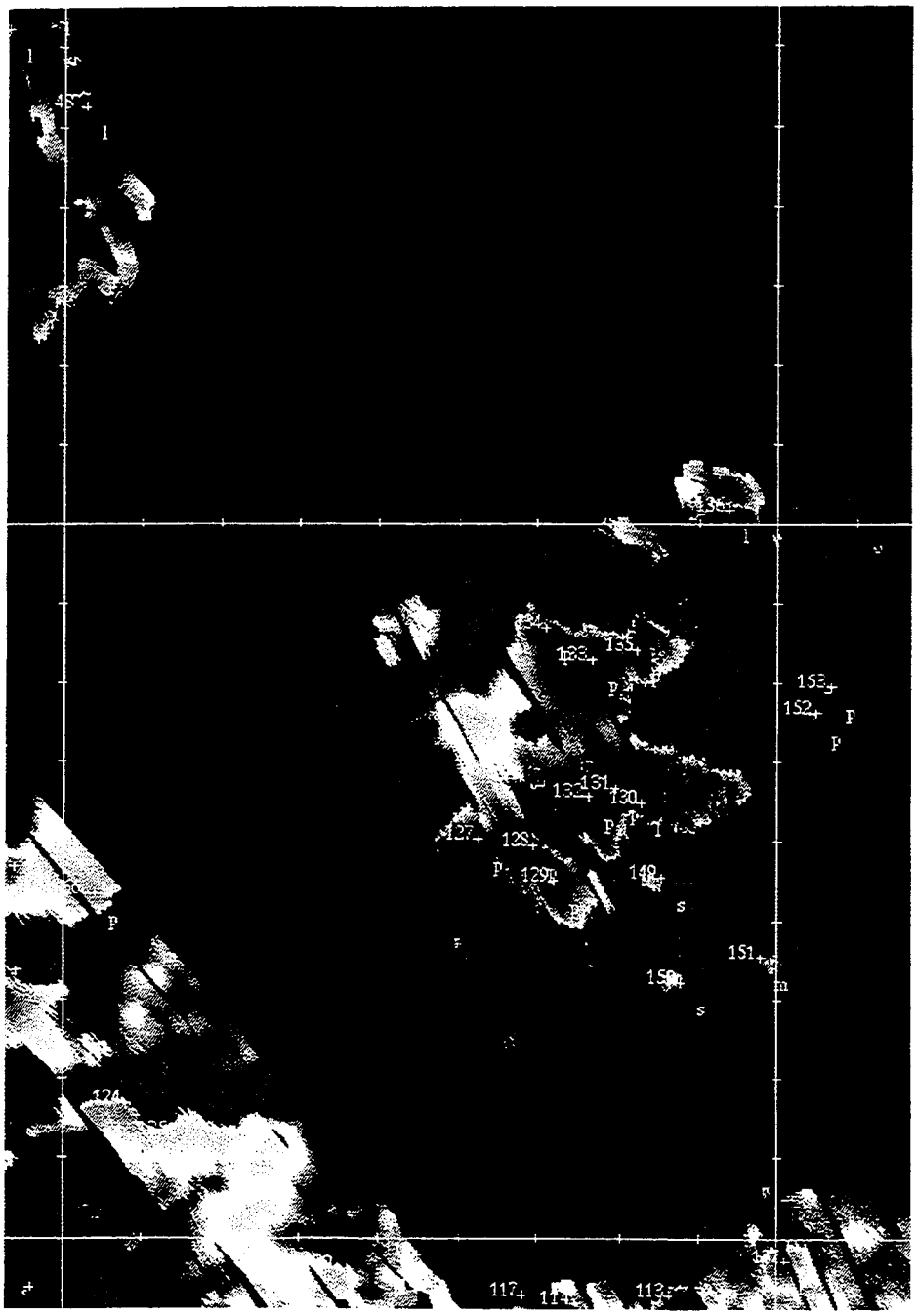


Figure T38-9. Quadrants C4 and C5

GEO-CENTERS, INC.

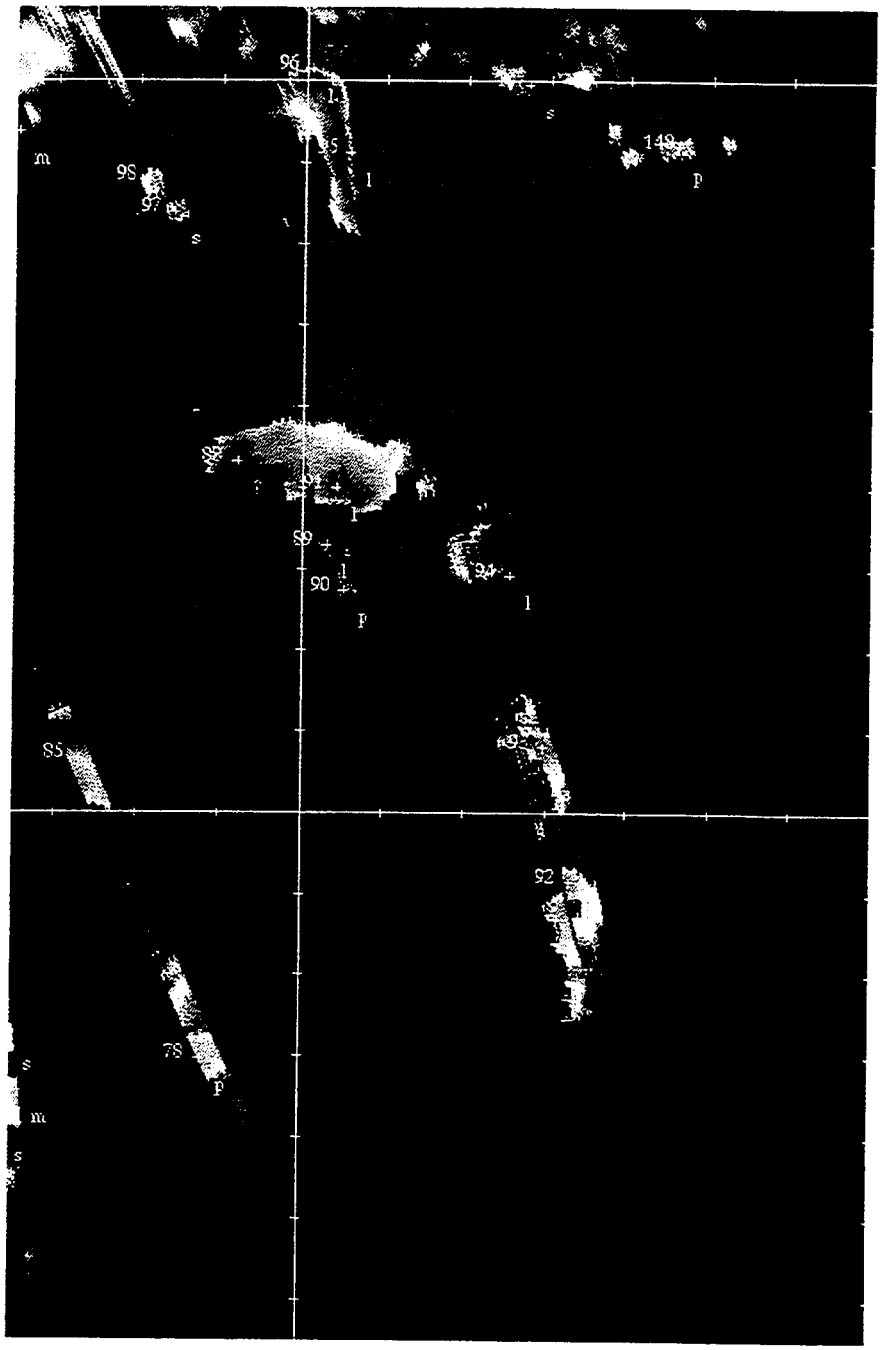


Figure T38-10. Quadrants D1 and D2

GEO-CENTERS, INC.

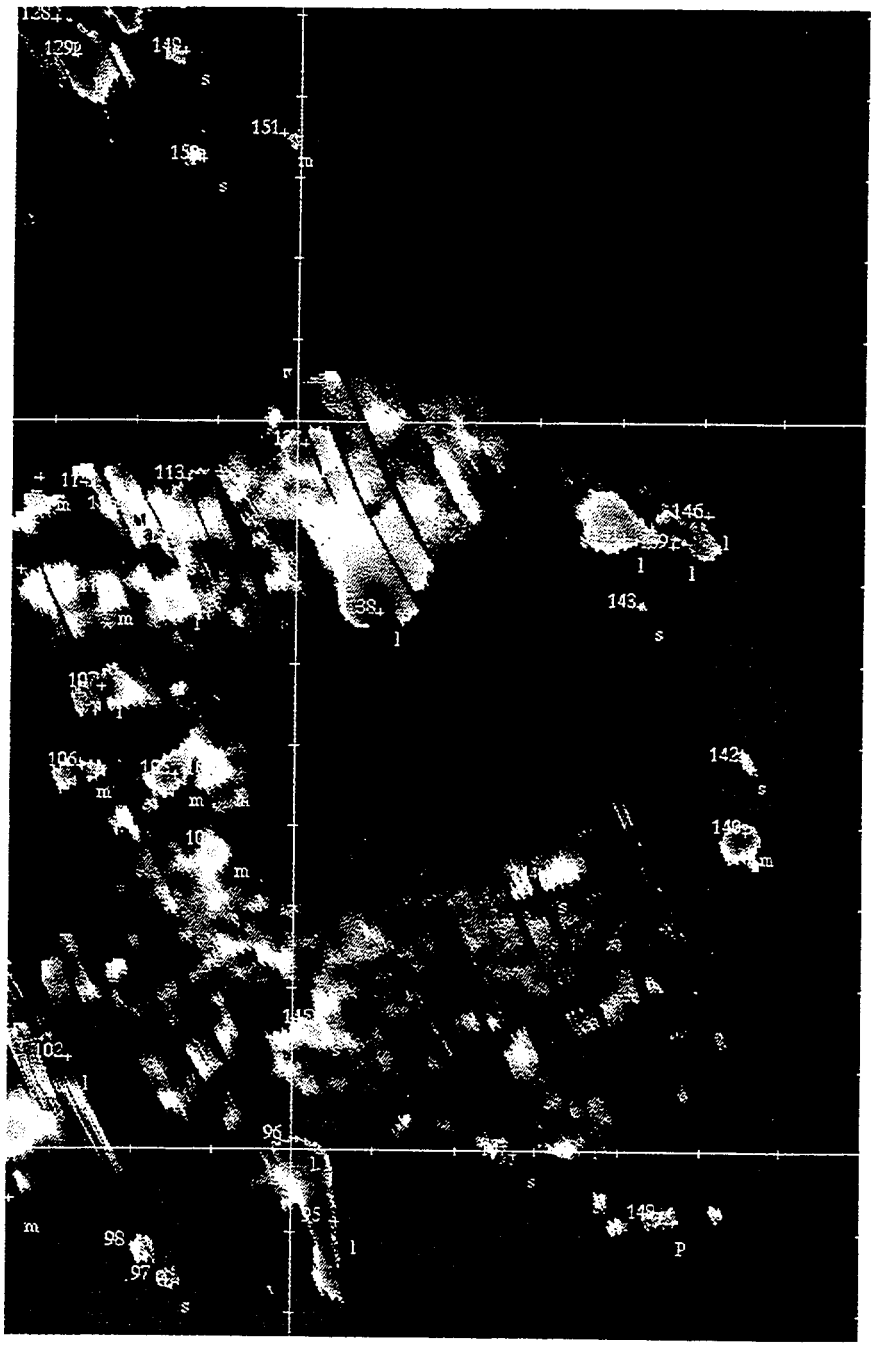


Figure T38-11. Quadrant D3

GEO-CENTERS, INC.

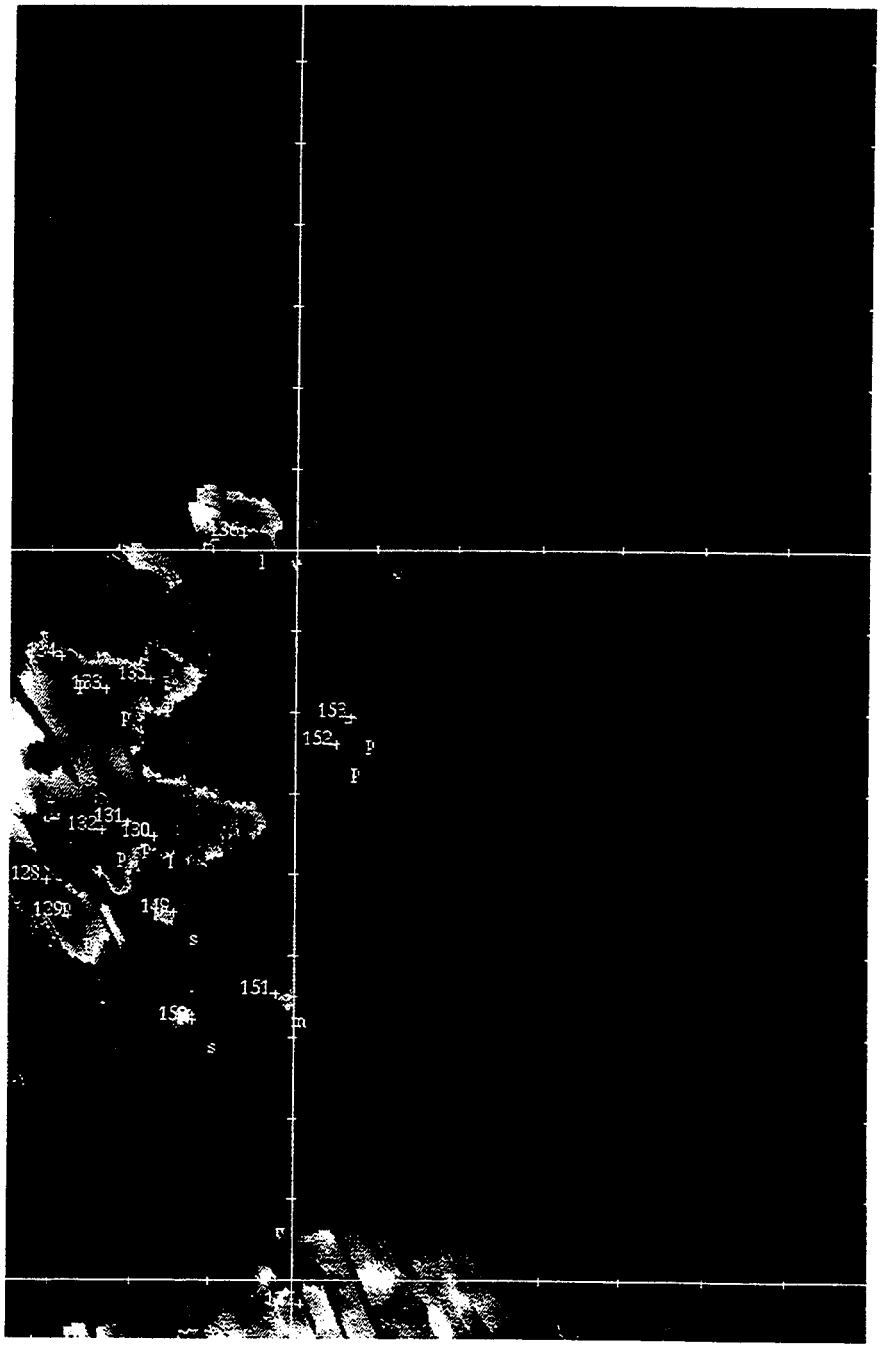


Figure T38-12. Quadrants D4 and D5

GEO-CENTERS, INC.

