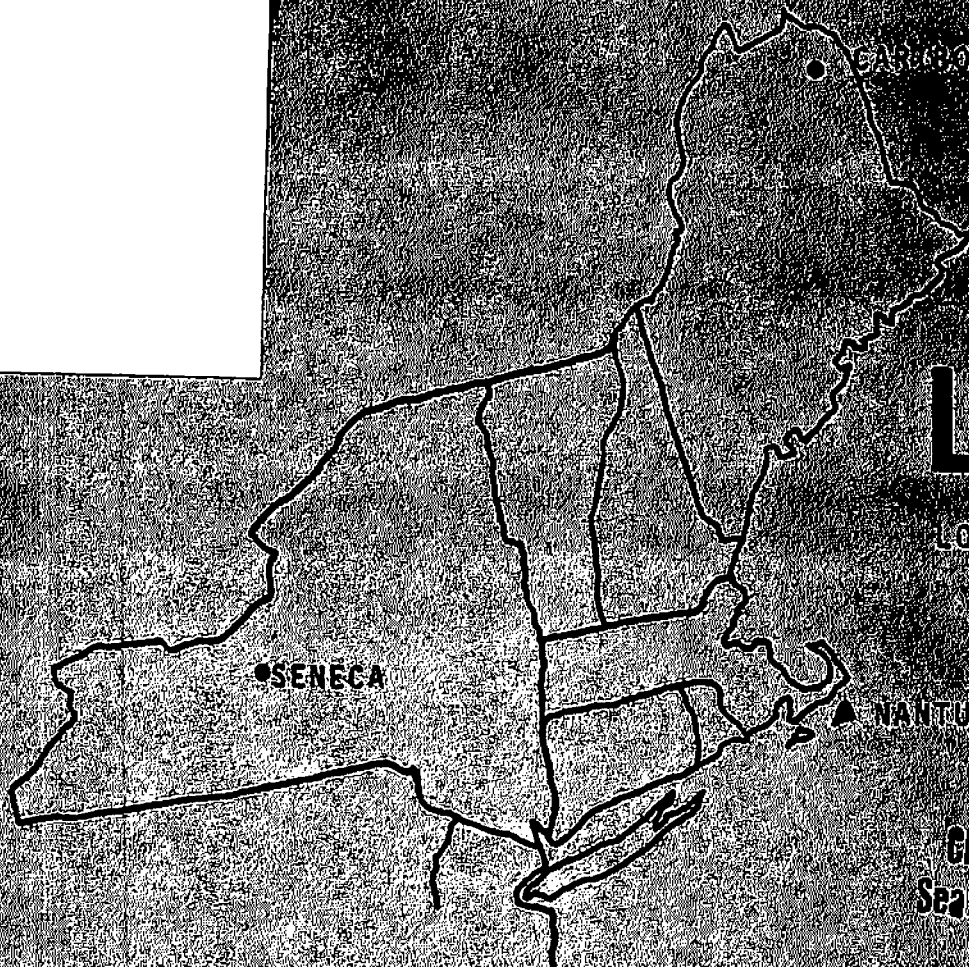


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LORAN-C

LONG RANGE NAVIGATION

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1984-1985 SEA GRANT PROJECTS

VOLUME II

Project Advisor:
Professor Albert Frost

Project Teams:
Steve Rossi
Jill Belon
Tom Schmottlach

LAT 43 56' 12"

LONG 70 42' 58"

MICROLOGIC ML-7500 LORAN

POS	speed	abc 1	def 2	ghi 3	ON/OFF
NAV	time	jkl 4	mno 5	pqr 6	
WPT	route	stu 7	vwx 8	yz 9	
+ NW	- SE	ENT	0	CLR	

APPENDIX

LORAN-C MASTER DATA-LIST
APPENDIX A

DATE: 12/02/1984 TIME: 4:30:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 1
DURHAM, NH
SOUTHEAST CORNER OF 155A AND 108

LATITUDE: 43 08' 33"	LONGITUDE: 70 56' 48"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13762.03	TIME DELAY 2A: 26106.80
TIME DELAY 1B: 13762.10	TIME DELAY 2B: 26106.75
TIME DELAY 1C: 13761.95	TIME DELAY 2C: 26106.73
TIME DELAY 1D: .00	TIME DELAY 2D: .00

TIME DELAY AV: 13762.03 TIME DELAY AV: 26106.76

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 90 85 95

WEATHER: COLD, CLEAR, DUSK

DATE: 2/17/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 1
DURHAM, NH
SOUTHEAST CORNER OF 155A AND 108

LATITUDE: 43 08' 33"	LONGITUDE: 70 56' 47"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13762.01	TIME DELAY 2A: 26106.83
TIME DELAY 1B: 13761.90	TIME DELAY 2B: 26106.80
TIME DELAY 1C: 13762.05	TIME DELAY 2C: 26106.85
TIME DELAY 1D: 13761.92	TIME DELAY 2D: 26106.88

TIME DELAY AV: 13761.97 TIME DELAY AV: 26106.84

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 90 88 89

WEATHER: CLEAR SKIES, DUSK, 45 DEGREES

=====

DATE: 4/18/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 1
DURHAM NH
SOUTHEAST CORNER OF 155A AND 108

LATITUDE: 43 08' 34"	LONGITUDE: 70 56' 49"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13762.03	TIME DELAY 2A: 26106.89
TIME DELAY 1B: 13762.01	TIME DELAY 2B: 26106.90
TIME DELAY 1C: 13671.99	TIME DELAY 2C: 26106.90
TIME DELAY 1D: 13671.98	TIME DELAY 2D: 26106.92

TIME DELAY AV: 13672.00 TIME DELAY AV: 26106.90

GROUND: Y NUMBER OF TIMES VISITED: 3 SNR: 98 86 89

WEATHER: OVERCAST, 35 DEGREES

=====

DATE: 4/16/1985 TIME: 3:31:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 1A
DOVER, NH ON RIGHT-CENTER SIDE OF SPAULDING-TOURNPIKE OVERPASS
HEADING SOUTHWEST. OVERPASS NEAR GATES CORNER.

LATITUDE: 43 13' 06"	LONGITUDE: 70 53' 40"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13714.36	TIME DELAY 2A: 26112.05
TIME DELAY 1B: 13714.40	TIME DELAY 2B: 26112.05
TIME DELAY 1C: 13714.46	TIME DELAY 2C: 26112.08
TIME DELAY 1D: 13714.38	TIME DELAY 2D: 26112.06

TIME DELAY AV: 13714.40 TIME DELAY AV: 26112.06

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 88 93

WEATHER: 65 DEGREES, HUMID, OVERCAST SKIES.

=====

DATE: 12/02/1984 TIME: 4:45:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 2
MADBURY, NH NORTH CORNER OF MILL HILL ROAD AND HAYES ROAD
25 FEET NORTH OF THE NORTH SIDE OF THE LARGE WHITE HOUSE

LATITUDE: 43 10' 30"	LONGITUDE: 70 56' 56"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13751.55	TIME DELAY 2A: 26118.10
TIME DELAY 1B: 13751.61	TIME DELAY 2B: 26118.23
TIME DELAY 1C: 13751.60	TIME DELAY 2C: 26118.18
TIME DELAY 1D: .00	TIME DELAY 2D: .00

TIME DELAY AV: 13751.59	TIME DELAY AV: 26118.17
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 80 95

WEATHER: COLD, CLEAR SKIES, DUSK

=====

DATE: 2/17/1985 TIME: 4:20:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 2
MADBURY, NH NORTH CORNER OF MILL HILL ROAD AND HAYES ROAD
25 FEET NORTH OF THE NORTH SIDE OF THE LARGE WHITE HOUSE

LATITUDE: 43 10' 30"	LONGITUDE: 70 56' 56"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13751.63	TIME DELAY 2A: 26117.94
TIME DELAY 1B: 13751.56	TIME DELAY 2B: 26118.03
TIME DELAY 1C: 13751.62	TIME DELAY 2C: 26118.05
TIME DELAY 1D: 13751.58	TIME DELAY 2D: 26117.97

TIME DELAY AV: 13751.60	TIME DELAY AV: 26118.00
-------------------------	-------------------------

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 91 89 88

WEATHER: CLEAR SKIES, DUSK, 45 DEGREES

=====

DATE: 4/16/1985 TIME: 3:11:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 2A
DURHAM, NH HEADING WEST ON ROUTE 4, ON THE RIGHT-CENTER SIDE OF
BRIDGE OVER ROUTE 108.

LATITUDE: 43 08' 20"	LONGITUDE: 70 54' 42"
----------------------	-----------------------

34
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13749.18 TIME DELAY 2A: 26092.63
TIME DELAY 1B: 13749.21 TIME DELAY 2B: 26092.58
TIME DELAY 1C: 13749.17 TIME DELAY 2C: 26092.55
TIME DELAY 1D: 13749.21 TIME DELAY 2D: 26092.61

TIME DELAY AV: 13749.19 TIME DELAY AV: 26092.59

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 86 93

WEATHER: 65 DEGREES, HUMID, OVERCAST SKIES.

=====

DATE: 12/11/1984 TIME: 2:30:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 3
MADBURY, NH LITTLEWORTH ROAD, MIDDLE OF BRIDGE ON LEFT HAND
SIDE HEADING EAST, BRIDGE CROSSES MALLEGRO BROOK

LATITUDE: 43 11' 50" LONGITUDE: 70 57' 03"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13744.72 TIME DELAY 2A: 26126.03
TIME DELAY 1B: 13744.73 TIME DELAY 2B: 26125.98
TIME DELAY 1C: 13744.66 TIME DELAY 2C: 26125.94
TIME DELAY 1D: 13744.70 TIME DELAY 2D: 26125.89

TIME DELAY AV: 13744.20 TIME DELAY AV: 26125.96

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 96 83 95

WEATHER: OVERCAST SKIES, COOL, 40 DEGREES

=====

DATE: 2/17/1985 TIME: 1:10:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 3
MADBURY, NH LITTLEWORTH ROAD, MIDDLE OF BRIDGE ON LEFT HAND
SIDE HEADING EAST, BRIDGE CROSSES MALLEGRO BROOK

LATITUDE: 43 11' 50" LONGITUDE: 70 57' 03"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13744.70 TIME DELAY 2A: 26125.93

TIME DELAY 1B: 13744.56 TIME DELAY 2B: 26125.96
 TIME DELAY 1C: 13744.60 TIME DELAY 2C: 26125.98
 TIME DELAY 1D: 13744.66 TIME DELAY 2D: 26125.97

TIME DELAY AV: 13744.63 TIME DELAY AV: 26125.96

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 89 91 92

WEATHER: PARTLY CLOUDY, COOL, 45 DEGREES

=====

DATE: 2/17/1985 TIME: 1:30:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 3A
 ROCHESTER, NH ROCHESTER NECK ROAD, NORTHEAST CORNER OF
 BRIDGE OVER THE ISINGLASS RIVER

LATITUDE: ' " LONGITUDE: ' "
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13733.50 TIME DELAY 2A: 26139.30
 TIME DELAY 1B: 13733.51 TIME DELAY 2B: 26139.36
 TIME DELAY 1C: 13733.48 TIME DELAY 2C: 26139.38
 TIME DELAY 1D: 13733.41 TIME DELAY 2D: 26139.31

TIME DELAY AV: 13733.46 TIME DELAY AV: 26139.32

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 90 88 87

WEATHER: PARTLY CLOUDY, COOL, 45 DEGREES

=====

DATE: 12/02/1984 TIME: 5:00:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 4
 DOVER, NH ACROSS THE STREET FROM INTERSECTION OF OLD STAGE ROAD
 AND LITTLEWORTH ROAD, 20 FEET WEST FROM WEST SIDE OF BUILDING THERE

LATITUDE: 43 11' 23" LONGITUDE: 70 55' 12"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13734.75 TIME DELAY 2A: 26112.09
 TIME DELAY 1B: 13734.84 TIME DELAY 2B: 26112.13
 TIME DELAY 1C: 13734.68 TIME DELAY 2C: 26112.16
 TIME DELAY 1D: .00 TIME DELAY 2D: 26112.08

TIME DELAY AV: 13734.76 TIME DELAY AV: 26112.12

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 89 95 96

WEATHER: COLD, CLEAR SKIES, DUSK

=====

DATE: 2/17/1985 TIME: 4:45:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 4
DOVER, NH ACROSS FROM THE INTERSECTION OF OLD STAGE ROAD AND
LITTLEWORTH ROAD, 20 FEET WEST FROM THE WEST SIDE OF BUILDING THERE

LATITUDE: 43 11' 24"	LONGITUDE: 70 55' 11"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13734.73	TIME DELAY 2A: 26112.23
TIME DELAY 1B: 13734.76	TIME DELAY 2B: 26112.25
TIME DELAY 1C: 13734.76	TIME DELAY 2C: 26112.21
TIME DELAY 1D: 13734.75	TIME DELAY 2D: 26112.15

TIME DELAY AV: 13734.74 TIME DELAY AV: 26112.18

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 92 88 93

WEATHER: CLEAR SKIES, DUSK, 45 DEGREES

=====

DATE: 12/11/1984 TIME: 2:15:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 4A
BARRINGTON, NH LITTLEWORTH ROAD, WHERE ROAD CROSSES DREW BROOK,
32 FEET FROM ROAD CENTERLINE ON RIGHT SIDE HEADING WEST

LATITUDE: 43 12' 31"	LONGITUDE: 70 59' 11"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13754.56	TIME DELAY 2A: 26143.57
TIME DELAY 1B: 13754.59	TIME DELAY 2B: 26143.58
TIME DELAY 1C: 13754.54	TIME DELAY 2C: 26143.60
TIME DELAY 1D: 13754.61	TIME DELAY 2D: 26143.65

TIME DELAY AV: 13754.58 TIME DELAY AV: 26143.60

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 88 95

WEATHER: OVERCAST, COOL, 45 DEGREES

=====

DATE: 12/02/1984 TIME: 5:30:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 5
DOVER, NH CENTER OF THE ROTARY AT THE END OF SUMNER DRIVE
NEXT TO WEBB PLUMBING, HEATING, AND INDUSTRIAL SUPPLIES.

LATITUDE: 43 10' 52" LONGITUDE: 70 53' 59"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13729.63 TIME DELAY 2A: 26101.93
TIME DELAY 1B: 13729.69 TIME DELAY 2B: 26101.94
TIME DELAY 1C: 13729.71 TIME DELAY 2C: 26102.08
TIME DELAY 1D: .00 TIME DELAY 2D: .00

TIME DELAY AV: 13729.68 TIME DELAY AV: 26101.98

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 85 95

WEATHER: COLD, CLEAR SKIES, DUSK

=====

DATE: 2/17/1985 TIME: 5:05:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 5
DOVER, NH CENTER OF THE ROTARY AT THE END OF SUMNER DRIVE
NEXT TO WEBB PLUMBING, HEATING, AND INDUSTRIAL SUPPLIES.

LATITUDE: 43 10' 53" LONGITUDE: 70 53' 58"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13729.71 TIME DELAY 2A: 26102.02
TIME DELAY 1B: 13729.66 TIME DELAY 2B: 26102.13
TIME DELAY 1C: 13729.64 TIME DELAY 2C: 26102.03
TIME DELAY 1D: 13729.70 TIME DELAY 2D: 26102.10

TIME DELAY AV: 13729.69 TIME DELAY AV: 26102.09

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 90 84 92

WEATHER: CLEAR SKIES, 45 DEGREES, DUSK

=====

DATE: 4/18/1985 TIME: 4:30:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 5
DOVER NH, CENTER OF ROTARY AT THE END OF SUMMER DRIVE,
IN FRONT OF WEBB HEATING AND PLUMBING SUPPLIES

LATITUDE: 43 10' 52"	LONGITUDE: 70 53' 59"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13729.69	TIME DELAY 2A: 26102.05
TIME DELAY 1B: 13729.73	TIME DELAY 2B: 26102.15
TIME DELAY 1C: 13729.69	TIME DELAY 2C: 26102.02
TIME DELAY 1D: 13729.65	TIME DELAY 2D: 26102.01

TIME DELAY AV: 13729.69	TIME DELAY AV: 26102.06
-------------------------	-------------------------

GROUND: Y NUMBER OF TIMES VISITED: 3 SNR: 95 86 93

WEATHER: OVERCAST, 35 DEGREES

=====

DATE: 12/11/1984 TIME: 3:00:00 PM GEO. MARKER?: N MAP: A

LOCATION: POINT 6
DOVER, NH CATARACT ROAD BRIDGE OVER 195, MIDDLE OF BRIDGE ON
LEFT HAND SIDE HEADING SOUTHWEST

LATITUDE: 43 11' 00"	LONGITUDE: 70 52' 56"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13722.04	TIME DELAY 2A: 26096.72
TIME DELAY 1B: 13721.97	TIME DELAY 2B: 26096.66
TIME DELAY 1C: 13722.05	TIME DELAY 2C: 26096.57
TIME DELAY 1D: 13721.93	TIME DELAY 2D: 26096.68

TIME DELAY AV: 13722.00	TIME DELAY AV: 26096.66
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 88 76

WEATHER: OVERCAST, COOL, 40 DEGREES

=====

DATE: 12/11/1984 TIME: 3:35:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 10
ROUTE 4 BRIDGE OVER THE SALMON RIVER EXACTLY AT THE MAINE, NEW

HAMPSHIRE STATE LINE. ON RIGHT-CENTER OF BRIDGE HEADING NORTHEAST.

LATITUDE: 43 13' 41"	LONGITUDE: 70 48' 42"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13677.70	TIME DELAY 2A: 26085.71
TIME DELAY 1B: 13677.86	TIME DELAY 2B: 26085.77
TIME DELAY 1C: 13677.80	TIME DELAY 2C: 26085.72
TIME DELAY 1D: 13677.75	TIME DELAY 2D: 26085.70

TIME DELAY AV: 13677.78	TIME DELAY AV: 26085.73
-------------------------	-------------------------

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 95 85 95

WEATHER: OVERCAST, COOL, 45 DEGREES

=====

DATE: 4/15/1985 TIME: 3:51:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 10A
DOVER NH, SPAULDING TURNPIKE OVERPASS NEAR THE GREEK CEMETARY
RIGHT SIDE HEADING WEST

LATITUDE: 43 09' 53"	LONGITUDE: 70 51' 24"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13718.12	TIME DELAY 2A: 26081.17
TIME DELAY 1B: 13718.09	TIME DELAY 2B: 26081.23
TIME DELAY 1C: 13717.96	TIME DELAY 2C: 26081.25
TIME DELAY 1D: 13718.07	TIME DELAY 2D: 26081.21

TIME DELAY AV: 13718.06	TIME DELAY AV: 26081.22
-------------------------	-------------------------

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 82 95

WEATHER: OVERCAST AND HUMID, 65 DEGREES

=====

DATE: 12/11/1984 TIME: 4:10:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 11
ON ROUTE 236 HEADING SOUTH FIVE FEET WEST OF ELIOT, NH TOWN LINE
SIGN. THE SIGN IS ON THE RIGHT HAND SIDE HEADING SOUTH ON 236.

LATITUDE: 43 10' 57"	LONGITUDE: 70 48' 26"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

40

TIME DELAY 1A: 13692.20	TIME DELAY 2A: 26069.33
TIME DELAY 1B: 13692.19	TIME DELAY 2B: 26069.31
TIME DELAY 1C: 13692.23	TIME DELAY 2C: 26069.27
TIME DELAY 1D: 13692.28	TIME DELAY 2D: 26069.38

TIME DELAY AV: 13692.23 TIME DELAY AV: 26069.32

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 95 88 95

WEATHER: OVERCAST, COOL, 45 DEGREES

=====

DATE: 4/16/1985 TIME: 5:00:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 11A
ELIOT MAINE, INTERSECTION OF ROUTE 236 AND BEECH ROAD
NORTH CORNER AT ROADSIDE

LATITUDE: 43 07' 51"	LONGITUDE: 70 46' 22"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13696.40	TIME DELAY 2A: 26039.91
TIME DELAY 1B: 13696.44	TIME DELAY 2B: 26039.96
TIME DELAY 1C: 13696.47	TIME DELAY 2C: 26040.00
TIME DELAY 1D: 13696.46	TIME DELAY 2D: 26040.01

TIME DELAY AV: 13696.44 TIME DELAY AV: 26039.97

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 83 92

WEATHER: OVERCAST AND HUMID, 65 DEGREES

=====

DATE: 12/11/1984 TIME: 3:50:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 12
SOUTH BERWICK, ME ON THE RIGHT HAND-CENTER SIDE OF THE ROUTE 236
BRIDGE HEADING SOUTH THAT CROSSES THE GREAT WORKS RIVER.

LATITUDE: 43 13' 02"	LONGITUDE: 70 47' 33"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13673.86	TIME DELAY 2A: 26075.41
TIME DELAY 1B: 13673.93	TIME DELAY 2B: 26075.36
TIME DELAY 1C: 13673.95	TIME DELAY 2C: 26075.30

TIME DELAY 1D: 13673.95 TIME DELAY 2D: 26075.28
 TIME DELAY AV: 13673.93 TIME DELAY AV: 26075.34
 GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 83 98
 WEATHER: OVERCAST, COOL, 45 DEGREES

=====

DATE: 4/16/1985 TIME: 4:50:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 7
 ELIOT NH, GOODWIN CROSSING OF OLD RAILROAD GRADE
 RIGHT SIDE GONG SOUTH

LATITUDE: 43 09' 43"	LONGITUDE: 70 46' 19"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13685.41	TIME DELAY 2A: 26050.07
TIME DELAY 1B: 13685.46	TIME DELAY 2B: 26049.96
TIME DELAY 1C: 13685.44	TIME DELAY 2C: 26049.87
TIME DELAY 1D: 13685.46	TIME DELAY 2D: 26049.90

TIME DELAY AV: 13685.44 TIME DELAY AV: 26049.95

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 75 73 89

WEATHER: OVERCAST AND HUMID, 65 DEGREES

=====

DATE: 4/16/1985 TIME: 4:16:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 7A
 DOVER NH, CENTER OF BRIDGE WHERE GULF ROAD CROSSES FRESH CREEK
 RIGHT SIDE GOING EAST

LATITUDE: 43 11' 48"	LONGITUDE: 70 50' 09"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13698.63	TIME DELAY 2A: 26084.19
TIME DELAY 1B: 13698.64	TIME DELAY 2B: 26084.20
TIME DELAY 1C: 13698.56	TIME DELAY 2C: 26084.10
TIME DELAY 1D: 13698.50	TIME DELAY 2D: 26084.10

TIME DELAY AV: 13698.58 TIME DELAY AV: 26084.15

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 85 93

WEATHER: OVERCAST AND HUMID, 65 DEGREES

=====

DATE: 12/11/1984 TIME: 3:25:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 8
ROLLINSFORD, NH RIGHT CORNER OF BEAR ROAD AND ROUTE 4 HEADING
NORTHWEST

LATITUDE: 43 12' 51"	LONGITUDE: 70 50' 27"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13694.45	TIME DELAY 2A: 26091.61
TIME DELAY 1B: 13694.35	TIME DELAY 2B: 26091.56
TIME DELAY 1C: 13694.30	TIME DELAY 2C: 26091.60
TIME DELAY 1D: 13694.35	TIME DELAY 2D: 26091.61

TIME DELAY AV: 13694.36 TIME DELAY AV: 26091.60

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 88 82 95

WEATHER: OVERCAST, COOL, 40 DEGREES

=====

DATE: 4/16/1985 TIME: 4:30:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 8A
ELIOT MAINE, BRIXHAM RD. CROSSING OF THE YORK RIVER
RIGHT SIDE HEADNG NORTH

LATITUDE: 43 09' 42"	LONGITUDE: 70 45' 37"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13680.73	TIME DELAY 2A: 26045.90
TIME DELAY 1B: 13680.76	TIME DELAY 2B: 26045.92
TIME DELAY 1C: 13680.73	TIME DELAY 2C: 26045.85
TIME DELAY 1D: 13680.77	TIME DELAY 2D: 26045.91

TIME DELAY AV: 13680.75 TIME DELAY AV: 26045.90

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 73 92

WEATHER: OVERCAST AND HUMID, 65 DEGREES

=====

DATE: 12/16/1984 TIME: 2:45:00 PM GEO. MARKER?: N MAP: B

LOCATION: POINT 9
DOVER, NH IN BACK OF HESSER COLLEGE OFF DOVER POINT ROAD, 75 FEET
SOUTH OF WESTERN MOST CORNER POINT OF COLLEGE

LATITUDE: 43 09' 07"	LONGITUDE: 70 50' 27"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13716.15	TIME DELAY 2A: 26071.24
TIME DELAY 1B: 13716.18	TIME DELAY 2B: 26071.18
TIME DELAY 1C: 13716.16	TIME DELAY 2C: 26071.15
TIME DELAY 1D: 13716.11	TIME DELAY 2D: 26071.21

TIME DELAY AV: 13716.15	TIME DELAY AV: 26071.20
-------------------------	-------------------------

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 95 88 96

WEATHER: OVERCAST, COOL, 40 DEGREES

=====

DATE: 12/07/1984 TIME: 3:45:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 13
LEE, NH INTERSECTION OF JENKINS ROAD AND
WEDNESDAY ROAD. 80 FEET NORTHWEST OF INTERSECTION.

LATITUDE: 43 10' 52"	LONGITUDE: 70 53' 58"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13782.81	TIME DELAY 2A: 26112.80
TIME DELAY 1B: 13782.75	TIME DELAY 2B: 26112.75
TIME DELAY 1C: 13782.82	TIME DELAY 2C: 26112.79
TIME DELAY 1D: 13782.81	TIME DELAY 2D: 26112.74

TIME DELAY AV: 13782.81	TIME DELAY AV: 26112.77
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 85 96

WEATHER: COLD, CLEAR SKIES, 30 DEGREES

=====

DATE: 12/07/1984 TIME: 4:00:00 PM GEO. MARKER?: N MAP: C

4
LOCATION: POINT 14
DURHAM, NH ON THE LEFT-CENTER SIDE OF THE WISWELL ROAD BRIDGE
HEADING WEST. THE BRIDGE CROSSES THE LAMPREY RIVER.

LATITUDE: 43 06' 18" LONGITUDE: 70 57' 47"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13781.86 TIME DELAY 2A: 26100.78
TIME DELAY 1B: 13781.80 TIME DELAY 2B: 26100.83
TIME DELAY 1C: 13781.68 TIME DELAY 2C: 26100.86
TIME DELAY 1D: 13781.75 TIME DELAY 2D: 26100.72

TIME DELAY AV: 13781.78 TIME DELAY AV: 26100.80

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 92 96

WEATHER: COLD, CLEAR SKIES, 30 DEGREES

=====

DATE: 4/18/1985 TIME: 3:42:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 14
DURHAM NH, WISWELL ROAD CROSSING OF LAMPREY RIVER
LEFT CENTER HEADING WEST

LATITUDE: 43 06' 18" LONGITUDE: 70 57' 47"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13781.66 TIME DELAY 2A: 26100.69
TIME DELAY 1B: 13781.60 TIME DELAY 2B: 26100.73
TIME DELAY 1C: 13781.60 TIME DELAY 2C: 26100.69
TIME DELAY 1D: 13781.57 TIME DELAY 2D: 26100.63

TIME DELAY AV: 13781.61 TIME DELAY AV: 26100.69

GROUND: Y NUMBER OF TIMES VISITED: 2 SNR: 98 86 95

WEATHER: OVERCAST, 35 DEGREES

=====

DATE: 4/16/1985 TIME: 2:50:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 14A
DURHAM, NH HEADING NORTH ON BAY ROAD, ON THE RIGHT-CENTER SIDE OF
THE BRIDGE ACROSS CROMMET CREEK.

LATITUDE: 43 05' 48"
 CALC LAT: ' "
 GEO. LAT: ' "

LONGITUDE: 70 52' 51"
 CALC LON : ' "
 GEO. LON : ' "

TIME DELAY 1A: 13751.54
 TIME DELAY 1B: 13751.49
 TIME DELAY 1C: 13751.44
 TIME DELAY 1D: 13751.42

TIME DELAY 2A: 26067.73
 TIME DELAY 2B: 26067.75
 TIME DELAY 2C: 26067.71
 TIME DELAY 2D: 26067.70

TIME DELAY AV: 13751.47

TIME DELAY AV: 26067.72

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 76 92

WEATHER: 65 DEGREES, HUMID, OVERCAST SKIES.

=====

DATE: 12/07/1984 TIME: 4:15:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 15

NEWMARKET, NH RIGHT CORNER OF SWAMP ROAD AND ROUTE 152
 HEADING NORTHWEST ON SWAMP ROAD.

LATITUDE: 43 04' 55"
 CALC LAT: ' "
 GEO. LAT: ' "

LONGITUDE: 70 59' 14"
 CALC LON : ' "
 GEO. LON : ' "

TIME DELAY 1A: 13799.39
 TIME DELAY 1B: 13799.40
 TIME DELAY 1C: 13799.50
 TIME DELAY 1D: 13799.47

TIME DELAY 2A: 26102.39
 TIME DELAY 2B: 26102.28
 TIME DELAY 2C: 26102.31
 TIME DELAY 2D: 26102.27

TIME DELAY AV: 13799.44

TIME DELAY AV: 26102.31

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 89 82 96

WEATHER: COLD, CLEAR SKIES, 30 DEGREES

=====

DATE: 12/07/1984 TIME: 4:30:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 16

NEWMARKET, NH BRACKETT CEMETARY ON SWAMP ROAD. THE POINT WAS
 TAKEN DIRECTLY IN FRONT-CENTER OF THE CEMETARY ON THE ROAD SIDE.

LATITUDE: 43 03' 28"
 CALC LAT: ' "
 GEO. LAT: ' "

LONGITUDE: 70 57' 32"
 CALC LON : ' "
 GEO. LON : ' "

TIME DELAY 1A: 13796.18 TIME DELAY 2A: 26083.85
TIME DELAY 1B: 13796.03 TIME DELAY 2B: 26083.80
TIME DELAY 1C: 13796.00 TIME DELAY 2C: 26083.78
TIME DELAY 1D: 13796.07 TIME DELAY 2D: 26083.75

TIME DELAY AV: 13796.07 TIME DELAY AV: 26083.80

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 96 86 95

WEATHER: COLD, CLEAR SKIES, 30 DEGREES

=====

DATE: 4/18/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 16
NEWMARKET NH, NORTHEAST CORNER OF BRACKET CEMETARY

LATITUDE: 43 03' 27" LONGITUDE: 70 57' 32"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13796.31 TIME DELAY 2A: 26083.76
TIME DELAY 1B: 13796.30 TIME DELAY 2B: 26083.76
TIME DELAY 1C: 13796.30 TIME DELAY 2C: 26083.79
TIME DELAY 1D: 13796.38 TIME DELAY 2D: 26083.81

TIME DELAY AV: 13796.32 TIME DELAY AV: 26083.78

GROUND: Y NUMBER OF TIMES VISITED: 2 SNR: 98 86 92

WEATHER: OVERCAST, 35 DEGREES

=====

DATE: 4/16/1985 TIME: 2:25:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 16A
GREENLAND, NH AT THE CENTER OF THE INTERSECTION OF DEPOT ROAD
AND THE CENTER OF THE BOSTON AND MAINE RAILROAD TRACKS.

LATITUDE: 43 03' 20" LONGITUDE: 70 53' 46"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13771.86 TIME DELAY 2A: 26059.81
TIME DELAY 1B: 13771.82 TIME DELAY 2B: 26059.76
TIME DELAY 1C: 13771.76 TIME DELAY 2C: 26059.73
TIME DELAY 1D: 13771.78 TIME DELAY 2D: 26059.72

TIME DELAY AV: 13771.81

TIME DELAY AV: 26059.76

GROUND: Y

NUMBER OF TIMES VISITED: 1

SNR: 92 86 93

WEATHER: 65 DEGREES, HUMID, OVERCAST SKIES.

DATE: 12/07/1984 TIME: 4:45:00 PM

GEO. MARKER?: N MAP: C

LOCATION: POINT 17

NEWFIELDS, NH NEWFIELDS CEMETARY ON ROUTE 108. THE POINT WAS TAKEN
AT THE WEST SIDE OF THE CEM., APPROX. 125 FEET N OF THE SOUTH SIDE.

LATITUDE: 43 02' 48"

LONGITUDE: 70 55' 55"

CALC LAT: ' "

CALC LON : ' "

GEO. LAT: ' "

GEO. LON : ' "

TIME DELAY 1A: 13789.23

TIME DELAY 2A: 26070.13

TIME DELAY 1B: 13789.14

TIME DELAY 2B: 26070.17

TIME DELAY 1C: 13789.19

TIME DELAY 2C: 26070.13

TIME DELAY 1D: 13789.13

TIME DELAY 2D: 26070.07

TIME DELAY AV: 13789.17

TIME DELAY AV: 26070.13

GROUND: N

NUMBER OF TIMES VISITED: 1

SNR: 93 85 96

WEATHER: COLD, CLEAR SKIES, 30 DEGREES

DATE: 12/07/1984 TIME: 5:00:00 PM

GEO. MARKER?: N MAP: C

LOCATION: POINT 18

STRATHAM, NH LOCATED 100 FEET DIRECTLY NORTH FROM THE BACK OF THE
CARPET STORE ON ROUTE 101 NEAR MILL BROOK.

LATITUDE: 43 01' 32"

LONGITUDE: 70 54' 51"

CALC LAT: ' "

CALC LON : ' "

GEO. LAT: ' "

GEO. LON : ' "

TIME DELAY 1A: 13789.14

TIME DELAY 2A: 26056.46

TIME DELAY 1B: 13789.16

TIME DELAY 2B: 26056.51

TIME DELAY 1C: 13789.21

TIME DELAY 2C: 26056.66

TIME DELAY 1D: 13789.07

TIME DELAY 2D: 26056.50

TIME DELAY AV: 13789.17

TIME DELAY AV: 26056.53

GROUND: N

NUMBER OF TIMES VISITED: 1

SNR: 93 86 96

WEATHER: COLD, CLEAR SKIES, 30 DEGREES

=====

DATE: 4/16/1985 TIME: 2:00:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 18A
EXETER, NH HEADING WEST ON BEECH HILL ROAD, ON THE RIGHT SIDE
OF THE ROAD OVER BEECH HILL BROOK.

LATITUDE: 43 01' 11"	LONGITUDE: 70 59' 00"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13819.07	TIME DELAY 2A: 26080.67
TIME DELAY 1B: 13819.03	TIME DELAY 2B: 26080.66
TIME DELAY 1C: 13819.11	TIME DELAY 2C: 26080.61
TIME DELAY 1D: 13819.16	TIME DELAY 2D: 26080.63

TIME DELAY AV: 13819.09 TIME DELAY AV: 26080.64

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 85 93

WEATHER: 65 DEGREES, HUMID, OVERCAST SKIES.

=====

DATE: 4/18/1985 TIME: 3:04:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 19
STRATHAM, NH LOCATED 15 FEET SOUTHWEST OF THE SOUTHEAST CORNER OF
MEMORIAL SCHOOL OFF OF BUNKER HILL ROAD.

LATITUDE: 43 00' 41"	LONGITUDE: 70 54' 53"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13794.24	TIME DELAY 2A: 26052.12
TIME DELAY 1B: 13794.26	TIME DELAY 2B: 26052.13
TIME DELAY 1C: 13794.25	TIME DELAY 2C: 26052.11
TIME DELAY 1D: 13794.29	TIME DELAY 2D: 26052.15

TIME DELAY AV: 13794.26 TIME DELAY AV: 26052.13

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 96 88 95

WEATHER: OVERCAST, COLD, 35 DEGREES

=====

DATE: 4/18/1985 TIME: 3:00:00 PM GEO. MARKER?: N MAP: C

LOCATION: POINT 19
STRATHAM NH, SOUTHEAST CORNER OF MEMORIAL SCHOOL BUILDING
OFF BUNKER HILL ROAD

LATITUDE: 43 00' 41" LONGITUDE: 70 54' 53"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13794.24 TIME DELAY 2A: 26052.12
TIME DELAY 1B: 13794.26 TIME DELAY 2B: 26052.13
TIME DELAY 1C: 13794.25 TIME DELAY 2C: 26052.11
TIME DELAY 1D: 13794.29 TIME DELAY 2D: 26052.15

TIME DELAY AV: 13794.26 TIME DELAY AV: 26052.13

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 96 88 95

WEATHER: OVERCAST, 35 DEGREES

=====

DATE: 4/13/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 10D
GREENLAND, NH RIGHT-CENTER SIDE OF ROUTE 151 ACROSS HAINES BROOK
HEADING SOUTH.

LATITUDE: 43 01' 47" LONGITUDE: 70 49' 57"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13755.11 TIME DELAY 2A: 26027.75
TIME DELAY 1B: 13755.18 TIME DELAY 2B: 26027.76
TIME DELAY 1C: 13755.13 TIME DELAY 2C: 26027.70
TIME DELAY 1D: 13755.08 TIME DELAY 2D: 26027.73

TIME DELAY AV: 13755.13 TIME DELAY AV: 26027.74

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 88 93

WEATHER: , SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 4:20:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 11D

50
GREENLAND, NH LEFT SIDE HEADING EAST ON BREAKFAST ROAD ON CENTER
OF BOSTON AND MAINE RAILROAD TRACKS.

LATITUDE: 43 00' 41" LONGITUDE: 70 48' 50"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13754.08 TIME DELAY 2A: 26014.77
TIME DELAY 1B: 13754.00 TIME DELAY 2B: 26014.78
TIME DELAY 1C: 13754.06 TIME DELAY 2C: 26014.80
TIME DELAY 1D: 13754.15 TIME DELAY 2D: 26014.85

TIME DELAY AV: 13754.07 TIME DELAY AV: 26014.80

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 88 93

WEATHER: PARTLY CLOUDY SKIES, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 4:32:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 12D
PORTSMOUTH, NH RIGHT SIDE ON BANFIELD ROAD HEADING NORTHEAST ON
CENTER OF BOSTON AND MAINE RAILROAD TRACKS.

LATITUDE: 43 02' 17" LONGITUDE: 70 48' 00"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13739.30 TIME DELAY 2A: 26018.64
TIME DELAY 1B: 13739.27 TIME DELAY 2B: 26018.61
TIME DELAY 1C: 13739.31 TIME DELAY 2C: 26018.66
TIME DELAY 1D: 13739.30 TIME DELAY 2D: 26018.66

TIME DELAY AV: 13739.30 TIME DELAY AV: 26018.64

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 88 93

WEATHER: PARTLY CLOUDY SKIES, 50 DEGREES

=====

DATE: 4/14/1985 TIME: 2:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 13D
RYE, NH RIGHT-CENTER SIDE OF LONG JOHN ROAD HEADING NORTH, ACROSS
THE SWAMP STREAM.

LATITUDE: 43 01' 18" LONGITUDE: 70 45' 17"
CALC LAT: ' " CALC LON : ' "

GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13726.99 TIME DELAY 2A: 25997.00
 TIME DELAY 1B: 13727.01 TIME DELAY 2B: 25996.98
 TIME DELAY 1C: 13727.06 TIME DELAY 2C: 25996.89
 TIME DELAY 1D: 13726.96 TIME DELAY 2D: 25996.91

TIME DELAY AV: 13727.01 TIME DELAY AV: 25996.95

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 83 93

WEATHER: OVERCAST SKIES, FEW RAIN SPRINKLES, 45-50 DEGREES

=====

DATE: 4/14/1985 TIME: 3:00:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 15D
 KITTEY, ME HEADING NORTH ON ROUTE 1, RIGHT-CENTER SIDE OF BRIDGE
 LEAVING BADGERS ISLAND. BRIDGE CROSSES THE PISCATAQUA RIVER.

LATITUDE: 43 05' 01" LONGITUDE: 70 45' 03"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13704.20 TIME DELAY 2A: 26016.53
 TIME DELAY 1B: 13704.11 TIME DELAY 2B: 26016.42
 TIME DELAY 1C: 13704.16 TIME DELAY 2C: 26016.46
 TIME DELAY 1D: 13704.15 TIME DELAY 2D: 26016.53

TIME DELAY AV: 13704.16 TIME DELAY AV: 26016.49

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 92

WEATHER: OVERCAST SKIES, FEW RAIN SPRINKLES, 45-50 DEGREES

=====

DATE: 4/14/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 16D
 KITTEY, ME HEADING NORTHWEST ON ROUTE 103, LEFT-CENTER SIDE OF
 BRIDGE CROSSING A STREAM 2000 FEET BEFORE BOLT HILL ROAD.

LATITUDE: 43 06' 31" LONGITUDE: 70 46' 06"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13702.47 TIME DELAY 2A: 26031.11
 TIME DELAY 1B: 13702.45 TIME DELAY 2B: 26031.15

52

TIME DELAY 1C: 13702.46 TIME DELAY 2C: 26031.13
TIME DELAY 1D: 13702.43 TIME DELAY 2D: 26031.10

TIME DELAY AV: 13702.45 TIME DELAY AV: 26031.12

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 85 93

WEATHER: OVERCAST SKIES, FEW RAIN SPRINKLES, 45-50 DEGREES.

=====

DATE: 4/14/1985 TIME: 3:45:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 17D
KITTERY, ME INTERSECTION OF ROUTE 236 AND MARTIN ROAD. ON THE
RIGHT HAND CORNER OF THE INTERSECTION FACING NORTH ON MARTIN ROAD.

LATITUDE: 43 06' 48" LONGITUDE: 70 45' 02"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13693.71 TIME DELAY 2A: 26026.40
TIME DELAY 1B: 13693.68 TIME DELAY 2B: 26026.38
TIME DELAY 1C: 13693.62 TIME DELAY 2C: 26026.37
TIME DELAY 1D: 13693.58 TIME DELAY 2D: 26026.39

TIME DELAY AV: 13693.65 TIME DELAY AV: 26026.39

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 92

WEATHER: OVERCAST SKIES, FEW SPRINKLES, 45-50 DEGREES.

=====

DATE: 4/14/1985 TIME: 4:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 18D
KITTERY, ME HEADING NORTHEAST ON BOLT HILL ROAD. LEFT SIDE OF
ROAD CROSSING A SMALL STREAM APPROX. 500 FEET FROM ROUTE 236.

LATITUDE: 43 07' 12" LONGITUDE: 70 45' 42"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13695.81 TIME DELAY 2A: 26032.57
TIME DELAY 1B: 13695.88 TIME DELAY 2B: 26032.63
TIME DELAY 1C: 13695.81 TIME DELAY 2C: 26032.58
TIME DELAY 1D: 13695.82 TIME DELAY 2D: 26032.58

TIME DELAY AV: 13695.83 TIME DELAY AV: 26032.59

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 88 93

WEATHER: OVERCAST SKIES, FEW RAIN SPRINKLES, 45-50 DEGREES.

=====

DATE: 4/14/1985 TIME: 4:45:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 19D
KITTELY, ME CENTER OF ISLAND AT INTERSECTION OF ROUTE 103 AND
MAST COVE ROAD.

LATITUDE: 43 07' 03"	LONGITUDE: 70 47' 35"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13709.21	TIME DELAY 2A: 26042.83
TIME DELAY 1B: 13709.24	TIME DELAY 2B: 26042.91
TIME DELAY 1C: 13709.30	TIME DELAY 2C: 26042.89
TIME DELAY 1D: 13709.25	TIME DELAY 2D: 26042.88

TIME DELAY AV: 13709.25 TIME DELAY AV: 26042.88

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 89 93

WEATHER: OVERCAST SKIES, FEW RAIN SPRINKLES, 45-50 DEGREES.

=====

DATE: 4/13/1985 TIME: 1:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 1D
NEWINGTON, NH LEFT SIDE OF FOX POINT ROAD HEADING WEST, ACROSS
KNIGHT BROOK.

LATITUDE: 43 06' 39"	LONGITUDE: 70 50' 39"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13731.83	TIME DELAY 2A: 26058.97
TIME DELAY 1B: 13731.86	TIME DELAY 2B: 26059.00
TIME DELAY 1C: 13731.87	TIME DELAY 2C: 26058.95
TIME DELAY 1D: 13731.90	TIME DELAY 2D: 26058.97

TIME DELAY AV: 13731.87 TIME DELAY AV: 26058.97

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 92 93

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 12/16/1984 TIME: 3:15:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 20
PORTSMOUTH, NH CENTER OF PORTSMOUTH TRAFFIC CIRCLE NEXT TO THE
NORTHEAST SIDE OF HIGHWAY LIGHT.

LATITUDE: 43 04' 24"	LONGITUDE: 70 46' 50"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13719.59	TIME DELAY 2A: 26023.80
TIME DELAY 1B: 13719.52	TIME DELAY 2B: 26023.73
TIME DELAY 1C: 13719.56	TIME DELAY 2C: 26023.66
TIME DELAY 1D: 13719.48	TIME DELAY 2D: 26023.56

TIME DELAY AV: 13719.54	TIME DELAY AV: 26023.69
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 88 95

WEATHER: CLOUDY SKIES, 40 DEGREES

=====

DATE: 2/10/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 20
PORTSMOUTH, NH - CENTER OF THE PORTSMOUTH TRAFFIC CIRCLE NEXT TO
THE NORTHEAST SIDE OF THE HIGHWAY LIGHT.

LATITUDE: 43 04' 24"	LONGITUDE: 70 46' 51"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13719.60	TIME DELAY 2A: 26023.71
TIME DELAY 1B: 13719.59	TIME DELAY 2B: 26023.75
TIME DELAY 1C: 13719.54	TIME DELAY 2C: 26023.63
TIME DELAY 1D: 13719.65	TIME DELAY 2D: 26023.68

TIME DELAY AV: 13719.60	TIME DELAY AV: 26023.68
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GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 92 85 92

WEATHER: SUNNY, CLEAR SKIES, 35-40 DEGREES

=====

DATE: 3/20/1985 TIME: 1:00:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 20A
DURHAM NH, ADAMS POINT -EASTERN MOST POINT OF DURHAM

LATITUDE: 43 05' 34"	LONGITUDE: 70 51' 47"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13745.85	TIME DELAY 2A: 26059.95
TIME DELAY 1B: 13745.81	TIME DELAY 2B: 26059.90
TIME DELAY 1C: 13745.80	TIME DELAY 2C: 26059.88
TIME DELAY 1D: 13745.78	TIME DELAY 2D: 26059.86

TIME DELAY AV: 13745.83	TIME DELAY AV: 26059.90
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 86 93

WEATHER: SUNNY AND WINDY, 50 DEGREES

=====

DATE: 3/20/1985 TIME: 2:10:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 20B
NEWINGTON NH, NEWINGTON ROAD CROSSING OF STREAM NEAR TOWN LINE
LEFT SIDE GOING NORTH

LATITUDE: ' "	LONGITUDE: ' "
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: .00	TIME DELAY 2A: .00
TIME DELAY 1B: .00	TIME DELAY 2B: .00
TIME DELAY 1C: .00	TIME DELAY 2C: .00
TIME DELAY 1D: .00	TIME DELAY 2D: .00

TIME DELAY AV: .00	TIME DELAY AV: .00
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GROUND: NUMBER OF TIMES VISITED: 0 SNR:

WEATHER:

=====

DATE: 3/20/1985 TIME: 2:10:00 AM GEO. MARKER?: N MAP: D

LOCATION: POINT 20B
NEWINGTON NH, NEWINGTON ROAD CROSSING OF STREAM NEAR TOWN LINE
LEFT SIDE GOING NORTH

LATITUDE: 43 03' 46"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 70 49' 42"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13742.08
TIME DELAY 1B: 13742.16
TIME DELAY 1C: 13742.16
TIME DELAY 1D: 13742.18

TIME DELAY 2A: 26037.33
TIME DELAY 2B: 26037.40
TIME DELAY 2C: 26037.43
TIME DELAY 2D: 26037.38

TIME DELAY AV: 13742.15

TIME DELAY AV: 26037.39

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 93

WEATHER: SUNNY AND WINDY, 50 DEGREES

=====

DATE: 4/14/1985 TIME: 1:45:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 20D
DURHAM, NH NORTHEAST CORNER OF WILLEY CREEK ROAD AND EDGERLY-
GARRISON ROAD INTERSECTION.

LATITUDE: 43 07' 06"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 70 52' 15"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13740.05
TIME DELAY 1B: 13740.02
TIME DELAY 1C: 13740.00
TIME DELAY 1D: 13740.03

TIME DELAY 2A: 26071.20
TIME DELAY 2B: 26071.23
TIME DELAY 2C: 26071.21
TIME DELAY 2D: 26071.23

TIME DELAY AV: 13740.03

TIME DELAY AV: 26071.22

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 83 93

WEATHER: OVERCAST SKIES, FEW RAIN SPRINKLES, 45-50 DEGREES.

=====

DATE: 12/16/1984 TIME: 3:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 21
GREENLAND, NH RIGHT SIDE HEADING SOUTH ON ROUTE 101 ON THE
BOSTON AND MAINE RAILROAD TRACKS.

LATITUDE: 43 57' 14"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 71 36' 31"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13742.70 TIME DELAY 2A: 26578.59
 TIME DELAY 1B: 13742.61 TIME DELAY 2B: 26578.34
 TIME DELAY 1C: 13742.60 TIME DELAY 2C: 26578.15
 TIME DELAY 1D: .00 TIME DELAY 2D: .00

TIME DELAY AV: 13742.64 TIME DELAY AV: 26578.36

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 95 88 54

WEATHER: CLOUDY SKIES, 40 DEGREES

=====

DATE: 2/10/1985 TIME: 3:46:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 21
 GREENLAND, NH RIGHT SIDE OF ROUTE 101 HEADING SOUTH ON THE
 BOSTON AND MAINE RAILROAD TRACKS

LATITUDE: 43 02' 54" LONGITUDE: 70 49' 01"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13742.75 TIME DELAY 2A: 26028.45
 TIME DELAY 1B: 13742.63 TIME DELAY 2B: 26028.41
 TIME DELAY 1C: 13742.56 TIME DELAY 2C: 26028.35
 TIME DELAY 1D: 13742.60 TIME DELAY 2D: 26028.36

TIME DELAY AV: 13742.64 TIME DELAY AV: 26028.39

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 92 85 92

WEATHER: SUNNY, CLEAR SKIES, 35-40 DEGREES

=====

DATE: 2/10/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 21
 GREENLAND, NH RIGHT SIDE HEADING SOUTH ON ROUTE 101 ON THE
 BOSTON AND MAINE RAILROAD TRACKS

LATITUDE: 43 02' 53" LONGITUDE: 70 49' 01"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13742.65 TIME DELAY 2A: 26028.38
 TIME DELAY 1B: 13742.66 TIME DELAY 2B: 26028.36
 TIME DELAY 1C: 13742.68 TIME DELAY 2C: 26028.45
 TIME DELAY 1D: 13742.70 TIME DELAY 2D: 26028.42

55
TIME DELAY AV: 13742.67 TIME DELAY AV: 26028.40
GROUND: Y NUMBER OF TIMES VISITED: 2 SNR: 92 85 92
WEATHER: SUNNY, CLEAR SKIES, 35-40 DEGREES

=====

DATE: 3/20/1985 TIME: 1:40:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 21A
DOVER NH, SOUTHEAST POINT OF DOVER POINT NEAR BRIDGE

LATITUDE: 43 07' 11"	LONGITUDE: 70 49' 38"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13722.10	TIME DELAY 2A: 26056.05
TIME DELAY 1B: 13722.06	TIME DELAY 2B: 26056.02
TIME DELAY 1C: 13722.09	TIME DELAY 2C: 26056.02
TIME DELAY 1D: 13722.05	TIME DELAY 2D: 26056.00

TIME DELAY AV: 13722.08 TIME DELAY AV: 26056.02

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 85 93

WEATHER: SUNNY AND WINDY, 50 DEGREES

=====

DATE: 3/20/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 21C
KITTEY MAINE, ROUTE 103 BRIDGE OVER SPINNEY CREEK

LATITUDE: 43 05' 48"	LONGITUDE: 70 45' 55"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13705.34	TIME DELAY 2A: 26026.03
TIME DELAY 1B: 13705.37	TIME DELAY 2B: 26026.00
TIME DELAY 1C: 13705.35	TIME DELAY 2C: 26026.00
TIME DELAY 1D: 13705.33	TIME DELAY 2D: 26026.02

TIME DELAY AV: 13705.35 TIME DELAY AV: 26026.01

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 83 95

WEATHER: SUNNY AND WINDY, 50 DEGREES

50

=====

DATE: 2/10/1985 TIME: 4:06:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 22

GREENLAND, NH RIGHT-CENTER SIDE OF BRIDGE ON BREAKFAST HILL
ROAD HEADING SOUTHEAST. BRIDGE IS OVER INTERSTATE 95 HIGHWAY.

LATITUDE: 43 01' 17"	LONGITUDE: 70 49' 49"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13757.18	TIME DELAY 2A: 26024.09
TIME DELAY 1B: 13757.18	TIME DELAY 2B: 26024.15
TIME DELAY 1C: 13757.14	TIME DELAY 2C: 26024.11
TIME DELAY 1D: 13757.10	TIME DELAY 2D: 26024.06

TIME DELAY AV: 13757.15 TIME DELAY AV: 26024.10

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 89 98 95

WEATHER: SUNNY, CLEAR SKIES
35-40 DEGREES

=====

DATE: 3/20/1985 TIME: 2:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 22A

GREENLAND NH, BREATBAY ROAD CROSSING OF B&MRR TRACKS
RIGHT SIDE GOING NORTH

LATITUDE: 43 03' 07"	LONGITUDE: 70 52' 00"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13761.18	TIME DELAY 2A: 26047.81
TIME DELAY 1B: 13761.12	TIME DELAY 2B: 26047.86
TIME DELAY 1C: 13761.14	TIME DELAY 2C: 26047.89
TIME DELAY 1D: 13761.20	TIME DELAY 2D: 26047.84

TIME DELAY AV: 13761.16 TIME DELAY AV: 26047.85

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 60 93

WEATHER: SUNNY AND WINDY, 50 DEGREES

=====

DATE: 3/20/1985 TIME: 3:10:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 22B
PORTSMOUTH NH, LANG RD. CROSSING OF BERRY'S BROOK
RIGHT SIDE GOING NORTH

LATITUDE: 43 01' 17" LONGITUDE: 70 46' 47"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13737.03 TIME DELAY 2A: 26005.83
TIME DELAY 1B: 13737.00 TIME DELAY 2B: 26005.83
TIME DELAY 1C: 13737.05 TIME DELAY 2C: 26005.83
TIME DELAY 1D: 13737.03 TIME DELAY 2D: 26005.80

TIME DELAY AV: 13737.03 TIME DELAY AV: 26005.82

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 88 93

WEATHER: SUNNY AND WINDY, 50 DEGREES

=====

DATE: 3/20/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 22C
PORTSMOUTH NH, ROUTE 1 OVERPASS OF SPAULDING TPK.
RIGHT CENTER GOING SOUTHWEST

LATITUDE: 43 03' 26" LONGITUDE: 70 46' 13"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13720.96 TIME DELAY 2A: 26014.58
TIME DELAY 1B: 13720.86 TIME DELAY 2B: 26014.63
TIME DELAY 1C: 13721.01 TIME DELAY 2C: 26014.68
TIME DELAY 1D: 13720.99 TIME DELAY 2D: 26014.62

TIME DELAY AV: 13720.96 TIME DELAY AV: 26014.63

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 86 93

WEATHER: SUNNY AND WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 1:40:00 PM GEO. MARKER?: N MAP: D

61
LOCATION: POINT 2D
NEWINGTON, NH SOUTHEAST CORNER AT INTERSECTION OF LITTLE BAY ROAD
AND NEWINGTON ROAD.

LATITUDE: 43 05' 49" LONGITUDE: 70 50' 32"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13735.90 TIME DELAY 2A: 26053.73
TIME DELAY 1B: 13735.84 TIME DELAY 2B: 26053.71
TIME DELAY 1C: 13735.85 TIME DELAY 2C: 26053.75
TIME DELAY 1D: 13735.88 TIME DELAY 2D: 26053.79

TIME DELAY AV: 13735.87 TIME DELAY AV: 26053.75

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 88 93

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 2:00:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 3D
NEWINGTON, NH RIGHT-CENTER SIDE OF FOX POINT ROAD ACROSS
PICKERING BROOK HEADING NORTHWEST.

LATITUDE: 43 06' 17" LONGITUDE: 70 49' 27"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13725.93 TIME DELAY 2A: 26049.86
TIME DELAY 1B: 13725.98 TIME DELAY 2B: 26049.96
TIME DELAY 1C: 13726.04 TIME DELAY 2C: 26049.92
TIME DELAY 1D: 13725.98 TIME DELAY 2D: 26049.91

TIME DELAY AV: 13725.99 TIME DELAY AV: 26049.93

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 90 93

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 2:15:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 4D
NEWINGTON, NH RIGHT-CENTER SIDE OF WOODBURY AVENUE ACROSS PAUL
BROOK HEADING NORTHWEST.

LATITUDE: 43 05' 59" LONGITUDE: 70 48' 10"

CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13719.95 TIME DELAY 2A: 26040.50
TIME DELAY 1B: 13719.96 TIME DELAY 2B: 26040.48
TIME DELAY 1C: 13720.00 TIME DELAY 2C: 26040.46
TIME DELAY 1D: 13720.05 TIME DELAY 2D: 26040.51

TIME DELAY AV: 13719.99 TIME DELAY AV: 26040.49

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 85 92

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 2:49:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 5D
NEWINGTON, NH SOUTHWEST CORNER AT INTERSECTION ON NEWINGTON
ROAD (SEE MAP).

LATITUDE: 43 05' 09" LONGITUDE: 70 50' 05"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13736.71 TIME DELAY 2A: 26047.24
TIME DELAY 1B: 13736.71 TIME DELAY 2B: 26047.21
TIME DELAY 1C: 13736.78 TIME DELAY 2C: 26047.26
TIME DELAY 1D: 13736.78 TIME DELAY 2D: 26047.27

TIME DELAY AV: 13736.75 TIME DELAY AV: 26047.25

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 89 89

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 3:11:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 6D
GREENLAND, NH RIGHT-CENTER SIDE OF BAYSIDE ROAD ACROSS SHAW BROOK
HEADING WEST.

LATITUDE: 43 02' 27" LONGITUDE: 70 51' 00"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13758.41 TIME DELAY 2A: 26037.75

TIME DELAY 1B: 13758.40 TIME DELAY 2B: 26037.76
TIME DELAY 1C: 13758.44 TIME DELAY 2C: 26037.76
TIME DELAY 1D: 13758.40 TIME DELAY 2D: 26037.79

TIME DELAY AV: 13758.41 TIME DELAY AV: 26037.77

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 75 72 92

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 3:24:85 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 7D
STRATHAM, NH RIGHT-CENTER SIDE OF WINNICUT ROAD ACROSS WINNICUT
BROOK HEADING SOUTHWEST.

LATITUDE: 43 01' 19" LONGITUDE: 70 51' 35"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13768.82 TIME DELAY 2A: 26035.21
TIME DELAY 1B: 13768.83 TIME DELAY 2B: 26035.20
TIME DELAY 1C: 13768.78 TIME DELAY 2C: 26035.15
TIME DELAY 1D: 13768.80 TIME DELAY 2D: 26035.16

TIME DELAY AV: 13768.81 TIME DELAY AV: 26035.18

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 86 93

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 3:40:85 PM GEO..MARKER?: N MAP: D

LOCATION: POINT 8D
STRATHAM, NH RIGHT-CENTER SIDE OF WINNICUT ROAD ACROSS WINNICUT
RIVER HEADING SOUTHEAST.

LATITUDE: 43 00' 37" LONGITUDE: 70 52' 19"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13777.50 TIME DELAY 2A: 26035.80
TIME DELAY 1B: 13777.45 TIME DELAY 2B: 26035.83
TIME DELAY 1C: 13777.49 TIME DELAY 2C: 26035.92
TIME DELAY 1D: 13777.53 TIME DELAY 2D: 26035.90

TIME DELAY AV: 13777.49 TIME DELAY AV: 26035.86

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 85 92

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 4/13/1985 TIME: 3:50:00 PM GEO. MARKER?: N MAP: D

LOCATION: POINT 9D
GREENLAND, NH LEFT-CENTER SIDE OF ROUTE 151 ACROSS NORTON BROOK
HEADING NORTH.

LATITUDE: 43 00' 37"	LONGITUDE: 70 50' 34"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13766.00	TIME DELAY 2A: 26025.13
TIME DELAY 1B: 13765.95	TIME DELAY 2B: 26025.05
TIME DELAY 1C: 13765.90	TIME DELAY 2C: 26025.07
TIME DELAY 1D: 13765.86	TIME DELAY 2D: 26025.06

TIME DELAY AV: 13765.93 TIME DELAY AV: 26025.08

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 85 95

WEATHER: SUNNY SKIES, WINDY, 50 DEGREES

=====

DATE: 2/26/1985 TIME: 2:15:00 PM GEO. MARKER?: N MAP: E

LOCATION: POINT 23
EXETER, NH RIGHT-CENTER SIDE OF BRIDGE ON ROUTE 108 HEADING SOUTH.
BRIDGE CROSSES THE EXETER RIVER.

LATITUDE: 42 57' 44"	LONGITUDE: 70 57' 21"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13827.27	TIME DELAY 2A: 26051.29
TIME DELAY 1B: 13827.24	TIME DELAY 2B: 26051.26
TIME DELAY 1C: 13827.23	TIME DELAY 2C: 26051.22
TIME DELAY 1D: 13827.24	TIME DELAY 2D: 26051.30

TIME DELAY AV: 13827.24 TIME DELAY AV: 26051.27

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 83 93

WEATHER: WARM, PARTLY CLOUDY, WINDY, 50 DEGREES

=====

DATE: 2/26/1985 TIME: 2:35:00 PM GEO. MARKER?: N MAP: E

LOCATION: POINT 24
EAST KINGSTON, NH LEFT-CENTER SIDE OF BRIDGE ON ROUTE 108
HEADING SOUTH. BRIDGE CROSSES GREAT BROOK.