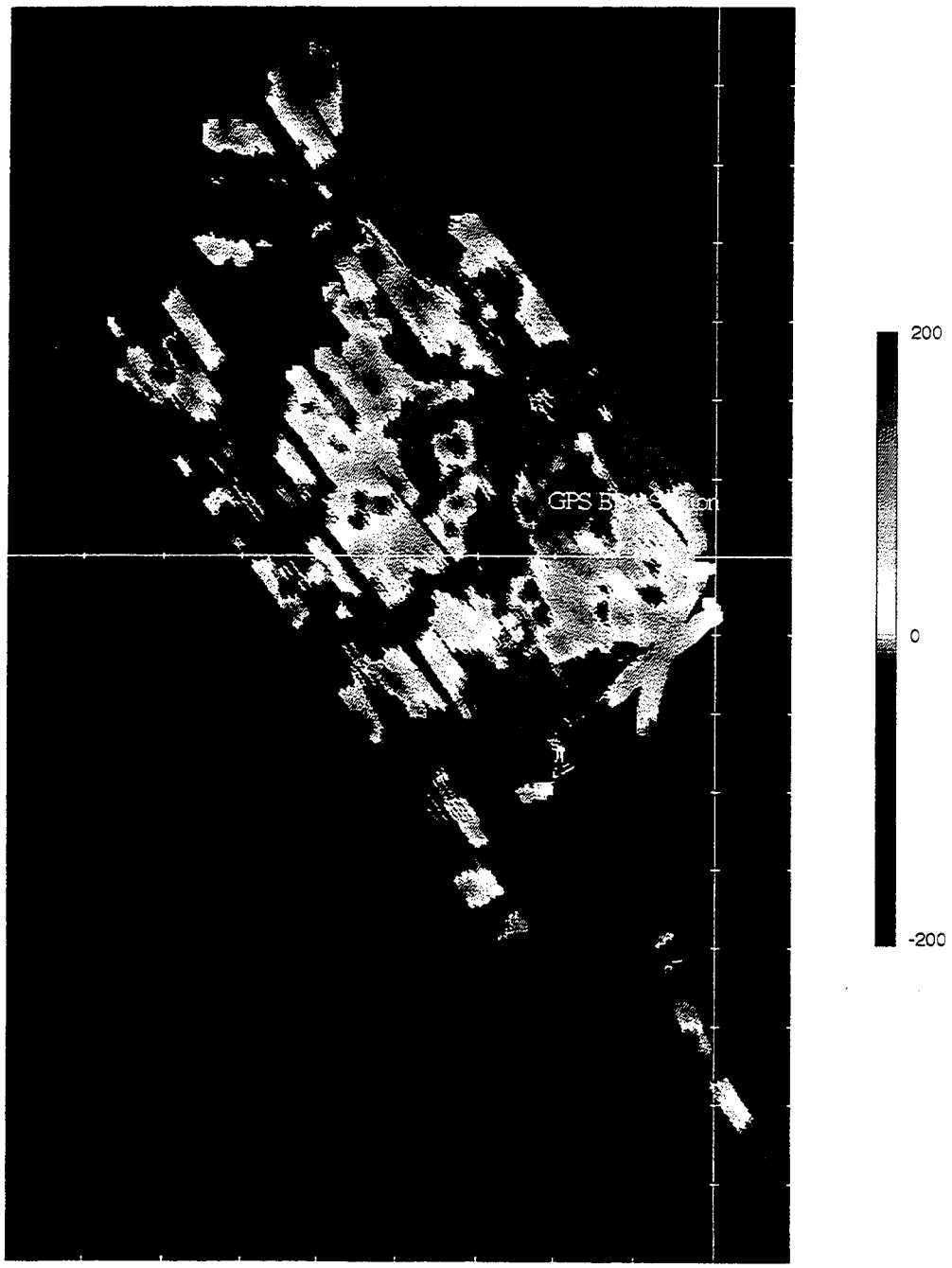


Figure T4-1. Area T4 Site Image

GEO-CENTERS, INC.

03723 P2

Figure T4-2. Area T4 Site Image, No Grid

GEO-CENTERS, INC.

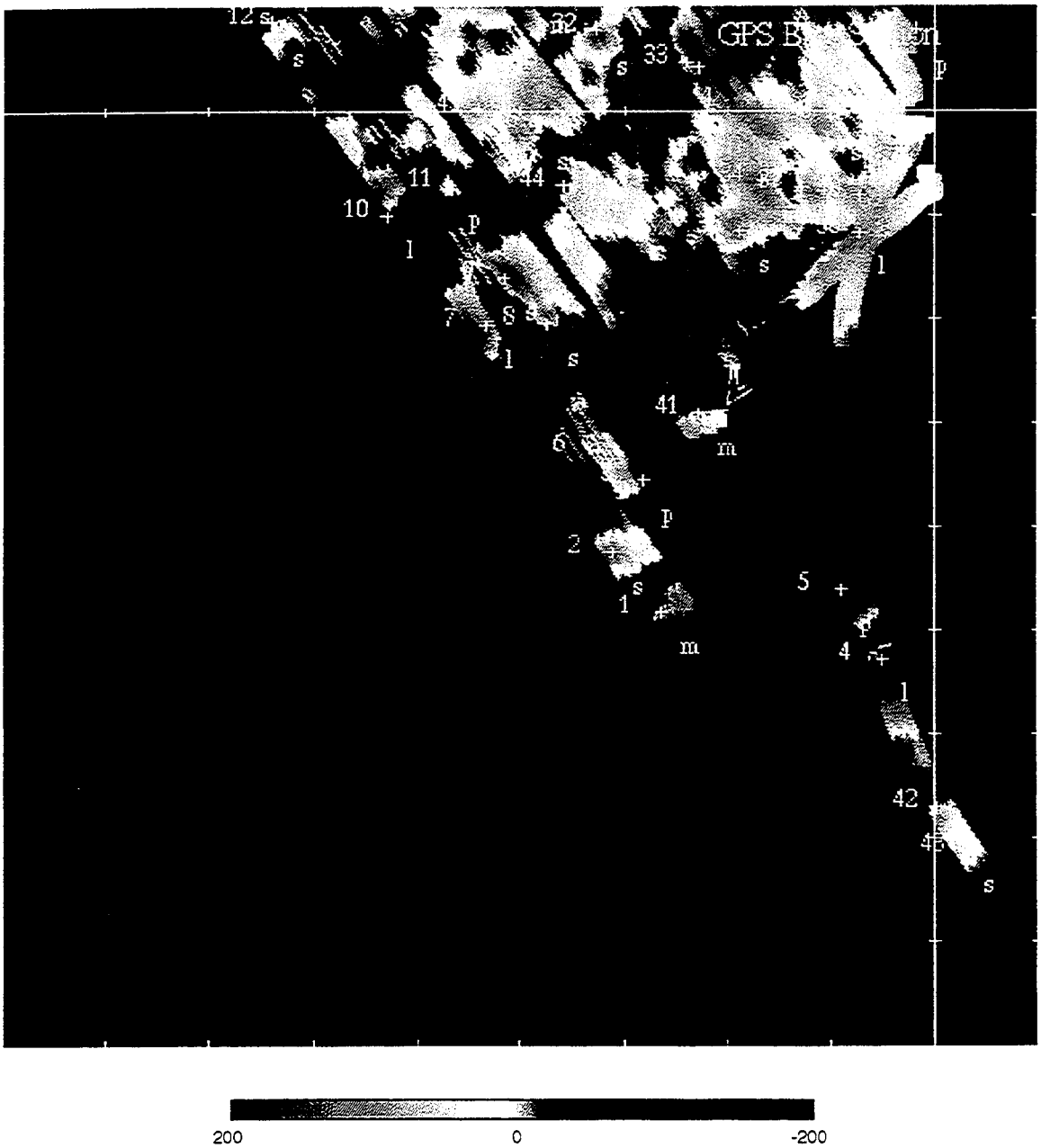


Figure T4-3. Quadrants A1 and B1

GEO-CENTERS, INC.

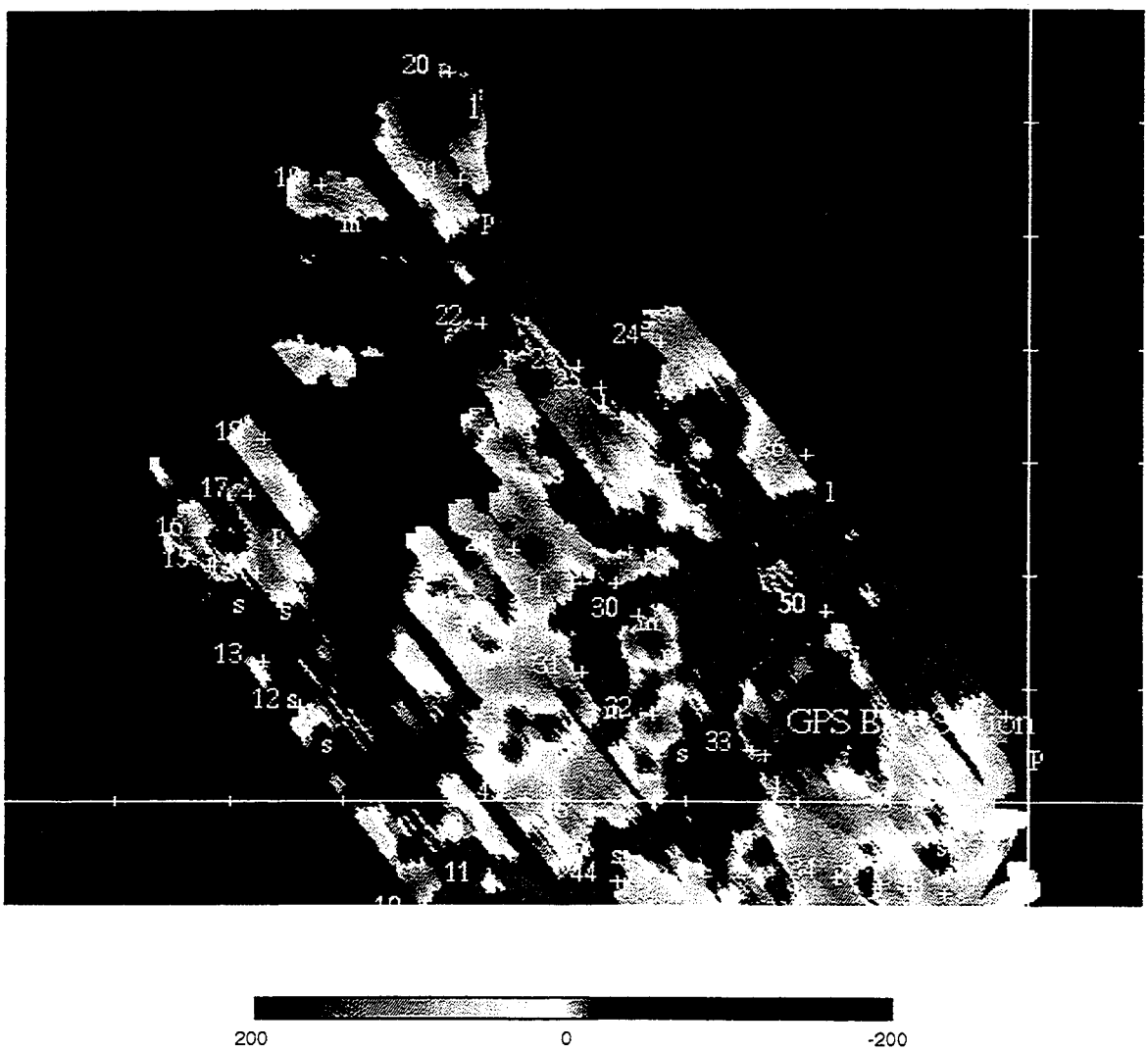


Figure T4-4. Quadrants A2 and B2

GEO-CENTERS, INC.

APPENDIX B

MINICAMS DATA

Table B-1. Summary of MINICAMS Screening Data – Main Post

Site	Screening Sample ID	Easting	Northing	Depth (ft)	HD (TWA)	VX (TWA)	GB (TWA)	Date Screened	Time Cleared	Associated Lab Sample ID
Area T-4	T4-1	506375.06	1164973.72	0.5	0.00	0.01	0.00	5/10/94	1337	T4-S01
Area T-4	T4-2	506420.63	1164979.40	0.5	0.00	0.11	0.01	5/10/94	1347	
Area T-4	T4-3	506464.96	1164984.19	0.5	0.00	0.00	0.01	5/10/94	1357	T4-S02
Area T-4	T4-4	506355.97	1164940.75	0.5	0.00	0.12	0.01	5/10/94	1407	
Area T-4	T4-5	506400.59	1164946.20	0.5	0.00	0.00	0.01	5/10/94	1417	
Area T-4	T4-6	506445.56	1164951.61	0.5	0.00	0.10	0.01	5/10/94	1427	
Area T-4	T4-7	506490.13	1164957.48	0.5	0.00	0.00	0.01	5/10/94	1437	
Area T-4	T4-8	506380.96	1164914.64	0.5	0.00	0.08	0.01	5/10/94	1447	T4-S03
Area T-4	T4-9	506423.04	1164919.51	0.5	0.00	0.00	0.01	5/10/94	1457	
Area T-4	T4-10	506466.74	1164924.61	0.5	0.00	0.00	0.01	5/10/94	1507	T4-S04
Area T-5	T5-1	512028.63	1165366.19	0.5	0.00	0.00	0.01	5/9/94	1348	
Area T-5	T5-2	512152.41	1165371.9	0.5	0.00	0.00	0.01	5/9/94	1709	
Area T-5	T5-3	512286.17	1165365.74	0.5	0.00	0.00	0.01	5/10/94	1027	
Area T-5	T5-4	512096.18	1165242.38	0.5	0.02	0.00	0.00	5/9/94	1359	
Area T-5	T5-5	512218.99	1165248.98	0.5	0.00	0.00	0.01	5/9/94	1409	
Area T-5	T5-6	512344.11	1165251	0.5	0.00	0.00	0.01	5/9/94	1419	T5-S05
Area T-5	T5-7	512040.77	1165115.74	0.5	0.00	0.00	0.01	5/9/94	1459	
Area T-5	T5-8	512164.93	1165122.58	0.5	0.00	0.00	0.01	5/9/94	1449	
Area T-5	T5-9	512288.57	1165129.17	0.5	0.00	0.00	0.01	5/9/94	1429	
Area T-5	T5-10	512111.35	1164996.54	0.5	0.00	0.00	0.01	5/9/94	1529	
Area T-5	T5-11	512233.49	1165003.07	0.5	0.00	0.00	0.01	5/9/94	1509	
Area T-5	T5-12	512356.3	1165007.28	0.5	0.00	0.00	0.01	5/9/94	1519	T5-S06
Area T-5	T5-13	512056.1	1164867.01	0.5	0.00	0.10	0.01	5/9/94	1659	
Area T-5	T5-14	512197.23	1164880.98	0.5	0.00	0.00	0.01	5/9/94	1609	
Area T-5	T5-15	512300.2	1164881.97	0.5	0.00	0.00	0.01	5/9/94	1539	
Area T-5	T5-16	512426	1164885.67	0.5	0.00	0.00	0.01	5/9/94	1629	T5-S07
Area T-5	T5-17	512114.75	1164740.95	0.5	0.00	0.00	0.01	5/9/94	1749	
Area T-5	T5-18	512249.68	1164748.49	0.5	0.00	0.02	0.01	5/9/94	1719	
Area T-5	T5-19	512373.47	1164756.99	0.5	0.00	0.00	0.01	5/9/94	1739	
Area T-5	T5-20	512057.75	1164613.21	0.5	0.00	0.00	0.01	5/9/94	1829	
Area T-5	T5-21	512179.57	1164618.9	0.5	0.00	0.00	0.01	5/9/94	1839	
Area T-5	T5-22	512302.08	1164624.81	0.5	0.00	0.00	0.01	5/9/94	1759	
Area T-5	T5-23	512440.87	1164635.16	0.5	0.00	0.00	0.01	5/9/94	1819	T5-S08
Area T-5	T5-24	512138.34	1164494.69	0.5	0.00	0.00	0.01	5/9/94	1859	
Area T-5	T5-25	512260.94	1164499.17	0.5	0.00	0.00	0.01	5/10/94	0947	
Area T-5	T5-26	512383.31	1164506.07	0.5	0.02	0.00	0.01	5/10/94	0917	
Area T-5	T5-27	512292.49	1165007.07	0.5	0.00	0.11	0.08	6/5/94	1000	
Area T-5	T5-27	512292.49	1165007.07	2.0	0.00	0.00	0.04	6/5/94	1010	
Area T-5	T5-28	512304.2	1164904.97	0.5	0.00	0.04	0.02	6/5/94	1030	
Area T-5	T5-28	512304.2	1164904.97	2.0	0.00	0.00	0.01	6/5/94	1040	
Area T-5	T5-29	512362.2	1164848.97	0.5	0.00	0.05	0.01	6/5/94	1050	
Area T-5	T5-29	512362.2	1164848.97	2.0	0.00	0.03	0.01	6/5/94	1100	
Area T-5	T5-30	512341.47	1164708.99	0.5	0.00	0.08	0.04	6/6/94	1003	
Area T-5	T5-30	512341.47	1164708.99	2.0	0.00	0.00	0.02	6/6/94	1013	
Area T-5	T5-31	512391.47	1164738.99	0.5	0.00	0.00	0.01	6/6/94	1103	
Area T-5	T5-31	512391.47	1164738.99	2.0	0.00	0.00	0.01	6/6/94	1113	
Area T-5	T5-32	512333.31	1164499.07	0.5	0.00	0.04	0.01	6/6/94	1123	
Area T-5	T5-32	512333.31	1164499.07	2.0	0.00	0.05	0.01	6/6/94	1133	
Area T-5	T5-33	512381.31	1164555.07	0.5	0.00	0.00	0.01	6/6/94	1143	
Area T-5	T5-33	512381.31	1164555.07	2.0	0.00	0.06	0.01	6/6/94	1153	
Area T-5	T5-34	512190.34	1164491.69	0.5	0.00	0.00	0.00	6/6/94	1203	
Area T-5	T5-34	512190.34	1164491.69	2.0	0.00	0.02	0.00	6/6/94	1213	
Area T-5	T5-35	512190.23	1164892.98	0.5	0.00	0.00	0.00	6/6/94	1303	
Area T-5	T5-35	512190.23	1164892.98	2.0	0.00	0.06	0.00	6/6/94	1313	
Area T-5	T5-36	512153.23	1164912.98	0.5	0.00	0.00	0.00	6/6/94	1353	
Area T-5	T5-36	512153.23	1164912.98	2.0	0.00	0.00	0.00	6/6/94	1403	
Area T-5	T5-37	512173.93	1165091.58	0.5	0.00	0.06	0.00	6/6/94	1513	
Area T-5	T5-37	512173.93	1165091.58	2.0	0.00	0.00	0.00	6/6/94	1533	
Area T-5	T5-38	511991.77	1165168.74	0.5	0.00	0.00	0.00	6/6/94	1413	
Area T-5	T5-38	511991.77	1165168.74	2.0	0.00	0.00	0.00	6/6/94	1423	
Area T-5	T5-39	511965.77	1165133.74	0.5	0.00	0.00	0.00	6/6/94	1433	
Area T-5	T5-39	511965.77	1165133.74	2.0	0.00	0.05	0.00	6/6/94	1443	