LATITUDE: 42 55' 53"	LONGITUDE: 70 59' 33"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13852.33	TIME DELAY 2A: 26054.94
TIME DELAY 1B: 13852.41	TIME DELAY 2B: 26054.95
TIME DELAY 1C: 13852.40	TIME DELAY 2C: 26055.03
TIME DELAY 1D: 13852.25	TIME DELAY 2D: 26054.95

TIME DELAY AV: 13852.35	TIME DELAY AV: 26054.98
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 85 93

WEATHER: WARM, PARTLY CLOUDY, WINDY, 50 DEGREES

=====

DATE: 2/26/1985 TIME: 3:23:00 PM GEO. MARKER?: N MAP: E

LOCATION: POINT 25
KENSINGTON, NH LEFT SIDE HEADING SOUTH ON ROUTE 150 DIRECTLY
OVER HAMPTON FALLS RIVER.

LATITUDE: 42 54' 19"	LONGITUDE: 70 55' 32"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13834.14	TIME DELAY 2A: 26020.56
TIME DELAY 1B: 13834.06	TIME DELAY 2B: 26020.47
TIME DELAY 1C: 13834.07	TIME DELAY 2C: 26020.51
TIME DELAY 1D: 13834.08	TIME DELAY 2D: 26020.55

TIME DELAY AV: 13834.09	TIME DELAY AV: 26020.52
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 88 92

WEATHER: WARM, PARTLY CLOUDY, WINDY, 50 DEGREES

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DATE: 2/26/1985 TIME: 4:20:00 PM GEO. MARKER?: N MAP: E

LOCATION: POINT 25A
EXETER, NH THE ISLAND AT THE JUNCTION OF ROUTE 101 AND ROUTE
101C, ALSO CALLED HAYNES CORNER.

LATITUDE: 42 58' 41"	LONGITUDE: 70 55' 06"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13806.91	TIME DELAY 2A: 26042.25
TIME DELAY 1B: 13806.91	TIME DELAY 2B: 26042.30
TIME DELAY 1C: 13806.91	TIME DELAY 2C: 26042.26
TIME DELAY 1D: 13806.93	TIME DELAY 2D: 26042.28

TIME DELAY AV: 13806.91	TIME DELAY AV: 26042.27
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 82 93

WEATHER: PARTLY CLOUDY SKIES, 40 DEGREES

=====

DATE: 3/21/1985 TIME: 11:00:00 AM GEO. MARKER?: N MAP: E

LOCATION: POINT 25B
SOUTH HAMPTON NH, MAIN ST. AVE CROSSING OF GRASSY BROOK
RIGHT SIDE GOING EAST

LATITUDE: 42 53' 23"	LONGITUDE: 70 58' 44"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13860.76	TIME DELAY 2A: 26035.97
TIME DELAY 1B: 13860.70	TIME DELAY 2B: 26035.93
TIME DELAY 1C: 13860.68	TIME DELAY 2C: 26035.99
TIME DELAY 1D: 13860.61	TIME DELAY 2D: 26035.91

TIME DELAY AV: 13860.69	TIME DELAY AV: 26035.95
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 85 95

WEATHER: SUNNY AND WINDY, 30 DEGREES

=====

DATE: 2/26/1985 TIME: 3:23:00 PM GEO. MARKER?: N MAP: E

LOCATION: POINT 26
SEABROOK, NH RIGHT-CENTER SIDE OF BRIDGE ON NEW ZEALAND ROAD

HEADING EAST. BRIDGE CROSSES INTERSTATE 95 HIGHWAY.

LATITUDE: 42 53' 42" LONGITUDE: 70 52' 46"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13819.33 TIME DELAY 2A: 25999.78
 TIME DELAY 1B: 13819.28 TIME DELAY 2B: 25999.69
 TIME DELAY 1C: 13819.20 TIME DELAY 2C: 25999.68
 TIME DELAY 1D: 13819.14 TIME DELAY 2D: 25999.66

TIME DELAY AV: 13819.24 TIME DELAY AV: 25999.70

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 86 93

WEATHER: WARM, PARTLY CLOUDY, WINDY, 50 DEGREES

=====

DATE: 2/26/1985 TIME: 3:41:00 PM GEO. MARKER?: N MAP: E

LOCATION: POINT 27
 HAMPTON FALLS, NH RIGHT-CENTER SIDE OF BRIDGE ON LAMPREY ROAD
 HEADING WEST. BRIDGE CROSSES INTERSTATE 95 HIGHWAY.

LATITUDE: 42 54' 27" LONGITUDE: 70 52' 35"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13813.80 TIME DELAY 2A: 26002.65
 TIME DELAY 1B: 13813.83 TIME DELAY 2B: 26002.69
 TIME DELAY 1C: 13813.95 TIME DELAY 2C: 26002.74
 TIME DELAY 1D: 13813.90 TIME DELAY 2D: 26002.73

TIME DELAY AV: 13813.87 TIME DELAY AV: 26002.70

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 83 82 93

WEATHER: WARM, PARTLY CLOUDY, WINDY, 50 DEGREES

=====

DATE: 2/26/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: E

LOCATION: POINT 28
 HAMPTON FALLS, NH LEFT-CENTER SIDE OF BRIDGE ON ROUTE 88
 HEADING NORTH. BRIDGE CROSSES THE TAYLOR RIVER.

LATITUDE: 42 57' 01" LONGITUDE: 70 54' 00"
 CALC LAT: ' " CALC LON : ' "
 GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13808.95 TIME DELAY 2A: 26026.10
TIME DELAY 1B: 13808.93 TIME DELAY 2B: 26026.08
TIME DELAY 1C: 13809.01 TIME DELAY 2C: 26026.20
TIME DELAY 1D: 13809.00 TIME DELAY 2D: 26026.16

TIME DELAY AV: 13808.97 TIME DELAY AV: 26026.13

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 86 95

WEATHER: WARM, PARTLY CLOUDY, WINDY, 50 DEGREES

=====

DATE: 3/21/1985 TIME: 10:30:00 AM GEO. MARKER?: N MAP: E

LOCATION: POINT 28B
KENSINGTON NH, OSGOOD RD. CROSSING OG MILL BROOK, NEAR FIVE CORNERS
RIGHT SIDE GOING WEST

LATITUDE: 42 56' 12" LONGITUDE: 70 55' 50"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13825.78 TIME DELAY 2A: 26033.24
TIME DELAY 1B: 13825.78 TIME DELAY 2B: 26033.21
TIME DELAY 1C: 13825.75 TIME DELAY 2C: 26033.23
TIME DELAY 1D: 13825.83 TIME DELAY 2D: 26033.33

TIME DELAY AV: 13825.79 TIME DELAY AV: 26033.25

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 85 93

WEATHER: SUNNY AND WINDY, 30 DEGREES

=====

DATE: 3/21/1985 TIME: 10:00:00 AM GEO. MARKER?: N MAP: E

LOCATION: POINT 29B
EXETER NH, BRENTWOOD RD. CROSSING OF LITTLE RIVER
RIGHT SIDE GOING WEST

LATITUDE: 42 49' 09" LONGITUDE: 70 58' 50"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13829.28 TIME DELAY 2A: 26068.43
TIME DELAY 1B: 13829.24 TIME DELAY 2B: 26068.38
TIME DELAY 1C: 13829.20 TIME DELAY 2C: 26068.36

67
TIME DELAY 1D: 13829.26 TIME DELAY 2D: 26068.38
TIME DELAY AV: 13829.25 TIME DELAY AV: 26068.39
GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 83 95
WEATHER: SUNNY AND WINDY, 30 DEGREES

=====

DATE: 2/12/1985 TIME: 2:16:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 29
NORTH HAMPTON, NH ON RIGHT-CENTER SIDE OF BRIDGE HEADING
SOUTHEAST ON ROUTE 151. BRIDGE IS OVER INTERSTATE 95.

LATITUDE: 42 59' 41" LONGITUDE: 70 50' 53"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13773.29 TIME DELAY 2A: 26021.81
TIME DELAY 1B: 13773.34 TIME DELAY 2B: 26021.83
TIME DELAY 1C: 13773.36 TIME DELAY 2C: 26021.89
TIME DELAY 1D: 13773.32 TIME DELAY 2D: 26021.88

TIME DELAY AV: 13773.33 TIME DELAY AV: 26021.85

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 88 93

WEATHER: OVERCAST, WINDY, MILD, 35-40 DEGREES

=====

DATE: 4/20/1985 TIME: 12:15:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 29A
NORTH HAMPTON NH, SOUTH RD. CROSSING OF NORTH BROOK
LEFT CENTER OF BRIDGE HEADING EAST

LATITUDE: 42 52' 20" LONGITUDE: 70 48' 51"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13761.85 TIME DELAY 2A: 26007.31
TIME DELAY 1B: 13761.86 TIME DELAY 2B: 26007.37
TIME DELAY 1C: 13761.85 TIME DELAY 2C: 26007.34
TIME DELAY 1D: 13761.83 TIME DELAY 2D: 26007.37

TIME DELAY AV: 13761.85 TIME DELAY AV: 26007.35

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 85 72 88

70
WEATHER: SUNNY AND WARM, 60 DEGREES

=====

DATE: 2/12/1985 TIME: 2:35:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 30
NORTH HAMPTON, NH HEADING WEST ON SOUTH ROAD, AT THE RIGHT-CENTER
SIDE OF INTERSTATE 95 OVERPASS BRIDGE.

LATITUDE: 42 58' 11"	LONGITUDE: 70 51' 17"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13784.33	TIME DELAY 2A: 26015.81
TIME DELAY 1B: 13784.49	TIME DELAY 2B: 26015.79
TIME DELAY 1C: 13784.41	TIME DELAY 2C: 26015.76
TIME DELAY 1D: 13784.35	TIME DELAY 2D: 26015.77

TIME DELAY AV: 13784.39	TIME DELAY AV: 26015.78
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 85 89

WEATHER: OVERCAST, WINDY, MILD, 35-40 DEGREES

=====

DATE: 2/12/1985 TIME: 2:55:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 31
HAMPTON, NH HEADING SOUTHWEST ON TOWLE ROAD, AT THE RIGHT-CENTER
SIDE OF INTERSTATE 95 OVERPASS BRIDGE.

LATITUDE: 42 56' 33"	LONGITUDE: 70 51' 37"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13795.63	TIME DELAY 2A: 26008.61
TIME DELAY 1B: 13795.70	TIME DELAY 2B: 26008.61
TIME DELAY 1C: 13795.69	TIME DELAY 2C: 26008.71
TIME DELAY 1D: 13795.65	TIME DELAY 2D: 26008.70

TIME DELAY AV: 13795.65	TIME DELAY AV: 26008.65
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 85 92

WEATHER: OVERCAST, WINDY, MILD, 35-40 DEGREES

=====

DATE: 4/30/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 31
HAMPTON, NH HEADING SOUTHWEST ON TOWLE ROAD, AT THE RIGHT-CENTER
SIDE OF INTERSTATE 95 OVERPASS BRIDGE

LATITUDE: 42 56' 33"	LONGITUDE: 70 51' 36"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13795.70	TIME DELAY 2A: 26008.43
TIME DELAY 1B: 13795.68	TIME DELAY 2B: 26008.51
TIME DELAY 1C: 13795.75	TIME DELAY 2C: 26008.54
TIME DELAY 1D: 13795.80	TIME DELAY 2D: 26008.48

TIME DELAY AV: 13795.73	TIME DELAY AV: 26008.49
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GROUND: Y NUMBER OF TIMES VISITED: 2 SNR: 93 83 92

WEATHER: 65 - 70 DEGREES, SUNNY, SLIGHT BREEZE

=====

DATE: 4/20/1985 TIME: 1:00:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 31A
HAMPTON NH, MILL CREEK CROSSING OF HAMPTON INTERCHANGE
CENTER OF BRIDGE, RIGHT SIDE HEADING WEST

LATITUDE: 42 55' 22"	LONGITUDE: 70 49' 20"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13787.40	TIME DELAY 2A: 25987.84
TIME DELAY 1B: 13787.32	TIME DELAY 2B: 25987.87
TIME DELAY 1C: 13787.27	TIME DELAY 2C: 25987.80
TIME DELAY 1D: 13787.30	TIME DELAY 2D: 25987.81

TIME DELAY AV: 13787.32	TIME DELAY AV: 25987.83
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 98 89 93

WEATHER: SUNNY AND WARM, 60 DEGREES

=====

DATE: 2/12/1985 TIME: 3:11:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 32
HAMPTON FALLS, NH HEADING EAST ON ROUTE 88, AT THE RIGHT-CENTER
SIDE OF INTERSTATE 95 OVERPASS BRIDGE.

LATITUDE: 42 55' 16" LONGITUDE: 70 52' 09"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13806.61 TIME DELAY 2A: 26004.66
TIME DELAY 1B: 13806.51 TIME DELAY 2B: 26004.60
TIME DELAY 1C: 13806.38 TIME DELAY 2C: 26004.53
TIME DELAY 1D: 13806.48 TIME DELAY 2D: 26004.66

TIME DELAY AV: 13806.49 TIME DELAY AV: 26004.61

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 89 92

WEATHER: OVERCAST, WINDY, MILD, 35-40 DEGREES

=====

DATE: 2/12/1985 TIME: 3:35:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 33
HAMPTON, NH LOCATED AT BECKMANS POINT. 50 FEET AND 220 DEGREES
SOUTHWEST FROM THE BEACON ON THE ROCK BREAKWATER WALL.

LATITUDE: 42 53' 37" LONGITUDE: 70 48' 36"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13792.17 TIME DELAY 2A: 25973.25
TIME DELAY 1B: 13792.05 TIME DELAY 2B: 25973.24
TIME DELAY 1C: 13792.28 TIME DELAY 2C: 25973.18
TIME DELAY 1D: 13792.10 TIME DELAY 2D: 25973.21

TIME DELAY AV: 13792.15 TIME DELAY AV: 25973.22

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 92

WEATHER: OVERCAST, VERY WINDY, MILD, 35-40 DEGREES

=====

DATE: 4/20/1985 TIME: 1:20:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 33A
SEABROOK NEWHAMPSHIRE, CAUSEWAY RD. CENTER OF BRIDGE
RIGHT SIDE HEADING SOUTH

LATITUDE: 42 53' 07"
 CALC LAT: ' "
 GEO. LAT: ' "

LONGITUDE: 70 50' 49"
 CALC LON : ' "
 GEO. LON : ' "

TIME DELAY 1A: 13809.45
 TIME DELAY 1B: 13809.49
 TIME DELAY 1C: 13809.43
 TIME DELAY 1D: 13809.49

TIME DELAY 2A: 25984.10
 TIME DELAY 2B: 25984.13
 TIME DELAY 2C: 25984.07
 TIME DELAY 2D: 25984.09

TIME DELAY AV: 13809.47

TIME DELAY AV: 25984.10

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 96 89 89

WEATHER: WARM AND SUNNY CLEAR SKIES 60 DEGREES

=====

DATE: 1/28/1985 TIME: 4:35:00 PM GEO. MARKER?: Y MAP: F

LOCATION: POINT 34

NORTH HAMPTON, NH LOCATED AT THE GEODETIC MARKER ON A LARGE
 BOULDER AT THE SIDE OF THE ROAD AT LITTLE BOARS HEAD.

LATITUDE: 42 57' 32"
 CALC LAT: ' "
 GEO. LAT: 42 57' 29"

LONGITUDE: 70 46' 29"
 CALC LON : ' "
 GEO. LON : 70 46' 33"

TIME DELAY 1A: 13756.15
 TIME DELAY 1B: 13756.20
 TIME DELAY 1C: 13756.29
 TIME DELAY 1D: 13756.31

TIME DELAY 2A: 25982.57
 TIME DELAY 2B: 25982.59
 TIME DELAY 2C: 25982.63
 TIME DELAY 2D: 25982.65

TIME DELAY AV: 13756.24

TIME DELAY AV: 25982.61

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 89 86 95

WEATHER: OVERCAST, WINDY, MILD, 35-40 DEGREES

=====

DATE: 2/21/1985 TIME: 2:27:00 PM GEO. MARKER?: Y MAP: F

LOCATION: POINT 34

NORTH HAMPTON, NH LOCATED AT THE GEODETIC MARKER ON A LARGE
 BOULDER AT THE SIDE OF OCEAN BLVD. AT LITTLE BOARS HEAD.

LATITUDE: 42 57' 31"
 CALC LAT: ' "
 GEO. LAT: 42 57' 29"

LONGITUDE: 70 46' 27"
 CALC LON : ' "
 GEO. LON : 70 46' 33"

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TIME DELAY 1A: 13756.14	TIME DELAY 2A: 25982.54
TIME DELAY 1B: 13756.20	TIME DELAY 2B: 25982.63
TIME DELAY 1C: 13756.18	TIME DELAY 2C: 25982.65
TIME DELAY 1D: 13756.08	TIME DELAY 2D: 25982.40

TIME DELAY AV: 13756.15 TIME DELAY AV: 25982.56

GROUND: Y NUMBER OF TIMES VISITED: 2 SNR: 92 89 95

WEATHER: 40 DEGREES, SUNNY SKIES, WINDY

=====

DATE: 4/30/1985 TIME: 3:51:00 PM GEO. MARKER?: Y MAP: F

LOCATION: POINT 34
NORTH HAMPTON, NH LOCATED AT THE GEODETIC MARKER ON A LARGE
BOULDER AT THE SIDE OF THE ROAD AT LITTLE BOARS HEAD.

LATITUDE: 42 57' 30"	LONGITUDE: 70 46' 28"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: 42 57' 29"	GEO. LON : 70 46' 33"

TIME DELAY 1A: 13756.36	TIME DELAY 2A: 25982.34
TIME DELAY 1B: 13756.37	TIME DELAY 2B: 25982.39
TIME DELAY 1C: 13756.38	TIME DELAY 2C: 25982.38
TIME DELAY 1D: 13756.34	TIME DELAY 2D: 25982.32

TIME DELAY AV: 13756.36 TIME DELAY AV: 25982.36

GROUND: Y NUMBER OF TIMES VISITED: 3 SNR: 93 86 93

WEATHER: 65 - 70 DEGREES, SUNNY, SLIGHT BREEZE

=====

DATE: 4/20/1985 TIME: 12:40:00 PM GEO. MARKER?: N MAP: F

LOCATION: POINT 34A
HAMPTON NH, WOODLAND RD. CROSSING OF NILUS BROOK
LEFT SIDE HEADING NORTH

LATITUDE: 42 57' 08"	LONGITUDE: 70 48' 02"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13768.73	TIME DELAY 2A: 25989.86
TIME DELAY 1B: 13768.86	TIME DELAY 2B: 25989.90
TIME DELAY 1C: 13768.86	TIME DELAY 2C: 25989.95
TIME DELAY 1D: 13768.85	TIME DELAY 2D: 25989.96

TIME DELAY AV: 13768.83 TIME DELAY AV: 25989.92

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 96 85 93

WEATHER: SUNNY AND WARM, 60 DEGREES

=====

DATE: 3/21/1985 TIME: 12:40:00 PM GEO. MARKER?: N MAP: G

LOCATION: NEWBURYPORT MASS., HEADING WEST ON ROUTE 113, RIGHT SIDE OF BRIDGE
OVER CENTER OF ROUTE 95

LATITUDE: 42 49' 07"	LONGITUDE: 70 54' 55"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13858.65	TIME DELAY 2A: 25987.31
TIME DELAY 1B: 13858.71	TIME DELAY 2B: 25987.28
TIME DELAY 1C: 13858.76	TIME DELAY 2C: 25987.35
TIME DELAY 1D: 13858.81	TIME DELAY 2D: 25987.38

TIME DELAY AV: 13858.73 TIME DELAY AV: 25987.33

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 86 93

WEATHER: SUNNY, WINDY AND CLEAR 30 DEGREES

=====

DATE: 2/24/1985 TIME: 11:15:00 AM GEO. MARKER?: N MAP: G

LOCATION: POINT 58
SALISBURY, MASS FORREST ST INTERSECTION OF 95 OFF-RAMP
DUE EAST SECTION FIVE FEET OFF ROAD

LATITUDE: 42 52' 06"	LONGITUDE: 70 52' 47"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13828.24	TIME DELAY 2A: 25990.85
TIME DELAY 1B: 13828.28	TIME DELAY 2B: 25990.86
TIME DELAY 1C: 13828.34	TIME DELAY 2C: 25990.85
TIME DELAY 1D: 13828.37	TIME DELAY 2D: 25990.84

TIME DELAY AV: 13828.31 TIME DELAY AV: 25990.84

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 92

WEATHER: PARTLY CLOUDY AND WARM 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 11:15:00 AM GEO. MARKER?: N MAP: G

LOCATION: POINT 58
SALISBURY MASS., CORNER OF FORREST ST. AND ROUTE 95 OFFRAMP
LEFT CORNER HEADING EAST

LATITUDE: 42 52' 06"	LONGITUDE: 70 52' 47"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13828.24	TIME DELAY 2A: 25990.85
TIME DELAY 1B: 13828.28	TIME DELAY 2B: 25990.86
TIME DELAY 1C: 13828.34	TIME DELAY 2C: 25990.85
TIME DELAY 1D: 13828.37	TIME DELAY 2D: 25990.84

TIME DELAY AV: 13828.31 TIME DELAY AV: 25990.85

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 92

WEATHER: WARM AND PARTLT CLOUDY, 55 DEGREES

=====

DATE: 3/21/1985 TIME: 1:57:00 PM GEO. MARKER?: N MAP: G

LOCATION: POINT 60
NEWBURY MASS., CENTRAL ST. OVER PASS OF 95. RIGHT SIDE GOING EAST

LATITUDE: 42 45' 28"	LONGITUDE: 70 56' 29"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13888.78	TIME DELAY 2A: 25976.64
TIME DELAY 1B: 13888.75	TIME DELAY 2B: 25976.62
TIME DELAY 1C: 13888.83	TIME DELAY 2C: 25976.70
TIME DELAY 1D: 13888.78	TIME DELAY 2D: 25976.67

TIME DELAY AV: 13888.79 TIME DELAY AV: 25976.67

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 86 95

WEATHER: SUNNY AND WINDY, 45 DEGREES

=====

DATE: 3/21/1985 TIME: 1:12:00 PM GEO. MARKER?: N MAP: G

LOCATION: POINT 61
WEST NEWBURY MASS., GEORGETOWN ROAD, RIGHT SIDE HEADING SOUTH
OVER CENTER OF STREAM

LATITUDE: 42 47' 03"	LONGITUDE: 70 59' 15"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13898.58	TIME DELAY 2A: 26003.66
TIME DELAY 1B: 13898.57	TIME DELAY 2B: 26003.72
TIME DELAY 1C: 13898.54	TIME DELAY 2C: 26003.68
TIME DELAY 1D: 13898.58	TIME DELAY 2D: 26003.70

TIME DELAY AV: 13898.57	TIME DELAY AV: 26003.69
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 85 92

WEATHER: SUNNY AND WINDY, 45 DEGREES

=====

DATE: 3/21/1985 TIME: 2:11:00 PM GEO. MARKER?: N MAP: G

LOCATION: POINT 62
NEWBURY MASS., MIDDLE STREET BRIDGE OVER PARKER RIVER
RIGHT SIDE HEADING SOUTH

LATITUDE: 42 45' 38"	LONGITUDE: 70 54' 02"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13871.59	TIME DELAY 2A: 25961.50
TIME DELAY 1B: 13871.56	TIME DELAY 2B: 25961.48
TIME DELAY 1C: 13871.60	TIME DELAY 2C: 25961.50
TIME DELAY 1D: 13871.62	TIME DELAY 2D: 25961.58

TIME DELAY AV: 13871.59	TIME DELAY AV: 25961.52
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 95 88 96

WEATHER: SUNNY AND WINDY, 45 DEGREES

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DATE: 3/21/1985 TIME: 3:00:00 PM GEO. MARKER?: N MAP: G

LOCATION: POINT 63

NEWBURY MASS., INTERSECTION OF ROUTE 1 AND B&M RR TRACKS

LATITUDE: 42 47' 44" LONGITUDE: 70 52' 35"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13850.73 TIME DELAY 2A: 25964.49
TIME DELAY 1B: 13850.75 TIME DELAY 2B: 25964.51
TIME DELAY 1C: 13850.81 TIME DELAY 2C: 25964.51
TIME DELAY 1D: 13850.75 TIME DELAY 2D: 25964.49

TIME DELAY AV: 13850.76 TIME DELAY AV: 25964.50

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 85 95

WEATHER: SUNNY AND WINDY, 45 DEGREES

=====

DATE: 3/21/1985 TIME: 1:00:00 PM GEO. MARKER?: N MAP: G

LOCATION: POINT 64
WEST NEWBURY MASS., STOREY AVE BRIDGE PASSING OVER INDIAN RIVER
LEFT SIDE GOING WEST

LATITUDE: 42 48' 30" LONGITUDE: 70 58' 03"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13882.73 TIME DELAY 2A: 26003.86
TIME DELAY 1B: 13882.70 TIME DELAY 2B: 26003.83
TIME DELAY 1C: 13882.71 TIME DELAY 2C: 26003.88
TIME DELAY 1D: 13882.71 TIME DELAY 2D: 26003.87

TIME DELAY AV: 13882.71 TIME DELAY AV: 26003.86

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 83 93

WEATHER: SUNNY AND WINDY, 30 DEGREES

=====

DATE: 3/21/1985 TIME: 1:27:00 PM GEO. MARKER?: N MAP: G

LOCATION: POINT 65
WEST NEWBURY MASS., ROGERS STREET BRIDGE OVER THE UPPER ARTICHOKE
RESOVIOUR. RIGHT SIDE GOING EAST

LATITUDE: 42 47' 43" LONGITUDE: 70 56' 18"
CALC LAT: ' " CALC LON : ' "

GEO. LAT:

GEO. LON :

7-

TIME DELAY 1A: 13875.41

TIME DELAY 2A: 25988.33

TIME DELAY 1B: 13875.40

TIME DELAY 2B: 25998.32

TIME DELAY 1C: 13875.43

TIME DELAY 2C: 25998.31

TIME DELAY 1D: 13875.41

TIME DELAY 2D: 25998.28

TIME DELAY AV: 13875.41

TIME DELAY AV: 25998.31

GROUND: Y

NUMBER OF TIMES VISITED: 1

SNR: 89 83 93

WEATHER: SUNNY AND WINDY, 45 DEGREES

=====

DATE: 3/21/1985 TIME: 11:30:00 AM

GEO. MARKER?: N MAP: G

LOCATION: POINT 66

MERRIMAC MASS., NEWTON RD. BRIDGE OVER TUXBURY POND,
RIGHT SIDE HEADING WEST

LATITUDE: 42 51' 45"

LONGITUDE: 70 59' 03"

CALC LAT: ' "

CALC LON : ' "

GEO. LAT: ' "

GEO. LON : ' "

TIME DELAY 1A: 13871.65

TIME DELAY 2A: 26028.90

TIME DELAY 1B: 13871.69

TIME DELAY 2B: 26028.86

TIME DELAY 1C: 13871.73

TIME DELAY 2C: 26028.86

TIME DELAY 1D: 13871.71

TIME DELAY 2D: 26028.82

TIME DELAY AV: 13871.68

TIME DELAY AV: 26028.86

GROUND: Y

NUMBER OF TIMES VISITED: 1

SNR: 86 83 93

WEATHER: SUNNY AND WINDY, 30 DEGREES

=====

DATE: 3/21/1985 TIME: 11:50:00 AM

GEO. MARKER?: N MAP: G

LOCATION: POINT 67

MERRIMAC MASS., CENTER OF OVERPASS RT. 495 NEAR POPLAR HILL
RIGHT SIDE GOING SOUTH

LATITUDE: 42 50' 03"

LONGITUDE: 70 58' 51"

CALC LAT: ' "

CALC LON : ' "

GEO. LAT: ' "

GEO. LON : ' "

TIME DELAY 1A: 13879.56

TIME DELAY 2A: 26017.89

TIME DELAY 1B: 13879.60

TIME DELAY 2B: 26017.90

TIME DELAY 1C: 13879.58
TIME DELAY 1D: 13879.60

TIME DELAY 2C: 26017.88
TIME DELAY 2D: 26017.91

TIME DELAY AV: 13879.59

TIME DELAY AV: 26017.90

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 85 93

WEATHER: SUNNY AND WINDY, 30 DEGREES

=====

DATE: 2/24/1985 TIME: 11:30:00 AM GEO. MARKER?: N MAP: H

LOCATION: POINT 49
SEABROOK-SALISBURY BORDER, SOUTH WEST CORNER OF INTERSECTION OF
86 AND 1A, RIGHT NEXT TO STATE BORDER SIGNS

LATITUDE: 42 52' 23"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 70 49' 02"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13801.88
TIME DELAY 1B: 13801.83
TIME DELAY 1C: 13801.89
TIME DELAY 1D: 13801.96

TIME DELAY 2A: 25968.88
TIME DELAY 2B: 25968.84
TIME DELAY 2C: 25968.90
TIME DELAY 2D: 25968.90

TIME DELAY AV: 13801.89

TIME DELAY AV: 25968.88

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 86 92

WEATHER: PARTLY CLOUDY AND WARM 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 11:45:00 AM GEO. MARKER?: N MAP: H

LOCATION: POINT 50
SALISBURY, MASS OUT DRIVEWAY OF STAR OF THE SEA CHAPEL, JUST
OFF THE ROAD 5 TO 10 FEET

LATITUDE: 41 52' 02"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 70 49' 00"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13809.05
TIME DELAY 1B: 13809.09
TIME DELAY 1C: 13809.08
TIME DELAY 1D: 13809.17

TIME DELAY 2A: 25960.86
TIME DELAY 2B: 25960.85
TIME DELAY 2C: 25960.80
TIME DELAY 2D: 25960.82

TIME DELAY AV: 13809.11

TIME DELAY AV: 25960.82

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 88 93

WEATHER: PARTLY CLOUDY AND WARM 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 12:00:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 51
SALISBURY, MASS SALISBURY STATE RESERVATION TRAFFIC CIRCLE
RIGHT IN THE CENTER

LATITUDE: 42 50' 09"	LONGITUDE: 70 49' 02"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13814.25	TIME DELAY 2A: 25955.96
TIME DELAY 1B: 13814.23	TIME DELAY 2B: 25955.95
TIME DELAY 1C: 13814.28	TIME DELAY 2C: 25955.92
TIME DELAY 1D: 13814.24	TIME DELAY 2D: 25955.90

TIME DELAY AV: 13814.24	TIME DELAY AV: 25955.91
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 88 93

WEATHER: PARTLY CLOUDY AND WARM 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 12:25:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 52
SALISBURY, MASS CORNER OF 1A AND PLEASANT STREET (SE CORNER)

LATITUDE: 42 50' 31"	LONGITUDE: 70 51' 39"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13829.38	TIME DELAY 2A: 25974.40
TIME DELAY 1B: 13829.41	TIME DELAY 2B: 25974.50
TIME DELAY 1C: 13829.40	TIME DELAY 2C: 25974.48
TIME DELAY 1D: 13829.35	TIME DELAY 2D: 25974.41

TIME DELAY AV: 13829.41	TIME DELAY AV: 25974.44
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 91 88

WEATHER: PARTLY CLOUDY AND WARM 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 12:45:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 53
SALISBURY, MASS COFFIN POINT PIER AT THE BOTTOM OF RINGS ISLAND
ALL THE WAY TO THE END OF THE PIER