Table B-1. Summary of MINICAMS Screening Data – Main Post

Site	Screening Sample ID	Easting	Northing	Depth (ft)	HD (TWA)	VX (TWA)	GB (TWA)	Date Screened	Time Cleared	Associated Lab Sample ID
Area T-5	T5-40	511991.35	1165000.54	0.5	0.00	0.00	0.00	6/6/94	1453	
Area T-5	T5-40	511991.35	1165000.54	2.0	0.00	0.05	0.00	6/6/94	1503	
Area T-5	T5-41	512074.04	1165114.66	0.5	0.00	0.06	0.00	6/6/94	1543	Base A
Area T-5	T5-41	512074.04	1165114.66	2.0	0.00	0.00	0.00	6/6/94	1553	Base A
Area T-5	T5-42	512292.57	1165034.83	0.5	0.00	0.00	0.00	6/6/94	1603	Base B
Area T-5	T5-42	512292.57	1165034.83	2.0	0.00	0.00	0.00	6/6/94	1613	Base B
Area T-5	T5-43	512335.34	1164788.42	0.5	0.00	0.00	0.00	6/6/94	1623	Base C
Area T-5	T5-43	512335.34	1164788.42	2.0	0.00	0.00	0.00	6/6/94	1633	Base C
Area T-5	T5-44	512190.46	1164731.57	0.5	0.00	0.00	0.00	6/6/94	1643	Base D
Area T-5	T5-44	512190.46	1164731.57	2.0	0.00	0.00	0.00	6/6/94	1653	Base D
Area T-24A	T24A-1	523270.93	1158503.82	0.5	0.02	0.06	0.01	6/20/94	1024	
Area T-24A	T24A-2	523210.2	1158403	0.5	0.02	0.00	0.01	6/20/94	1034	
Area T-24A	T24A-3	523330.01	1158403	0.5	0.02	0.00	0.01	6/20/94	1034	
Area T-24A	T24A-4	523448.19	1158383.33	0.5	0.00	0.00	0.01	6/20/94	1044	
Area T-24A	T24A-5	523270.93	1158299.72	0.5	0.00	0.00	0.01	6/20/94	1044	
Area T-24A	T24A-6	523388.28	1158299.72	0.5	0.02	0.07	0.00	6/20/94	1054	
Area T-24A	T24A-7	523508.1	1158299.72	0.5	0.02	0.07	0.00	6/20/94	1054	
Area T-24A	T24A-8	523331.66	1158236.6	0.5	0.00	0.00	0.00	6/20/94	1104	
Area T-24A	T24A-9	523449.83	1158193.16	0.5	0.00	0.00	0.00	6/20/94	1104	
Area T-24A	T24A-T1-1	Trench samples		2.0	0.00	0.00	0.00	5/19/94	1149	
Area T-24A	T24A-T1-2	Trench samples		3.0	0.00	0.00	0.00	5/19/94	1229	
Area T-24A	T24A-T1-3	Trench samples		3.0	0.00	0.04	0.00	5/19/94	1249	
Area T-24A	T24A-T1-4	Trench samples		3.5	0.00	0.00	0.00	5/23/94	1213	
Area T-24A	T24A-T1-5	Trench samples		5.5	0.00	0.00	0.01	5/24/94	1122	T24A-S03
Area T-24A	T24A-T1-6	Trench samples		5.5	0.00	0.02	0.00	5/24/94	1442	T24A-S04
Area T-24A	T24A-T1-7	Trench samples		5.0	0.04	0.00	0.00	5/27/94	1040	T24A-S05
Area T-38	T38-1	518438.53	1173739.31	0.5	0.02	0.07	0.00	5/10/94	0939	
Area T-38	T38-2	518588.48	1173740.64	0.5	0.03	0.09	0.02	5/9/94	1759	
Area T-38	T38-3	518737.76	1173739.97	0.5	0.03	0.12	0.01	5/9/94	1814	
Area T-38	T38-4	518513.84	1173609.44	0.5	0.00	0.04	0.00	5/10/94	1226	
Area T-38	T38-5	518662.46	1173610.76	0.5	0.03	0.09	0.01	5/9/94	1825	
Area T-38	T38-6	518813.73	1173609.44	0.5	0.02	0.08	0.00	5/9/94	1845	
Area T-38	T38-7	518589.14	1173480.23	0.5	0.00	0.09	0.00	5/9/94	1835	
Area T-38	T38-8	518738.43	1173480.23	0.5	0.02	0.07	0.00	5/9/94	1915	
Area T-38	T38-9	518887.71	1173479.57	0.5	0.03	0.08	0.00	5/9/94	1855	
Area T-38	T38-10	518662.35	1173351.09	0.5	0.06	0.09	0.05	5/10/94	0845	
Area T-38	T38-11	518812.17	1173351.09	0.5	0.00	0.08	0.00	5/9/94	1905	
Area T-38	T38-12	518738.65	1173222.45	0.5	0.00	0.09	0.01	5/10/94	0919	
Area T-38	T38-13	518887.77	1173221.07	0.5	0.00	0.08	0.00	5/10/94	0929	
Area T-38	T38-14	518813.55	1173089.66	0.5	0.03	0.11	0.01	5/10/94	0909	
Area T-38	T38-15	518963.37	1173091.74	0.5	0.03	0.10	0.01	5/10/94	0859	
Area T-38	T38-16			0.5	0.03	0.06	0.02	5/18/94	0940	
Area T-38	T38-17			0.5	0.04	0.07	0.03	5/18/94	0925	
Area T-38	T38-18	518517.75	1173779.78	0.5	0.00	0.05	0.00	5/18/94	1354	
Area T-38	T38-19	518670.71	1173791.4	0.5	0.03	0.08	0.01	5/18/94	0950	
Area T-38	T38-20	518506.13	1173680.99	0.5	0.02	0.08	0.01	5/18/94	1000	
Area T-38	T38-21	518719.11	1173661.62	0.5	0.02	0.04	0.00	5/18/94	1404	
Area T-38	T38-22	518599.07	1173539.59	0.5	0.00	0.07	0.01	5/18/94	1010	
Area T-38	T38-23	518775.26	1173535.72	0.5	0.00	0.06	0.01	5/18/94	1015	
Area T-38	T38-24			0.5	0.00	0.04	0.00	5/18/94	1031	
Area T-38	T38-25			0.5	0.00	0.06	0.00	5/18/94	1041	
Area T-38	T38-26			0.5	0.00	0.05	0.00	5/18/94	1051	
Area T-38	T38-27	518726.86	1173405.94	0.5	0.00	0.03	0.00	5/18/94	1101	
Area T-38	T38-28	518823.67	1173405.94	0.5	0.00	0.09	0.00	5/18/94	1105	
Area T-38	T38-29			0.5	0.02	0.00	0.00	5/18/94	1127	
Area T-38	T38-30			0.5	0.03	0.00	0.00	5/18/94	1142	
Area T-38	T38-31			0.5	0.00	0.04	0.00	5/18/94	1152	
Area T-38	T38-32	518734.6	1173299.41	0.5	0.00	0.04	0.00	5/18/94	1202	
Area T-38	T38-33	518914.67	1173303.29	0.5	0.02	0.06	0.00	5/18/94	1212	
Area T-38	T38-34	518695.88	1173152.2	0.5	0.00	0.06	0.00	5/18/94	1222	
Area T-38	T38-35	518813.99	1173167.7	0.5	0.02	0.03	0.00	5/18/94	1232	
Area T-38	T38-36	518887.56	1173167.7	0.5	0.02	0.04	0.00	5/18/94	1243	

Table B-1. Summary of MINICAMS Screening Data – Main Post

Site	Screening Sample ID	Easting	Northing	Depth (ft)	HD (TWA)	VX (TWA)	GB (TWA)	Date Screened	Time Cleared	Associated Lab Sample ID
Area T-38	T38-37	518953.39	1173179.32	0.5	0.03	0.03	0.00	5/18/94	1253	
Area T-38	T38-38	518899.18	1173111.53	0.5	0.02	0.05	0.00	5/18/94	1303	
Area T-38	T38-39	518740.41	1173032.11	0.5	0.00	0.04	0.00	5/18/94	1313	
Area T-38	T38-40	518854.65	1173055.35	0.5	0.00	0.03	0.00	5/18/94	1323	
Area T-38	T38-41	518875.95	1173051.48	0.5	0.00	0.00	0.00	5/18/94	1333	
Area T-38	T38-42	518990.18	1173076.66	0.5	0.00	0.03	0.00	5/18/94	1343	
Area T-38	T38-S05-1	518429.81	1173730.3	1.0	0.03	0.02	0.07	5/9/94	1435	
Area T-38	T38-S05-2	518429.81	1173730.3	3.0	0.03	0.06	0.01	5/9/94	1501	
Area T-38	T38-S05-3	518429.81	1173730.3	5.0	0.03	0.01	0.05	5/9/94	1520	
Area T-38	T38-S05-4	518429.81	1173730.3	10.0	0.00	0.07	0.01	5/9/94	1551	
Area T-38	T38-S05-5	518429.81	1173730.3	14.0	0.03	0.07	0.00	5/9/94	1621	
Area T-38	T38-S05-6	518429.81	1173730.3	17.0	0.00	0.07	0.00	5/9/94	1652	
Area T-38	T38-S06-1	518797.26	1173699.16	1.0	0.00	0.00	0.03	6/1/94	1629	T38-S06,SAIC01
Area T-38	T38-S06-2	518797.26	1173699.16	5.0	0.00	0.00	0.01	6/1/94	1729	
Area T-38	T38-S06-3	518797.26	1173699.16	10.0	0.00	0.00	0.01	6/1/94	1809	
Area T-38	T38-S06-4	518797.26	1173699.16	15.0	0.00	0.00	0.00	6/1/94	1849	
Area T-38	T38-S07-1	518884.27	1173528.57	1.0	0.02	0.08	0.01	5/23/94	0946	
Area T-38	T38-S07-2	518884.27	1173528.57	5.0	0.00	0.00	0.00	5/23/94	1017	
Area T-38	T38-S07-3	518884.27	1173528.57	10.0	0.00	0.06	0.00	5/23/94	1047	
Area T-38	T38-S07-4	518884.27	1173528.57	15.0	0.00	0.04	0.00	5/23/94	1128	
Area T-38	T38-S07-5	518884.27	1173528.57	17.0	0.00	0.05	0.00	5/23/94	1222	
Area T-38	T38-S08-1	518902.86	1173111.9	1.0	0.05	0.03	0.01	5/14/94	0952	
Area T-38	T38-S08-2	518902.86	1173111.9	5.0	0.03	0.00	0.01	5/14/94	1022	
Area T-38	T38-S08-3	518902.86	1173111.9	10.0	0.03	0.05	0.00	5/14/94	1102	
Area T-38	T38-S08-4	518902.86	1173111.9	15.0	0.00	0.05	0.00	5/14/94	1212	
Area T-38	T38-S09-1	518778	1173558	0.0	0.00	0.00	0.01	6/2/94	1119	T38-S09,SAIC01
Area T-38	T38-S09-2	518778	1173558	2.0	0.00	0.00	0.00	6/2/94	1219	T38-S09,SAIC02
Area T-38	T38-S09-3	518778	1173558	5.0	0.00	0.00	0.00	6/2/94	1249	
Area T-38	T38-S09-4	518778	1173558	10.0	0.00	0.00	0.00	6/2/94	1409	
Area T-38	T38-S09-5	518778	1173558	15.0	0.00	0.00	0.00	6/2/94	1441	
Area T-38	T38-S09-6	518778	1173558	20.0	0.03	0.00	0.00	6/2/94	1519	
Area T-38	T38-S09-7	518778	1173558	25.0	0.04	0.03	0.00	6/2/94	1549	
Area T-38	T38-S09-8	518778	1173558	30.0	0.06	0.04	0.00	6/2/94	1639	
Area T-38	T38-S09-9	518778	1173558	35.0	0.00	0.00	0.01	6/3/94	0758	
Area T-38	T38-S09-10	518778	1173558	40.0	0.00	0.00	0.00	6/3/94	0848	
Area T-38	T38-S09-11	518778	1173558	45.0	0.00	0.09	0.00	6/3/94	1048	T38-S09,SAIC03
D&I Area	DI-1	513088.06	1166847.76	0.5	0.00	0.00	0.00	5/17/94	1045	
D&I Area	DI-2	513137.48	1166849.3	0.5	0.00	0.00	0.01	5/11/94	1153	
D&I Area	DI-2	513137.48	1166849.3	0.5	0.00	0.02	0.01	5/17/94	1055	
D&I Area	DI-3	513186.79	1166850.73	0.5	0.00	0.17	0.00	5/17/94	1105	
D&I Area	DI-4	513113.15	1166798.85	0.5	0.00	0.00	0.01	5/11/94	1203	
D&I Area	DI-5	513163.27	1166800.6	0.5	0.00	0.00	0.01	5/11/94	1223	
D&I Area	DI-6	513089.08	1166745.16	0.5	0.00	0.00	0.00	5/17/94	1115	
D&I Area	DI-7	513138.68	1166750.03	0.5	0.00	0.00	0.01	5/11/94	1233	
D&I Area	DI-8	513188.86	1166752.42	0.5	0.00	0.00	0.00	5/17/94	1125	
D&I Area	DI-9	513115.78	1166699.67	0.5	0.00	0.00	0.00	5/17/94	1135	
D&I Area	DI-10	513165.54	1166701.91	0.5	0.00	0.00	0.01	5/17/94	1145	
D&I Area	DI-11	513090.81	1166649.09	0.5	0.00	0.00	0.01	5/17/94	1155	
D&I Area	DI-12	513140.19	1166650.72	0.5	0.00	0.00	0.01	5/17/94	1205	
D&I Area	DI-13	513188.97	1166653.29	0.5	0.00	0.02	0.00	5/17/94	1215	
D&I Area	DI-T1S-1	Trench samples		2.5	0.03	0.00	0.01	5/12/94	1119	
D&I Area	DI-T1S-2	Trench samples		6.5	0.00	0.00	0.01	5/12/94	1343	DIA-S04
D&I Area	DI-T1N-3	Trench samples		4.5	0.00	0.00	0.01	5/16/94	1559	DIA-S05
D&I Area	DI-T2W-1	Trench samples		5.0	0.00	0.00	0.01	5/12/94	1453	
D&I Area	DI-T2W-2	Trench samples		5.5	0.00	0.00	0.01	5/13/94	1218	
D&I Area	DI-T2W-3	Trench samples		6.5	0.00	0.00	0.01	5/16/94	1053	DIA-S03
D&I Area	DI-T2E-4	Trench samples		4.5	0.05	0.00	0.01	5/16/94	1353	
D&I Area	DI-T2E-5	Trench samples		5.0	0.00	0.00	0.00	5/17/94	0942	DIA-S06

Table B–2. Summary of MINICAMS Screening Data – Pelham Range

Site	Screening Sample ID	Easting	Northing	Depth (ft)	HD (TWA)	VX (TWA)	GB (TWA)	Date Screened	Time Cleared	Associated Lab Sample ID
Range J	RJ–1	470646.17	1173982.28	0.5	0.09	0.09	0.00	5/11/94	0910	
Range J	RJ–2	470671.16	1173981.41	0.5	0.04	0.09	0.00	5/11/94	0925	
Range J	RJ–3	470696.14	1173980.54	0.5	0.04	0.09	0.00	5/11/94	0930	
Range J	RJ–4	470721.13	1173979.66	0.5	0.03	0.10	0.00	5/11/94	0940	
Range J	RJ–5	470746.11	1173978.79	0.5	0.03	0.05	0.00	5/11/94	0950	
Range J	RJ–6	470635.12	1173953.75	0.5	0.03	0.06	0.00	5/11/94	1000	
Range J	RJ–7	470660.1	1173952.87	0.5	0.03	0.07	0.00	5/11/94	1011	
Range J	RJ–8	470685.09	1173952	0.5	0.03	0.00	0.00	5/11/94	1025	
Range J	RJ–9	470710.07	1173951.13	0.5	0.03	0.07	0.00	5/11/94	1031	
Range J	RJ–10	470735.06	1173950.26	0.5	0.02	0.06	0.00	5/11/94	1051	
Range J	RJ–11	470760.04	1173949.38	0.5	0.03	0.05	0.00	5/11/94	1101	
Range J	RJ–12	470635.12	1173997.6	0.5	0.04	0.18	0.17	5/12/94	1417	
Range J	RJ–13	470660.1	1173996.73	0.5	0.03	0.12	0.05	5/12/94	1422	
Range J	RJ–14	470685.09	1173995.86	0.5	0.03	0.19	0.02	5/12/94	1432	
Range J	RJ–15	470710.07	1173994.98	0.5	0.02	0.11	0.01	5/12/94	1442	
Range J	RJ–16	470735.06	1173994.11	0.5	0.03	0.07	0.00	5/12/94	1452	
Range J	RJ–17	470760.04	1173993.24	0.5	0.00	0.05	0.01	5/12/94	1512	
Range J	RJ–18	470643.37	1173969.22	0.5	0.00	0.05	0.01	5/12/94	1522	
Range J	RJ–19	470668.35	1173968.35	0.5	0.00	0.09	0.01	5/12/94	1532	
Range J	RJ–20	470693.34	1173967.48	0.5	0.00	0.00	0.01	5/12/94	1542	
Range J	RJ–21	470718.32	1173966.61	0.5	0.00	0.13	0.00	5/12/94	1552	
Range J	RJ–22	470743.31	1173965.73	0.5	0.00	0.00	0.00	5/12/94	1602	
Range J	RJ–23	470768.29	1173964.86	0.5	0.00	0.00	0.01	5/12/94	1612	
Range J	RJ–T1–1	470687.43	1173982.82	5.0	0.00	0.00	0.00	5/18/94	0939	RJ–S05
Range J	RJ–T1–2			4.0	0.00	0.00	0.00	5/18/94	1009	
Range J	RJ–T1–3	470677.57	1173988.57	5.0	0.00	0.00	0.01	5/18/94	1119	RJ–S06
Range J	RJ–T2–1	470744.93	1173992.67	1.5	0.00	0.00	0.01	5/18/94	1259	RJ–S07
Range J	RJ–T2–2	470765.46	1173971.31	1.5	0.00	0.00	0.00	5/18/94	1419	RJ–S08
Range J	RJ–S05	470671.01	1174066.3	1.0	0.00	0.02	0.03	6/5/94	1255	
Range J	RJ–S05	470671.01	1174066.3	5.0	0.00	0.03	0.01	6/5/94	1315	
Range J	RJ–S05	470671.01	1174066.3	10.0	0.00	0.00	0.01	6/5/94	1335	
Range J	RJ–S05	470671.01	1174066.3	15.0	0.00	0.02	0.01	6/5/94	1355	
Range J	RJ–S05	470671.01	1174066.3	20.0	0.00	0.03	0.01	6/5/94	1415	
Range J	RJ–S05	470671.01	1174066.3	25.0	0.00	0.00	0.00	6/5/94	1435	
Range J	RJ–S05	470671.01	1174066.3	30.0	0.00	0.00	0.00	6/5/94	1505	
Range J	RJ–S05	470671.01	1174066.3	35.0	0.00	0.00	0.00	6/5/94	1525	
Range J	RJ–S05	470671.01	1174066.3	40.0	0.00	0.00	0.00	6/5/94	1605	
Range J	RJ–S05	470671.01	1174066.3	45.0	0.00	0.03	0.00	6/5/94	1625	
Range J	RJ–S05	470671.01	1174066.3	50.0	0.00	0.03	0.00	6/5/94	1700	
Range J	RJ–S05	470671.01	1174066.3	55.0	0.00	0.02	0.00	6/5/94	1730	
Range J	RJ–S06	470817.16	1173936.78	1.0	0.00	0.00	0.00	6/8/94	1429	
Range J	RJ–S06	470817.16	1173936.78	5.0	0.00	0.00	0.01	6/8/94	1459	
Range J	RJ–S06	470817.16	1173936.78	10.0	0.00	0.00	0.01	6/8/94	1529	
Range J	RJ–S06	470817.16	1173936.78	15.0	0.00	0.00	0.01	6/8/94	1549	
Range J	RJ–S06	470817.16	1173936.78	20.0	0.00	0.00	0.00	6/8/94	1609	
Range J	RJ–S07	470606.11	1173935.66	1.0	0.00	0.00	0.00	6/7/94	1500	
Range J	RJ–S07	470606.11	1173935.66	5.0	0.00	0.00	0.00	6/7/94	1530	
Range J	RJ–S07	470606.11	1173935.66	10.0	0.00	0.00	0.00	6/7/94	1600	
Range J	RJ–S07	470606.11	1173935.66	15.0	0.00	0.03	0.00	6/7/94	1630	
Range J	RJ–S07	470606.11	1173935.66	20.0	0.00	0.00	0.00	6/7/94	1706	
Range K	RK–S01			2.0	0.00	0.00	0.00	6/7/94	1152	RK–S01
Range K	RK–S02			2.0	0.00	0.00	0.00	6/7/94	1212	RK–S02
Range K	RK–S03			2.0	0.00	0.03	0.00	6/7/94	1252	RK–S03
Range K	RK–S04			2.0	0.00	0.00	0.00	6/7/94	1322	RK–S04
Range K	RK–1	450085.06	1177539.55	0.5	0.00	0.16	0.01	5/12/94	1124	
Range K	RK–2	450186.54	1177555.59	0.5	0.03	0.16	0.02	5/12/94	1059	
Range K	RK–3	450290.91	1177564.67	0.5	0.04	0.13	0.04	5/12/94	1049	
Range K	RK–4	450401.12	1177555.59	0.5	0.05	0.13	0.12	5/12/94	1039	
Range K	RK–5	450129.81	1177465.4	0.5	0.02	0.12	0.01	5/12/94	1139	
Range K	RK–6	450237.43	1177468	0.5	0.00	0.00	0.01	5/12/94	1150	
Range K	RK–7	450343.75	1177473.83	0.5	0.02	0.00	0.01	5/12/94	1200	
Range K	RK–8	450081.52	1177375.22	0.5	0.00	0.15	0.00	5/12/94	1230	

Table B-2. Summary of MINICAMS Screening Data – Pelham Range

Site	Screening Sample ID	Easting	Northing	Depth (ft)	HD (TWA)	VX (TWA)	GB (TWA)	Date Screened	Time Cleared	Associated Lab Sample ID
Range K	RK-9	450186.54	1177376.51	0.5	0.00	0.09	0.00	5/12/94	1220	
Range K	RK-10	450291.56	1177375.86	0.5	0.02	0.09	0.01	5/12/94	1210	
Range K	STA 0,0	449997.19	1177324.82	0.5	0.00	0.00	0.00	6/9/94	1242	
Range K	STA 80,0	450077.19	1177324.82	0.5	0.00	0.00	0.00	6/9/94	1252	
Range K	STA 120,0	450117.19	1177324.82	0.5	0.00	0.00	0.00	6/9/94	1312	
Range K	STA 160,0	450157.19	1177324.82	0.5	0.00	0.00	0.00	6/9/94	1252	
Range K	STA 240,0	450237.19	1177324.82	0.5	0.00	0.00	0.00	6/9/94	1302	
Range K	STA 320,0	450317.19	1177324.82	0.5	0.00	0.00	0.00	6/9/94	1302	
Range K	STA 400,0	450397.19	1177324.82	0.5	0.00	0.00	0.00	6/9/94	1312	
Range K	STA 0,40	449997.19	1177364.82	0.5	0.00	0.00	0.00	6/9/94	1212	
Range K	STA 80,40	450077.19	1177364.82	0.5	0.00	0.00	0.00	6/9/94	1212	
Range K	STA 160,40	450157.19	1177364.82	0.5	0.00	0.03	0.00	6/9/94	1222	
Range K	STA 240,40	450237.19	1177364.82	0.5	0.00	0.03	0.00	6/9/94	1222	
Range K	STA 320,40	450317.19	1177364.82	0.5	0.00	0.00	0.00	6/9/94	1232	
Range K	STA 400,40	450397.19	1177364.82	0.5	0.00	0.00	0.00	6/9/94	1232	
Range K	STA 480,40	450477.19	1177364.82	0.5	0.00	0.00	0.00	6/9/94	1242	
Range K	STA 0,120	449997.19	1177444.82	0.5	0.02	0.00	0.00	6/9/94	1102	
Range K	STA 80,120	450077.19	1177444.82	0.5	0.00	0.00	0.00	6/9/94	1142	
Range K	STA 160,120	450157.19	1177444.82	0.5	0.00	0.00	0.00	6/9/94	1142	
Range K	STA 240,120	450237.19	1177444.82	0.5	0.00	0.02	0.00	6/9/94	1152	
Range K	STA 320,120	450317.19	1177444.82	0.5	0.00	0.02	0.00	6/9/94	1152	
Range K	STA 400,120	450397.19	1177444.82	0.5	0.00	0.00	0.00	6/9/94	1202	
Range K	STA 480,120	450477.19	1177444.82	0.5	0.00	0.00	0.00	6/9/94	1202	
Range K	STA 0,200	449997.19	1177524.82	0.5	0.02	0.00	0.00	6/9/94	1102	
Range K	STA 80,200	450077.19	1177524.82	0.5	0.00	0.00	0.00	6/9/94	1112	
Range K	STA 160,200	450157.19	1177524.82	0.5	0.00	0.00	0.00	6/9/94	1112	
Range K	STA 240,200	450237.19	1177524.82	0.5	0.00	0.00	0.00	6/9/94	1122	
Range K	STA 320,200	450317.19	1177524.82	0.5	0.00	0.00	0.00	6/9/94	1122	
Range K	STA 400,200	450397.19	1177524.82	0.5	0.00	0.02	0.00	6/9/94	1132	
Range K	STA 480,200	450477.19	1177524.82	0.5	0.00	0.02	0.00	6/9/94	1132	
Range K	STA 0,280	449997.19	1177604.82	0.5	0.00	0.00	0.00	6/9/94	1052	
Range K	STA 80,280	450077.19	1177604.82	0.5	0.03	0.00	0.01	6/9/94	1012	
Range K	STA 160,280	450157.19	1177604.82	0.5	0.00	0.03	0.00	6/9/94	1022	
Range K	STA 240,280	450237.19	1177604.82	0.5	0.00	0.00	0.00	6/9/94	1032	
Range K	STA 320,280	450317.19	1177604.82	0.5	0.00	0.03	0.00	6/9/94	1042	
Range K	STA 400,280	450397.19	1177604.82	0.5	0.00	0.00	0.00	6/9/94	1052	
Range K	STA 480,280	450477.19	1177604.82	0.5	0.00	0.03	0.00	6/7/94	1051	
Range L	RL-S01	449990.45	1176679.72	1.0	0.00	0.00	0.00	6/10/94	0851	RL-S01,SAIC01
Range L	RL-S01	449990.45	1176679.72	5.0	0.00	0.02	0.00	6/10/94	0921	
Range L	RL-S01	449990.45	1176679.72	10.0	0.00	0.03	0.00	6/10/94	0951	
Range L	RL-S01	449990.45	1176679.72	15.0	0.00	0.03	0.00	6/10/94	1021	
Range L	RL-S01	449990.45	1176679.72	20.0	0.00	0.03	0.00	6/10/94	1111	RL-S01,SAIC02
Range L	RL-S02	449718.54	1176901.62	0.5	0.00	0.00	0.00	6/16/94	1646	RL-S02,SAIC01
Range L	RL-S02	449718.54	1176901.62	5.0	0.00	0.00	0.00	6/16/94	1446	
Range L	RL-S02	449718.54	1176901.62	10.0	0.00	0.00	0.00	6/16/94	1506	
Range L	RL-S02	449718.54	1176901.62	15.0	0.00	0.05	0.00	6/16/94	1536	
Range L	RL-S02	449718.54	1176901.62	20.0	0.02	0.05	0.00	6/16/94	1616	RL-S02,SAIC02
Range L	RL-S03	449759	1176656.05	0.5	0.04	0.04	0.01	6/15/94	1337	RL-S03,SAIC01
Range L	RL-S03	449759	1176656.05	1.0	0.00	0.00	0.00	6/15/94	1517	
Range L	RL-S03	449759	1176656.05	5.0	0.00	0.00	0.00	6/15/94	1707	
Range L	RL-S03	449759	1176656.05	10.0	0.00	0.00	0.00	6/16/94	0810	
Range L	RL-S03	449759	1176656.05	15.0	0.02	0.03	0.00	6/16/94	0840	
Range L	RL-S03	449759	1176656.05	20.0	0.00	0.00	0.00	6/16/94	0920	RL-S03,SAIC02
Range L	RL-S03(redo)	449759	1176656.05	5.0	0.00	0.00	0.02	6/30/94	1644	
Range L	RL-S03(redo)	449759	1176656.05	9.0	0.00	0.00	0.02	6/30/94	1704	
Range L	RL-S03(redo)	449759	1176656.05	14.0	0.00	0.00	0.02	6/30/94	1724	
Range L	RL-S04	449620	1176732	1.0	0.00	0.09	0.02	6/30/94	0947	RL-S04,SAIC01
Range L	RL-S04	449620	1176732	10.0	0.00	0.00	0.01	6/30/94	1007	
Range L	RL-S04	449620	1176732	15.0	0.00	0.00	0.01	6/30/94	1027	
Range L	RL-S04	449620	1176732	20.0	0.00	0.14	0.01	6/30/94	1057	RL-S04,SAIC02
Range L	RL-S05	449852.5	1176608	5.0	0.00	0.00	0.05	6/30/94	1514	
Range L	RL-S05	449852.5	1176608	12.0	0.00	0.00	0.04	6/30/94	1534	

Table B–2. Summary of MINICAMS Screening Data – Pelham Range

Site	Screening Sample ID	Easting	Northing	Depth (ft)	HD (TWA)	VX (TWA)	GB (TWA)	Date Screened	Time Cleared	Associated Lab Sample ID
Range L	RL–S05	449852.5	1176608	19.0	0.00	0.00	0.03	6/30/94	1604	RL–S05,SAIC01
Range L	RL–S06	449847	1176852	5.0	0.00	0.00	0.07	6/30/94	1408	
Range L	RL–S06	449847	1176852	10.0	0.00	0.00	0.05	6/30/94	1427	
Old Water Hole	OWH–S01	472304.96	1179621.43	1.0	0.00	0.00	0.00	6/17/94	0849	OWH–S01,SAIC01
Old Water Hole	OWH–S01	472304.96	1179621.43	5.0	0.00	0.00	0.00	6/17/94	0919	
Old Water Hole	OWH–S01	472304.96	1179621.43	10.0	0.00	0.00	0.00	6/17/94	0949	
Old Water Hole	OWH–S01	472304.96	1179621.43	15.0	0.00	0.08	0.00	6/17/94	1009	
Old Water Hole	OWH–S01	472304.96	1179621.43	20.0	0.00	0.05	0.00	6/17/94	1049	OWH–S01,SAIC02
Old Water Hole	OWH–S02	472076.02	1179262.59	1.0	0.02	0.00	0.00	6/17/94	1305	OWH–S02,SAIC01
Old Water Hole	OWH–S02	472076.02	1179262.59	5.0	0.00	0.00	0.00	6/17/94	1335	
Old Water Hole	OWH–S02	472076.02	1179262.59	10.0	0.00	0.03	0.00	6/17/94	1405	
Old Water Hole	OWH–S02	472076.02	1179262.59	15.0	0.00	0.00	0.00	6/17/94	1435	
Old Water Hole	OWH–S02	472076.02	1179262.59	20.0	0.00	0.00	0.00	6/17/94	1515	OWH–S02,SAIC02
Old Water Hole	OWH–S03	472433.17	1179128.65	1.0	0.00	0.00	0.00	6/21/94	1018	OWH–S03,SAIC01
Old Water Hole	OWH–S03	472433.17	1179128.65	5.0	0.00	0.06	0.00	6/21/94	1048	
Old Water Hole	OWH–S03	472433.17	1179128.65	10.0	0.00	0.00	0.00	6/21/94	1118	
Old Water Hole	OWH–S03	472433.17	1179128.65	15.0	0.00	0.00	0.00	6/21/94	1148	
Old Water Hole	OWH–S03	472433.17	1179128.65	20.0	0.00	0.08	0.00	6/21/94	1218	
Old Water Hole	OWH–S06	472259.07	1179483.18	1.0	0.00	0.03	0.00	6/23/94	1255	
Old Water Hole	OWH–S06	472259.07	1179483.18	10.0	0.00	0.00	0.00	6/23/94	1315	
Old Water Hole	OWH–S06	472259.07	1179483.18	15.0	0.00	0.00	0.00	6/23/94	1335	
Old Water Hole	OWH–S06	472259.07	1179483.18	20.0	0.00	0.04	0.00	6/23/94	1355	
Old Water Hole	OWH–S07	472214.65	1179458.97	1.0	0.00	0.16	0.00	6/23/94	1104	
Old Water Hole	OWH–S07	472214.65	1179458.97	10.0	0.00	0.00	0.00	6/23/94	1124	
Old Water Hole	OWH–S07	472214.65	1179458.97	15.0	0.00	0.09	0.00	6/23/94	1145	
Old Water Hole	OWH–S07	472214.65	1179458.97	20.0	0.00	0.00	0.00	6/23/94	1206	
Old Water Hole	OWH–S08	472222.05	1179330.53	3.0	0.00	0.00	0.00	6/23/94	0903	
Old Water Hole	OWH–S08	472222.05	1179330.53	10.0	0.00	0.00	0.00	6/23/94	0923	
Old Water Hole	OWH–S08	472222.05	1179330.53	15.0	0.00	0.04	0.00	6/23/94	0943	
Old Water Hole	OWH–S08	472222.05	1179330.53	20.0	0.00	0.00	0.00	6/23/94	1003	
Old Water Hole	OWH–S09	472271.18	1179290.86	4.0	0.02	0.00	0.00	6/22/94	1502	
Old Water Hole	OWH–S09	472271.18	1179290.86	10.0	0.00	0.00	0.00	6/22/94	1532	
Old Water Hole	OWH–S09	472271.18	1179290.86	15.0	0.00	0.07	0.00	6/22/94	1602	
Old Water Hole	OWH–S09	472271.18	1179290.86	20.0	0.00	0.00	0.00	6/23/94	0753	
Old Water Hole	OWH–S10	472308.87	1179329.19	3.0	0.00	0.00	0.00	6/28/94	1302	
Old Water Hole	OWH–S10	472308.87	1179329.19	10.0	0.00	0.05	0.00	6/28/94	1322	
Old Water Hole	OWH–S10	472308.87	1179329.19	15.0	0.00	0.00	0.00	6/28/94	1342	
Old Water Hole	OWH–S10	472308.87	1179329.19	20.0	0.00	0.00	0.00	6/28/94	1422	OWH–S10
Old Water Hole	OWH–S11	472298.1	1179419.97	5.0	0.00	0.00	0.00	6/28/94	1522	
Old Water Hole	OWH–S11	472298.1	1179419.97	10.0	0.00	0.00	0.00	6/28/94	1542	
Old Water Hole	OWH–S11	472298.1	1179419.97	15.0	0.00	0.00	0.00	6/28/94	1613	
Old Water Hole	OWH–S11	472298.1	1179419.97	20.0	0.00	0.00	0.00	6/28/94	1642	OWH–S11
Old Water Hole	C–Line 01			0.5	0.00	0.00	0.00	6/21/94	1244	
Old Water Hole	C–Line 02			0.5	0.00	0.04	0.00	6/21/94	1254	
Old Water Hole	C–Line 03			0.5	0.00	0.04	0.00	6/21/94	1254	
Old Water Hole	D–Line 01			0.5	0.00	0.05	0.00	6/21/94	1304	
Old Water Hole	D–Line 02			0.5	0.00	0.05	0.00	6/21/94	1304	