LATITUDE: 42 49' 00"	LONGITUDE: 70 51' 56"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13839.56	TIME DELAY 2A: 25967.50
TIME DELAY 1B: 13839.55	TIME DELAY 2B: 25967.55
TIME DELAY 1C: 13839.60	TIME DELAY 2C: 25967.53
TIME DELAY 1D: 13839.57	TIME DELAY 2D: 25967.50

TIME DELAY AV: 13839.58 TIME DELAY AV: 25967.51

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 93

WEATHER: PARTLY CLOUDY AND WARM, 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 1:15:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 54
NEWBURY PORT MASS-PLUM IS. PLUMBUSH DEVELOPEMENT INFRONT OF HOUSE
NAMED PLUM CRAZY 15' EAST OF THE FLAGPOLE

LATITUDE: 42 47' 58"	LONGITUDE: 70 49' 34"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13829.75	TIME DELAY 2A: 25946.68
TIME DELAY 1B: 13829.73	TIME DELAY 2B: 25946.66
TIME DELAY 1C: 13829.72	TIME DELAY 2C: 25946.59
TIME DELAY 1D: 13829.76	TIME DELAY 2D: 25946.60

TIME DELAY AV: 13829.73 TIME DELAY AV: 25946.63

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 88 95

WEATHER: WARM AND PARTLY CLOUDY 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 1:35:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 55
NEWBURYPORT, MASS-PLUM IS. NEWBURY PORT LIGHT HOUSE ON JOPPA
18 FEET EAST OF LIGHT HOUSE

LATITUDE: 42 49' 00"	LONGITUDE: 70 49' 04"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13820.57	TIME DELAY 2A: 25949.42
TIME DELAY 1B: 13820.60	TIME DELAY 2B: 25949.41
TIME DELAY 1C: 13820.66	TIME DELAY 2C: 25949.45
TIME DELAY 1D: 13820.75	TIME DELAY 2D: 25949.46

TIME DELAY AV: 13820.65	TIME DELAY AV: 25949.42
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 85 95

WEATHER: WARM AND PARTLY CLOUDY 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 1:50:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 56
NEWBURYPORT, MASS-PLUM IS. SOUTHERN SIDE AT THE END OF THE TIDAL
FLAT LOOP

LATITUDE: 42 47' 36"	LONGITUDE: 70 48' 20"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13823.58	TIME DELAY 2A: 25936.81
TIME DELAY 1B: 13823.55	TIME DELAY 2B: 25936.84
TIME DELAY 1C: 13823.51	TIME DELAY 2C: 25936.78
TIME DELAY 1D: 13823.61	TIME DELAY 2D: 25936.85

TIME DELAY AV: 13823.57	TIME DELAY AV: 25936.82
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 91 93

WEATHER: PARTLY CLOUDY AND WARM 50-55 DEGREES

=====

DATE: 2/24/1985 TIME: 2:15:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 57
NEWBURY, MASS CORNER OF HIGH ROAD AND PINE ISLAND ROAD

LATITUDE: 42 46' 42"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 70 50' 23"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13841.90
TIME DELAY 1B: 13841.81
TIME DELAY 1C: 13841.85
TIME DELAY 1D: 13841.93

TIME DELAY 2A: 25944.41
TIME DELAY 2B: 25944.41
TIME DELAY 2C: 25944.44
TIME DELAY 2D: 25944.51

TIME DELAY AV: 13841.85

TIME DELAY AV: 25944.46

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 92 90

WEATHER: PARTLY CLOUDY AND WARM 50-55 DEGREES

=====

DATE: 3/21/1985 TIME: 2:30:00 PM GEO. MARKER?: N MAP: H

LOCATION: POINT 57A
NEWBURY MASS., B&MRR CROSSING OF HAYS ROAD
RIGHT SIDE GOING EAST

LATITUDE: 42 46' 28"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 70 52' 10"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13854.74
TIME DELAY 1B: 13854.76
TIME DELAY 1C: 13854.75
TIME DELAY 1D: 13854.25

TIME DELAY 2A: 25954.33
TIME DELAY 2B: 25954.30
TIME DELAY 2C: 25954.35
TIME DELAY 2D: 25954.35

TIME DELAY AV: 13854.74

TIME DELAY AV: 25954.33

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 85 95

WEATHER: SUNNY AND WINDY, 45 DEGREES

=====

DATE: 2/05/1985 TIME: 3:05:00 PM GEO. MARKER?: N MAP: I

LOCATION: POINT 38
KITTEY MAINE, GERRISH ISLAND TOWER 130 FEET FROM TOWER, BM 25

LATITUDE: 43 04' 36"
CALC LAT: ' "
GEO. LAT: ' "

LONGITUDE: 70 40' 00"
CALC LON : ' "
GEO. LON : ' "

TIME DELAY 1A: 13673.22 TIME DELAY 2A: 25984.81
TIME DELAY 1B: 13673.38 TIME DELAY 2B: 25984.83
TIME DELAY 1C: 13673.36 TIME DELAY 2C: 25684.85
TIME DELAY 1D: 13673.32 TIME DELAY 2D: 25684.91

TIME DELAY AV: 13684.32 TIME DELAY AV: 25684.85

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 83 93

WEATHER: COLD AND CLOUDY

=====

DATE: 2/10/1985 TIME: 3:12:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 35
KITTERY, ME HEADING NORTHWEST ON WILSON ROAD, AT THE RIGHT-CENTER
SIDE OF THE INTERSTATE 95 OVERPASS BRIDGE.

LATITUDE: 43 06' 46" LONGITUDE: 70 44' 13"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13688.45 TIME DELAY 2A: 26021.41
TIME DELAY 1B: 13688.48 TIME DELAY 2B: 26021.37
TIME DELAY 1C: 13688.49 TIME DELAY 2C: 26021.40
TIME DELAY 1D: 13688.55 TIME DELAY 2D: 26021.40

TIME DELAY AV: 13688.50 TIME DELAY AV: 26021.39

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 88 92

WEATHER: SUNNY, CLEAR SKIES, 35-40 DEGREES

=====

DATE: 3/07/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 35
KITTERY, MAINE HEADING NORTHWEST ON WILSON ROAD, AT THE RIGHT-CENTER
SIDE OF THE INTERSTATE 95 OVERPASS BRIDGE

LATITUDE: 43 06' 46" LONGITUDE: 70 44' 12"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13688.49 TIME DELAY 2A: 26021.36
TIME DELAY 1B: 13688.45 TIME DELAY 2B: 26021.40
TIME DELAY 1C: 13688.48 TIME DELAY 2C: 26021.35
TIME DELAY 1D: 13688.43 TIME DELAY 2D: 26021.38

TIME DELAY AV: 13688.45 TIME DELAY AV: 26021.38

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 92 85 95

WEATHER: COLD 30 DEGREES ,WINDY AND PARTLY CLOUDY

=====

DATE: 4/20/1985 TIME: 10:15:00 AM GEO. MARKER?: N MAP: 1

LOCATION: POINT 35A
YORK MAINE, BRAVE BOAT HARBOR RD. FORK NEAR SOUTHSIDE BROOK

LATITUDE: 43 07' 02"	LONGITUDE: 70 39' 43"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13657.45	TIME DELAY 2A: 26996.91
TIME DELAY 1B: 13657.38	TIME DELAY 2B: 26996.93
TIME DELAY 1C: 13657.45	TIME DELAY 2C: 26996.92
TIME DELAY 1D: 13657.46	TIME DELAY 2D: 26996.96

TIME DELAY AV: 13657.44 TIME DELAY AV: 26996.93

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 95 88 95

WEATHER: SUNNY AND CLEAR, 60 DEGREES

=====

DATE: 2/05/1985 TIME: 2:45:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 36
KITTERY MAINE, GERRISH ISLAND BRIDGE ON THE RIGHT-CENTER GOING WEST

LATITUDE: 43 05' 06"	LONGITUDE: 70 40' 54"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13676.15	TIME DELAY 2A: 25992.80
TIME DELAY 1B: 13676.12	TIME DELAY 2B: 25992.78
TIME DELAY 1C: 13676.08	TIME DELAY 2C: 25992.81
TIME DELAY 1D: 13676.11	TIME DELAY 2D: 25992.83

TIME DELAY AV: 13676.12 TIME DELAY AV: 25992.80

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 83 88 93

WEATHER: COLD AND CLOUDY

27

=====

DATE: 4/20/1985 TIME: 9:30:00 AM GEO. MARKER?: N MAP: 1

LOCATION: POINT 36A
KITTERY MAINE, MILLER ROAD CROSSING OF HUTCHINS CREEK
RIGHT SIDE HEADING EAST

LATITUDE: 43 07' 02"	LONGITUDE: 70 39' 43"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13679.08	TIME DELAY 2A: 26008.46
TIME DELAY 1B: 13679.06	TIME DELAY 2B: 26008.50
TIME DELAY 1C: 13679.01	TIME DELAY 2C: 26008.44
TIME DELAY 1D: 13679.04	TIME DELAY 2D: 26008.51

TIME DELAY AV: 13679.05	TIME DELAY AV: 26008.48
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 98 88 93

WEATHER: SUNNY AND CLEAR, 60 DEGREES

=====

DATE: 2/05/1985 TIME: 3:05:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 37
KITTERY, MAINE HEADING SOUTH ON 103 CENTER OF BRIDGE CROSSING
BARTERS CREEK AND PORTSMOUTH HARBOR

LATITUDE: 43 04' 58"	LONGITUDE: 70 43' 02"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13691.03	TIME DELAY 2A: 26004.61
TIME DELAY 1B: 13691.07	TIME DELAY 2B: 26004.60
TIME DELAY 1C: 13691.06	TIME DELAY 2C: 26004.58
TIME DELAY 1D: 13691.05	TIME DELAY 2D: 26004.50

TIME DELAY AV: 13691.07	TIME DELAY AV: 26004.58
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 89 85 92

WEATHER: COLD AND CLOUDY

=====

DATE: 4/30/1985 TIME: 2:47:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 37
KITTERY, MAIN HEADING SOUTH ON 103, CENTER OF BRIDGE CROSSING
BARTERS CREEK AND PORTSMOUTH HARBOR

LATITUDE: 43 04' 58" LONGITUDE: 70 43' 03"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13691.25 TIME DELAY 2A: 26004.42
TIME DELAY 1B: 13691.31 TIME DELAY 2B: 26004.40
TIME DELAY 1C: 13691.28 TIME DELAY 2C: 26004.40
TIME DELAY 1D: 13691.22 TIME DELAY 2D: 26004.36

TIME DELAY AV: 13691.27 TIME DELAY AV: 26004.40

GROUND: Y NUMBER OF TIMES VISITED: 2 SNR: 88 88 92

WEATHER: 65 - 70 DEGREES, SUNNY, SLIGHT BREEZE

=====

DATE: 1/29/1985 TIME: 2:15:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 39
NEW CASTLE ISLAND, AT THE END OF THE JETTY AT JAFFREY POINT

LATITUDE: 43 03' 19" LONGITUDE: 70 42' 47"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13698.96 TIME DELAY 2A: 25993.64
TIME DELAY 1B: 13698.98 TIME DELAY 2B: 25993.57
TIME DELAY 1C: 13698.91 TIME DELAY 2C: 25993.56
TIME DELAY 1D: 13698.90 TIME DELAY 2D: 25993.60

TIME DELAY AV: 13698.94 TIME DELAY AV: 25993.59

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 86 95

WEATHER: COLD CLEAR AND WINDY

=====

DATE: 1/29/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 40
RYE N.H. 30 FEET SOUTHWEST FROM SOUTHERN SIDE OF TOWER
AT PULPIT ROCK

LATITUDE: 43 02' 03" LONGITUDE: 70 43' 10"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13708.81 TIME DELAY 2A: 25988.66
TIME DELAY 1B: 13708.81 TIME DELAY 2B: 25988.63
TIME DELAY 1C: 13708.83 TIME DELAY 2C: 25988.71
TIME DELAY 1D: 13708.85 TIME DELAY 2D: 25988.65

TIME DELAY AV: 13708.83 TIME DELAY AV: 25988.66

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 89 95

WEATHER: COLD CLEAR AND WINDY

=====

DATE: 1/29/1985 TIME: 4:15:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 41
RYE N.H. RAGGED NECK POINT, RYE HARBOR STATE PARK AT THE
BEGINNING OF THE JETTY

LATITUDE: 43 00' 05" LONGITUDE: 70 44' 33"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13729.04 TIME DELAY 2A: 25985.81
TIME DELAY 1B: 13729.05 TIME DELAY 2B: 25985.75
TIME DELAY 1C: 13729.03 TIME DELAY 2C: 25985.71
TIME DELAY 1D: 13729.04 TIME DELAY 2D: 25985.76

TIME DELAY AV: 13729.04 TIME DELAY AV: 25985.78

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 83 92

WEATHER: COLD CLEAR AND WINDY

=====

DATE: 4/14/1985 TIME: 2:00:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 11
RYE NH, DIRECTLY ACROSS FROM WASHINGTON RD. INTERSECTION OF
OCEAN BLVD., 15 FEET FROM ROAD

LATITUDE: 43 00' 40" LONGITUDE: 70 44' 25"

CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13724.82 TIME DELAY 2A: 25988.23
TIME DELAY 1B: 13724.84 TIME DELAY 2B: 25988.21
TIME DELAY 1C: 13724.88 TIME DELAY 2C: 25988.26
TIME DELAY 1D: 13724.91 TIME DELAY 2D: 25988.28

TIME DELAY AV: 13724.86 TIME DELAY AV: 25988.25

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 86 93

WEATHER: CLOUDY AND WARM, 60 DEGREES

=====

DATE: 4/15/1985 TIME: 2:15:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 12
RYE NH, INTERSECTION OF WALLIS RD. AND BRACKET RD.
NORTHEAST CORNER AT THE ROAD EDGE

LATITUDE: 43 01' 32" LONGITUDE: 70 44' 26"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13720.11 TIME DELAY 2A: 25993.11
TIME DELAY 1B: 13720.09 TIME DELAY 2B: 25993.02
TIME DELAY 1C: 13720.13 TIME DELAY 2C: 25993.06
TIME DELAY 1D: 13720.12 TIME DELAY 2D: 25993.08

TIME DELAY AV: 13720.11 TIME DELAY AV: 25993.07

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 88 88 92

WEATHER: CLOUDY AND WARM, 60 DEGREES

=====

DATE: 4/15/1985 TIME: 2:30:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 13
RYE NH, CENTER OF FORK JOINING BRACKET RD. AND MARSH RD.

LATITUDE: 43 02' 06" LONGITUDE: 70 44' 06"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13714.76 TIME DELAY 2A: 25994.61

TIME DELAY 1B: 13714.75 TIME DELAY 2B: 25994.55
TIME DELAY 1C: 13714.75 TIME DELAY 2C: 25994.49
TIME DELAY 1D: 13714.73 TIME DELAY 2D: 25994.55

TIME DELAY AV: 13714.75 TIME DELAY AV: 25994.55

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 86 85 93

WEATHER: CLOUDY AND WARM, 60 DEGREES

=====

DATE: 4/15/1985 TIME: 2:45:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 14
RYE NH, CORNER OF PIONEER RD. AND SIDE STREET AT PULPIT ROCK
NORTH SIDE OF INTERSECTION

LATITUDE: 43 02' 00"	LONGITUDE: 70 43' 03"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13708.40	TIME DELAY 2A: 25987.70
TIME DELAY 1B: 13708.35	TIME DELAY 2B: 25987.71
TIME DELAY 1C: 13708.28	TIME DELAY 2C: 25987.65
TIME DELAY 1D: 13708.33	TIME DELAY 2D: 25987.62

TIME DELAY AV: 13708.34 TIME DELAY AV: 25987.67

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 93

WEATHER: CLOUDY AND WARM, 60 DEGREES

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DATE: 4/15/1985 TIME: 3:10:00 PM GEO. MARKER?: Y MAP: 1

LOCATION: POINT 15
RYE NH, GEODETIC MARKER AT ODIORNES POINT

LATITUDE: 43 02' 36"	LONGITUDE: 70 42' 39"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13702.34	TIME DELAY 2A: 25988.95
TIME DELAY 1B: 13702.30	TIME DELAY 2B: 25988.90
TIME DELAY 1C: 13702.33	TIME DELAY 2C: 25988.87
TIME DELAY 1D: 13702.28	TIME DELAY 2D: 25988.89

TIME DELAY AV: 13702.31 TIME DELAY AV: 25988.90

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 88 93

WEATHER: CLOUDY AND WARM, 60 DEGREES

=====

DATE: 4/14/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 16
RYE NH, NEWCASTLE RD. DIRECTLY ACROSS FROM WENTWORTH GOLF CLUB
DRIVEWAY, LEFT SIDE GOING EAST

LATITUDE: 43 03' 20"	LONGITUDE: 70 44' 01"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13706.80	TIME DELAY 2A: 26000.95
TIME DELAY 1B: 13706.75	TIME DELAY 2B: 26000.91
TIME DELAY 1C: 13706.72	TIME DELAY 2C: 26000.86
TIME DELAY 1D: 13706.76	TIME DELAY 2D: 26000.93

TIME DELAY AV: 13706.76	TIME DELAY AV: 26000.91
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 89 83 93

WEATHER: CLOUDY AND WARM, 60 DEGREES

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DATE: 4/14/1985 TIME: 4:00:00 PM GEO. MARKER?: N MAP: 1

LOCATION: POINT 17
NEW CASTLE IS. NH, NORTHERN MOST LAND POINT AT LARGE DOCK
BETWEEN SALAMANDER AND FORT POINT

LATITUDE: 43 04' 18"	LONGITUDE: 70 42' 42"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13692.86	TIME DELAY 2A: 25998.66
TIME DELAY 1B: 13692.81	TIME DELAY 2B: 25998.61
TIME DELAY 1C: 13692.79	TIME DELAY 2C: 25998.58
TIME DELAY 1D: 13692.78	TIME DELAY 2D: 25998.51

TIME DELAY AV: 13692.81	TIME DELAY AV: 25998.59
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 95 86 95

WEATHER: CLOUDY AND WARM, 60 DEGREES

=====

DATE: 3/07/1985 TIME: 2:15:00 PM GEO. MARKER?: N MAP: K

LOCATION: POINT 68
YORK MAINE, NUBBLE LIGHT CIRCLE
EAST MOST POINT OF PAVED CIRCLE

LATITUDE: 43 10' 01"	LONGITUDE: 70 35' 27"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13611.01	TIME DELAY 2A: 25989.53
TIME DELAY 1B: 13611.03	TIME DELAY 2B: 25989.53
TIME DELAY 1C: 13611.06	TIME DELAY 2C: 25989.50
TIME DELAY 1D: 13610.98	TIME DELAY 2D: 25989.46

TIME DELAY AV: 13611.02	TIME DELAY AV: 25989.51
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 86 92

WEATHER: WINDY AND PARTLY CLOUDY, 30 DEGREES

=====

DATE: 3/07/1985 TIME: 2:55:00 PM GEO. MARKER?: N MAP: K

LOCATION: POINT 70
YORK MAINE, AGAMENTICUS RD. CROSSING OF ROUTE 95
CENTER OF BRIDGE, RIGHT SIDE HEADING WEST

LATITUDE: 43 12' 20"	LONGITUDE: 70 38' 31"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13618.24	TIME DELAY 2A: 26019.54
TIME DELAY 1B: 13618.22	TIME DELAY 2B: 26019.52
TIME DELAY 1C: 13618.26	TIME DELAY 2C: 26019.58
TIME DELAY 1D: 13618.19	TIME DELAY 2D: 26019.61

TIME DELAY AV: 13618.24	TIME DELAY AV: 26019.57
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 92 92

WEATHER: PARTLY CLOUDY AND WINDY, 30 DEGREES

=====

DATE: 3/07/1985 TIME: 3:10:00 PM GEO. MARKER?: N MAP: K

LOCATION: POINT 74
YORK MAINE, CHASES POND RD. CROSSING OF ROUTE 95
RIGHT CENTER HEADING NORTH

LATITUDE: 43 09' 25"	LONGITUDE: 70 39' 57"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13644.78	TIME DELAY 2A: 26011.50
TIME DELAY 1B: 13644.81	TIME DELAY 2B: 26011.48
TIME DELAY 1C: 13644.76	TIME DELAY 2C: 26011.50
TIME DELAY 1D: 13644.75	TIME DELAY 2D: 26011.48

TIME DELAY AV: 13644.78	TIME DELAY AV: 26011.50
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 93 88 95

WEATHER: PARTLY CLOUDY AND WINDY, 30 DEGREES

=====

DATE: 3/07/1985 TIME: 3:30:00 PM GEO. MARKER?: N MAP: K

LOCATION: POINT 77
YORK MAINE, BEECH RIDGE RD. CROSSING OF ROUTE 95
RIGHT SIDE HEADING WEST

LATITUDE: 43 08' 29"	LONGITUDE: 70 41' 57"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13663.50	TIME DELAY 2A: 26017.81
TIME DELAY 1B: 13663.55	TIME DELAY 2B: 26017.86
TIME DELAY 1C: 13663.57	TIME DELAY 2C: 26017.92
TIME DELAY 1D: 13663.65	TIME DELAY 2D: 26017.94

TIME DELAY AV: 13663.56	TIME DELAY AV: 26017.88
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 89 89 96

WEATHER: PARTLY CLOUDY AND WINDY, 30 DEGREES

=====

DATE: 4/20/1985 TIME: 11:00:00 AM GEO. MARKER?: N MAP: L

LOCATION: POINT 69
YORK MAINE, BLUE STAR MEMORIAL HIGHWAY CROSSING OF BRIDGES SWAMP

LEFT CENTER HEADING NORTH

LATITUDE: 43 10' 21"	LONGITUDE: 70 38' 12"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13627.80	TIME DELAY 2A: 26006.76
TIME DELAY 1B: 13627.86	TIME DELAY 2B: 26006.85
TIME DELAY 1C: 13627.92	TIME DELAY 2C: 26006.90
TIME DELAY 1D: 13627.83	TIME DELAY 2D: 26006.82

TIME DELAY AV: 13627.85	TIME DELAY AV: 26006.83
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GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 92 86 95

WEATHER: SUNNY AND CLEAR, 60 DEGREES

=====

DATE: 3/07/1985 TIME: 2:55:00 PM GEO. MARKER?: N MAP: L

LOCATION: POINT 70
YORK MAINE, MOUNTAIN ROAD OVERPASS OF 95. RIGHT CENTER DUE WEST

LATITUDE: 43 12' 20"	LONGITUDE: 70 38' 31"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13618.24	TIME DELAY 2A: 26019.54
TIME DELAY 1B: 13618.22	TIME DELAY 2B: 26019.52
TIME DELAY 1C: 13618.24	TIME DELAY 2C: 26019.58
TIME DELAY 1D: 13618.26	TIME DELAY 2D: 26019.60

TIME DELAY AV: 13618.24	TIME DELAY AV: 26019.57
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GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 92 92

WEATHER: COLD, WINDY, PARTLY CLOUDY, 30 DEGREES

=====

DATE: 4/20/1985 TIME: 11:20:00 AM GEO. MARKER?: N MAP: L

LOCATION: POINT 71
YORK MAINE, SCITUATE ROAD CROSSING OF CHASES POND
RIGHT CENTER GOING NORTH

LATITUDE: 43 11' 33"	LONGITUDE: 70 38' 55"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13625.42 TIME DELAY 2A: 26017.56
TIME DELAY 1B: 13625.33 TIME DELAY 2B: 26017.48
TIME DELAY 1C: 13625.38 TIME DELAY 2C: 26017.53
TIME DELAY 1D: 13625.40 TIME DELAY 2D: 26017.55

TIME DELAY AV: 13625.38 TIME DELAY AV: 26017.53

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 83 92

WEATHER: SUNNY AND CLEAR, 60 DEGREES

=====

DATE: 3/07/1985 TIME: 2:30:00 PM GEO. MARKER?: N MAP: L

LOCATION: POINT 72
YORK MAINE, THE CORNER OF 1A AND THE BLUE STAR HIGHWAY.
ON THE RIGHT SIDE OF B.S.H.W. DIRECTLY ACROSS FROM CENTER OF 1A

LATITUDE: 43 11' 31" LONGITUDE: 70 37' 06"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13613.83 TIME DELAY 2A: 26007.15
TIME DELAY 1B: 13613.88 TIME DELAY 2B: 26007.13
TIME DELAY 1C: 13613.88 TIME DELAY 2C: 26007.15
TIME DELAY 1D: 13613.84 TIME DELAY 2D: 26007.14

TIME DELAY AV: 13613.86 TIME DELAY AV: 26007.15

GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 92 85 93

WEATHER: COLD WINDY PARTLY CLOUDY 30 DEGREES

=====

DATE: 3/07/1985 TIME: 3:45:00 PM GEO. MARKER?: N MAP: L

LOCATION: POINT 73
YORK, MAINE INTERSECTION OF SOUTH BERWICK ROAD AND MILL ROAD
IN THE ISLAND, NEXT TO THE STOP SIGN

LATITUDE: 43 10' 56" LONGITUDE: 70 44' 15"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13664.37 TIME DELAY 2A: 26044.59
TIME DELAY 1B: 13644.40 TIME DELAY 2B: 26044.52
TIME DELAY 1C: 13644.46 TIME DELAY 2C: 26044.60

97
TIME DELAY 1D: 13644.46 TIME DELAY 2D: 26044.65
TIME DELAY AV: 13644.42 TIME DELAY AV: 26044.60
GROUND: N NUMBER OF TIMES VISITED: 1 SNR: 86 86 95
WEATHER: COLD WINDY AND PARTLY CLOUDY

=====

DATE: 2/10/1985 TIME: 2:20:00 PM GEO. MARKER?: N MAP: L
LOCATION: POINT 74
YORK MAINE, 95 OVERPASS NEAR MAINE TOLL. RIGHT CENTER GOING WEST

LATITUDE: 43 09' 24" LONGITUDE: 70 39' 56"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13644.79 TIME DELAY 2A: 26011.42
TIME DELAY 1B: 13644.89 TIME DELAY 2B: 26011.44
TIME DELAY 1C: 13644.92 TIME DELAY 2C: 26011.47
TIME DELAY 1D: 13644.91 TIME DELAY 2D: 26011.41

TIME DELAY AV: 13644.87 TIME DELAY AV: 26011.43

GROUND: N NUMBER OF TIMES VISITED: 2 SNR: 89 88 95

WEATHER: SUNNY CLEAR AND MILD 35-40 DEGREES

=====

DATE: 4/20/1985 TIME: 11:30:00 AM GEO. MARKER?: N MAP: L

LOCATION: POINT 75
YORK MAINE, BIRCH HILL ROAD CROSSING OF YORK RIVER
RIGHT CENTER HEADING NORTH

LATITUDE: 43 09' 32" LONGITUDE: 70 44' 20"
CALC LAT: ' " CALC LON : ' "
GEO. LAT: ' " GEO. LON : ' "

TIME DELAY 1A: 13672.93 TIME DELAY 2A: 26036.81
TIME DELAY 1B: 13672.96 TIME DELAY 2B: 26036.85
TIME DELAY 1C: 13672.96 TIME DELAY 2C: 26036.80
TIME DELAY 1D: 13672.95 TIME DELAY 2D: 26036.74

TIME DELAY AV: 13672.95 TIME DELAY AV: 26036.80

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 98 85 93

WEATHER: SUNNY AND CLEAR, 60 DEGREES

=====

DATE: 4/20/1985 TIME: 10:45:00 AM GEO. MARKER?: N MAP: L

LOCATION: POINT 76
YORK MAINE, SANDS ROAD CROSSING OF LITTLE RIVER
RIGHT CENTER GOING EAST

LATITUDE: 43 09' 07"	LONGITUDE: 70 37' 41"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13631.75	TIME DELAY 2A: 26996.90
TIME DELAY 1B: 13631.73	TIME DELAY 2B: 26996.85
TIME DELAY 1C: 13631.72	TIME DELAY 2C: 26996.91
TIME DELAY 1D: 13631.71	TIME DELAY 2D: 26996.89

TIME DELAY AV: 13631.73 TIME DELAY AV: 26996.90

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 98 85 93

WEATHER: SUNNY AND CLEAR, 60 DEGREES

=====

DATE: 2/10/1985 TIME: 2:45:00 PM GEO. MARKER?: N MAP: L

LOCATION: POINT 77
YORK MAINE, BEECH RIDGE ROAD OVERPASS OF 95. RIGHT SIDE GOING N.W.