TEU
Team 1

01

DATE: 4 May 1994

Time: 0730

A pre-work meeting was held at the GMO building on Ft. McClellan. The following agenda was presented at the meeting BAL

0730-0750	Project Introduction (Chris Manikas-SAIC)	BAL
0750-0810	USATEU Readiness Review (CPT Talley-USATEU)	BAL
BAL 0840 0900 4May94 ~~0810-0845~~	EOD/UXO Considerations (SSG McComas-USATEU)	BAL
0840-0845	Chemical Warfare Agent Considerations (USATEU)	BAL
0900-0915	Break	BAL
0915-1015	Sampling Protocols (P. Dillion, S. Maguire, C. Fontana-SAIC)	BAL
1030-1130	Break for getting equipment together for this afternoon rehearsal.	BAL
1240-1247	Depart GMO building for training Area	DJR
1251-1425	Start Drilling/Sampling Rehearsal Exercise	DJR
1325-15:35	Leave Exercise site for GMO BIDG	DJR
1615	SSG Locks BIDG 3228 All work Stops.	DJR

~~Nothing follows DJR~~

Date 5 May 94

0730-0800	CPT Talley holds Project meeting	DJR
0800-1530	Soil Sampling equipment cleaning wrapped in Tin Foil	DJR
1300-1345	SGT Ryan Departs For Pelham Range For Radio check with Range Control	DJR
1345	Commo Check with Range Control Completed	DJR
1400	CPT Talley contacts SSG Webster in regard to having Provost Marshal Give aditional Security to GMO Motor Pool (mini Cams)	DJR
1630	CPT Talley Secures BIDG 3228 All Work Stops	DJR

DJR 5MAY94
~~All Work~~ ~~Nothing Follows DJR~~

6 MAY 94

0730-0800	CPT Talley holds Project Meeting	DJR
0850-0900	Mr Anderson gives Generator operation class	DJR
1530-1630	Work on mini-cams basic equipt maint	DJR
1530-1630	Review site safety Plan	DJR

~~nothing follows 6may94 DJR~~

9 MAY 94

0730-0800	CPT Talley holds project meeting	DJR
0940-0941	Radio check with Range control	DJR
1245-1245	Leave BLDG 3228 for BLDG 692	DJR
1255 —	Depart BLDG 692 for site T38	DJR
1305	Arrive at site T38	DJR
1340 —	Work begins on site T38	DJR
1340 —	Inform Range control work begins	DJR
1405 —	Mini Cam reports up and running	DJR
1415 —	LT Lewis gives site safety brief to All Pers onsite (List follows)	
	SGT Ryan, Mr Major, Mr Oswell, Mr Rehmert, Mr Dolan PFC Nery, Merrill Fowler	
	Jason Roberts Kevin Bray, Chuck Houck DJR 9may94 Brad Baker Wayne Stoner	
	CPT Talley PFC Sutton	DJR
1425 —	Drilling OPS begins	DJR
1426 —	First sample DJR 9may94 ~~0 to 1 FT~~ 1 to 3 FT	DJR
1427 —	mini cam monitoring 1 to 3 Ft sample in heater box	DJR
1435 —	Minicam reports .03 for HD	DJR
1442 —	Minicam reports .02 GB .07 VX	DJR
1446 —	CPT Talley, Shelton OIC and PFC Nery arrive onsite	DJR
1450 —	5 FT sample is pulled 2nd Sample	DJR

1500	CPT Talley and PFC Sutton Depart Work site	DJR
1501	MiniCam reports .03 HD	DJR
1503	MiniCam reports .06 VX .01 GB	DJR
1515	5 to 7 FT sample is pulled 3rd Sample	DJR
1515	MiniCam monitoring 5 to 7 Ft Sample in heater box 3rd sample	DJR
1520	MiniCam reports .03 for HD	DJR
1523	Mini Cam reports .01 for GB .05 for VX	DJR
1541	Sample #4 10 to 12 FT is pulled	DJR
1542	Radio Check with range Control	DJR
1546	MiniCam monitoring sample #4 10 to 12 Ft in heater box	DJR
1548	PFC Sutton arrive on site	DJR
1550	PFC Sutton leaves site	DJR
1551	MiniCam reports .00 HD	DJR
1552	MiniCam DJR 9may94 ~~pe~~ reports .07 VX .01 GB	DJR
1612	Sample #5 14 to 16 Ft is pulled	DJR
1618	MiniCam monitoring Sample #5 14 to 16 Ft in heater box	DJR
1620	Wayne Stoner Arrives on site	DJR
1621	mini Cam reports .03 HD	DJR
1624	MiniCam reports .07 VX GB .00	DJR
1630	CPT Talley PFC Sutton arrive on site	DJR
1634	SSG McCowns and SPC Veich Arrive on site	DJR
1645	Sample #6 17 to 19 Ft is pulled	DJR
1651	MiniCam Monitoring Sample #5 17 to 19 Ft in heater box	DJR
1654	Radio check with Range Control	DJR
~~1655~~	~~Monitoring of Drilling OPS Complete~~ DJR 9MAY94	~~DJR~~
1652	Mini Cam Reports .00 HD	

16:55	Monitoring of Drilling OPS complete	DJR
17:00	CPT Talley PFC Sutton Depart work site	DJR
17:00	MiniCam shuts Down to relocate	DJR
17:45	CPT Talley PFC Sutton Arrive at work site	DJR
17:48	Mc Donnell and mc Major enter T38.2 to retrieve	
	Surface Sample	DJR
17:52	MiniCam reports up and running	DJR
17:55	Radio Check with range Control	DJR
17:55 DJR 9 May 94 ~~18:05~~	MiniCam monitoring sample T38.2 in heater box	DJR
17:59	MiniCam Reports .03 HD	DJR
18:07	MiniCam Reports .09 VX .02 GB	DJR
18:10	Mini Cam Monitoring Sample T38.3 in heater box	DJR
18:14	MiniCam reports .03 HD	DJR
18:17	Mini Cam reports .12 VX .01 GB	DJR
18:20	Mini Cam ~~monitoring~~ DJR 9 May 94 Monitoring Sample T38.5 in heater box	DJR
18:25	Mini Cam reports .03 HD	DJR
18:28	Mini Cam reports .01 VX .01 GB	DJR
18:30	Mini Cam Monitoring Sample T38.7 in heater box	DJR
18:35	Mini Cam reports .00 HD	DJR
18:37 DJR 9 May 94 ~~18:36~~	Mini Cam reports .09 VX .00 GB	DJR
18:39	MiniCam Monitoring Sample T38.6 in heater box DJR	DJR
1845	Mini Cam reports .02 HD	DJR
1847	MiniCam reports .08 VX .00 GB	DJR
1847	Mini Cam monitoring Sample T38.9 in heater box	DJR
1851	Radio Check with range Control	DJR

1852	CPT Talley Shelton Orr PFC Sutton	
	Arrive on Site	DJR
1855	MiniCam reports .03 HD	DJR
1857	MiniCam reports .08 VX .00 GB	DJR
1857	MiniCam monitoring Sample T38.11 in heater box	DJR
1905	MiniCam reports .00 HD	DJR
1908	MiniCam reports .08 VX .00 GB	DJR
1908	Mini Cam monitoring Sample T38.8 in heater box	DJR
1915 DJR 9 May 94 ~~1918~~	Mini Cam reports .02 HD	DJR
	.01 VX .00 GB	DJR
1920	CPT Talley Shelton Orr PFC Sutton Leave site	DJR
1925	All Sampling OPS shut Down	DJR
1926	Team one Departs T38 for GMO	DJR
	~~Inform of the~~ DJR 9 May 94	
1926	Inform Range Control of Departure	DJR
	Nothing follows DJR 9 May 94	
	DJR 10 May 94 ~~10 June 94~~ 10 MAY 94	
0630	GMO Open vehicles PMCS	DJR
0645-0700	Depart for bldg 3228	DJR
0730-0735	Depart for T38	
0730	Radio Check with Range Control	
0755	LT Lewis Gives Site Safety Brief to All Pers	
	James D Major Bertram C. Lewis Dennis Ryce	
	Gary P Olonnell Paul S. Ney M Mahmut	
	Jack Olson	DJR

0800	Inform Range Control work starts at site T38	DJR
0820	SSG MacCamas SPC Veich PFC Sutton Arrive on Site	DJR
0822	SPC Veich PFC Sutton Depart Site	DJR
0825	CPT Talley Arrives on Site	DJR
0830	SSG MacCamas Departs Site	DJR
0840	Bill Hosser Arrives on Site	DJR
0840	Sample T38.10 being monitored by MiniCam in heater box	DJR
0850	CPT Talley Departs work site	DJR
0845	Mini Cam reports .06 HD	DJR
0853	MiniCam reports .09 VX .05 GB	DJR
0855	MiniCam Monitoring Sample T38.15 in heater box	DJR
~~0900~~	~~Bill Hosser Departs site~~ DJR 10 nov 94	~~DJR~~
0859	Mini Cam reports .03 HD	DJR
0903	Mini Cam reports .10 VX .01 GB	DJR
0904	Mini Cam monitoring Sample T38.14 in heater box	DJR
0909	Mini Cam reports .03 HD	DJR
09:13	Mini Cam reports .11 VX .01 GB	DJR
09:14	MiniCam monitoring Sample T38.12 in heater box	DJR
09:17	Bill Hosser Departs site	DJR
09:19	Mini Cam reports .00 HD	DJR
09:20	Radio Check with range control	DJR
09:24	MiniCam reports .09 VX .01 GB	DJR
09:25	MiniCam monitoring Sample T38.13	DJR
0929	MiniCam reports .00 HD	DJR
0934	MiniCam reports .08 VX .00 GB	DJR
09:35	MiniCam monitoring Sample T38.1 in heater box	DJR

0939	Mini Cam reports .02 HD	DJR
0944	MiniCam reports .07 VX .00 GB	DJR
1000	Radio Check with Range control	DJR
10:20	PFC Sutton Arrives on Site	DJR
1030	MiniCam shut down to refuel Generator	DJR
10:50	mini Cam UP and running	DJR
10:50	SPC Veich Christofana Arrive at site	DJR
11:00	Radio Check with Range control	DJR
11:00	Rinsate Samples being taken	DJR
11:05	Wayne Stoner Arrives on site	DJR
11:35	Chris Fontana Departs site	DJR
11:44	Generator goes down	DJR
11:47	Generator is up and running	DJR
11:50	Radio Check with Range control	DJR
11:50	Chris Fontana ~~Depart~~ DJR 10 nov 94 Arrives on site	DJR
12:26	MiniCam monitoring Sample T38S.10	DJR
12:26	MiniCam reports .00 HD	DJR
12:34	Mini Cam reports .04 VX .00 GB	DJR
12:53	CPT Talley Arrives on site	DJR
12:55	Soil Samplers collect Lab Samples #1	DJR
13:05	CPT Talley PFC Sutton Depart work site	DJR
13:15	LAB samples complete #1	DJR
13:15	Radio check with Range control	DJR
13:45	LAB Sample #2 collected	DJR
13:49	Chris Fontana Departs site	DJR
13:50	LAB Sample #2 mini Cam monitoring in heater box	DJR
13:55	Generator for Mini Cam is Down	DJR

14:10	Bill Houser Arrives on site	DJR
14:18	Generator is up	DJR
14:18	MiniCam reports .02 HD	DJR
14:19	MiniCam reports .03 VX .00 GB	DJR
14:20	MiniCam Finished T 38 screening for 10 may 94	DJR
14:23	Bill Houser Departs site	DJR
14:30	Chris Fontana Arrives At site	DJR
14:45	2nd Lab Sample ~~VOAS~~ DJR 10 may 94 Complete VOC	DJR
15:45	All site OPS stop	DJR
15:47	Depart site T:38	DJR
	~~Nothing Follows DJR 10 may 94~~ 11 may 94	
0630 0645	Arrive At Amo motorpool	DJR
0650	Arrive AT 3328	DJR
0725	Depart bldg 3328 for range J	DJR
0726	Radio check with range control	DJR
0751	Arrive AT J Range	DJR
0755	Inform Range Control of J field Arrival	DJR
0805	LT Lewis gives site safety brief to all Pers	
	11 may 94 ~~Ryan Ryan, Peter Dalton, Peter W. Dalton-TEU~~	
	O'Connell Ryan P. Ryan O'Connell	
	MAJOR James D. Major James D. Major	
	Barbara A. Lewis, Barbara A. Lewis, 1LT (TEU)	
	NEY PAUL S Paul S Ney, PFC (TEU)	
	M.A. Rehmeyer M.A. Rehmeyer TEU	
	Ryan Dennis J, Dennis J Ryan TEU	DJR

	~~MiniCam monitoring Sample~~ DJR 11 may 94	
0900	mini Cam reports up and running	DJR
0901	Radio Check with Range Control	DJR
0901	MiniCam Monitoring Sample # RJ1 in heater box	DJR
0910	MiniCam reports .09 HD	DJR
0915	MiniCam reports .09 VX .00 GB	DJR
0916	MiniCam monitoring Sample # RJ2 in heater box	DJR
0925	MiniCam reports .04 HD	DJR
0925	MiniCam reports .09 VX .00 GB	DJR
0926	MiniCam monitoring Sample # RJ3 in heater box	DJR
0930	MiniCam reports .04 HD	DJR
0935	MiniCam reports .09 VX .00 GB	DJR
~~0940~~	~~MiniCam reports .03 HD~~ DJR 11 may 94	~~DJR~~
0935	MiniCam Monitoring Sample # RJ4 in heater box	DJR
0940	MiniCam reports .03 HD	DJR
0945	MiniCam reports .10 VX GB .00	DJR
0945	MiniCam monitoring Sample # RJ5 in heater box	DJR
0950	MiniCam reports .03 HD	DJR
0955	MiniCam reports .05 VX .00 GB	DJR
0955	MiniCam monitoring Sample # RJ6 in heater box	DJR
0958	Radio Check with range control	DJR
1000	MiniCam Reports .03 HD	DJR
1005	MiniCam Reports .06 VX .00 GB	DJR
1005	MiniCam Monitoring Sample # RJ7 in heater box	DJR
1011	MiniCam reports .03 HD	DJR
1015	MiniCam reports .07 VX .00 GB	DJR
1015	MiniCam monitoring Sample # RJ8 in heater box	DJR

0:21	MiniCam reports .03 HD	DJR
0:25	MiniCam reports, .00 VX .00 GB.	DJR
0:35	MiniCam monitoring Sample# RJ 9 in heater box	DJR
1:31	MiniCam reports .03 HD	DJR
1:35	MiniCam reports .07 VX .00 GB	DJR
1:45	MiniCam monitoring Sample# RJ 10 in heater box	DJR
1:51	MiniCam reports .02 HD	DJR
1:55	MiniCam reports .06 VX .00 GB	DJR
1:55	MiniCam monitoring Sample# RJ 11 in heater box	DJR
:00	Radio Check with range control	DJR
:01	MiniCam reports .03 HD	DJR
:05	MiniCam reports .05 VX .00 GB	DJR
:10	MiniCam shuts down on Range J	DJR
:57	Depart Range J	DJR
:58	Inform Range Control Site Departure	DJR
:21	Arrive AT 3228	DJR
0:[illegible]	Released from Grt DJR 11 may 94 BLDG 3228	DJR
	~~Nothing follows DJR 11 may 94~~	
	12 may 94	
730	GMO motorpool pick up vehicle	DJR
140	Arrive AT BLDG 3228	DJR
100	Depart BLDG 3228 For Rang K-site 5	DJR
100	Inform Range Control of Departure	DJR
:50	Arrive At Range K site 5	DJR
150	Inform Rang Control of Arrival	DJR
	X X X X X X X X X X X	