LATITUDE: 43 08' 29"	LONGITUDE: 70 41' 57"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13663.60	TIME DELAY 2A: 26017.73
TIME DELAY 1B: 13633.66	TIME DELAY 2B: 26017.79
TIME DELAY 1C: 13633.64	TIME DELAY 2C: 26017.70
TIME DELAY 1D: 13633.62	TIME DELAY 2D: 26017.74

TIME DELAY AV: 13663.63 TIME DELAY AV: 26017.74

GROUND: Y NUMBER OF TIMES VISITED: 2 SNR: 88 86 92

WEATHER: CLEAR SUNNY AND MILD 35-40 DEGREES

=====

DATE: 4/20/1985 TIME: 10:30:00 AM GEO. MARKER?: N MAP: L

LOCATION: POINT 78
YORK MAINE, ORGANUG ROAD CROSSING OF YORK RIVER
SOUTHERN END OF BRIDGE, RIGHT SIDE GOING SOUTH

LATITUDE: 43 08' 08"	LONGITUDE: 70 39' 38"
CALC LAT: ' "	CALC LON : ' "
GEO. LAT: ' "	GEO. LON : ' "

TIME DELAY 1A: 13650.30	TIME DELAY 2A: 26002.54
TIME DELAY 1B: 13650.31	TIME DELAY 2B: 26002.45
TIME DELAY 1C: 13650.33	TIME DELAY 2C: 26002.50
TIME DELAY 1D: 13650.33	TIME DELAY 2D: 26002.60

TIME DELAY AV: 13650.32	TIME DELAY AV: 26002.52
-------------------------	-------------------------

GROUND: Y NUMBER OF TIMES VISITED: 1 SNR: 93 85 93

WEATHER: SUNNY AND CLEAR, 60 DEGREES

=====

PROGRAM 1 APPENDIX B

```
5 REM THIS PROGRAM IS FOUND IN FILE 1
10 REM LORAN-C OCEAN ENGINEERING CLASS
20 REM WRITTEN BY JILL BELOH
30 REM TAKEN FROM THE TEKTRONIX 4051 GRAPHICS SYSTEM REF. BOOK
40 REM PAGE 7-170.
50 REM OTHER GROUP MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI
60 REM
70 REM LORAN-C INPUT FOR DISTANCES A,B AND TIME DELAY1
80 REM
100 INIT
110 PAGE
120 PRINT "PLEASE TYPE IN THE MAP LETTER => ";
123 INPUT L$
125 GOSUB 500
140 FIND F
150 T=TYP(0)
160 GO TO T OF 250,230,210,190
170 FIND F
180 GO TO 250
190 READ @33:A$
200 GO TO 150
210 READ @33:A
220 GO TO 150
230 PRINT "IT WAS AN ASCII DATA-FILE TRY AGAIN.";
240 GO TO 120
250 PRINT "TYPE IN A B TD1 TD2 => ";
260 INPUT A,B,C,D
270 WRITE A,B,C,D
280 PRINT "MORE DATA? (YES/NO)";
290 INPUT C$
300 IF C$="NO" THEN 315
310 GO TO 250
315 PRINT "THE DATA FROM MAP ";L$;" IS IN FILE ";F
317 PRINT "HAVE A NICE DAY!"
```

```
320 END
500 IF L$="A" THEN 600
505 IF L$="B" THEN 605
510 IF L$="C" THEN 610
515 IF L$="D" THEN 615
520 IF L$="E" THEN 620
525 IF L$="F" THEN 625
530 IF L$="G" THEN 630
535 IF L$="H" THEN 635
540 IF L$="I" THEN 640
545 IF L$="J" THEN 645
550 IF L$="K" THEN 650
555 IF L$="L" THEN 655
560 IF L$="M" THEN 660
600 F=6
603 RETURN
605 F=7
607 RETURN
610 F=8
612 RETURN
615 F=9
617 RETURN
620 F=10
622 RETURN
625 F=11
627 RETURN
630 F=12
632 RETURN
635 F=13
637 RETURN
640 F=14
642 RETURN
645 F=15
647 RETURN
650 F=16
```

652 RETURN

655 F=17

657 RETURN

660 F=18

662 RETURN

PROGRAM 2

```
10 REM THIS PROGRAM IS SAVED IN FILE 2
20 REM LORAN-C OCEAN ENGINEERING CLASS
30 REM CALCULATING DISTANCE
40 REM
50 REM WRITTEN BY JILL BELON
60 REM OTHER MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI
70 REM
80 REM CALCULATES X AND Y FROM H U AND TD VALUES OF A
90 REM SPECIFIED MAP AND SPECIFIED ANGLES.
100 REM THESE VALUES ARE WRITTEN TO A FILE WHICH IS READ IN BY
110 REM THE LEAST SQUARES PROGRAM IN THE TEKTRONIX MANUAL.
120 REM
130 REM INITIALIZE
140 REM N MEMORY LEFT ON TAPE
150 REM L MAP LETTER
160 REM A # OF ANGLES WE WISH TO USE
170 REM H HORIZONTAL DISTANCE FROM MAP EDGE TO POINT
180 REM U VERTICAL DISTANCE FROM MAP EDGE TO POINT
190 REM Z ARRAY CONTAINING FINAL X AND Y
200 REM N MAX NUMBER OF POINTS PER MAP
210 REM G ANGLES GIVEN
220 REM T TIME DELAY 1
230 REM U TIME DELAY 2
240 REM T4 TIME DELAY INPUT FLAG
250 REM K COUNTS INPUT OF H U TD1 TD2
260 REM D1 DISTANCE FROM ORIGIN OF MAP TO POINT
270 REM P1 ANGLE FROM MAP BOTTOM TO D1
280 REM S FILES THAT CONTAIN X AND Y
285 REM F1 FILE THAT DATA IS IN
290 INIT
292 PAGE
300 N=40
310 M=175+125*(MEMORY>8000)
320 DIM Z(M,2)
```

```

321 R=5
322 DIM G(R),H(N),U(N),T(N),U(N)
330 FOR I=1 TO M
335 REM INITIALIZE FINAL ARRAY
340 Z(I,1)=0
350 Z(I,2)=0
360 NEXT I
370 REM CLEAR BINARY DATA FILES FOR NEW INFORMATION
380 KILL 20
390 KILL 21
400 KILL 22
410 KILL 23
420 KILL 24
430 KILL 25
440 KILL 26
450 KILL 27
460 KILL 28
470 KILL 29
520 PRINT "PLEASE TYPE IN THE MAP LETTER => ";
530 PRINT
540 INPUT L$
550 PRINT "TYPE IN THE NUMBER OF ANGLES YOU WANT TO USE "
560 PRINT "THE MAX NUMBER IS 5.  => "
570 PRINT
580 INPUT A
590 PRINT "TYPE IN THOSE ";A;" ANGLES"
595 PRINT "IF LESS THAN 5 ARE USED THEN TYPE IN ZEROS"
600 PRINT "=> ";
620 INPUT G
640 PRINT
650 PRINT "TYPE IN THE TD YOU WANT (1 OR 2) => ";
660 INPUT T4
670 REM FIND THE FILE (SPECIFIED BY THE MAP LETTER)
700 GOSUB 2000
710 K=0

```

```

720 FIND F1
730 REM READ IN THE H U TD1 TD2
735 N=40
740 FOR I=1 TO N
750 READ @33:H(I),U(I),T(I),U(I)
760 ON EOF (0) THEN 790
770 K=K+1
780 NEXT I
790 REM DO CALCULATIONS
800 S=20
810 FOR I=1 TO A
812 PRINT
813 PRINT "                MAP ";L$
814 PRINT "                DEGREE ";G(I)
815 PRINT "                THE HEADER IS FILE ";S
816 PRINT "                X                Y"
820 FOR J=1 TO K
830 D1=SQR(H(J)*H(J)+U(J)*U(J))
840 SET DEGREES
850 P1=ATH(U(J)/H(J))
860 SET DEGREES
863 IF T4=1 THEN 910
870 Z(J,1)=D1*SIN(P1-G(I))
880 Z(J,2)=U(J)
890 GO TO 920
910 SET DEGREES
912 Z(J,1)=D1*-SIN(P1-G(I))
914 Z(J,2)=T(J)
920 PRINT
930 PRINT Z(J,1),Z(J,2)
940 PRINT
950 NEXT J
960 REM WRITE THE X AND Y TO A FILE
970 FIND S
980 WRITE @33:S,1

```

```
990 S=S+1
1000 FIND S
1010 WRITE @33:K,Z
1020 S=S+1
1030 NEXT I
1040 END
2000 IF L$="A" THEN 2100
2010 IF L$="B" THEN 2110
2015 IF L$="C" THEN 2115
2020 IF L$="D" THEN 2120
2025 IF L$="E" THEN 2125
2030 IF L$="F" THEN 2130
2035 IF L$="G" THEN 2135
2040 IF L$="H" THEN 2140
2045 IF L$="I" THEN 2145
2050 IF L$="J" THEN 2150
2055 IF L$="K" THEN 2155
2060 IF L$="L" THEN 2160
2065 IF L$="M" THEN 2165
2100 F1=6
2105 RETURN
2110 F1=7
2112 RETURN
2115 F1=8
2117 RETURN
2120 F1=9
2122 RETURN
2125 F1=10
2127 RETURN
2130 F1=11
2132 RETURN
2135 F1=12
2137 RETURN
2140 F1=13
2142 RETURN
```

2145 F1=14
2147 RETURN
2150 F1=15
2152 RETURN
2155 F1=16
2157 RETURN
2160 F1=17
2162 RETURN
2165 F1=18
2167 RETURN

PROGRAM 3

```
10 REM THIS PROGRAM IS SAVED IN FILE 3
20 REM LORAN-C OCEAN ENGINEERING CLASS
30 REM DELETING A,B,TD1,TD2 FROM SPECIFIED FILE
50 REM WRITTEN BY JILL BELON
60 REM OTHER MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI
70 REM
80 REM GIVEN A HORIZONTAL AND VERTICAL DISTANCE AND MAP LETTER
90 REM THE PROGRAM DELETES THE CORRESPONDING DATA FROM THE FILE
100 REM
110 REM INITIALIZATION AND VARIABLES
120 REM N MAX NUMBER OF POINTS
130 REM P TEMPORARY FILE FOR DATA
140 REM F FILE NUMBER
150 REM L MAP LETTER
160 REM H HORIZONTAL DISTANCE
170 REM V VERTICAL DISTANCE
180 REM T TD1
190 REM U TD2
192 REM I,J,K COUNTERS
194 REM A HORIZONTAL VALUE TO DELETE
196 REM B VERTICAL VALUE TO DELETE
200 INIT
210 PAGE
220 N=40
230 DIM P(N,4)
232 FOR Z=1 TO N
234 FOR G=1 TO 4
236 LET P(Z,G)=0
237 NEXT G
238 NEXT Z
240 PRINT "PROGRAM IN FILE 3--- DELETING VALUES"
242 PRINT
245 PRINT "PLEASE TYPE IN THE MAP LETTER YOU WANT"
250 PRINT "TO DELETE DATA FROM => "
```

```

260 INPUT L$
262 PRINT
270 PRINT "PLEASE TYPE IN THE HORIZONTAL"
280 PRINT "VALUE TO DELETE => "
285 PRINT
290 INPUT A
300 PRINT "PLEASE TYPE IN THE VERTICAL"
310 PRINT "VALUE TO DELETE => "
320 INPUT B
325 PRINT
330 GOSUB 600
340 FIND F
345 K=0
350 FOR I=1 TO N
360 READ @33:H,U,T,U
370 ON EOF (0) THEN 470
375 K=K+1
380 IF H<>A THEN 410
390 IF U<>B THEN 410
400 GO TO 450
410 P(K,1)=H
420 P(K,2)=U
430 P(K,3)=T
440 P(K,4)=U
445 NEXT I
450 K=K-1
455 NEXT I
470 FIND F
475 PRINT K
480 FOR J=1 TO K
490 WRITE @33:P(J,1),P(J,2),P(J,3),P(J,4)
500 NEXT J
510 PRINT "IF YOU WISH TO DELETE ANOTHER SET OF"
520 PRINT "NUMBERS PLEASE TYPE IN => Y"
530 INPUT Z$

```

```
540 IF Z$="Y" THEN 245
550 END
560 IF L$="A" THEN 700
565 IF L$="B" THEN 705
570 IF L$="C" THEN 710
575 IF L$="D" THEN 715
580 IF L$="E" THEN 720
585 IF L$="F" THEN 725
590 IF L$="G" THEN 730
595 IF L$="H" THEN 735
600 IF L$="I" THEN 740
605 IF L$="J" THEN 745
610 IF L$="K" THEN 750
615 IF L$="L" THEN 755
620 IF L$="M" THEN 760
700 F=6
703 RETURN
705 F=7
707 RETURN
710 F=8
712 RETURN
715 F=9
717 RETURN
720 F=10
722 RETURN
725 F=11
727 RETURN
730 F=12
733 RETURN
735 F=13
737 RETURN
740 F=14
742 RETURN
745 F=15
747 RETURN
```

750 F=16
752 RETURN
755 F=17
757 RETURN
760 F=18
762 RETURN

```

100 PAGE
110 MOVE 10,90
120 PRINT " UNH SEA GRANT      LORAN-C GRID MAPPING PROJECT "
130 MOVE 10,70
140 PRINT " DATA PROCESSING PROGRAM      "
150 MOVE 10,65
160 PRINT " COMPUTATION OF PREDICTED MAP POINTS FROM TD VALUES "
170 MOVE 10,55
180 PRINT " PROGRAM REQUIRES INPUT OF: "
190 MOVE 10,50
200 PRINT "                      REFERENCE TD VALUES "
210 MOVE 10,45
220 PRINT "                      GRADIENTS "
230 MOVE 10,40
240 PRINT "                      BEST FIT ANGLES "
250 MOVE 10,35
260 PRINT "                      DATA FILE NUMBER "
270 MOVE 10,30
280 PRINT "*****"
290 MOVE 10,20
300 PRINT " INPUT DATA FILE NUMBER "
310 MOVE 70,20
320 INPUT F1
330 MOVE 10,15
340 PRINT " PUT LORAN-C DATA FILE TAPE IN DRIVE:PRESS X WHEN READY "
350 MOVE 120,15
360 INPUT X$
370 FIND F1
379 PAGE
380 MOVE 10,95
381 PRINT " DATA FILE SELECTED  # ";F1
390 SET DEGREES
400 MOVE 10,90
410 PRINT " INPUT TD2  CORNER  VALUE"

```

```

420 MOVE 70,90
430 INPUT T1
440 MOVE 10,80
450 PRINT " INPUT TD1 CORNER VALUE "
460 MOVE 70,80
470 INPUT T2
480 MOVE 10,70
490 PRINT " INPUT GRADIENT #2 "
500 MOVE 70,70
510 INPUT G1
520  $G1=1/G1$ 
521 MOVE 10,60
530 PRINT " INPUT GRADIENT #1 "
531 MOVE 70,60
540 INPUT G2
550  $G2=1/G2$ 
551 MOVE 10,50
560 PRINT " INPUT ANGLE FOR TD2 "
561 MOVE 70,50
570 INPUT D1
571 MOVE 10,40
580 PRINT " INPUT ANGLE FOR TD1 "
581 MOVE 70,40
590 INPUT D2
610 MOVE 10,20
611 PRINT " INPUT NUMBER OF DATA ITEMS IN FILE "
612 MOVE 100,20
613 INPUT Q1
614 PAGE
615 PRINT " MEASURED      PREDICTED      MEASURED      PREDICTED
616 PRINT " X VALUE      X VALUE      Y VALUE      Y VALUE      DIFFERENCE"
640 FOR N=1 TO Q1
650 READ @33:X1,Y1,A2,A1
660  $B1=(A1-T1)*G1/COS(D1)$ 
670  $B2=(T2-A2)*G2/COS(D2)$ 

```

```
690 X=(B2-B1)/(TAN(D1)+TAN(D2))
690 Y=B1+TAN(D1)*X
700 E1=SQR((X-X1)^2+(Y1-Y)^2)
710 E1=E1*5000/6.32
720 PRINT USING 730:X1,X,Y1,Y,E1
730 IMAGE 1X,30.20,5X,30.20,6X,30.20,4X,30.20,10X,40.20
740 NEXT N
750 END
```

LEAST SQUARES PROGRAM

```
1 END
2 APPEND 4
3 GO TO 100
4 E8=1
5 GO TO 100
8 GO TO 1650
12 E8=3
13 GO TO 1360
16 E8=4
17 GO TO 1390
20 E8=4
21 GO TO 3370
24 S2=4
25 E8=6
26 GO TO 4750
28 S2=5
29 E8=7
30 GO TO 4750
32 S2=6
33 E8=8
34 GO TO 4750
36 S2=7
37 E8=9
38 GO TO 4750
40 S2=8
41 E8=10
42 GO TO 4750
44 E8=11
45 GO TO 100
48 E8=12
49 GO TO 1210
52 GO TO 5990
64 E8=16
65 GO TO 3050
```



```

60 GOSUB 4070
70 STOP
72 S2=1
73 E8=18
74 GO TO 4750
76 S2=2
77 E8=19
78 GO TO 4750
80 S2=3
81 E8=20
82 GO TO 4750
100 DELETE A,B,D
105 W8=175+125*(MEMORY>8000)
110 DIM A(W8,2),B(8,2),C(18),F(10),D(9,2),G(9),E$(1)
120 A=0
125 H=0
130 D3=1
140 B4=0
150 SET KEY
160 B5=B4
170 E9=1
180 G=0
190 B=0
200 C=0
210 B1=0
220 B2=B1
230 B3=B1
240 F=10↑300
250 F(2)=1
260 F(1)=50
265 X=F(1)
270 F(4)=-F(4)
280 F(6)=F(4)
290 E2=1
300 E1=E8=11

```

```

310 PRINT "LISIMPLE REGRESSIONSJJ"
315 E4=0
320 IF E8=11 THEN 410
330 PRINT "DO YOU WISH TO STORE DATA ON TAPE ";
340 INPUT E$
350 IF E$="N" THEN 660
360 E1=1
370 PRINT "DO YOU WISH TO STORE DATA ON PROGRAM TAPE ";
380 INPUT E$
390 IF E$="Y" THEN 660
400 GO TO 440
410 PRINT "IS DATA ON PROGRAM TAPE ";
420 INPUT E$
430 IF E$="Y" THEN 500
440 PRINT "JHEADER FILE ";
450 INPUT X
455 F(1)=X
460 PRINT "GGGINSERT DATA TAPE, PRESS RETURN";
470 INPUT E$
480 IF E8=1 THEN 660
490 E1=-1
500 FIND X
510 READ @33:F(1),F(2)
520 IF X=F(1) THEN 550
530 PRINT "INCORRECT HEADER FILE"
540 END
550 E3=4
560 GOSUB 2980
570 E9=F(2)=1
580 PRINT "ALL DATA ENTERED"
590 END
600 FOR J=1 TO N
610 X=A(J,1)
620 Y=A(J,2)
630 GOSUB 820

```

```

640 NEXT J
650 RETURN
660 PRINT "LIENTER DATA"
670 D3=1
680 N=0
690 PRINT "X,Y = ";
700 INPUT X,Y
705 E4=0
710 GOSUB 810
720 A(N,1)=X
730 A(N,2)=Y
740 IF N<N0 THEN 690
750 E5=0
760 IF E1=0 THEN 680
770 FIND F(1)+F(2)
780 WRITE 033:N,A
790 F(2)=F(2)+1
800 GO TO 670
810 N=N+D3
820 IF B5=0 THEN 840
830 IF X<F(7) OR X>F(8) THEN 1200
840 C(1)=C(1)+D3
850 B1=0
860 C(2)=C(2)+X*D3
870 C(3)=C(3)+X*X*D3
880 C(4)=C(4)+Y*D3
890 C(5)=C(5)+X*Y*D3
900 C(18)=C(18)+Y*Y*D3
910 IF B2<0 THEN 1000
920 IF Y>0 THEN 950
930 B2=-1
940 GO TO 1000
950 Y1=LOG(Y)
960 C(6)=C(6)+Y1*D3
970 C(7)=C(7)+X*Y1*D3

```

```

980 C(8)=C(8)+D3/Y
990 C(9)=C(9)+D3*X/Y
1000 IF B3<0 THEN 1140
1010 IF X>0 THEN 1040
1020 B3=-1
1030 GO TO 1140
1040 C(10)=C(10)+D3/X
1050 C(11)=C(11)+D3/(X*X)
1060 C(12)=C(12)+D3*Y/X
1070 X1=LOG(X)
1080 C(13)=C(13)+X1*D3
1090 C(14)=C(14)+Y*D3*X1
1100 C(15)=C(15)+X1*X1*D3
1110 IF B2+B3<0 THEN 1140
1120 C(16)=C(16)+D3*X1*Y1
1130 C(17)=C(17)+D3/(X*Y)
1140 IF D3<0 THEN 1200
1150 IF B5>0 THEN 1180
1160 F(3)=X MIN F(3)
1170 F(4)=X MAX F(4)
1180 F(5+B5)=Y MIN F(5+B5)
1190 F(6+B5)=Y MAX F(6+B5)
1200 RETURN
1210 IF E1=0 THEN 1250
1220 F(2)=F(2)-(N=0)
1230 IF E4=0 THEN 1260
1240 IF E8=12 THEN 1330
1250 RETURN
1260 IF N=0 THEN 1290
1270 FIND F(1)+F(2)
1280 WRITE @33:N,A
1290 FIND F(1)
1300 WRITE @33:F(1),F(2)
1310 E4=1
1320 IF E8<>12 THEN 1250

```

```

1330 PRINT "STOP ENTRY PERFORMED"
1340 END
1350 REM CORRECT OR DELETE DATA
1360 PRINT "DELETE X,Y="
1370 INPUT X,Y
1380 GO TO 1410
1390 PRINT "CHANGE X,Y TO X,Y"
1400 INPUT X,Y,X2,Y2
1410 IF NOT(E1=0 AND E9=0) THEN 1440
1420 GOSUB 1900
1430 GO TO 1640
1440 IF E1<>0 THEN 1470
1450 GOSUB 1730
1460 GO TO S+1 OF 1620,1640
1470 IF E4=1 THEN 1520
1480 GOSUB 1730
1490 IF S=0 THEN 1520
1500 PRINT "CORRECTION DONE"
1510 GO TO 1710
1520 GOSUB 1210
1530 FOR K=F(1)+1 TO F(1)+F(2)
1540 FIND K
1550 READ @33:N,A
1560 GOSUB 1730
1570 IF S=0 THEN 1610
1580 FIND K
1590 WRITE @33:N,A
1600 GO TO 1640
1610 NEXT K
1620 PRINT "DATA NOT FOUND"
1630 END
1640 PRINT "CORRECTION DONE"
1650 IF E1=0 THEN 1710
1660 FIND F(1)+F(2)
1670 READ @33:N,A

```

```
1620 IF N<0 THEN 1710
1690 N=0
1700 F(2)=F(2)+1
1710 PRINT "ADD DATA"
1715 D3=1
1720 GO TO 690
1730 S=0
1740 FOR I=1 TO N
1750 IF A(I,1)<>X THEN 1780
1760 IF A(I,2)<>Y THEN 1780
1770 GO TO 1800
1780 NEXT I
1790 RETURN
1800 S=1
1810 IF E8=3 THEN 1850
1820 A(I,1)=X2
1830 A(I,2)=Y2
1840 GO TO 1900
1850 IF I=N THEN 1900
1860 FOR J=I TO N-1
1870 A(J,1)=A(J+1,1)
1880 A(J,2)=A(J+1,2)
1890 NEXT J
1900 D3=-1
1910 B1=0
1920 GOSUB 810
1930 D3=1
1940 IF E8=3 THEN 1980
1950 X=X2
1960 Y=Y2
1970 GOSUB 810
1980 RETURN
1990 REM CALCULATE COEFFICIENTS
2000 GOSUB 1210
2010 IF B1=1 THEN 2500
```

```
2020 B(1,1)=C(5)/C(3)
2030 A1=5
2040 A2=2
2050 A3=4
2060 A4=3
2070 A5=2
2080 GOSUB 2480
2090 IF B2<0 THEN 2190
2100 A1=7
2110 A3=6
2120 A5=3
2130 GOSUB 2480
2140 B(A5,1)=EXP(B(A5,1))
2150 A1=9
2160 A3=8
2170 A5=4
2180 GOSUB 2480
2190 IF B3<0 THEN 2460
2200 A1=12
2210 A2=10
2220 A3=4
2230 A4=11
2240 A5=5
2250 GOSUB 2480
2260 A1=14
2270 A2=13
2280 A4=15
2290 A5=6
2300 GOSUB 2480
2305 IF B2+B3<0 THEN 2460
2310 A1=16
2320 A2=13
2330 A3=6
2340 A5=7
2350 GOSUB 2480
```

```

2360 B(A5,1)=EXP(B(A5,1))
2370 A1=17
2380 A2=10
2390 A3=8
2400 A4=11
2410 A5=8
2420 GOSUB 2480
2430 S=B(8,2)
2440 B(8,2)=B(8,1)
2450 B(8,1)=S
2460 B1=1
2470 GO TO 2520
2480 B(A5,2)=(C(1)*C(A1)-C(A2)*C(A3))/(C(1)*C(A4)-C(A2)*C(A2))
2490 B(A5,1)=(C(A3)-B(A5,2)*C(A2))/C(1)
2500 RETURN
2510 REM CALCULATE ERROR SS
2520 D=0
2530 IF E9=0 THEN 2570
2540 GOSUB 2650
2550 D(9,1)=1
2560 RETURN
2570 IF E1+E1>0 THEN 2600
2580 D(9,1)=-1
2590 RETURN
2600 GOSUB 1210
2610 E3=1
2620 GOSUB 2980
2630 D(9,1)=1
2640 RETURN
2650 FOR K=1 TO N
2660 X=A(K,1)
2670 Y=A(K,2)
2680 IF B5=0 THEN 2700
2690 IF X<F(7) OR X>F(8) THEN 2960
2700 Y1=Y-B(1,1)*X

```



```

2710 D(1,1)=D(1,1)+Y1*Y1
2720 D(1,2)=ABS(D(1,2)) MAX ABS(Y1)
2730 Y1=Y-B(2,1)-B(2,2)*X
2740 D(2,1)=D(2,1)+Y1*Y1
2750 D(2,2)=ABS(D(2,2)) MAX ABS(Y1)
2760 IF B2<0 THEN 2830
2770 Y1=Y-B(3,1)*EXP(B(3,2)*X)
2780 D(3,1)=D(3,1)+Y1*Y1
2790 D(3,2)=ABS(D(3,2)) MAX ABS(Y1)
2800 Y1=Y-1/(B(4,1)+B(4,2)*X)
2810 D(4,1)=D(4,1)+Y1*Y1
2820 D(4,2)=ABS(D(4,2)) MAX ABS(Y1)
2830 IF B3<0 THEN 2960
2840 Y1=Y-B(5,1)-B(5,2)/X
2850 D(5,1)=D(5,1)+Y1*Y1
2860 D(5,2)=ABS(D(5,2)) MAX ABS(Y1)
2870 Y1=Y-B(6,1)-B(6,2)*LOG(X)
2880 D(6,1)=D(6,1)+Y1*Y1
2890 D(6,2)=ABS(D(6,2)) MAX ABS(Y1)
2895 IF B2+B3<0 THEN 2960
2900 Y1=Y-B(7,1)*X+B(7,2)
2910 D(7,1)=D(7,1)+Y1*Y1
2920 D(7,2)=ABS(D(7,2)) MAX ABS(Y1)
2930 Y1=Y-X/(B(8,1)+B(8,2)*X)
2940 D(8,1)=D(8,1)+Y1*Y1
2950 D(8,2)=ABS(D(8,2)) MAX ABS(Y1)
2960 NEXT K
2970 RETURN
2980 FOR L=F(1)+1 TO F(1)+F(2)
2990 FIND L
3000 READ @33:N,A
3010 GOSUB E3 OF 2650,3250,5180,600,6200
3020 NEXT L
3030 RETURN
3040 REM PLOT DATA

```

```

3050 S1=0
3060 PAGE
3070 IF E9=1 OR E1<>0 THEN 3100
3090 PRINT "OPERATION CANNOT BE PERFORMED"
3090 END
3100 GOSUB 1210
3110 E3=2
3120 PAGE
3130 IF S1<>1 THEN 3170
3140 PRINT "IDATAJ"
3150 PRINT "X"          Y"
3160 GO TO 3180
3170 GOSUB 3400
3180 IF E9=1 THEN 3230
3190 GOSUB 2980
3200 IF S1<10 THEN 3220
3210 RETURN
3220 END
3230 GOSUB 3250
3240 GO TO 3200
3250 FOR K=1 TO N
3260 X=A(K,1)
3270 IF B4=0 THEN 3290
3280 IF X<F(7) OR X>F(8) THEN 3340
3290 IF S1<>1 THEN 3320
3300 PRINT X,A(K,2)
3310 GO TO 3340
3320 MOVE X-X1,A(K,2)-Y1
3330 PRINT "X"
3340 NEXT K
3350 RETURN
3360 REM LIST DATA
3370 S1=1
3380 GO TO 3060
3390 REM FIND TIC MARKS AND DRAW AND LABEL AXES

```

```

3400 X9=(F(4+B4)-F(3+B4))*0.1
3410 G(1)=F(3+B4)-X9
3420 G(2)=F(4+B4)
3430 S=1
3440 GOSUB 3800
3450 X9=(F(6+B4)-F(5+B4))*0.1
3460 G(5)=F(5+B4)-X9
3470 G(6)=F(6+B4)
3480 S=5
3490 G(9)=1
3500 GOSUB 3800
3510 WINDOW G(1),G(2),G(5),G(6)
3520 VIEWPORT S1,130,0,100
3530 S=8
3540 GOSUB 3610
3550 S=4
3560 GOSUB 3610
3570 AXIS G(3),G(7)
3580 X1=0.5*(G(2)-G(1))/(130-S1)
3590 Y1=0.010575*(G(6)-G(5))
3600 RETURN
3610 Y2=G(S-1)
3620 G(4)=G(1)
3630 G(8)=G(5)
3640 Y=(G(6)-G(5))/138
3650 Y1=ABS(G(S-3)+Y2) MAX ABS(G(S-2)-Y2)
3660 Y1=INT(LGT(Y1)+1.0E-8)
3670 X2=101-Y1
3680 X1=G(S-2)-Y2/2
3690 G(S)=G(S)+Y2
3700 IF G(S)>X1-(S=4)*Y2*(E8<>16) THEN 3740
3710 MOVE G(4),G(8)+Y
3720 PRINT USING "+D.2D,S":G(S)*X2
3730 GO TO 3690
3740 IF Y1=0 THEN 3790

```

```

3750 G(S)=X1
3760 MOVE G(4)-(S=4)*Y2*(E8<>16)/4,G(8)+Y
3770 PRINT USING 3780:Y1
3780 IMAGE"E"+20,S
3790 RETURN
3800 X1=(G(S+1)-G(S))/5
3810 X2=10*INT(LGT(X1))
3820 X1=X1/X2
3830 IF X1<SQR(2) THEN 3910
3840 IF X1=>SQR(10) THEN 3870
3850 X2=X2+X2
3860 GO TO 3910
3870 IF X1=>7.071067812 THEN 3900
3880 X2=5*X2
3890 GO TO 3910
3900 X2=10*X2
3910 X1=INT(G(S)/X2)
3920 X=X2*(X1+2)
3930 IF X<G(S) THEN 3960
3940 X=X-X2
3950 GO TO 3930
3960 G(S)=X
3970 S=S+1
3980 X1=INT(G(S)/X2)
3990 X=X2*(X1-2)
4000 IF G(S)<X THEN 4030
4010 X=X+X2
4020 GO TO 4000
4030 G(S)=X
4040 G(S+1)=X2
4050 RETURN
4060 REM SELECT BEST FIT
4070 GOSUB 1210
4080 PRINT "LSELECT BEST FIT"
4090 GOSUB 2000

```

```

4100 PRINT "JEQUATION"
4110 PRINT "      A
4120 PRINT "      R-SQUARE      B      RES ERROR";
4130 S=C(18)-C(4)*C(4)/C(1)
4140 I=1
4150 GOSUB 4580
4160 PRINT
4170 X1=1
4180 X2=1
4190 Y1=D(1,1)
4200 Y2=D(1,2)
4210 IF C(1)>2 THEN 4240
4220 PRINT USING "8D.5D":B(1,1)
4230 GO TO 4260
4240 PRINT USING 4250:B(1,1),D(1,1)/(C(1)-2),1-D(1,1)/S,D(1,2)
4250 IMAGE8D.5D,"      8D.5D,8D.5D,8D.5D
4260 PRINT
4270 FOR I=2 TO 8
4280 IF I<3 THEN 4340
4290 IF I>4 THEN 4320
4300 IF B2<0 THEN 4490
4310 GO TO 4340
4320 IF B3<0 THEN 4500
4330 IF I>6 AND B2<0 THEN 4500
4340 GOSUB 4580
4350 PRINT
4360 IF C(1)>2 THEN 4400
4370 PRINT USING 4380:B(I,1),B(I,2)
4380 IMAGE 8D.5D,8D.5D
4390 GO TO 4420
4400 PRINT USING 4410:B(I,1),B(I,2),D(I,1)/(C(1)-2),1-D(I,1)/S,D(I,2)
4410 IMAGE8D.5D,8D.5D,8D.5D,8D.5D,8D.5D
4420 PRINT
4430 IF Y1<D(I,1) THEN 4460
4440 Y1=D(I,1)