10:05	LT Lewis Gives site safety brief to all pers	
	Ryan Dennis J, Dennis Ryan (TEU)	
	STONER, Wayne P. Wayne P. Stoner (SAIC)	
	O'Connell, Ryan P. Ryan P. O'Connell (TEU)	
	NEY PAUL S Paul S Ney (TEU)	
	M.A. Rahment M.A. Rahment (TEU)	
	LEWIS, BARBARA A. Barbara G. Lewis (TEU), 117	
	MAJOR JAMES D James D Major (TEU)	DJR
10:10	work site setup begins	DJR
10:35	MiniCam reports up and running	DJR
10:35	Mini Cam monitoring Sample# RK-4 in heater box	DJR
10:39	Mini Cam reports .05 HD	DJR
10:44	Mini Cam reports .13 VX .12 GB	DJR
10:46	mini Cam monitoring Sample# RK-3 in heater box	DJR
10:49	Mini Cam reports .04 HD	DJR
10:54	Mini Cam reports .13 VX .04 GB	DJR
10:55	Mini Cam monitoring Sample# RK-2 in heater box	DJR
10:59	Mini Cam reports .03 HD	DJR
11:04	Mini Cam reports .16 VX .02 GB	DJR
11:17	Mini Cam monitoring Sample# RK-1 in heater box	DJR
11:17	Radio check with range Control	DJR
11:24	Mini Cam reports .00 HD	DJR
11:24	Mini Cam reports .16 VX .01 GB	DJR
11:24	MiniCam monitoring Sample# RK-5 in heater box	DJR
11:39	Mini Cam reports .02 HD	DJR
11:44	Mini Cam reports .12 VX .01 GB	DJR
11:45	Mini Cam monitoring Sample# RK-6 in heater box	DJR

11:50	Mini Cam reports ØØ HD	DJR
11:54	Mini Cam reports ØØ VX .Ø1 GB	DJR
11:55	Mini Cam monitoring Sample #RK-7 in heater box	DJR
12:ØØ	Mini Cam reports .Ø2 HD	DJR
12:Ø4	Mini Cam reports ØØ VX .Ø1 GB	DJR
12:Ø5	Mini Cam monitoring Sample #RK-10 in heater box	DJR
12:1Ø	Mini Cam reports .Ø2 HD	DJR
12:14	Mini Cam reports Ø9 VX .Ø1 GB	DJR
12:15	Mini Cam monitoring Sample #RK-9 in heater box	DJR
12:15	Radio check with Range Control	DJR
12:2Ø	mini Cam reports .ØØ HD	DJR
12:24	mini Cam reports .Ø9 VX ØØ GB	DJR
12:24	Mini Cam monitoring Sample #RK-8, in heater box	DJR
12:3Ø	Mini Cam reports ØØ HD	DJR
12:34	Mini Cam reports .15 VX ØØ GB	DJR
12:35	mini Cam ends monitoring AT site Range K site 5	DJR
12:4Ø	site break down	DJR
12:ØØ	Depart Rang 5 site K	DJR
12:ØØ	Inform Range Control of Departure	DJR
13:4Ø	Arrive AT Range J	DJR
13:41	Radio Check with range control	DJR
13:46	LT Lewis gives site safety brief; to all pers (TGU)	
	Ryan Dennis J Dennis J Ryan, BEANS, BARBARA A, [illegible]	
	MAJOR James D James D Major, PAUL SKIDY Paul Skidy	
	O'Connell Ryan P Ryan O'Connell	
	M.A. Rehymer M.A. Rehymer	
	Paul Nolan Paul Nolan	DJR

13:5Ø	Mr O'Connell, Mr Major start staking OPS	DJR
14:1Ø	Mini Cam reports up and running	DJR
14:11	mini Cam monitoring Sample #RJ 12 in heater box	DJR
14:17	mini Cam reports .Ø4 HD	DJR
14:19	mini Cam reports .18 VX .17 GB	DJR
14:19	Mini Cam monitoring Sample #RJ 13 in heater box	DJR
14:22	Mini Cam reports .Ø3 HD	DJR
14:28	mini Cam reports .12 VX Ø5 GB	DJR
14:29	mini Cam monitoring Sample #RJ 14 in heater box	DJR
14:32	Mini Cam reports .Ø3 HD	DJR
14:39	Mini Cam reports .19 VX .Ø2 GB	DJR
	~~Mini Cam reports DJR 12 May 94~~	
14:39	Mini Cam monitoring Sample #RJ 15 in heater box	DJR
14:42	Mini Cam reports .Ø2 HD	DJR
14:49	mini Cam reports .11 VX .Ø1 GB	DJR
14:49	Mini Cam monitoring Sample #RJ 16 in heater box	DJR
14:52	mini Cam reports .Ø3 HD	DJR
	~~Mini Cam reports VX GB~~ 12 MAY 94 DJR	
14:55	Mini Cam Generator goes Down	DJR
15:Ø5	Mini Cam reports up and running	DJR
15:Ø9	Mini Cam reports .Ø7 VX .ØØ GB	DJR
15:Ø9	Mini Cam monitoring Sample #RJ 17 in heater box	DJR
15:1Ø	Radio Check with Range Control	DJR
15:12	mini Cam reports ØØ HD	DJR
15:19	mini Cam reports Ø5 VX Ø1 GB	DJR
15:19	Mini Cam monitoring Sample #RJ 18 in heater box	DJR
15:22	Mini Cam reports ØØ HD	DJR

15:29	mini Cam reports Ø5 VX, Ø1 GB	DJR	1209	Site Safety brief given to all Pers, SGT Ryan
15:29	MiniCam monitoring Sample # RJ 19 in heater box	DJR		Ryan Dennis J, Dennis Ryan TEU, [illegible] SA'C
15:32	MiniCam reports ØØ HD	DJR		M.A. Rehmeet, [illegible] TEU
15:39	miniCam reports Ø9 VX Ø1 GB	DJR		NEY PAUL, Paul [illegible] TEU
15:39	miniCam monitoring Sample # RJ2Ø in heater box	DJR		Dolan, Peter W. [illegible] TEU
15:42	mini Cam reports ØØ HD	DJR		O'Connell, RYAN P. Ryan P. O'Connell TEU
15:49	mini Cam reports ØØ VX, Ø1 GB	DJR		Major James D. James D Major TEU DJR
15:49	mini Cam monitoring Sample # RJ21 in heater box	DJR	1209	Inform Range Control of Arrival AT Range K DJR
15:52	mini Cam reports ØØ HD	DJR	12:2Ø	Tick found on Mr Rehmert's calf removed wound cleaned DJR
15:59	mini Cam reports 13 VX ØØ GB	DJR	12 3Ø	Begin ~~Stretch~~ DJR 13 May 94 Starting OPS DJR
15:59	mini Cam monitoring Sample # ~~RJ27~~ RJ22 in heater box DJR 13 May 94	DJR	14:Ø5	NO Mini Cam OPS underway SGT Ryan, Mr Dolan, PFC Ney
16 Ø2	MiniCam reports ØØ HD	DJR		Depart site RPO
16:Ø9	MiniCam reports ØØ VX, ØØ GB	DJR	14:Ø5	Mr O'Connell Assumes duties as site Recorder
16:Ø9	MiniCam monitoring Sample # RJ23 in heater box	DJR		from SGT Ryan RPO
16:12	Mini Cam reports ØØ HD	DJR	1900	Ceased operation at range 10-B
16:19	mini Cam reports ØØ VX Ø1 GB	DJR		Wayne Sonny, Mr. Rehmert, Mr. Major, Mr O'Connell
16:2Ø	mini Cam ends monitoring at site Range J	DJR		left site
16:25	Site break down	DJR	1936	Parked Vechicles at GMO and locked up
16:3Ø	Depart Site for GMO	DJR		Nothing Follows DJR
17:ØØ	Arrive At GMO	DJR		
	Nothing Follows DJR 13 May 94			16 May 94
			Ø73Ø	Arrive at GMO Vechicles PMCS DJR
13 May 94	DJR 13 May 94		Ø93Ø	Arrive at BIDG 3228 Equipment maint DJR
Ø73Ø	Pick up ~~Vehicles~~ At GMO	DJR	11 3Ø	Lunch DJR
Ø8ØØ	Pick up Access permit from range control	DJR	12 3Ø	Cont Equipt maint DJR
11:ØØ	Depart BIDG 3228 for range K	DJR	16 3Ø	All work stops DJR
11:1Ø	Inform Range control of Departure	DJR		Nothing Follows DJR 16 May 94

17 may 94

0600	Arrive at GMO pick up vechicles	DJR
0620	Depart GMO for Range 10B	DJR
0820	Wayne Stone's Vehicle gets stuck	DJR
0745	Depart Range 10B for bldg 3228 for tools to free stuck vechicle	DJR
0830	Arrive AT BLDG 3228 receive Chain or rope	DJR
0900	Depart B/DG 3228 for Range 10B will meet recker/recovery vechicle at Ride out hall	DJR
0930	Arrive at site with recovery vechicle	DJR
0930	Vechicle recovered	DJR
0940	Site safety brief to all Pers	
	Ryan Dennis J Dennis Ryan set	
	Major James James D Major	
	Ney Paul Paul S Ney	
	Stoner Wayne Wayne Stoner	
	Prichet Michael Michael Prichet	
15	OConnell Ryan Ryan OConnell	DJR
0:00	Begin Site Clearing OPS.	DJR
10:06	Radio check with range control	DJR
11:15	Radio check with range control	DJR
2:30	Radio check with range control	DJR
13:30	Radio check with range control	DJR
4:30	Depart 10B for Old water hole	DJR
4:30	Inform Rang control	DJR
15:00	Arrive At OID water hole, start Clearing OPS	DJR
16:15	Stop work at OID water hole	DJR
6 20	Depart OID water hole	DJR

16:25	Inform Range Control of Departure	DJR
16 40	Arrive AT BIDG 3228	DJR
16 45	Drop Vechicles at GMO	DJR
17 00	All Pers Released for Day	DJR
	Nothing follows DJR 17 MAY 94	
	18 MAY 94	
0730	Report to GMO Pick up vechicles	DJR
0745	Arrive at Bldg 3228	DJR
0800	Depart Bldg 3228 for range T 38	DJR
~~0800~~	~~Arrive at Range office~~ 18 May 94 DJR	~~DJR~~
0805	Arrive at Natural Resource Bldg	DJR
0823	Depart Natural Resource BIDG	DJR
0831	Arrive at Site T38, Start Site Set up	DJR
0836	Site Safety brief given to All Pers LT Lewis	
	Ryan Dennis J Dennis Ryan TEU	
	LEWIS, BARBARA Ary Barbara G. Lewis, 1LT (TEU)	
	M.A. Rohmer M A Rohmer	
	James D. Major James D. Major (TEU)	
	RYAN P. O'Connell Ryan O'Connell (TEU)	
	NEY PAUL S Paul S Ney (TEU)	
	Dolan, Peter W. Peter W. Dolan, TEU	DJR
0846	Radio check with range control	DJR
0900	CPT Talley PFC Button Arrive on site	DJR
0905	Cpt Talley PFC Button Depart site	DJR
0915	Mini Cam reports up and running	DJR
0915	Sampling OPS start	DJR

	T38-17	
09:20	Sample #T38-17 DJR 18-may-94 being monitored by MiniCam in heater box	DJR
09:29	Mini Cam reports .04 HD	DJR
09:34	Mini Cam reports .07 VX .03 GB	DJR
09:34	Mini Cam monitoring sample #T38-16 in heater box	DJR
09:40	Mini Cam reports .03 HD	DJR
09:44	Mini Cam reports .06 VX .02 GB	DJR
09:44	Mini Cam monitoring sample #T38-19 in heater box	DJR
09:50	Mini Cam reports .03 HD	DJR
09:55	Mini Cam reports .08 VX .01 GB	DJR
09:55	Mini Cam monitoring Sample #T38-20 in heater box	DJR
10:00	Mini Cam reports .02 HD	DJR
10:04	Mini Cam reports .08 VX .01 GB	DJR
10:04	Mini Cam monitoring sample #T38-22 in heater box	DJR
10:10	Mini Cam reports .00 HD	DJR
10:14	Mini Cam reports .07 VX .01 GB	DJR
10:14	mini Cam monitoring Sample #T38-23 in heater box	DJR
10:25	MSgt Shaver McFentana Amic on site	DJR
10:20	Mini Cam reports .00 HD	DJR
10:24	mini Cam reports .06 VX .01 GB	DJR
10:24	Mini Cam ~~reports~~ DJR 18-may-94 monitoring sample #T38-24 in heater box	DJR
10:31	mini Cam reports .00 HD	DJR
10:34	Mini Cam reports .04 VX .00 GB	DJR
10:34	Mini Cam ~~reports~~ DJR 18-may-94 monitoring sample #T38-25 in heater box	DJR
10:35	Cpt Talley PFC Sutton arrive on site	DJR
10:40	CPT Talley PFC Sutton Depart site	DJR
10:41	MiniCam reports .00 HD	DJR
10:44	mini Cam reports .06 .00 GB	DJR

10:44	Mini Cam monitoring sample #T38-26 in heater box	DJR
10:51	mini Cam reports .00 HD	DJR
10:54	Mini Cam reports .05 VX .00 GB	DJR
10:54	Mini Cam monitoring Sample #T38-27 in heater box	DJR
11:01	mini Cam reports .00 HD	DJR
11:04	Mini Cam reports .03 VX .00 GB	DJR
11:04	mini Cam monitoring sample #T38-28 in heater box	DJR
11:05	Radio Check with range Control	DJR
11:11	Mini Cam reports .00 HD	DJR
11:14	Mini Cam reports .09 VX .00 GB	DJR
11:15	Mini Cam Generator turned off For Refuel	DJR
~~11:35~~	~~Generator fueled Mini Cam reports up and running~~ DJR 18-may-94	~~DJR~~
~~11:35~~	~~Mini Cam monitoring sample #T38-30 in heater box~~ DJR 18-may-94	~~DJR~~
	~~mini Cam reports HD~~ DJR 18 MAY 94	
	~~Mini Cam reports VX GB~~ DJR 18 MAY 94	
11:20	Mini Cam reports up and running	DJR
11:20	mini Cam monitoring Sample #T38-29	DJR
11:27	Mini Cam reports .02 HD	DJR
11:34	Mini Cam reports .00 VX .00 GB DJR 18-may-94	DJR
11:34	Mini Cam monitoring Sample #T38-30	DJR
11:42	Mini Cam reports .03 HD	DJR
11:44	Mini Cam reports .00 VX .00 GB	DJR
11:44	Mini Cam monitoring Sample #T38-31	DJR
11:52	Mini Cam reports .00 HD	DJR
11:54	Mini Cam reports .04 VX .00 GB	DJR
11:54	Mini Cam monitoring Sample #T38-32	DJR
02	Mini Cam reports .00 HD	DJR

Appendix B

12:04	MiniCam reports 04 VX 00 GB	DJR
12:04	MiniCam monitoring Sample # T38-33 in heater box	DJR
12:12	MiniCam reports 02 HD	DJR
12:14	MiniCam reports 06 VX 00 GB	DJR
12:14	MiniCam monitoring Sample # T38-34 in heater box	DJR
12:22	MiniCam reports 00 HD	DJR
12:24	MiniCam reports 06 VX 00 GB	DJR
12:24	MiniCam monitoring Sample # T38-35 in heater box	DJR
12:32	MiniCam reports 02 HD	DJR
12:34	MiniCam reports 03 VX 00 GB	DJR
12:34	MiniCam monitoring Sample # T38-36 in heater box	DJR
12:43	MiniCam reports 02 HD	DJR
12:44	MiniCam reports 04 VX 00 GB	DJR
12:44	MiniCam monitoring Sample # T38-37 in heater box	DJR
12:53	MiniCam reports 03 HD	DJR
12:54	MiniCam reports 03 VX 00 GB	DJR
12:54	Radio Check with Range Control	DJR
12:54	MiniCam monitoring Sample # T38-38 in heater box	DJR
13:03	MiniCam reports 02 HD	DJR
13:04	MiniCam reports 05 VX 00 GB	DJR
13:04	MiniCam monitoring Sample # T38-39 in heater box	DJR
13:13	MiniCam reports 00 HD	DJR
13:14	MiniCam reports 04 VX 00 GB	DJR
13:14	MiniCam monitoring Sample # T38-40 in heater box	DJR
13:23	MiniCam reports 00 HD	DJR
13:24	MiniCam reports 03 VX 00 GB	DJR
13:30	MiniCam monitoring Sample # T38-41 in heater box	DJR

13:33	MiniCam reports 00 HD	DJR
13:40	MiniCam reports 00 VX 00 GB	DJR
13:40	MiniCam monitoring Sample # T38-42 in heater box	DJR
13:43	MiniCam reports 00 HD	DJR
13:50	MiniCam reports 03 VX 00 GB	DJR
13:50	MiniCam monitoring Sample # T38-18 in heater box	DJR
13:54	MiniCam reports 00 HD	DJR
14:00	MiniCam reports 05 VX 00 GB	DJR
14:00	MiniCam monitoring Sample # T-38-21 in heater box	DJR
14:04	MiniCam reports 02 HD	DJR
14:10	MiniCam reports 04 VX 00 GB	DJR
14:10	LT Lewis gets promission to enter K range	DJR
14:11	Site shut down	DJR
14:15	Mr Rehmert Mr Major Mr Oconnell go to K range for clearing OPS with Wayne Stone	DJR
1420	Close out with Range Control	BAL
1425	All personnel depart T-38,	BAL

nothing follows DJR 18 MAY 94

18 May 94

0730	GMO Pick up Vechicles	DJR
0800	Arrive At Bldg 3228	DJR
1030	Depart for Range T 38 for clearing OPS	DJR
11:00	Start Clearing OPS	DJR
13:15	Stop Clearing OPS	DJR
13:20	Depart for Bldg 3228	DJR

Nothing follows

23 May 94

Appendix B

0730	Arrive at GMO Pick-up Vechicles	DJR
0800	Arrive at Site T-38	DJR
0805	~~Arrive at range~~ DJR 23 May 94 Radio check with range control	DJR
	LT Lewis give All Pass brief safety brief	
	Dennis Ryan TEU	
	Dolan, Pete TEU	
	NEY PAUL S TEU	
	Burbank A. Quiroz, 1LT (TEU)	
	M. A. Rahmer TEU	
	Ryan P. O'Connell TEU	
	Sutton Michael E TEU	
	Brad Baker SAIC	
	Marvin Fowler EET	
	Jason Roberts EET, DJR	
0900	MiniCam reports machine monitoring HD is up and running	DJR
0903	minicam reports machine monitoring VX, GB up and running	DJR
0925	Drilling OPS start	DJR
0933	Sample #1 1 to 3 FT from well 0:07 is pulled	DJR
0938	Mini Cam monitoring Sample #1 in heater box	DJR
0946	MiniCam reports 02 HD	DJR
0954	Mini Cam reports 08 VX 01 GB	DJR
DJR 23 May 94 0946	CPT Talley RFC Herrick Arrive on site	DJR
0950	CPT Talley RFC Herrick Depart site	DJR
10:09	Sample #2 5 to 7 FT is Pulled	DJR
10:15	Mini Cam monitoring sample #2 in heater box	DJR
10:17	MiniCam reports 00 HD	DJR
10:24	Mini Cam reports 00 VX 00 GB	DJR

10:43	Sample #3 10 to 12 FT is pulled	DJR
10:45	MiniCam monitoring Sample #3 in heater box	DJR
10:47	Mini Cam reports 00 HD	DJR
10:54	mini Cam reports 06 VX 00 GB	DJR
11:05	CPT Talley SGM Eberhardt RFC Herrick Depart site	DJR
11:05	Radio Check with range control	DJR
11:22	Sample #4 15 to 17 FT is pulled	DJR
11:25	Mini Cam monitoring Sample #4 in heater box	DJR
11:28	Mini Cam reports 00 HD	DJR
11:44	MiniCam reports 04 VX 00 GB	DJR
11:45	CPT Talley SGM Eberhardt RFC Herrick Depart site	DJR
12:00	Sample #5 17 to 19 FT Pulled	DJR
12:08	mini Cam monitoring sample #5 in heater box	DJR
12:22	MiniCam reports 00 HD	DJR
12:24	Mini Cam reports 05 VX 00 GB	DJR
12:25	All monitoring of Drill OPS end	DJR
12:43	Inform Range Control of Departure	DJR

848-6876

OFFICE

SAIC – CHUCK HOUCK → MOBILE 206-915-5267

PERSONNEL – WAYNE STONER (PGT 782-2030)

– VICKIE METCALFE

– CHRIS FONTANA

– ~~KEAT~~ CARY GORDON

SAIC FAX 1-205-848-5517

ENVIRONMENTAL EXPLORATION INC

PERSONNEL (DRILL CREW) JASON ROBERTS

MARVIN FOWLER

TEU – TEAM 2

01

04 MAY 94 –

0730-1030 A PRE-WORK MEETING BETWEEN SAIC PERSONNEL DRILL RIG CREW, AND US ARMY TECH SCOUT TEAMS. SUBJECTS DISCUSSED WERE PROJECT INTRODUCTION, CHEMICAL WARFARE AGENT SAFETY ASPECTS, EOD/UXO PROCEDURES, SAMPLING PROTOCOLS. CRJ

1030-1230 LUNCH. CRJ

1230-1400 DRESS REHEARSALS WERE HELD AT LANDFILL #3 ON FT. McCLELLAN, TECHNIQUES REHEARSED WERE SURFACE SOIL SAMPLING, SOIL SAMPLE DECON, DRILL RIG OPERATIONS, BACK HOE (& TRACTOR) OPERATIONS CHAIN OF CUSTODY TECHNIQUES, LABELING, SOIL SAMPLERS DRESSED OUT IN TYVEK & PD DRY RUN ON SAFE STAGING OPERATIONS. CRJ

1400-1600 REPARKED EQUIPMENT AT GMD PARKING AREA. CRJ

1600-1615 DROPPED OFF STAINLESS STEEL DECON EQUIPMENT USED IN TRAINING AT BLDG 3327B & CLOSED DAILY OPERATIONS. CRJ

05 MAY 94

0730 WORK CALL AT 3727 A. CRJ

0800 PMCS, VEHICLES. CRJ

0805 LEFT TO RANGE CONTROL, VERIFIED OPERATING FREQUENCY & GOT TRAINING AREA ACCESS PERMIT TO GO TO RANGE K & L FOR COMMO CHECKS WITH SINGARS RADIOS (FREQ = 34.90 MHZ) CRJ

05 MAY 94 cont.

0845 WENT TO BASE COMMO SHOP TO GET A CLASS ON SINGARRE RADIO AND LOAD RANGE CONTROL FREQ INTO RADIO. DID COMMO CHECK WITH RANGE CONTROL FROM BASE COMMO SHOP PARKING LOT, COMMO OK WITH RANGE CONTROL. ary

0905 WENT TO MCCLELLAN ENVIRONMENTAL OFFICE TO GET SIGNATURES FROM MR RON LOY IN TEAM 1 & 2 SOP, SITE BOOKS. ary

11:30 LUNCH.

1230-1430 WENT TO RANGE K & L VERIFIED THAT SINGARE RADIO COULD CONTACT RANGE CONTROL FROM BOTH LOCATIONS ary

1430-1600 BOTH TEAMS DECON STAINLESS STEEL SAMPLING EQUIPMENT, SHOVELS AND MONITOR GENERATORS ON PICK UP TRUCKS ary

06 MAY, 94.

0730 WORK CALL & ROLL CALL FOR ALL TEAMS ary

0830-0900 GENERATOR CLASSES FOR ALL TEAM MEMBERS ary

0900-1000 MADE FACE TO FACE COORDINATION WITH RANGE CONTROL ON ACCESS TO SAMPLING SITES DURING THE PERIOD WE WILL BE WORKING. (CONFIRMED NO CONFLICTS BETWEEN SAMPLING OPERATIONS & SOLDIER TRAINING) ary

1000-1200 WORK ON MINICAMS CALIBRATION WITH CONTRACTOR FROM CMS AND TEU PERSONNEL ary

1200-1600 REVIEWED HEALTH & SAFETY PLAN ary

07 MAY 94

0830-1400 TEU PERSONNEL ARRIVED TO FLUSH HEAT TRACE LINES WITH CMS TECH. ROP. LOCK ON GATE AT G.M.O. WASN'T THE SAME LOCK ~~THAT~~ AS ary 07 MAY 94 OUR KEY. SO LOCK ON GATE WAS CUT WITH HACKSAW AND BOLT CUTTERS. HEAT TRACE LINES STILL OFF GASSING AFTER FLUSHING. THEREFORE THEY ARE UNUSABLE. UNHEATED TEFLON TUBE WILL BE USED INSTEAD.

08 MAY 94 - DAY OFF.

09 MAY 94 - O

0730 TEAM MEETING & ROLL CALL.

11:20 Meeting with SAIC on procedures and site selection for soil screening by Minicams. Team #2 to work in area T-5 across from MP kennels.

12:15 Team #2 arrive at area T-5 and gather for Safety Briefing. Personnel working on this site are signed in below.

Vickie Metcalfe	SAIC	Vickie Metcalfe
Merlin Herrick	TEU	[illegible]
Billy Russell	TEU	Bill Russell
Carl Bowie	TEU	[illegible]
Albert J. Wiki	TEU	[illegible]
Thomas Swinson	TEU	Thomas R Swinson

OVER

Sheldon Orr TEU Sheldon A Orr
Allan R Johnston TEU Allan R Johnston
Dennis A. Anderson TEU Dennis A. Anderson
The Background of the site was read to Team
and a very thorough Safety Briefing was given
After Safety Brief, team proceeded to set up
for operation. Radio checks were made by
SSG Johnston. TEU personel dressed in
Explosive Handlers Coveralls, Tape or over boots + Sling
Masks. Vickie wearing tyvek, boots, sling Mask.
1310 Sample Team of Ebrrick + Swinson Received to
CP @ sampling equip. Samplers wearing Saranex
rubber gloves goggles as per SOP and Sling Masks.
1323 Sample Team down range for 1st sample T-5 1 No 3
1334 1st Screen Sample to Heater Box.
1335 Hourly Radio Check to Range Control
1337 Capt Talley and Sutton on site for routine ops
visit
1344 Sample Team Reported that they were locating
stakes while waiting on 1st Sample.
1346 Capt Talley and Sutton left Site.
1346 Sample team took Sample T5-4
1350 1st Sample Clear, Second Sample in H.B.
1401 Sample Team took Sample T5-5
1402 2nd Sample Clear, 3rd Sample in H.B.
1405 Sample Team down range for 4th Sample.
1412 Sample Team up with Sample T-5-6

1412 Sample 3 Clear, 4th Sample in H.B.
1414 Sample Team down Range for 5th Sample.
1420 " " up " with Sample T5-9
1420 Sample 4 Clear, Sample 5 in H.B.
1422 Capt Talley on site with AEC Safety Bill Houser
and Sutton
1426 Sample Team downrange for 6th Sample.
1430 Sample T5-9 Clear. (6th Sample)
1434 Capt. Talley, S. Orr and Sutton left Site
1434 Sample Team up Rang with Sample T5-8
1439 6th Sample in Heater Box
1440 Sample Team down Range for 7th Sample.
1441 Commo check @ Range ~~Control~~ Control
1447 Sample Team uprange with Sample T5-7
1450 Sample #6 Clear
1451 Sample Team down range for 8th Sample.
1456 Sample Team up range with Sample T5-11
1459 Sample #7 Clear, Sample #8 in Heater Box
1459 Sample Team down range for sample #9
~~1503 Sample Team~~
1505 Sample Team uprange with Sample T5-12
1509 Sample #8 Clear, Sample #9 in Heater Box
1510 Sample Team down Range for Sample #10
1514 Sample Team up range with Sample T5-10
1520 Sample #9 CLEAR, Sample #10 IN HTR BOX.
1520 Sample Team down range for Sample #11
1527 Sample Team up range with Sample T5-15

1529	Sample #10 Clear, Sample #11 in Heater Box
1539	Sample Team down Range for Sample #12
1540	Sutter on site with 6 mil Bags. Sutton departed
1540	Radio check with Range Control
1540	Sample #11 Clear
1553	SSG Johnston down range to observe soil Sampling
1555	Sample Team and SSG Johnston uprange with Sample T5-12
1559	Sample #12 in Heater Box
1559	Sample Team down range for sample #13
1600	SSG Johnston down range to observe soil Sampling
1607	Sample Team and SSG Johnston uprange with Sample T5-
	Team did NOT bring sample back.
1607	Sample #12 Clear
1609	Sample down range for sample #13
1612	Cpt. Talley and Sutton on site
1618	Sample Team up range with Sample T5-16
1619	Sample #13 in Heater Box
1621	Cpt. Talley and Sutton OSS Site.
1629	Sample #13 Clear
1641	Sample Team uprange with Sample T5-13
1646	Sample Team down range for Sample #14
1649	Radio check with Range Control, Sample #14 in H.B.
1652	Sample Team uprange with Sample T5-2
1657	Sample Team down range for Sample #15
1659	Sample #14 Clear
1705	Sample Team with Sample T5-18
1709	Sample #15 in Heater Box

1715	Sample Team down range for Sample #16
1719	Sample #16 Clear
1721	Cpt Talley and Sutton on site
1722	Sample Team uprange with sample T5-19
1728	Sample Team down range for Sample #17
1729	Sample #17 in H.B.
1733	Cpt Talley and Sutton OSS site.
1738	Sample Team uprange with site T5-17 (Sample #18)
1739	Sample #17 Clear
1733 Addent	Sample Team went down range for Sample #18
1739	Sample #18 in Heater Box
1741	Sample Team down range for Sample #19
1747	Sample Team uprange with Sample T5-22
1749	Sample #18 Clear, Sample #19 in H.B.
1755	Sample Team down range for Sample #20
1759	Sample #19 Clear
1806	Sample Team uprange with Sample T5-23
1807	Sample #19 in Heater Box
1814	Sample Team down Range for Sample #21
1819	Sample #20 Clear, S
1822	Sample Team uprange with Sample T5-20
1829	Sample #21 in H.B
1830	Sample Team down Range for Sample #22
1830	Cpt Talley, SiOrr and Sutton on site
1832	Sample Team uprange with sample T5-21
1833	Sample #21 Clear, Sample #22 in H.B.
1835	Wayne Stoner on site to talk with Vickie

1836 Sample Team down Range for Sample #23
1841 Sample #22 Clear
1844 Cpt. Talley, S. Orr and Sutter OSS Site
1847 Sample Team uprange with Sample T5-24
1847 Cpt Talley advises us to shut ~~down~~ Site down after this last sample is heated
1849 Sample #23 in Heater Box
1849 Unused and not used equipment is being packed up for transport.
1852 Range Control notified that we are shutting down operations in ten minutes.
1853 Last Sample equipment was bad and wash water put into on site liquid waste Barrel.
All disposable clothing used down, and material, was put in a large 6 Mil Bag for on site storage.
Vickie is taking custody of Screened Samples
1859 Sample #23 is Clear.
1901 Air Monitoring Results: 23 Samples Screened, ALL NEGATIVE.
Equipment used for this screening were type 2000 Minicams.
Minicam SN# 1822 is used to sample for Nerve Agent V-G
Minicam SN# 1817 is used to Sample for Blister Agent H
These Instruments were MFG by CMS Corp
These instruments were calibrated with five (5) dilutoagent injections.

1909 Recorder
1910 Leave Site

10 May 94 USATEU Team #2
0630 TEU Personel arrived at GMO to pick up vehicles and equipment while Lt Lewis and SSG Johnston went to Range Control for entry permits. Range Control said area 5 was restricted at this time. Team went to change house to check equipment and wait out the delay.
0740 SSG Johnston called change house to tell us area 5 was open. Team departed.
0800 Team #2 arrived at site and started to set up.
0820 Radio check with Range Control
0830 SSG Johnston started safety meeting
Personel working on this site Today are as follows:
Dennis A. Anderson TEU
Billy W Russell TEU
Albert J. White TEU
Thomas R Swinson TEU
Martin B. Herrick TEU
Carl Bowie TEU

ALLAN R JOHNSON TEU Allan R Johnson
Vickie Metcalfe SAIC Vickie Metcalfe
Minicams operational at 0830 and site opened for buisness.
0843 Vickie, Tom and Herrick down Range to locate some sample sites
0848 Vickie, Swinser and Herrick back from survey.
0855 Sample Team of Herrick and Swinser down range for Sample #24
0906 Sample Team up range with Sample T5-26
0907 Sample #24 put into Heater Box
0920 Sample #24 Clear
0921 Sample Team down Range for Sample #25
0922 Radio Check with Range Control
0922 Wayne arrived on site
0926 Sample Team uprange with Sample T5-25
0927 Sample #25 in Heater Box
0932 AFC Safety, Mr Houser on site
0943 Capt Talley on Site
0946 Sample Team down range to take LAB Sample from stake T5-6
0948 Sample #25 Clear
1000 Capt Talley Left Site
1001 Sample Team uprange with lab Sample from T5-6
~~1008 Sample Team downrange for Sample for lab from Stake T5-3 OOA~~
1008 Sample Team down Range to dig Screen

Sample from T5-3 This is sample #26.
1014 Sample Team uprange with Sample T5-3
1015 Wayne left Site.
1016 Radio check with Range Control
1019 Sample #26 in Heater Box
1019 Capt Talley on site
1023 Sample Team down range to dig LAB Sample from stake T5-12
1029 Sample #26 Clear
1034 It was decided to shut down minicams and Generator since last screen sample was done.
1041 Capt Talley and Bill Houser OSS Site
1043 Sample Team uprange with Lab Sample from stake T5-12.
1048 Minicam Vehicle and Generator preparing to leave site. Personel leaving with vehicles are Bowie + White
1051 minicam + Gen. Vehs. left site.
1054 Sample Team down Range for LAB Sample from stake T5-16
1113 Liquid waste drum marked up by Vickie
1114 Sample Team uprange with Sample from stake T5-16
1120 Sample Team Down RANGE FOR LAB SAMPLE FROM STAKE T5-23
1132 SSG McComan and Spt Viecke on site (EOD Assets)
1143 McConas + Viecke OSS Site
1143 Bill Houser on site
1144 Sample Team uprange with LAB Sample T5-23
All samples packed by Vickie

10 MAY 1994 Site T-4

1240 Arrive at site T-4 with equipment and personel and prepare for Safety Brief. Personel working on this site are as follows:

Dennis A. Anderson	TEU	Dennis A. Anderson
William P. Houser	AEC	William P. Houser
Allan R. Johnston	TEU	Allan R. Johnston
Carl Bowie	TEU	Carl Bowie
Albert J. White	TEU	Albert J. White
Harlin B. Herrick	TEU	Harlin B. Herrick
Billy W. Russell	TEU	Billy W. Russell
Thomas R Swinson	TEU	Thomas R Swinson

1248 SSG Johnston read site specifics and Health concerns.

1251 Radio check with Range Control

1253 Wayne on site and Exclusion Tape put up.

1257 Wayne off site

1259 Sample Team of Swinson and Herrick down range to survey sample sites

1309 Sample Team up range

1310 McComas and Vickie on site

1312 Vickie arrived on site. Her Signature is below

~~1314~~ SAC Vickie Metcalfe Vickie Metcalfe SAIC

1315 Sample Team down range for Sample #1

1327 Sample Team up range with Sample T4-1

1327 Sample #1 in Heater Box

1327 Sample Team down range for Sample #2

1148 Barrier Tape that Lined Exclusion Area was removed while last sample utinsels were washed.

1150 Air Monitoring Results: 3 Samples Screened All Negative. 4 Lab Samples were dug. Series 2000 Minicams, SN# 1822 used to sample for nerve agents and SN# 1817 used to sample for blister were used on this site.