```

```
4450 X1=I
4460 IF ABS(Y2)<ABS(D(I,2)) THEN 4490
4470 X2=I
4480 Y2=D(I,2)
4490 NEXT I
4500 I=X1
4510 GOSUB 4570
4520 PRINT " HAS MAXIMUM R-SQUARE_"
4530 I=X2
4540 GOSUB 4570
4550 PRINT " HAS MINIMUM MAXIMUM ABSOLUTE RESIDUAL"
4560 END
4570 PRINT " EQUATION ";
4580 GO TO I OF 4590,4610,4630,4650,4670,4690,4710,4730
4590 PRINT "Y = A*X";
4600 RETURN
4610 PRINT "Y = A + B*X";
4620 RETURN
4630 PRINT "Y = A*EXP(B*X)";
4640 RETURN
4650 PRINT "Y = 1/(A + B*X)";
4660 RETURN
4670 PRINT "Y = A + B/X";
4680 RETURN
4690 PRINT "Y = A + B*LOG(X)";
4700 RETURN
4710 PRINT "Y = A*X^B";
4720 RETURN
4730 PRINT "Y = X/(A + B*X)";
4740 RETURN
4750 GOSUB 2000
4760 PAGE
4770 I=S2
4780 PRINT "FOR";
4790 GOSUB 4570
```

```

4800 IF ABS(S2-3.5)=0.5 OR ABS(S2-7.5)=0.5 AND B2<0 THEN 4830
4810 IF S2>4 AND B3<0 THEN 4830
4820 GO TO 4850
4830 PRINT " CANNOT BE FIT"
4840 END
4850 PRINT " SELECT OPTIONJ"
4860 GOSUB 1210
4870 PRINT " 1   PLOT EQUATION"
4880 PRINT " 2   RESIDUALS"
4890 PRINT " 3   ESTIMATE Y FOR X"
4900 IF S2<>2 THEN 4920
4910 PRINT " 4   PLOT EQUATION AND CONFIDENCE BANDSJ"
4920 PRINT "      ENTER OPTION"
4930 INPUT D3
4940 IF D3=3 THEN 5010
4950 IF D3<>2 THEN 5260
4960 IF E9=0 AND E1=0 THEN 4990
4970 PRINT "LRESIDUALS FOR EQUATION : ";
4980 GO TO 5020
4990 PRINT "OPERATION CANNOT BE PERFORMED"
5000 END
5010 PRINT "LESTIMATE FOR EQUATION : ";
5020 I=S2
5030 GOSUB 4580
5040 PRINT
5050 IF D3=2 THEN 5110
5060 PRINT "X=";
5070 INPUT X
5080 GOSUB 5610
5090 PRINT Y1
5100 GO TO 5060
5110 PRINT "      XIYI      YESTIMATE      RESIDUAL"
5120 IF E9=0 THEN 5150
5130 GOSUB 5180
5140 END

```

```

5150 E3=3
5160 GOSUB 2980
5170 END
5180 FOR I=1 TO N
5190 X=A(I,1)
5200 IF B4=0 THEN 5220
5210 IF X<F(7) OR X>F(8) THEN 5240
5220 GOSUB 5610
5230 PRINT X,A(I,2),Y1,A(I,2)-Y1
5240 NEXT I
5250 RETURN
5260 PAGE
5270 PRINT
5280 GOSUB 4580
5290 PRINT
5300 PRINT "JJA ="
5310 PRINT B(S2,1)
5320 IF S2=1 THEN 5350
5330 PRINT "JB ="
5340 PRINT B(S2,2)
5350 IF C(1)=2 THEN 5420
5360 PRINT "JJR-SQUARE ="
5370 PRINT 1-D(S2,1)/(C(18)-C(4)*C(4)/C(1))
5380 PRINT "JRES ERROR"
5390 PRINT D(S2,1)/(C(1)-2)
5400 PRINT "JMAX(ABS(RESIDUAL))"
5410 PRINT D(S2,2)
5420 S1=40
5425 E3=2
5430 GOSUB 3130
5440 X=F(3+B4)
5450 GOSUB 5610
5460 MOVE X,Y1
5470 D4=(F(4+B4)-X)*0.02
5480 IF S2>2 THEN 5540

```



```

5490 X=F(4+B4)
5500 GOSUB 5610
5510 DRAW X,Y1
5520 IF D3=4 THEN 5780
5530 END
5540 FOR I=F(3+B4) TO F(4+B4) STEP D4
5550 X=I
5560 GOSUB 5610
5570 DRAW I,Y1
5580 NEXT I
5590 HOME
5600 END
5610 GO TO S2 OF 5620,5640,5660,5680,5700,5720,5740,5760
5620 Y1=B(1,1)*X
5630 RETURN
5640 Y1=B(2,1)+B(2,2)*X
5650 RETURN
5660 Y1=B(3,1)*EXP(B(3,2)*X)
5670 RETURN
5680 Y1=1/(B(4,1)+B(4,2)*X)
5690 RETURN
5700 Y1=B(5,1)+B(5,2)/X
5710 RETURN
5720 Y1=B(6,1)+B(6,2)*LOG(X)
5730 RETURN
5740 Y1=B(7,1)*X↑B(7,2)
5750 RETURN
5760 Y1=X/(B(8,1)+B(8,2)*X)
5770 RETURN
5780 S3=C(1)-2
5790 IF S3=0 THEN 5970
5800 IF S3>3 THEN 5830
5810 X1=34.958+S3*(-31.655+S3*(10.208-1.0945*S3))
5820 GO TO 5840
5830 X1=S3/(-0.6115993191+0.5101102332*S3)+6.0E-4

```

```

5840 X2=C(3)-C(2)*C(2)/C(1)
5850 X1=X1*SQR(D(2,1)/S3)
5860 FOR I=1 TO 2
5870 X1=-X1
5880 X=F(3)
5890 GOSUB 5610
5900 MOVE X,Y1+X1*SQR(1/C(1)+(X-C(2)/C(1))^2/X2)
5910 X=X+D4*2
5920 GOSUB 5610
5930 DRAW X,Y1+X1*SQR(1/C(1)+(X-C(2)/C(1))^2/X2)
5940 X=X+D4/2*2
5950 IF X<F(4) THEN 5890
5960 NEXT I
5970 HOME
5980 END
5990 GOSUB 1210
6000 IF E9=1 OR E1<>0 THEN 6030
6010 PRINT "OPERATION MAY NOT BE PERFORMED"
6020 END
6030 PRINT "LITRIM DATAJ"
6035 D3=1
6040 PRINT "RANGE OF X DATA IS ";F(3);" TO ";F(4)
6050 PRINT "JEQUATIONS HAVE BEEN FIT TO DATA WITH "
6060 PRINT " X RANGE FROM ";F(3+B5);" TO ";F(4+B5)
6070 PRINT "JTHE PLOT RANGE IS ";F(3+B4);" TO ";F(4+B4)
6080 PRINT "JJDO YOU WISH TO : "
6090 PRINT " 1 CHANGE PLOT RANGE ONLY"
6100 PRINT " 2 CHANGE RANGE OF FIT AND PLOT"
6110 PRINT " 3 RESET FIT AND PLOT RANGE TO ORIGINAL DATA"
6120 PRINT " 4 RESET PLOT RANGE ONLY"
6130 PRINT "J SELECT OPTION "
6140 INPUT X
6150 GO TO X OF 6160,6360,6500,6540
6160 PRINT "CHANGE PLOT RANGE TO ";
6170 INPUT F(7),F(8)

```

```

6180 B4=4
6190 B5=0
6200 F(9)=10↑300
6210 F(10)=-F(9)
6220 PRINT " FINDING YMIN AND YMAX"
6230 IF E9=1 THEN 6330
6240 E3=5
6250 GOSUB 2980
6260 GO TO 6340
6270 FOR J=1 TO N
6280 IF A(J,1)<F(7) OR A(J,1)>F(8) THEN 6310
6290 F(9)=A(J,2) MIN F(9)
6300 F(10)=A(J,2) MAX F(10)
6310 NEXT J
6320 RETURN
6330 GOSUB 6270
6340 PRINT " Y MIN = ";F(9); "    YMAX = ";F(10)
6350 END
6360 PRINT "CHANGE RANGE OF FIT TO ";
6370 INPUT F(7),F(8)
6380 B4=4
6390 F(9)=10↑300
6400 F(10)=-F(9)
6410 B5=4
6420 B1=0
6430 B2=0
6440 B3=0
6450 C=0
6460 IF E9=0 THEN 6490
6470 GOSUB 600
6480 GO TO 580
6490 GO TO 550
6500 B4=0
6510 IF B5=0 THEN 580
6520 B5=0

```

6530 GO TO 6420
6540 B4=0
6550 END
6560 GO TO 2

```
; LORAN-C DATA ENTRY FORM
; OCEAN PROJECTS
; JILL BELON
; 2/24/85
;
; OTHER MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI
;
; THIS PROGRAM GIVES A DESCRIPTION OF HOW THE UNHFRM
; LORAN-C INPUT PROGRAM SHOULD LOOK ON THE SCREEN.
;
;
1,25,"LORAN-C DATA INPUT FORM"
3,1,"DATE: ",D2/ZFILL
3,9,"/",D2/ZFILL
3,12,"/",D2/ZFILL
3,17,"TIME: ",D2/ZFILL
3,25,":",D2/ZFILL
3,28,":",D2/ZFILL
3,35,A1/UCASE
3,36,"M"
3,39,"(A/P)"
3,48,"GEODATIC? ",A1/UCASE
3,61,"(Y/N)"
3,69,"MAP: ",A1/UCASE
5,1,"LOCATION: ",A69/UCASE
6,1,"LOC CONT.:",A69/UCASE
7,1,"LOC CONT.:",A69/UCASE
10,1,"LATITUDE: ",D2/ZFILL
10,13," ",D2/ZFILL
10,16,"' ",D2/ZFILL
10,20,"'"
10,24,"LONGITUDE: ",D2/ZFILL
10,38," ",D2/ZFILL
10,41,"' ",D2/ZFILL
10,45,"'"
11,1,"CALC LAT: ",D2/ZFILL
11,13," ",D2/ZFILL
11,16,"' ",D2/ZFILL
11,20,"'"
11,24,"CALC. LON: ",D2/ZFILL
11,38," ",D2/ZFILL
11,41,"' ",D2/ZFILL
11,45,"'"
12,1,"GEOD LAT: ",D2/ZFILL
12,13," ",D2/ZFILL
12,16,"' ",D2/ZFILL
12,20,"'"
12,24,"GEOD. LON: ",D2/ZFILL
12,38," ",D2/ZFILL
12,41,"' ",D2/ZFILL
12,45,"'"
14,1,"TD1A: ",D5
14,12,".",D2
14,22,"TD2A: ",D5
14,33,".",D2
15,1,"TD1B: ",D5
15,12,".",D2
15,22,"TD2B: ",D5
15,33,".",D2
16,1,"TD1C: ",D5
```

13
16,12,".",D2
16,22,"TD2C: ",D5
16,33,".",D2
17,1,"TD1D: ",D5
17,12,".",D2
17,22,"TD2D: ",D5
17,33,".",D2
18,1,"AVE1: ",D5
18,12,".",D2
18,22,"AVE2: ",D5
18,33,".",D2
20,1,"GROUND: ",A1/UCASE
20,11,"(Y/N) "
20,20,"# OF TIME (S) VISITED: ",D2/ZFILL
20,50,"SNR: ",D2
20,57," ",D2
20,60," ",D2
22,1,"WEATHER: ",A69/UCASE
23,1,"W. CONT: ",A69/UCASE

WRITTEN BY JILL BELON

OTHER MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI

THIS PROGRAM SPECIFIES HOW THE DATA IS FORMATTED FOR
THE 1022 DATABASE.

ATT LDATE TYPE DATE LENGTH 6
ATT TIME TYPE INTEGER LENGTH 6
ATT AMPM TYPE TEXT LENGTH 1
ATT GEO TYPE TEXT LENGTH 1
ATT MAP TYPE TEXT LENGTH 1
ATT LOCATION ABBREV LOC TYPE TEXT LENGTH 69
ATT LOC1 TYPE TEXT LENGTH 69
ATT LOC2 TYPE TEXT LENGTH 69
ATT LATITUDE ABBREV LAT TYPE INTEGER LENGTH 6
ATT LONGITUDE ABBREV LON TYPE INTEGER LENGTH 6
ATT CALC_LAT ABBREV CLAT TYPE INTEGER LENGTH 6
ATT CALC_LON ABBREV CLON TYPE INTEGER LENGTH 6
ATT GEOD_LAT ABBREV GLAT TYPE INTEGER LENGTH 6
ATT GEOD_LON ABBREV GLON TYPE INTEGER LENGTH 6
ATT TIME_DELAY_1A ABBREV TD1A TYPE INTEGER LENGTH 7
ATT TIME_DELAY_2A ABBREV TD2A TYPE INTEGER LENGTH 7
ATT TIME_DELAY_1B ABBREV TD1B TYPE INTEGER LENGTH 7
ATT TIME_DELAY_2B ABBREV TD2B TYPE INTEGER LENGTH 7
ATT TIME_DELAY_1C ABBREV TD1C TYPE INTEGER LENGTH 7
ATT TIME_DELAY_2C ABBREV TD2C TYPE INTEGER LENGTH 7
ATT TIME_DELAY_1D ABBREV TD1D TYPE INTEGER LENGTH 7
ATT TIME_DELAY_2D ABBREV TD2D TYPE INTEGER LENGTH 7
ATT TIME_DELAY_1AVE ABBREV AVE1 TYPE INTEGER LENGTH 7
ATT TIME_DELAY_2AVE ABBREV AVE2 TYPE INTEGER LENGTH 7
ATT GROUND ABBREV GRND TYPE TEXT LENGTH 1
ATT VISIT TYPE INTEGER LENGTH 2
ATT SNR TYPE INTEGER LENGTH 6
ATT WEATHER ABBREV WTHR TYPE TEXT LENGTH 69
ATT WEATHER_CONT ABBREV WTHRC TYPE TEXT LENGTH 69

! LORAN-C OCEAN ENGINEERING
!
! WRITTEN BY JILL BELON
! OTHER MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI
!
! THIS PROGRAM STARTS THE UNHFRM INPUT PROGRAM CALLED
! LORAN WHICH IS IN THE FILE LORAN.FRM
!
! .R APP:UNHFRM
! *ADM3A
! *LORAN

! LORAN-C OCEAN ENGINEERING

! WRITTEN BY JILL BELON

! OTHER MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI

! THIS PROGRAM RUNS THE 1022 DATABASE AND LOADS THE
! LORAN INPUT.

! .COPY LORAN.DMI = LORAN.DAT (DID NOT DO AFTER DATABASE WAS DONE)

! .PROTEC LORAN.DMI <055>

! .R 1022

! *LOAD LORAN (THIS WAS DONE FIRST TIME ONLY)

! *OPEN LORAN

! NOTE-- THE FOLLOWING LINE IS TO BE USED ONLY WHEN ADDING
! INPUT.

! *APPEND DATA LORAN.DAT SET LORAN

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00100
00200 |      LORAN-C  OCEAN ENGINEERING PROJECT
00300 |
00400 |      WRITTEN BY JILL BELON
00500 |      OTHER MEMBERS: THOMAS SCHMOTTLACH, STEVE ROSSI
00600 |
00700 |      THIS PROGRAM PRINTS OUT THE FILES THAT WERE SPECIFIED
00800 |      BEFORE IT WAS CALLED.
00900 |      THESE FILES ARE LOCATED IN THE 1022 DATABASE CALLED
01000 |      "LORAN"
01100 |
01200 |
01300 | INIT 1 LORAN.LST.
01400
01500 | PRINT ON 1 FMT (/30T "LORAN-C MASTER DATA-LIST"/////
01600 |      70("=") / ) END.
01700
01800 | PRINT ON 1 LDATE TIME AMPM GEO MAP LOC LOC1 LOC2 LAT LON
01900 |      CLAT CLON GLAT GLON TD1A TD2A TD1B TD2B TD1C TD2C
02000 |      TD1D TD2D AVE1 AVE2 GRND VISIT SNR WTHR WTHRC
02100 | FMT ("DATE: " D3 18T "TIME: " PZZ:ZZ:ZZ 33T A "M" 41T
02200 |      "GEO. MARKER?: " A 59T "MAP: " A //
02300 |      "LOCATION: " A / A / A //
02400 |      "LATITUDE: " PZZBZZ↑'BZZ↑"
02500 |      30T "LONGITUDE: " PZZBZZ↑'BZZ↑" /
02600 |      "CALC LAT: " PZZBZZ↑'BZZ↑"
02700 |      30T "CALC LON : " PZZBZZ↑'BZZ↑" /
02800 |      "GEO. LAT: " PZZBZZ↑'BZZ↑"
02900 |      30T "GEO. LON : " PZZBZZ↑'BZZ↑" /
03000 |      // "TIME DELAY 1A: " 15..2
03100 |      30T "TIME DELAY 2A: " 15..2 /
03200 |      "TIME DELAY 1B: " 15..2
03300 |      30T "TIME DELAY 2B: " 15..2 /
03400 |      "TIME DELAY 1C: " 15..2
03500 |      30T "TIME DELAY 2C: " 15..2 /
03600 |      "TIME DELAY 1D: " 15..2
03700 |      30T "TIME DELAY 2D: " 15..2 //
03800 |      "TIME DELAY AV: " 15..2
03900 |      30T "TIME DELAY AV: " 15..2 //
04000 |      "GROUND: " A 17T "NUMBER OF TIMES VISITED: " 1
04100 |      47T "SNR: "PZZBZZBZZ //
04200 |      "WEATHER: " A /
04300 |      A ///// 70("=") /) END.
04400 |
04500 |

```

RELEASE 1.
Q.

APPENDIX D

PLEASE TYPE IN THE MAP LETTER => D

TYPE IN A B TD1 TD2 => 9.85 50.9

13731.87 26058.97

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 10.45 44.65 13735.87 26053.75

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 16.9 48.1 13725.99 26049.93

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 24.7 45.55 13719.99 26040.49

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 13.3 39.45 13736.75 26047.25

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 8.25 18.4 13758.41 26037.77

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 4.9 9.8 13768.81 26035.18

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 1.2 4.25 13777.49 26035.36

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 10.8 4.5 13765.93 26025.08

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 14.65 12.5 13755.13 26027.74

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 20.0 4.95 13754.07 26014.80

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 25.2 17.2 13739.30 26018.64

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 40.4 9.85 13727.01 25998.95

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 35.4 20.55 13725.15 26009.89

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 41.85 38.55 13704.16 26016.49

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 35.5 50.5 13702.45 26031.12

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 41.65 52.5 13693.65 26026.39

MORE DATA? (YES/NO)Y
TYPE IN A B TD1 TD2 => 38.5 55.5 13695.83 26032.59
MORE DATA? (YES/NO)Y
TYPE IN A B TD1 TD2 => 27.7 54.6 13709.25 26042.88
MORE DATA? (YES/NO)Y
TYPE IN A B TD1 TD2 => 1.45 53.1 13740.03 26071.22
MORE DATA? (YES/NO)NO
THE DATA FROM MAP D IS IN FILE 9
HAVE A NICE DAY!

PLEASE TYPE IN THE MAP LETTER => D

TYPE IN A B TD1 TD2 => 3.45 42.05 13745.83 26059.90

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 2.3 23.87 13761.16 26047.85

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 15.35 28.8 13742.15 26037.39

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 31.45 9.85 13737.03 26005.82

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 35.4 26.35 13720.96 26014.63

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 36.9 44.65 13705.35 26026.01

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 15.65 55.3 13722.08 26056.02

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 31.65 33.65 13719.54 26023.69

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 15.05 9.4 13757.15 26024.10

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 31.65 33.65 13719.60 26023.68

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 19.55 22.1 13742.64 26028.39

MORE DATA? (YES/NO)Y

TYPE IN A B TD1 TD2 => 19.55 22.1 13742.67 26028.40

MORE DATA? (YES/NO)NO

THE DATA FROM MAP D IS IN FILE 9

HOPE A NICE DAY!

PLEASE TYPE IN THE MAP LETTER =>

D

TYPE IN THE NUMBER OF ANGLES YOU WANT TO USE
THE MAX NUMBER IS 5. =>

5

TYPE IN THOSE 5 ANGLES
IF LESS THAN 5 ARE USED THEN TYPE IN ZEROS
=> 55 55.5 56 56.5 57

TYPE IN THE TD YOU WANT (1 OR 2) => 2

MAP D
DEGREE 55
THE HEADER IS FILE 20
X Y

11.8072198338 26047.85

-20.1126038948 26005.82

-13.88424327 26014.63

-4.61652255119 26026.01

18.8990474371 26056.02

-6.62531511853 26023.69

-6.93661976485 26024.1

-6.62531511853 26023.68

21.126392974 26058.97

13.74535704 26049.93

21.2928145958 26059.9

3.94501748707 26037.39

-3.33838322249 26028.39

-3.33838322249 26028.4

11.732868225 26047.25

3.79580206348 26037.77

1.60720405922 26035.18

1.45471740135 26035.86

-6.26574811474	26025.08
-4.25729555809	26027.74
-13.5438375258	26014.8
-10.7771168108	26018.64
-27.4440146912	25996.95
-17.2109866008	26009.89
-12.1701414322	26016.49
-0.114287536531	26031.12
-4.00491973621	26026.39
0.296138512357	26032.59
3.62676179796	26042.88
17.0500490203	26053.75

MAP D
DEGREE 55.5
THE HEADER IS FILE 22
X Y

11.6246266416	26047.85
-20.3396671985	26005.82
-14.2492627343	26014.63
-5.12021788146	26026.01
13.42469005	26056.02
-7.02402399737	26023.69
-7.07888051167	26024.1
-7.02402399737	26023.68
20.7124345015	26058.97
13.3164074004	26049.93

20.9741469119	26059.9
3.66216262809	26037.39
-3.59408915152	26028.39
-3.59408915152	26028.4
11.383847738	26047.25
3.62283370329	26037.77
1.51256279762	26035.18
1.41827508058	26035.86
-6.35173477096	26025.08
-4.42696446483	26027.74
-13.6788128997	26014.8

-11.0257926782 26018.64

-27.7155965866 25996.95

-17.5344189084 26009.89

-12.6547205604 26016.49

-0.652964731377 26031.12

-4.58852931755 26026.39

-0.293312112619 26032.59

8.09748511127 26042.88

16.6779198076 26053.75

MAP D
DEGREE 56
THE HEADER IS FILE 24
X Y

11.441148189 26047.85

-20.5651815577	26005.82
-14.613197062	26014.63
-5.62352328731	26026.01
17.9489295514	26056.02
-7.42219796958	26023.69
-7.22060217433	26024.1
-7.42219796958	26023.68
20.296898697	26058.97
12.8864436808	26049.93
20.6538819656	26059.9
3.37902888124	26037.39
-3.84952137675	26028.39

-3.84952137675	26028.4
11.0339603269	26047.25
3.44958945028	26037.77
1.41780634849	26035.18
1.39172475268	26035.86
-6.43723771798	26025.08
-4.59629624108	26027.74
-13.8127465789	26014.8
-11.2736288887	26018.64
-27.985067832	25996.95
-17.8565159021	26009.89
-13.1383359826	26016.49

-1.19159220043 26031.12

-5.1717874647 26026.39

-0.882740400742 26032.59

7.56759176973 26042.88

16.3045205068 26053.75

MAP D
DEGREE 56.5
THE HEADER IS FILE 26
X Y

11.2567984486 26047.85

-20.7391297987 26005.82

-14.9760185382 26014.63

-6.12640044009 26026.01

17.4718021724 26056.02

-7.81980671267 26023.69

-7.36177396018 26024.1

-7.81980671267 26023.68

19.879817205 26058.97

12.4554986006 26049.93

20.3320441462 26059.9

3.09563780826 26037.39

-4.10466044602 26028.39

-4.10466044602 26028.4

10.6832326371 26047.25

3.27608249769 26037.77

1.32294192793	26035.18
1.3450692011	26035.86
-6.52225044442	26025.08
-4.76527799157	26027.74
-13.945628364	26014.8
-11.5206065687	26018.64
-28.2524079062	25996.95
-19.177253053	26009.89
-13.6209508697	26016.49
-1.73012892513	26031.12
-5.75465276021	26026.39
-1.47210146477	26032.59

7.03712212678 26042.88

15.9298795536 26053.75

MAP D
DEGREE 57
THE HEADER IS FILE 28
X Y

11.0715914595 26047.85

-21.011494867 26005.82

-15.3376995326 26014.63

-6.62881104376 26026.01

16.993344248 26056.02

-8.21681994722 26023.69

-7.50238511844 26024.1

-8.21681994722 26023.68

19.461221788	26058.97
12.0236049859	26049.93
20.008657963	26059.9
2.81201099047	26037.39
-4.3594869295	26028.39
-4.3594869295	26028.4
10.3316913777	26047.25
3.10232605873	26037.77
1.22797676021	26035.18
1.30831121728	26035.86
-6.60676647624	26025.08
-4.9338968477	26027.74

-14.0774481356	26014.8
-11.76670691	26018.64
-28.5175964501	25996.95
-18.4966059357	26009.89
-14.1025284687	26016.49
-2.2685338938	26031.12
-6.33707981664	26026.39
-2.06135042256	26032.59
6.50611657973	26042.88
15.5540254734	26053.75

**** PLOT 50: STATISTICS VOLUME 1 ****

PROGRAM	TITLE
1	F DISTRIBUTION
2	T DISTRIBUTION
3	CHI-SQUARE DISTRIBUTION
4	GAMMA DISTRIBUTION
5	NORMAL DISTRIBUTION
6	BETA DISTRIBUTION
7	POINT BINOMIAL DISTRIBUTION
8	SINGLE TERM BINOMIAL DISTRIBUTION
9	ACCUMULATIVE BINOMIAL DISTRIBUTION
10	POINT HYPERGEOMETRIC DISTRIBUTION
11	SINGLE TERM HYPERGEOMETRIC DISTRIBUTION
12	ACCUMULATIVE HYPERGEOMETRIC DISTRIBUTION
13	SINGLE TERM POISSON DISTRIBUTION
14	HIGH ACCURACY NORMAL DISTRIBUTION
15	F TABLED
16	T TABLED
17	CHI-SQUARE TABLED
18	GAMMA TABLED
19	NORMAL TABLED
20	BETA TABLED
21	R X C CONTINGENCY TABLE
22	2 X 2 CONTINGENCY TABLE
23	ONE SAMPLE T TEST
24	TWO SAMPLE T TEST
25	PAIRED T TEST
26	SIMPLE REGRESSIONS
27	ONE SAMPLE ANALYSIS

ENTER THE PROGRAM NUMBER YOU WANT26

$$Y = A + B * X$$

A = 26034.018617

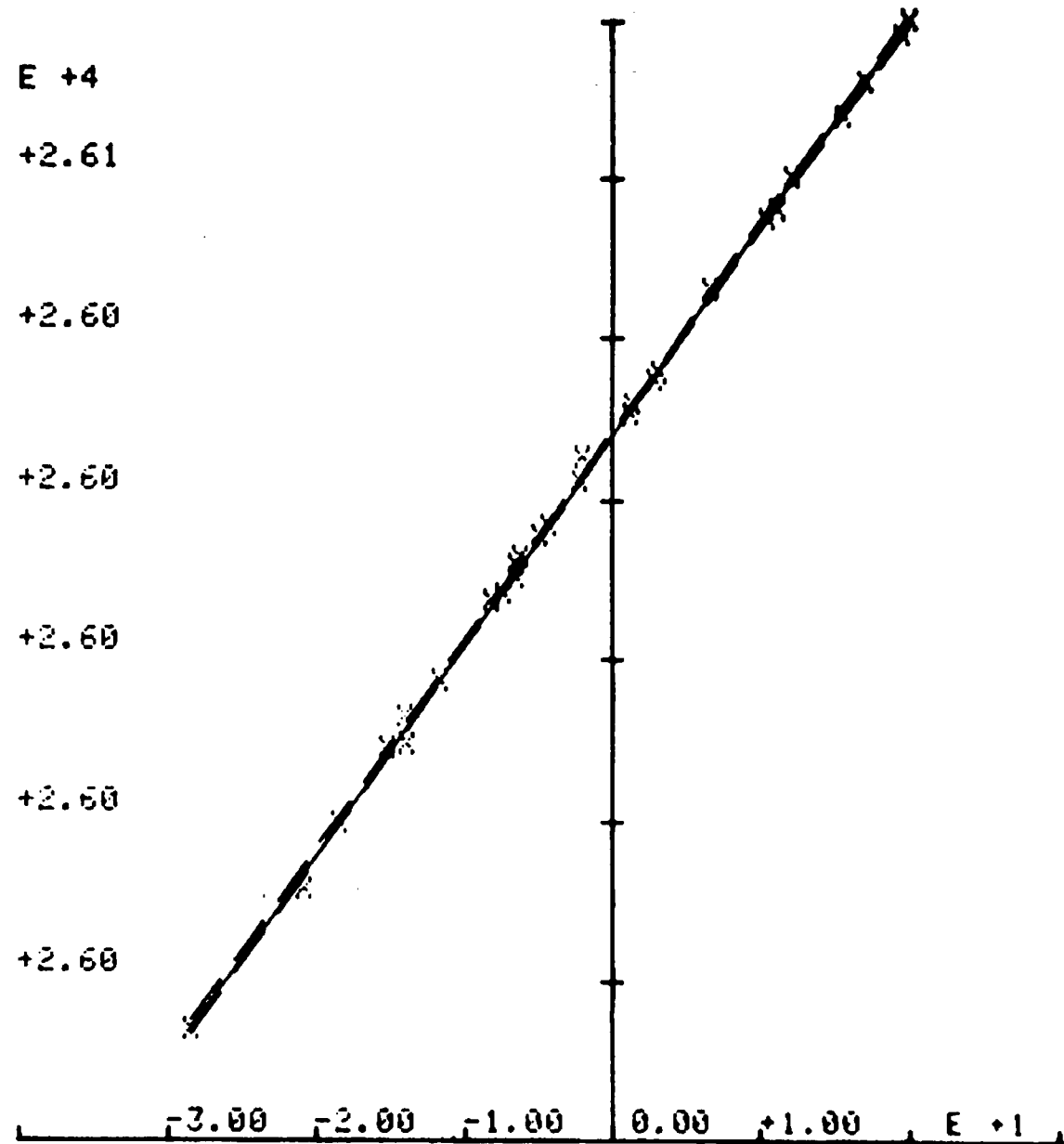
B = 1.29499506239

R-SQUARE = 0.9991063163

RES ERROR 0.233952667372

MAX(ABS(RESIDUAL)) 1.24082164621

ANGLE = 57°



$$Y = A + B * X$$

A =
26033.5984841

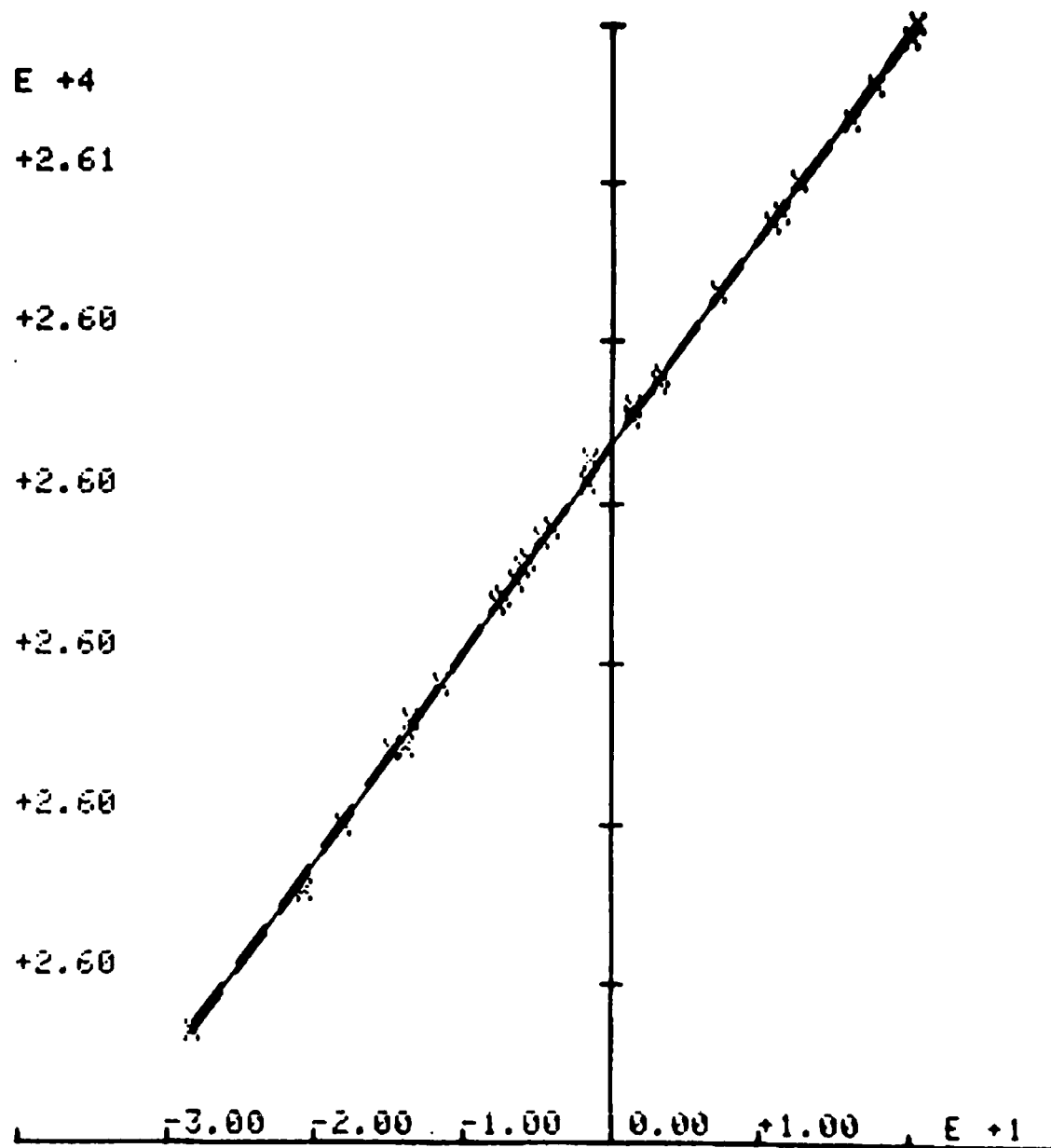
B =
1.29239940165

R-SQUARE =
0.999458955331

RES ERROR
0.141637184813

MAX(ABS(RESIDUAL))
0.910625197971

ANGLE = 56.5°



$$Y = A + B \cdot X$$

$$A = 26033.1793997$$

$$B = 1.28951312493$$

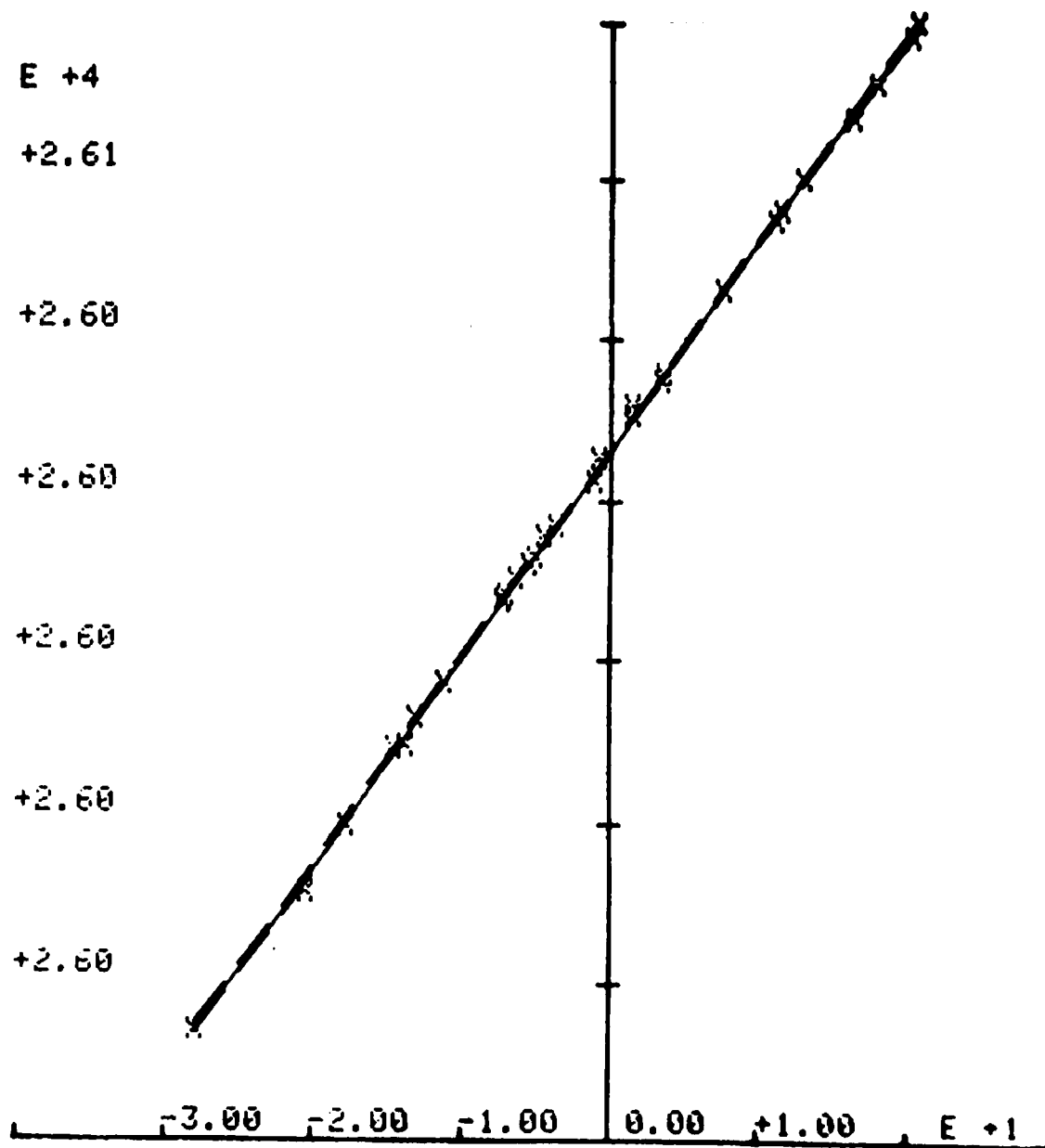
$$R\text{-SQUARE} = 0.999500917796$$