All Sample equipment washed with water and liquinox, water rinse, ASTM Water Rinse, Air dry, 2 Propanol rinse, Air dry, ASTM Rinse Air dry, and wrapped in Heavy Tin Foil

1202 Wash equipment being packed onto 5 T. Truck

Sample equip being stored in sample box

1215 Vickie Leaving site to take care of LAB Samples

1217 Bill Houser left site.

1224 Decon water put into Liquid waste barrel and capped. All equipment packed.

1230 Anderson, Johnston, Russell, Swinson and Herrick leaving site - - - Recorder Dennis A. Anderson

Appendix B

1330	Sample Team up range with Sample T4-2
1338	Sample #1 Clear; Sample #2 in Heater Box
1339	Sample Team down Range for Sample #3
1340	Sample Team up Range with Sample T4-3
1348	Sample #2 Clear, Sample #3 in Heater Box
1350	Sample Team down range for Sample #4
1352	Sample Team up range with sample T4-4
1355	Commo Check on Range Control
1358	Sample #3 Clear; Sample #4 in H.B.
1402	Sample Team down Range for Sample #5
1408	Sample Team up range with Sample T4-5
1409	Sample #4 Clear; Sample #5 in H.B.
1416	Sample Team down Range for Sample #6
1417	Sample Team up range with Sample T4-6
1419	Sample #5 Clear; Sample #6 in H.B.
1420	Cpt Talley and Sutton on Site
1425	Sample team UPRANGE WITH SAMPLE T4-7
1430	RECORDER ANDERSON LEAVES FOR TEAM 1 LOCATION TO REPAIR TEAM 1 GENERATOR, SSG JOHNSTON TAKES OVER AS RECORDER
1432	SAMPLE #6 CLEAR, SAMPLE #7 IN H.B.
1433	SAMPLE TEAM DOWN RANGE FOR SAMPLE #8
1436	SAMPLE TEAM UPRANGE WITH SAMPLE #8
1441	SAMPLE #7 CLEAR, SAMPLE #8 IN H.B.
1447	SAMPLE TEAM DOWNRANGE FOR SAMPLE #9
1450	SAMPLE TEAM UP RANGE WITH SAMPLE #9
1451	SAMPLE #8 CLEAR, SAMPLE #9 IN H.B.
1453	SAMPLE TEAM DOWN RANGE FOR SAMPLE #10

1500	SAMPLE #9 CLEAR, SAMPLE #10 IN H.B.
1515	SAMPLE #10 CLEAR, SAMPLE SCREENING OPERATIONS TERMINATED.
1516	RANGE CONTROL INFORMED OF SITE STATUS.
1520	ALL SCREENING SAMPLES DISCARDED AFTER CLEARED AS CLEAR BY MINICAMS. AND DECON WATER TRANSFERRED TO AREA T5 FOR DISPOSAL IN LIQUID WASTE DRUM AS PER AGREEMENT WITH AEC REP. WILLIAM HAUGER.
1520	AIR MONITORING RESULTS. ALL SAMPLES SCREENED TESTED NEGATIVE FOR PRESENCE OF HD, G, VX. MONITORING PROVIDED BY MINICAMS SERIES 2000 SN# 1822 USED TO SCREEN FOR NERVE AGENT V & G. SN# 1817 USED TO SCREEN FOR H.D. FIRST CHALLENGE COMPLETED, 0524 AM. ON 10 MAY 1994
1525	ALL EQUIPMENT PACKED UP. / LEFT BARRIER TAPE IN PLACE AS WE WILL RETURN TO THE SAME AREA IN THE MORNING TO DO LOW SAMPLES.
1530	ALL TEU & SAIC PERSONNEL ON SITE LEAVE. RECORDER - ALLAN R. JOHNSTON.

11 May 1994, Site T4-

0720 Team #2 with ST, M1008 and a M1009 with SAIC Vehicle arrived on site. Since All Screening has been finished, only the samples will be taken for the LAB.

Personel on site today are as follows

Dennis A. Andersen TEU Dennis A. Andersen

ALLAN R. JOHNSTON TEU Allan R. Johnston

Billy W. Russell TEU Billy W. Russell

Martin B. Heinch TEU Martin B. Heinch

Thomas R. SWINSON TEU Thomas R. Swinson

Vickie Metcalfe SAIC Vickie Metcalfe

0740 Safety Briefing conducted by SSG Johnston

0750 Cpt Talley and Sutton on site

0802 Cpt Talley and Sutton OSS site

0807 Sample Team of Swinson and Herrick down Range for Lab Sample T4-1

28 0819 Sample Team up range with Sample T4-1

0820 Reminded that a Radio check with Range Control was done at 0729

0823 Sample Team down Range for Lab Sample T4-3

0831 Al White on site to bring waste water drum

0833 RECORDING DUTIES ASSUMED BY SSG JOHNSTON AS DENNIS ANDERSON LEFT TO WORK ON CLEARING BRUSH FROM TEAM #2 NEAT OPERATING AREA AT DECON & IDENTIFICATION AREA (D&I) ON MAIN POST FT. MCCLELLAN.

0840 SAMPLE TEAM UPRANGE WITH 3d SAMPLE FROM T4-8

0841 SAMPLE TEAM DOWN RANGE FOR 4th SAMPLE.

0845 WAYNE STRINGER VISITS LOCATION T-4 TO COORDINATE ACTIVITIES AT TEAM 2' NEXT LOCATION AT D&I AREA. ARRANGED TO HAVE A SECONDARY DECON BARREL DROPPED OFF AT D&I AREA.

0910 SAMPLE TEAM DOWNRANGE TO COLLECT LAB SAMPLE #4 FROM LOCATION T4-10.

0920 SAMPLE TEAM UPRANGE WITH LAB SAMPLE #4 FROM T-4-10

0925 EQUIPMENT RINSATES TAKEN.

0935 SITE TEAR DOWN BEGINS.

0940 VICKIE METCALF LEAVES TO TURN IN LAB SAMPLES & RINSATES AT ENVIRONMENTAL OFFICE.

1000 SITE TEAR DOWN COMPLETE.

1001 INFORMED RANGE CONTROL THAT TEAM 2 DEPARTING FROM AREA T-4 OPERATIONS COMPLETE.

AIRMONITORING NOT CONDUCTED AS THE SAMPLES WERE TAKEN FROM SITES PREVIOUSLY CLEARED BY MINICAMS THE DAY BEFORE.

RECORDER: ALLAN R. JOHNSTON Allan R. Johnston 11May94

1050 11 MAY 94

TEAM 2 MET AT D&I AREA AND CONDUCTED SAFETY BRIEF ON CHAIN HANDS, POWER TOOL/CHAINSAW, HEAT & SUN.

ALLAN R. JOHNSTON TEU Allan R. Johnston

Thomas R. Swinson TEU Thomas R. Swinson

Albert J. White TEU Albert J. White

Billy W. Russell TEU Billy W. Russell

	Carl Bowie	TEU	
	Dennis A. Anderson	TEU	
	Brian D McConnas	TEU	
	Martin B. Herick	TEU	
	Vickie Metcalfe	SAIC	
	VETCH DAVID J	TEU EOD	
	William P. Houser	USAEC	
1115	TEAM MEMBERS SPREAD OUT THRU WOODS AREA TO FIND HISTORICAL MARKER "F"		
1125	HISTORICAL MARKER "F" LOCATED		
1130	4 CHEM SURVEY SCREENING SAMPLES TO BE TAKEN ON PERIMETER OF PIT. SAMPLES SCREENS TAKEN FROM DI 7, 4, 5, 2		
1135	CONTACTED RANGE CONTROL AND INFORMED THAT TEAM 2 WAS LOCATED AT DI AREA BEHIND BASE MOTOR POOL AND THAT SAMPLE SCREENING OPERATIONS HAVE BEGUN.		
1145	SSG McCOMAS USED SHOTGUN START TO HELP IDENTIFY LOCATION OF SUSPECTED BURIAL PIT		
1155	DI-4 SAMPLE CLEARED BY MINICAMS		
1200	DI-7 SAMPLE IN H.B.		
1207	DI-7 SAMPLE CLEARED BY MINICAMS		
1210	DI-2 SAMPLE IN H.B.		
1220	DI-2 SAMPLE CLEARED BY MINICAMS.		
1225	DI-5 SAMPLE IN H.B.		
1238	DI-5 SAMPLE CLEARED BY MINICAMS		
1295	MAGNECOP & DIGGING OPERATIONS INSIDE OF D&I AREA TO TRY AND CONFIRM LOCATION OF BURIAL PIT.		
1300	BRUSH CLEARING & SITE PREP FOR INTRUSIVE DIGGING.		
1500	BRUSH CLEARING FINISHED		

1501	CALLED RANGE CONTROL TO END DAYS OPERATIONS
	AIR MONITORING RESULTS: 4 SAMPLES SCREENED. ALL NEGATIVE.
	AIR MONITOR - MINICAMS SERIES 2000, S/N 1822 USED TO
	SAMPLE V & G NERVE, S/N 1817 USED TO SCREEN FOR H
	BLISTER AGENTS
1505	ALL TEU PERSONNEL LEAVING SITE FOR GMO PARKING LOT
	12 MAY 94
0800	SITE SAFETY/ BRIEFING DONE BY ALL MEMBERS PRESENT
	ALLAN R JOHNSTON TEU
	Vickie Metcalfe SAIC
	Billy W Russell TEU
	Martin B. Herick TEU
	Thomas R Swinson TEU
	Albert J Light TEU
	Carl L Bowie TEU
	Dennis A. Anderson TEU
	Brian D McConnas TEU
	VETCH DAVID J TEU
0915	SITE PREPARATION FOR INTRUSIVE DIGGING.
1000	SITE PREPARED AND READY FOR DIGGING
1005	ALL PERSONNEL WEARING SAFETY IN EXCLUSION AREA GIVEN ADDITIONAL WARNING ABOUT HEAT INJURIES AND THE IMPORTANCE OF PRE HYDRATION
1008	COMMO CHECK WITH RANGE CONTROL

1014 TEU PERSONNEL BEGIN DRESSING OUT IN SARANEX.
1040 BACKHOE MAKES FIRST CUT 4" DEEP ON TRENCH NUMBER 1
1045 SGT VIETCH (EOD) MAGSWEEPS TRENCH CUT WITH SCHOENSTADT AND GOT SEVERAL POSITIVE HITS.
1100 TRENCH 2.5 – 3', MAGSWEEP POSITIVE HITS AT THIS DEPTH, SCREENING SAMPLE LABLED DIT 1 -(2½-3') TAKEN FROM TRILING PILE LAST BUCKET OUT OF HOLE.
1115 SAMPLE DIT(2½-3) CLEARED BY MINICAMS.
1120 TRENCHING CLEARED TO 5' DEEP
1131 APPROX 5' OF RE-BAR FOUND IN HOLE, AS THE DEPTH IS BEYOND 4' PACKING WITH RESTRICTIVE REBAR.
1145 MEASURED DEPTH REBAR & CONCRETE IS AT 4' (POSSIBLE BUILDING FOUNDATION)
1147 MAG SWEEP INDICATES HIGH POSITIVE HIT APPROX 5' FURTHER SHOW THAT FIRST BUCKET TAKEN, WAYNE STANOR WANTS BACKHOE TO DIG TRENCH THERE.
1150 REPOSITIONED SCE TRACTOR AND COMMENCED TRENCHING AT 6"-8" INTERVALS AT NEW LOCATION.
1210 ALL SITE PERSONNEL STAND DOWN TO HALF MAST SARANEX. TEMP. APPROX 85°F. FOR 30 MINUTES COOL OFF BREAK (PREVENTION OF HEAT INJURIES)
1300 EOD. MAGS SWEEP TRENCH AT 4' DEPTH.
1315 TRENCH DEPTH 5½' → 6' SEVERAL LARGE CHUNKS OF CONCRETE WITH RE-BAR EMBEDDED IN THEM ARE REMOVED FROM TRENCH.
1330 CONCRETE REBAR CONTINUE TO BE PULLED FROM HOLE ALONG WITH SAND.
1335 SOIL SCREENING SAMPLES TAKEN FROM BUCKET TAKEN AT 6½ FEET
1340 EOD REPORTS A 4½" PIPE IN TRENCH AT 6½ FEET (POSSIBLY A SUMP?)
1341 SOIL SAMPLE DIT-1 (6½)FT IN HTR BOX.

1350 SAMPLE DIT-1 (6½-FT) CLEARED BY MINICAMS.
1352 TRENCHING CLEARED TO 5 FT
1355 SAMPLE DIT-2 DISCARDED INTO TRILING PILE.
1356 ENCOUNTERED GROUND WATER IN PIT/TRENCH AT 6½ -7'
1400 REPOSITIONED SCE TRACTOR TO BEGIN TRENCHING ON TRENCH #2
1402 PULLED ALL PERSONNEL OUT OF EXCLUSION AREA AND SHIFT TO HALF MAST SARANEX FOR 20 MIN COOL DOWN BREAK (PREVENTION OF HEAT INJURIES)
1420 TRENCH #2 BEGUN AT 6-8" INTERVALS.
1430 ENCOUNTERED CONCRETE & 4½" PIPE EMBEDDED IN CONCRETE AT APPROX 3 FT DEPTH.
1445 SOIL SCREENING SAMPLE DIT-2 (5') IN HTR BOX.
1505 SOIL SAMPLE DIT-2 (5') CLEARED BY MINICAMS
1510 CEASED TRENCHING OPERATIONS FOR THE DAY.
1511 DECON: FRONT BUCKET OF SCE TRACTOR
1515 CONTACT RANGE CONTROL THAT TRENCHING OPERATIONS TERMINATED.
AIRMONITORING DATA RESULTS, 3 SAMPLES SCREENED. ALL NEGATIVE.
AIRMONITOR - MINICAMS 2000 SERIES, SN" 1822 USED TO SCREEN FOR NERVE AGENTS V & G, SN" 1817 USED TO SCREEN FOR AGENT HD, FIRST CHALLENGE TO MINICAMS DONE AT
RECORDER ALLEN R JOHNSTON

Appendix B

13 MAY 94.

SITE SAFETY BRIEFING CONDUCTED.

0800 ALLAN R JOHNSTON TEU

Billy W Russell TE4

Bobbie A. Anderson TEU

Vickie Metcalfe SAIC

BRIAN D McCOMAS TEU

VEITCH DAVID TEU

Albert J White TEU

Martin B. Hertel TEU

Thomas R Swinson TEU

Carl Bowie TEU

0900 MINICAMS WILL NOT ACCEPT CHARGERS, INTRUSIVE DIGGING ON HOLD UNTIL MINICAMS COMES ON LINE.

0930 MINICAMS STILL NOT ON LINE

1030 MINICAMS ON LINE.

W 1050 USED CHAINSAW TO CLEAN MORE BRUSH FROM SITE OF SUSPECTED BURIAL PIT

1115 BEGAN TO RESUME TRENCHING ON TRENCH #2

1200 ENCOUNTERED STRANGE PIECE OF METAL FROM GROUND AT 5' ALONG WITH DIFFERENT COLORED SOIL.

1205 SOIL SAMPLE DIT-2 (5½' FT) IN HTR BOX.

1220 SOIL SAMPLE DIT-2 (5½ FT) CLEARED BY MINICAMS, SAMPLE DISCARDED INTO TAILING ALG.

1240 ENCOUNTERING 2"x6" LUMBER PAINTED GREY AND TAR PAPER AT 5-5½ FT

1250 TRENCH DEPTH 6½ FT AND COLLAPSING IN ON ITSELF.

1300 CEASED TRENCHING ON TRENCH #2

1320 TRIED TO CHANGE SAW CHAIN ON CHAIN SAW BUT WAS THE WRONG TYPE. SO OLD CHANGED BACK. WILL TRY SHARPENING AND CHANGE.

1400 REPOSITIONING JCB TRACTOR TO MARKED MOST LOCATION IN GT AREA

1420 FIRST BUCKET LOAD CUT FROM TRENCH #3.

1430 WINDS LIGHT AND VARIABLE IN EXCLUSION AREA

1445 DEPTH APPROX 3½ FOOT, EOD MAG SWEEP HOLE

1505 FIRST 10' OF TRENCH NOW AT 5' DEPTH.

1510 2ND 10' OF TRENCH BEING CUT IN AT 6' INTERVALS

1550 TRENCH NOW AT 4 FEET IN SECOND CUT

1630 CEASED TRENCHING OPERATIONS FOR THE DAY.

1635 CALLED RANGE CONTROL THAT TRENCHING OPERATIONS WERE FINISHED FOR THE DAY.

AIRMONITORING RESULTS. 1 SAMPLE TESTED AND CLEARED BY MINICAMS

AIR MONITOR - MINICAMS SERIES 2000 SN# 1822 USED TO SCREEN FOR NERVE AGENTS VX & GB SN# 1817 USED TO SCREEN FOR AGENT H.

FIRST CHALLENGE DONE AT 1031, PROBLEM WITH MINICAMS SN# 1822 TODAY LOCATING VX PEAK. AGENT GAS CHANGED AND PROBLEM WENT AWAY. NORMAL OPERATIONS AFTER THAT.

RECORDER ALLAN R JOHNSTON