$$\text{RES ERROR} = 0.130652055953$$

$$\text{MAX(ABS(RESIDUAL))} = 0.898848065606$$

$$\text{ANGLE} = 56^\circ$$

(* BEST ANGLE *)



$$Y = A + B * X$$

$$A = 26032.7616844$$

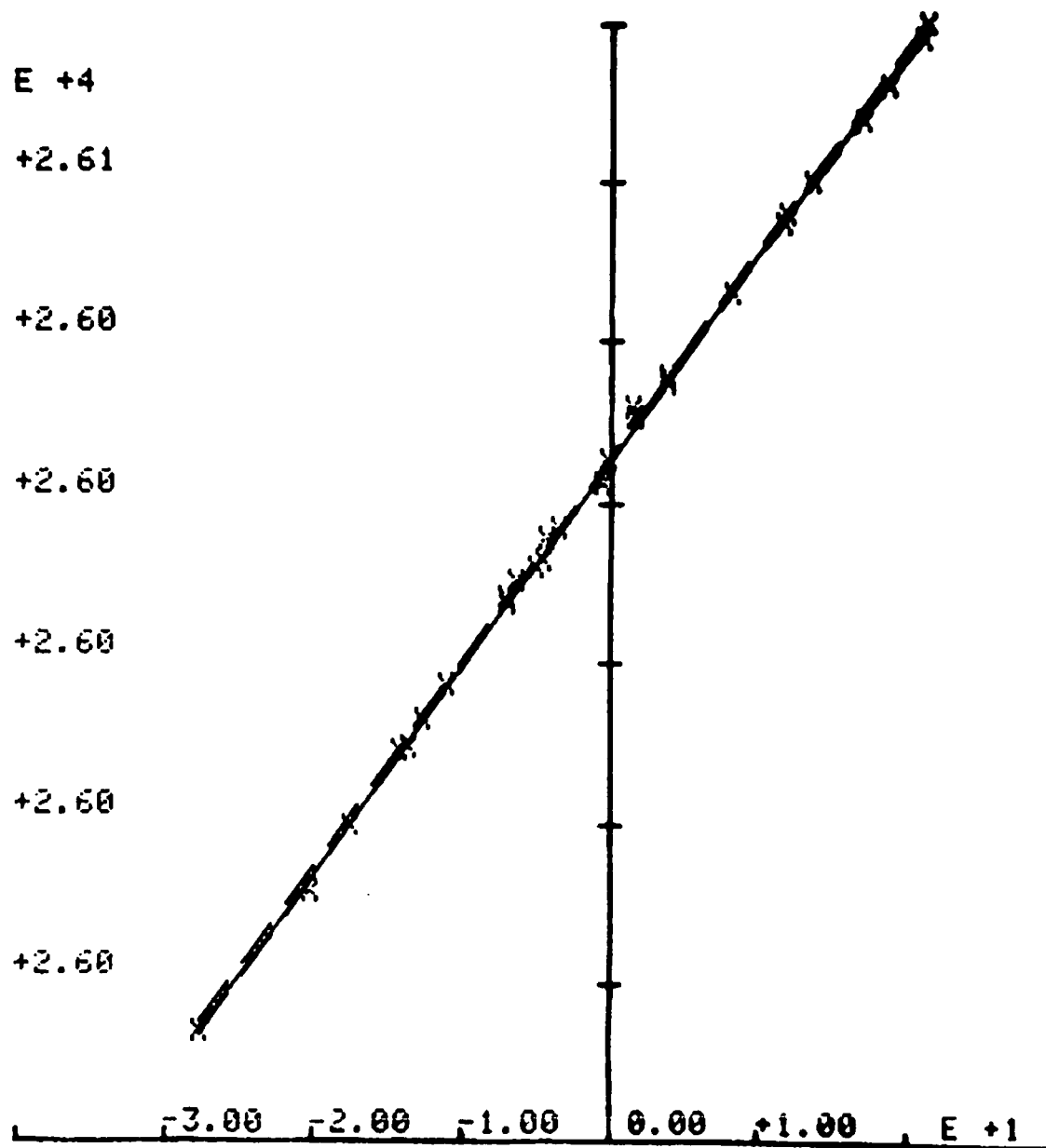
$$B = 1.28634311181$$

$$R\text{-SQUARE} = 0.99923634751$$

$$RES\ ERROR = 0.199912493501$$

$$MAX(ABS(RESIDUAL)) = 1.27392721812$$

$$ANGLE = 55.5^\circ$$



$$Y = A + B * X$$

$$A = 26032.3456499$$

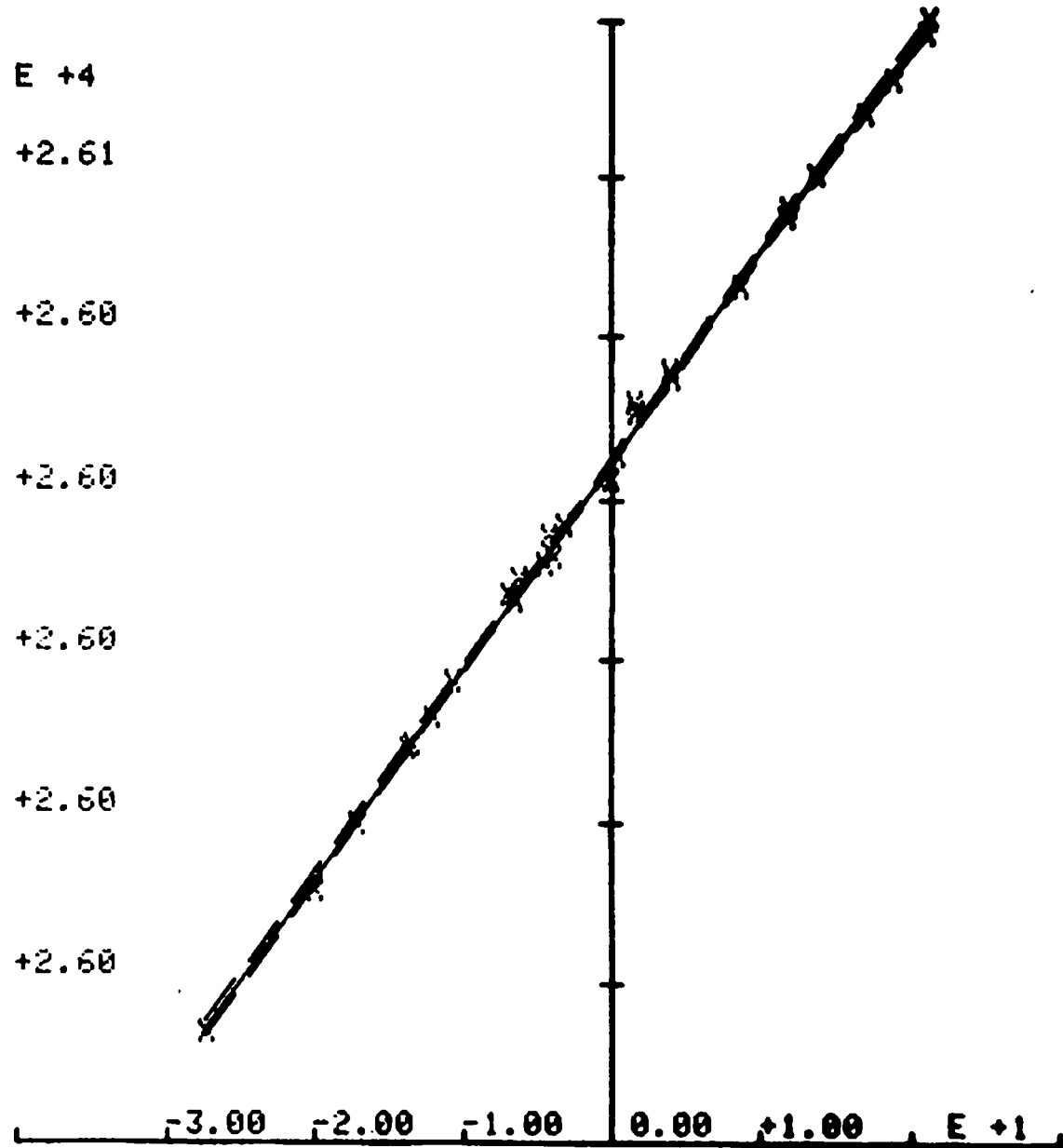
$$B = 1.28289645089$$

$$R\text{-SQUARE} = 0.998669706571$$

$$\text{RES ERROR} = 0.348250388899$$

$$\text{MAX(ABS(RESIDUAL))} = 1.6480982603$$

$$\text{ANGLE} = 55^\circ$$



PLEASE TYPE IN THE MAP LETTER =>

D

TYPE IN THE NUMBER OF ANGLES YOU WANT TO USE
THE MAX NUMBER IS 5. =>

5

TYPE IN THOSE 5 ANGLES
IF LESS THAN 5 ARE USED THEN TYPE IN ZEROS
=> -56.5 -57 -57.5 -58 -58.5

TYPE IN THE TD YOU WANT (1 OR 2) => 1

MAP D
DEGREE -56.5
THE HEADER IS FILE 20
X Y

-15.0926732302 13761.16

-31.6622884093 13737.03

-44.0630976642 13720.96

-55.4143732285 13705.35

-43.5724284031 13722.08

-44.9651658242 13719.54

-17.738189284	13757.15
-44.9651658242	13719.6
-36.3073678997	13731.87
-40.6408393864	13725.99
-26.0858563185	13745.83
-28.6959325457	13742.15
-28.5002751968	13742.64
-29.5002751968	13742.67
-32.8645955041	13736.75
-17.0351985618	13758.41
-9.49502298419	13768.81
-3.34639517406	13777.49

-11.4896833122	13765.93
-19.667576595	13755.13
-19.4098045186	13754.07
-30.5072388635	13739.3
-39.1255665168	13727.01
-40.8618631493	13725.15
-56.1752924373	13704.16
-57.4757644416	13702.45
-63.708036218	13693.65
-62.7371068344	13695.83
-53.2343966693	13709.25
-33.3580932348	13735.87

MAP D
DEGREE -57
THE HEADER IS FILE 22
X Y

-14.9294760721	13761.16
-31.7408838568	13737.03
-44.0401766779	13720.96
-55.2650768706	13705.35
-43.2437330247	13722.08
-44.8710270037	13719.54
-17.7415989767	13757.15
-44.8710270037	13719.6
-35.9830319765	13731.87
-40.3706701825	13725.99

-25.7954848818	13745.83
-28.5591974264	13742.15
-28.4325322772	13742.64
-28.4325322772	13742.67
-32.640328485	13736.75
-16.9403904298	13758.41
-9.44694832608	13768.81
-3.32112058035	13777.49
-11.5025177914	13765.93
-19.6391507931	13755.13
-19.4693745822	13754.07

-30.5022897145	13739.3
-39.2469854399	13727.01
-40.8812702748	13725.15
-56.0941980683	13704.16
-57.2770764303	13702.45
-63.5241784932	13693.65
-62.5162833092	13695.83
-52.9684660439	13709.25
-33.0822403485	13735.87

MAP D
 DEGREE -57.5
 THE HEADER IS FILE 24
 X Y

-14.7651419766	13761.16
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-31.817062113	13737.03
-44.0139018617	13720.96
-55.1115718632	13705.35
-42.9117444686	13722.08
-44.7734710808	13719.54
-17.7436575779	13757.15
-44.7734710808	13719.6
-35.6559558061	13731.87
-40.0974265957	13725.99
-25.503149019	13745.83
-28.4202874136	13742.15
-28.3626241101	13742.64

-28.3626241101	13742.67
-32.4135757786	13736.75
-16.8442922215	13758.41
-9.39815424628	13768.81
-3.29559307045	13777.49
-11.5264758523	13765.93
-19.6092293938	13755.13
-19.5274619776	13754.07
-30.4950176981	13739.3
-39.3654155531	13727.01
-40.8975641333	13725.15
-56.008831909	13704.16

-57.0740265479 13702.45

-63.3354831563 13693.65

-62.290698927 13695.83

-52.6985016648 13709.25

-32.8038681214 13735.87

MAP D
DEGREE -58
THE HEADER IS FILE 26
X Y

-14.5996834584 13761.16

-31.8908173768 13737.03

-43.9842752165 13720.96

-54.9538698962 13705.35

-42.5764880169 13722.08

-44.6725054848	13719.54
-17.7443649309	13757.15
-44.6725054848	13719.6
-35.3261642966	13731.87
-39.8211294347	13725.99
-25.2088709927	13745.83
-28.2792130859	13742.15
-28.2905560194	13742.64
-28.2905560194	13742.67
-32.1843546529	13736.75
-16.7469112552	13758.41

-9.34864446065	13768.81
-3.26981458838	13777.49
-11.5435561275	13765.93
-19.5778146758	13755.13
-19.5840622811	13754.07
-30.485423368	13739.3
-39.4808478374	13727.01
-40.9107434839	13725.15
-55.9192004603	13704.16
-56.8666302573	13702.45
-63.1419645772	13693.65
-62.060370867	13695.83

-52.4245240907 13709.25

-32.5229977528 13735.87

MAP D
DEGREE -58.5
THE HEADER IS FILE 28
X Y

-14.4331131178 13761.16

-31.9621440314 13737.03

-43.9512989984 13720.96

-54.7919829792 13705.35

-42.2379892009 13722.08

-44.5681379045 13719.54

-17.7437209819 13757.15

-44.5681379045 13719.6

-34.9936825629	13731.87
-39.5417997404	13725.99
-24.9126732133	13745.83
-28.1359851867	13742.15
-28.2163334933	13742.64
-28.2163334933	13742.67
-31.952682564	13736.75
-16.6482549467	13758.41
-9.29842273955	13768.81
-3.24378709727	13777.49
-11.5597573162	13765.93
-19.5449090315	13755.13

-19.6391711824	13754.07
-30.4735074548	13739.3
-39.5932735024	13727.01
-40.920807323	13725.15
-55.825310548	13704.16
-56.6549033527	13702.45
-62.9436374929	13693.65
-61.8253166694	13695.83
-52.1465541861	13709.25
-32.2396506321	13735.87

$$Y = A + B * X$$

A =
13781.640175

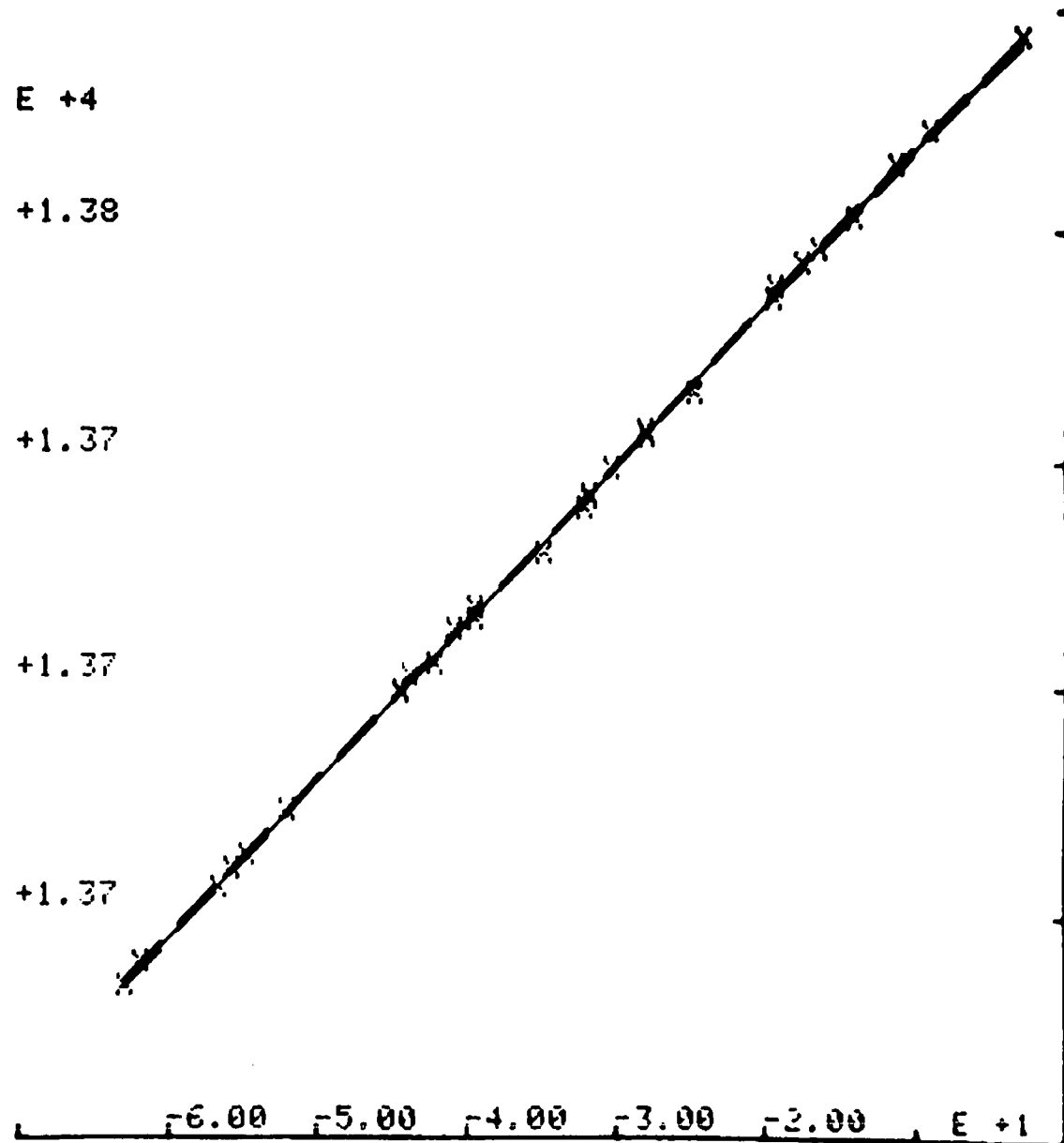
B =
1.39416167652

R-SQUARE =
0.999549809395

RES ERROR
0.234328464736

MAX(ABS(RESIDUAL))
1.07788077078

ANGLE = 50.5°



$$Y = A + B * X$$

A =
13781.6700969

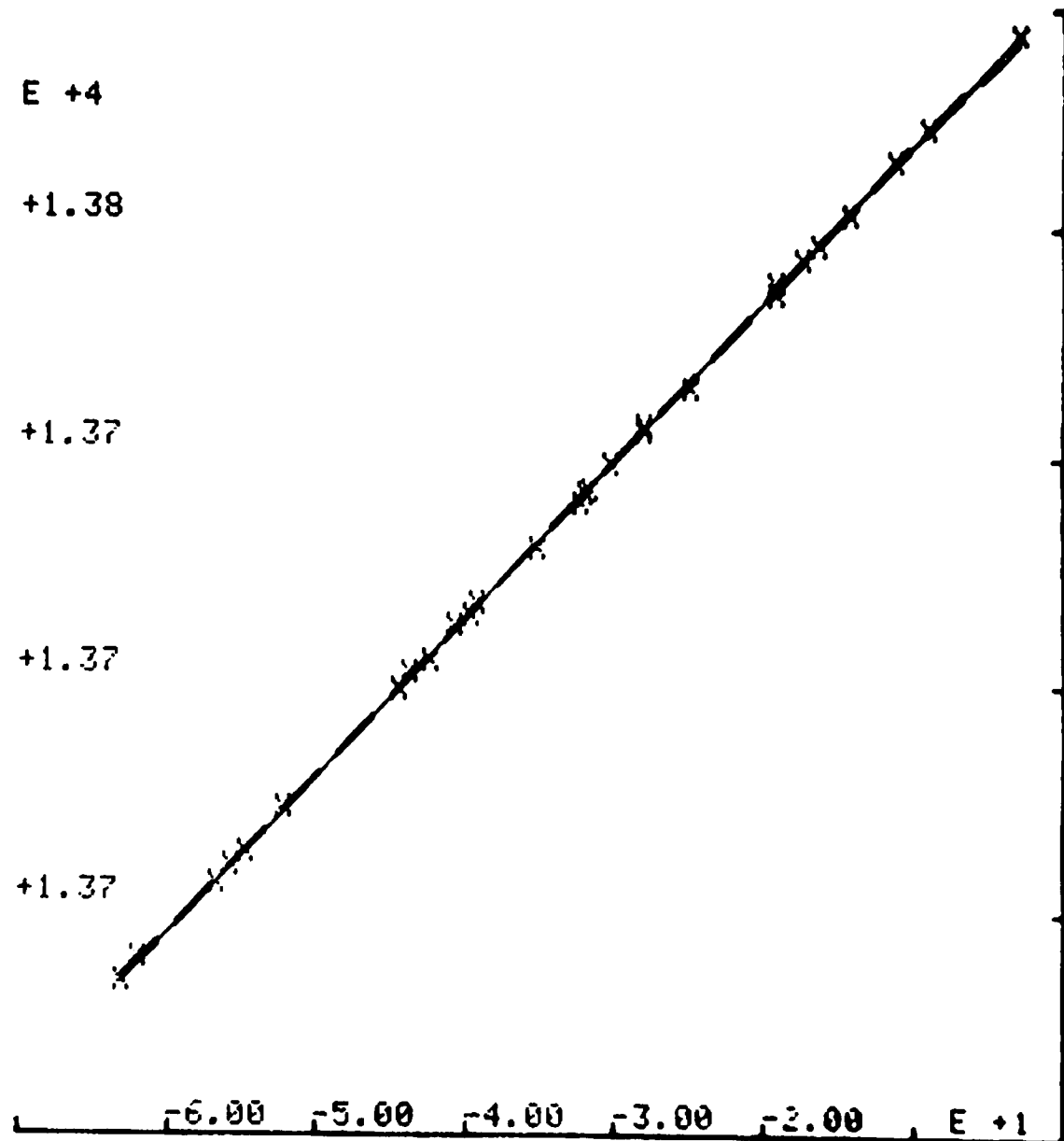
B =
1.39015227522

R-SQUARE =
0.999731871796

RES ERROR
0.139563264605

MAX(ABS(RESIDUAL))
0.795927569572

ANGLE = -58°



$$Y = A + B \cdot X$$

A =
13781.6948704

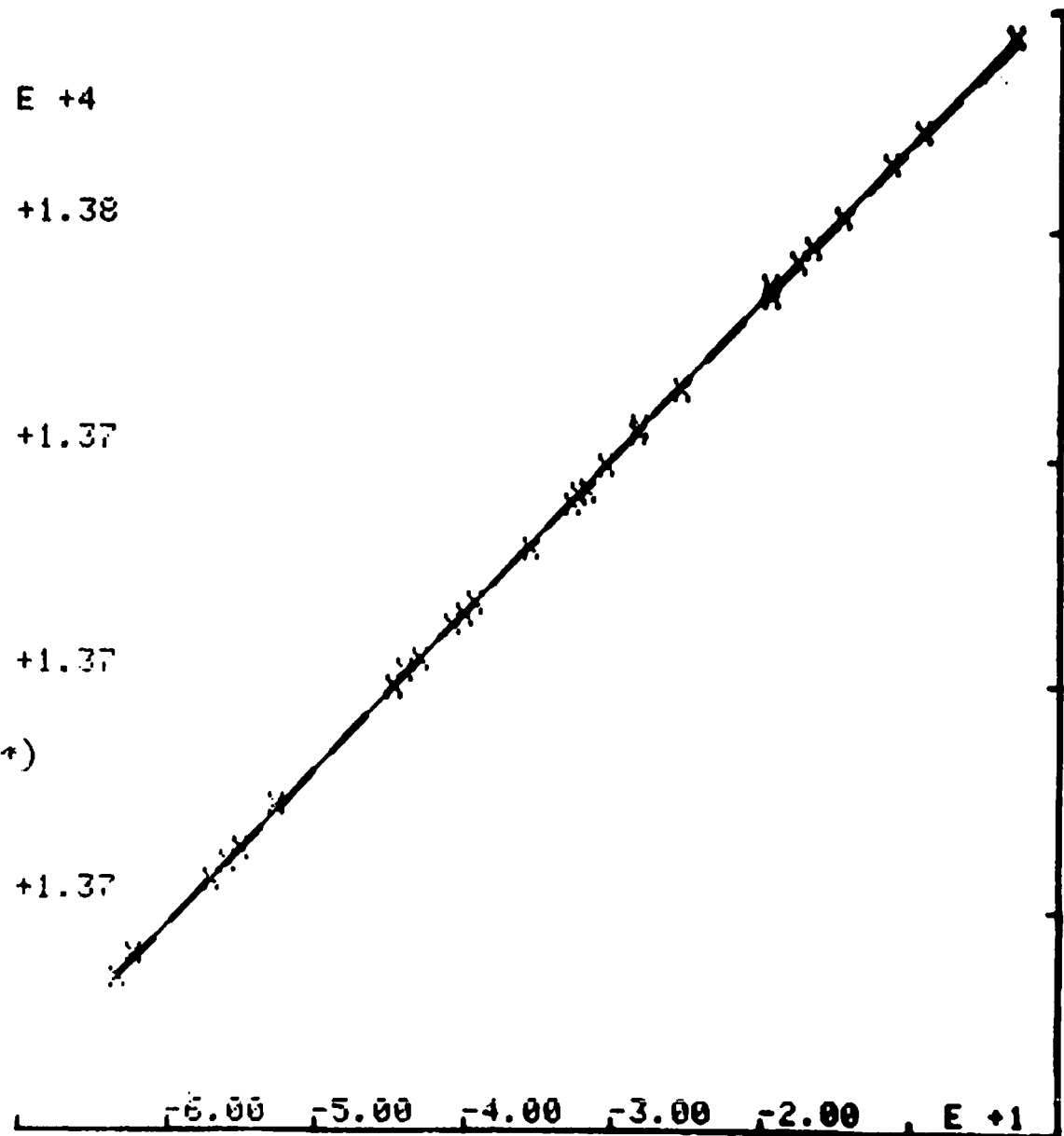
B =
1.38612609956

R-SQUARE =
0.999808289584

RES ERROR
0.899787083365

MAX(ABS(RESIDUAL))
0.615994235069

ANGLE = -57.5°
(* BEST ANGLE *)



$$Y = A + B * X$$

A =
13781.7145802

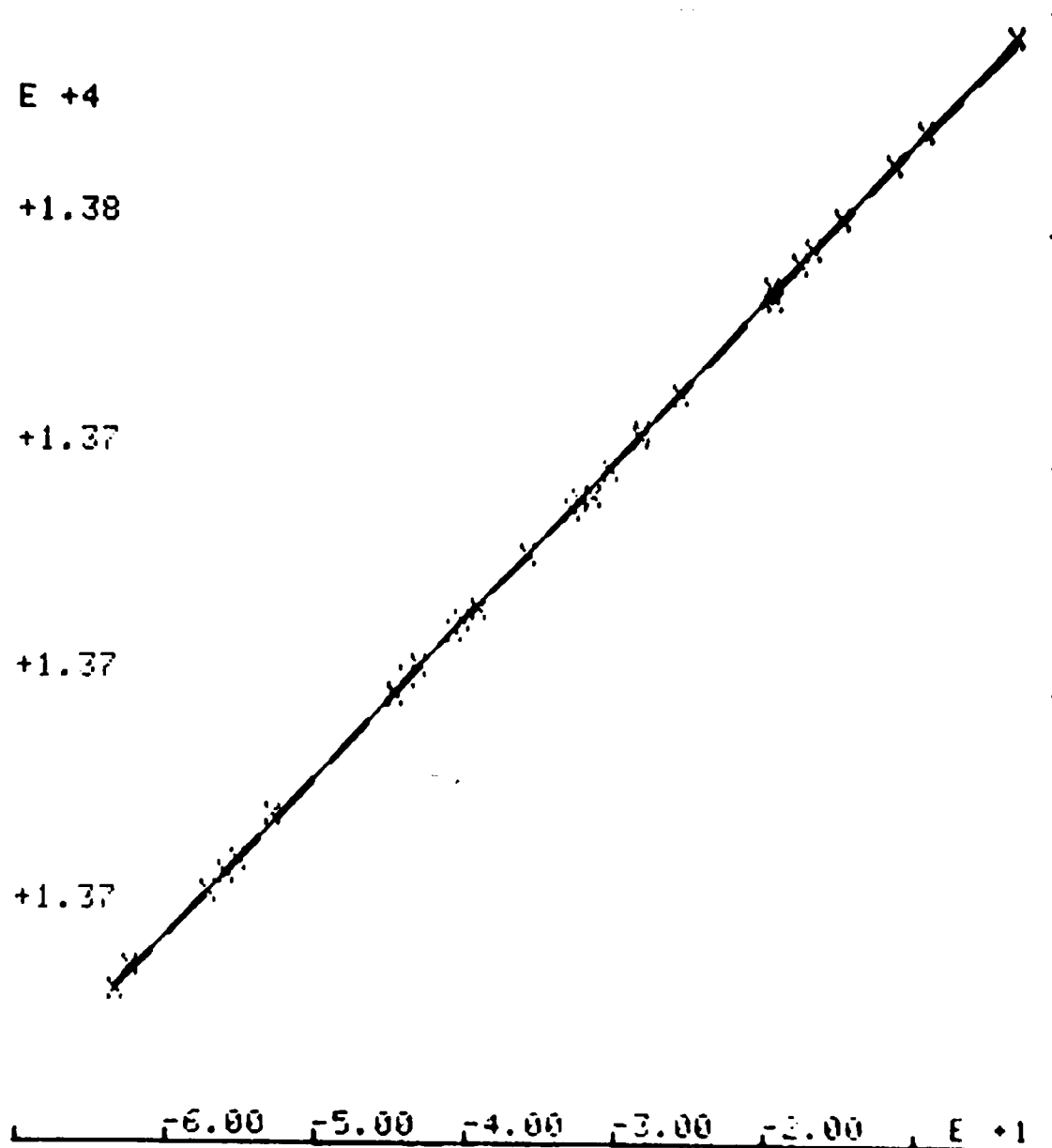
B =
1.38208522626

R-SQUARE =
0.999780892962

RES ERROR
0.114047284164

MAX(ABS(RESIDUAL))
0.815973590848

ANGLE = -57°



$$Y = A + B * X$$

A =
13781.7293098

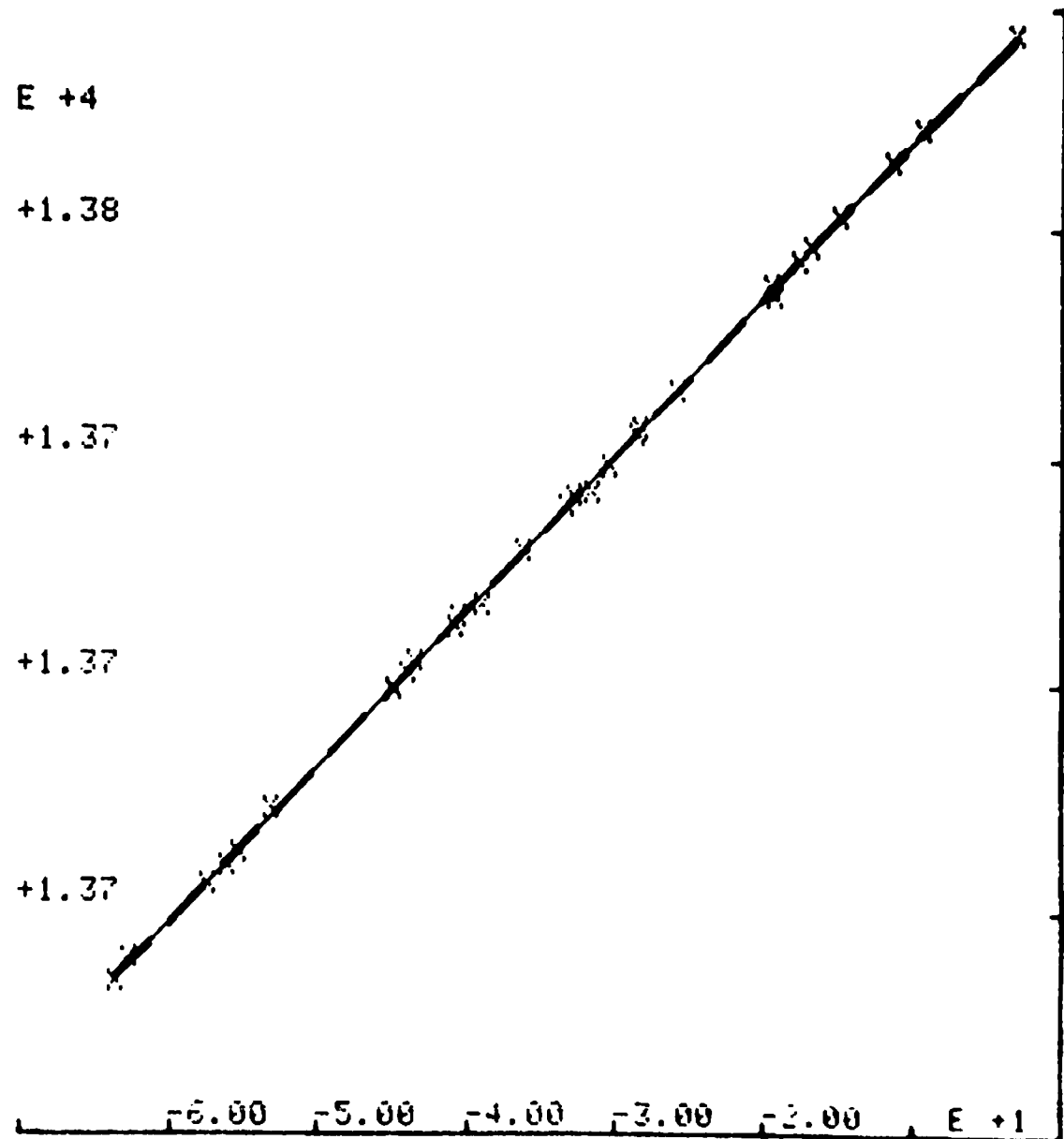
B =
1.37803164774

R-SQUARE =
0.999651481772

RES ERROR
0.181407031869

MAX(ABS(RESIDUAL))
1.06767438067

ANGLE = 56.5°



UNH SEA GRANT LORAN-C GRID MAPPING PROJECT

DATA PROCESSING PROGRAM
COMPUTATION OF PREDICTED MAP POINTS FROM TD VALUES

PROGRAM REQUIRES INPUT OF:

REFERENCE TD VALUES
GRADIENTS
BEST FIT ANGLES
DATA FILE NUMBER

INPUT DATA FILE NUMBER 9

PUT LORAN-C DATA FILE TAPE IN DRIVE:PRESS X WHEN READY

DATA FILE SELECTED # 9

INPUT TD2 CORNER VALUE 26033.1 93997

INPUT TD1 CORNER VALUE 13781.6948704

INPUT GRADIENT #2 1.28951312493

INPUT GRADIENT #1 1.38612609956

INPUT ANGLE FOR TD2 56

INPUT ANGLE FOR TD1 57.5

INPUT NUMBER OF DATA ITEMS IN FILE 30

MEASURED X VALUE	PREDICTED X VALUE	MEASURED Y VALUE	PREDICTED Y VALUE	DIFFERENCE (FEET)
2.30	2.37	23.87	23.86	54.85
31.45	32.08	9.85	9.62	530.70
35.40	35.15	26.35	26.38	202.73
36.90	36.84	44.65	44.68	50.94
15.65	15.85	55.30	55.17	187.00
31.65	31.65	33.65	33.77	94.19
15.05	14.92	9.40	9.53	145.39
31.65	31.63	33.65	33.72	59.26
9.85	10.20	50.90	50.89	277.27
16.90	16.89	48.10	48.28	139.70
3.45	3.64	42.05	42.45	347.47
15.35	15.48	28.80	28.79	105.32
19.35	19.36	22.10	22.06	157.02
19.35	19.34	22.10	22.04	173.03
13.30	13.38	39.45	39.35	102.12
8.25	8.16	18.40	18.46	87.32
4.90	4.76	9.80	9.83	113.95
1.20	0.63	4.25	4.65	551.63
10.80	10.62	4.50	4.51	146.37
14.65	14.16	13.50	13.45	391.98
20.00	20.50	4.95	4.91	399.67
25.20	25.26	17.20	17.28	77.26
40.40	40.32	9.85	9.83	94.57
35.40	35.46	20.55	20.27	227.23
41.85	41.69	38.55	38.66	155.09
35.50	35.80	50.50	50.21	325.73
41.65	41.82	52.50	52.58	145.97
38.50	38.04	55.50	55.58	369.97
27.70	27.46	54.60	54.17	391.67
10.45	10.81	44.65	44.56	395.94

MAP C

$$Y = A + B * X \quad E + 4$$

$$A = 26081.1945769 \quad +2.61$$

$$B = 1.32857584708 \quad +2.61$$

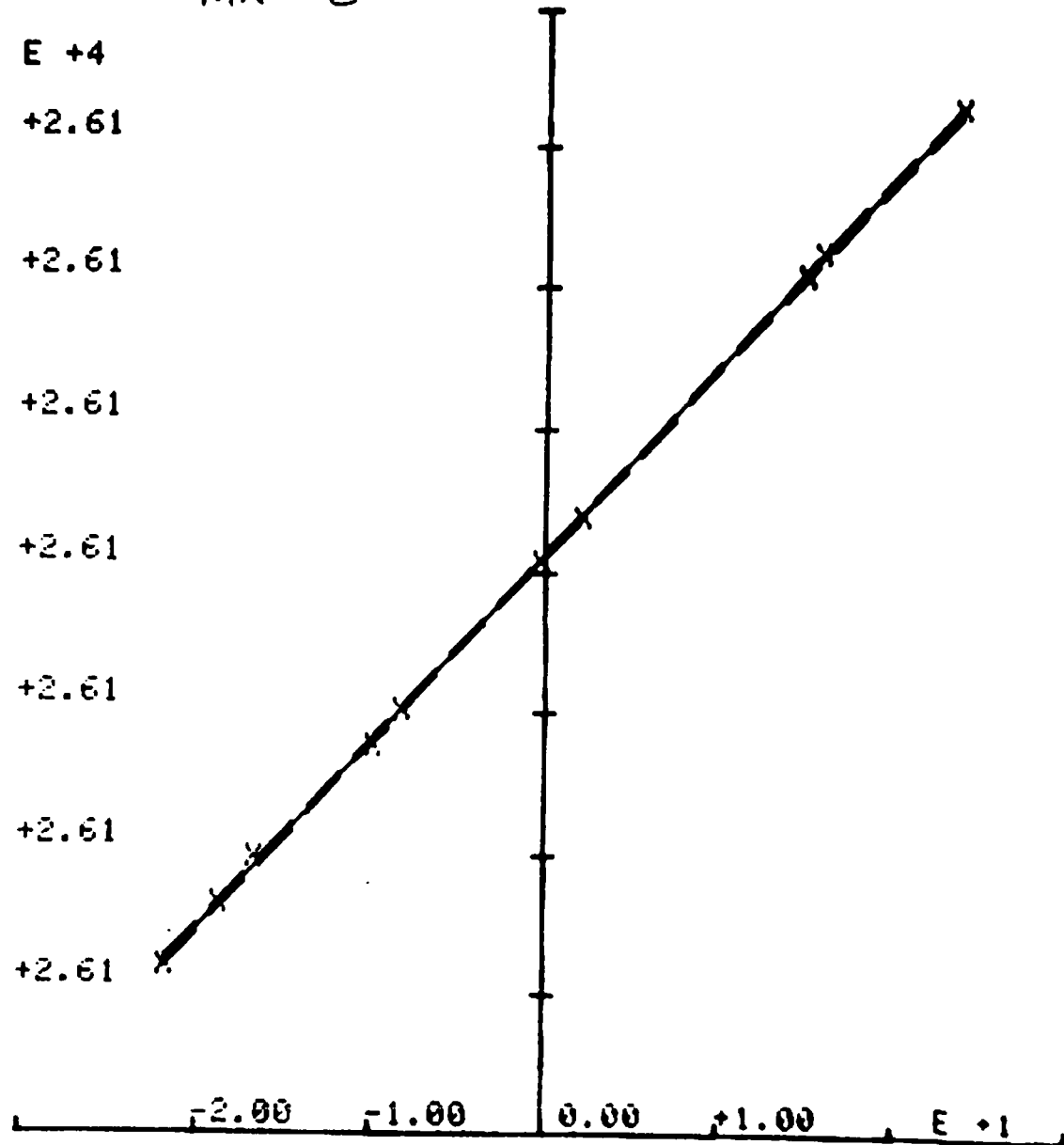
$$R\text{-SQUARE} = 0.999819323033 \quad +2.61$$

$$RES\ ERROR = 0.0802968471752$$

$$MAX(ABS(RESIDUAL)) = 0.663372654249 \quad +2.61$$

$$ANGLE = 58.5^\circ \quad +2.61$$

(+BEST ANGLE +)



MAP C

$$Y = A + B * X$$

A = E +4
13831.8220099

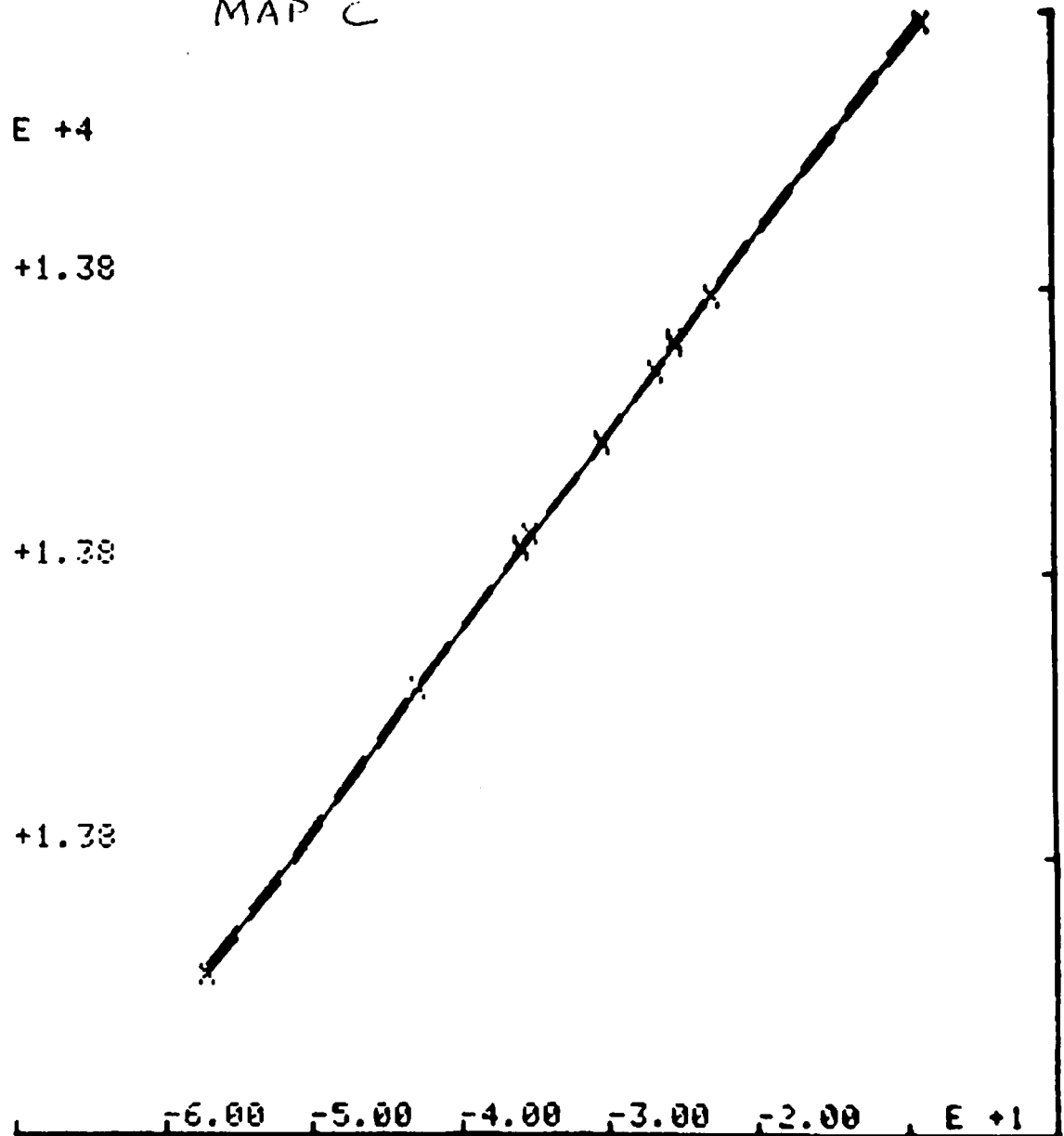
B = +1.38
1.39574342634

R-SQUARE =
0.999785179892

RES ERROR
0.0639292096859

MAX(ABS(RESIDUAL)) +1.38
0.441386179833

ANGLE = -58°
(* BEST ANGLE *)



DATA FILE SELECTED # 8

INPUT TD2 CORNER VALUE 26081.1945769

INPUT TD1 CORNER VALUE 13831.8220099

INPUT GRADIENT #2 1.32857584708

INPUT GRADIENT #1 1.39574342634

INPUT ANGLE FOR TD2 58.5

INPUT ANGLE FOR TD1 58

INPUT NUMBER OF DATA ITEMS IN FILE 12

MEASURED X VALUE	PREDICTED X VALUE	MEASURED Y VALUE	PREDICTED Y VALUE	DIFFERENCE (FEET)
6.65	6.43	56.22	55.98	259.88
12.30	12.19	48.30	48.14	149.90
4.15	4.13	36.80	37.16	288.80
13.75	13.79	26.31	26.26	50.98
22.70	22.77	21.25	21.22	61.47
28.90	28.84	11.40	11.54	116.86
28.85	28.72	5.05	4.82	193.46
5.65	5.57	8.25	8.30	180.02
39.60	39.62	45.20	45.34	252.38
34.95	34.66	25.20	25.68	442.67
13.75	13.70	26.31	26.08	188.15
12.30	12.31	48.30	48.18	95.59

MAP F

$$Y = A + B * X$$

$$A = 25990.9016807$$

$$B = 1.31083464663$$

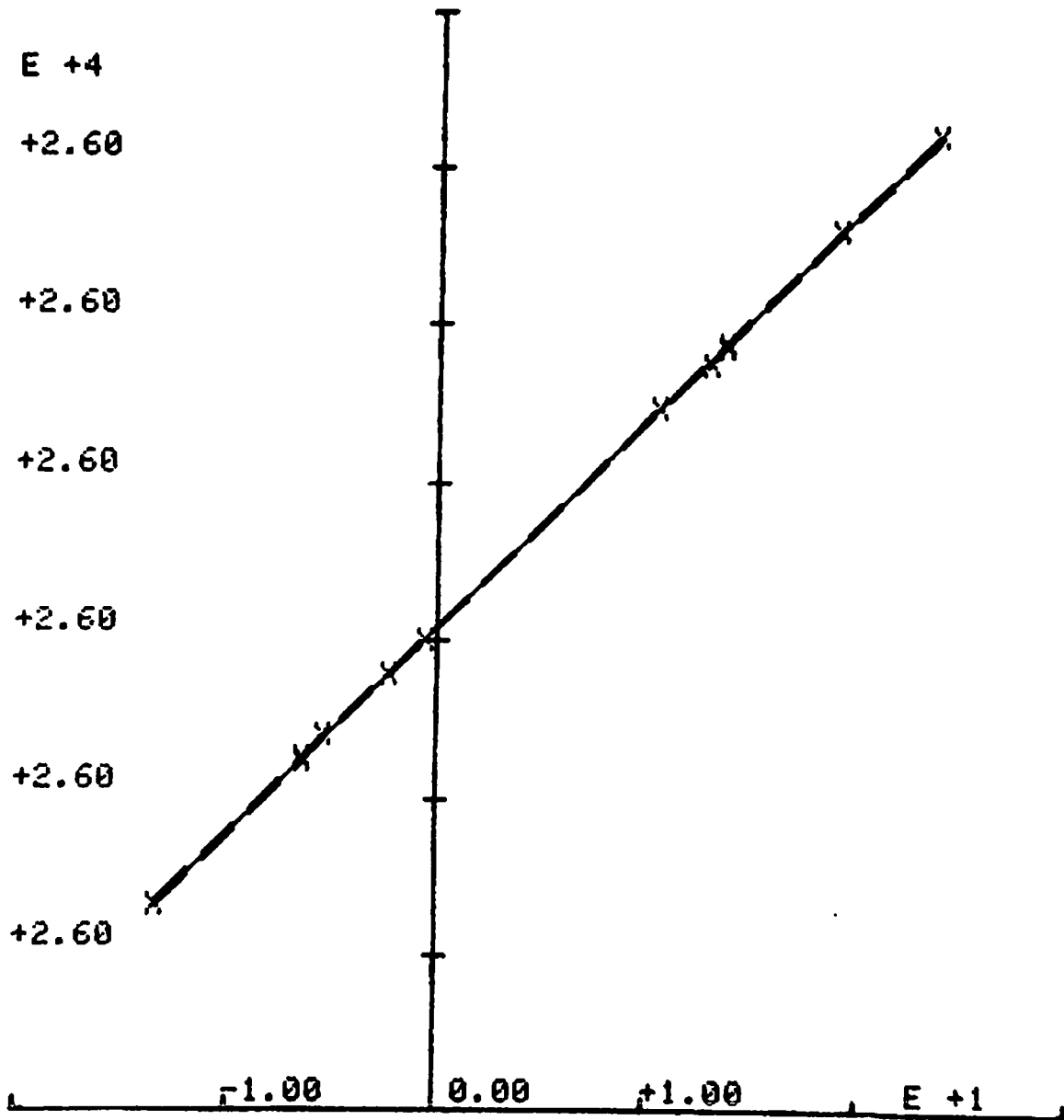
$$R\text{-SQUARE} = 0.999871654187$$

$$RES\ ERROR = 0.0345232806685$$

$$MAX(ABS(RESIDUAL)) = 0.332867959444$$

$$ANGLE = 56^\circ$$

(BEST ANGLE)



MAP F

$$Y = A + B * X$$

A =
13823.4559389

B =
1.38170823927

R-SQUARE =
0.999716777381

RES ERROR
0.108775931036

MAX(ABS(RESIDUAL))
0.784266304443

ANGLE = -58.5°

(* BEST ANGLE *)

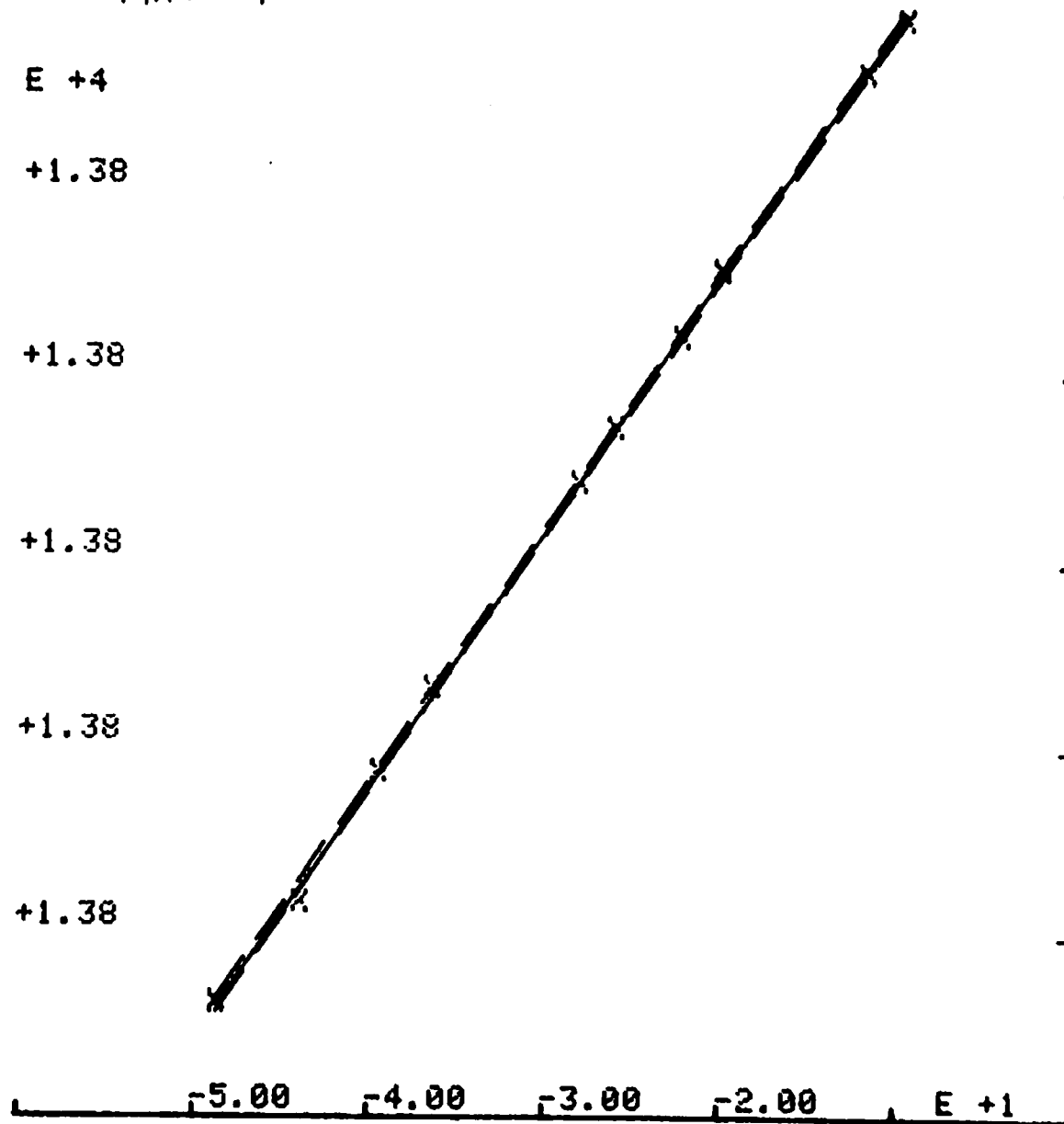
E +4

+1.38

+1.38

+1.38

+1.38



DATA FILE SELECTED # 11

INPUT TD2 CORNER VALUE 25990.9016807

INPUT TD1 CORNER VALUE 13823.4559389

INPUT GRADIENT #2 1.31083464663

INPUT GRADIENT #1 1.38170823927

INPUT ANGLE FOR TD2 56

INPUT ANGLE FOR TD1 58.5

INPUT NUMBER OF DATA ITEMS IN FILE 12

MEASURED X VALUE	PREDICTED X VALUE	MEASURED Y VALUE	PREDICTED Y VALUE	DIFFERENCE (FEET)
8.95	8.74	55.30	55.17	195.49
6.55	6.48	43.50	43.54	66.82
4.72	4.59	31.15	31.02	143.30
1.50	1.54	20.85	20.99	112.30
21.55	21.67	8.00	8.00	94.04
33.65	33.53	38.30	38.39	122.45
19.70	20.19	52.10	52.38	449.35
17.45	17.42	21.75	21.63	97.21
24.65	24.73	35.45	35.32	120.58
9.20	9.20	3.95	4.36	324.42
4.72	4.63	31.15	30.85	245.24
33.65	33.58	38.30	38.14	140.24

$$Y = A + B * X$$

$$A = 25948.2818551$$

$$B = 1.41390158354$$

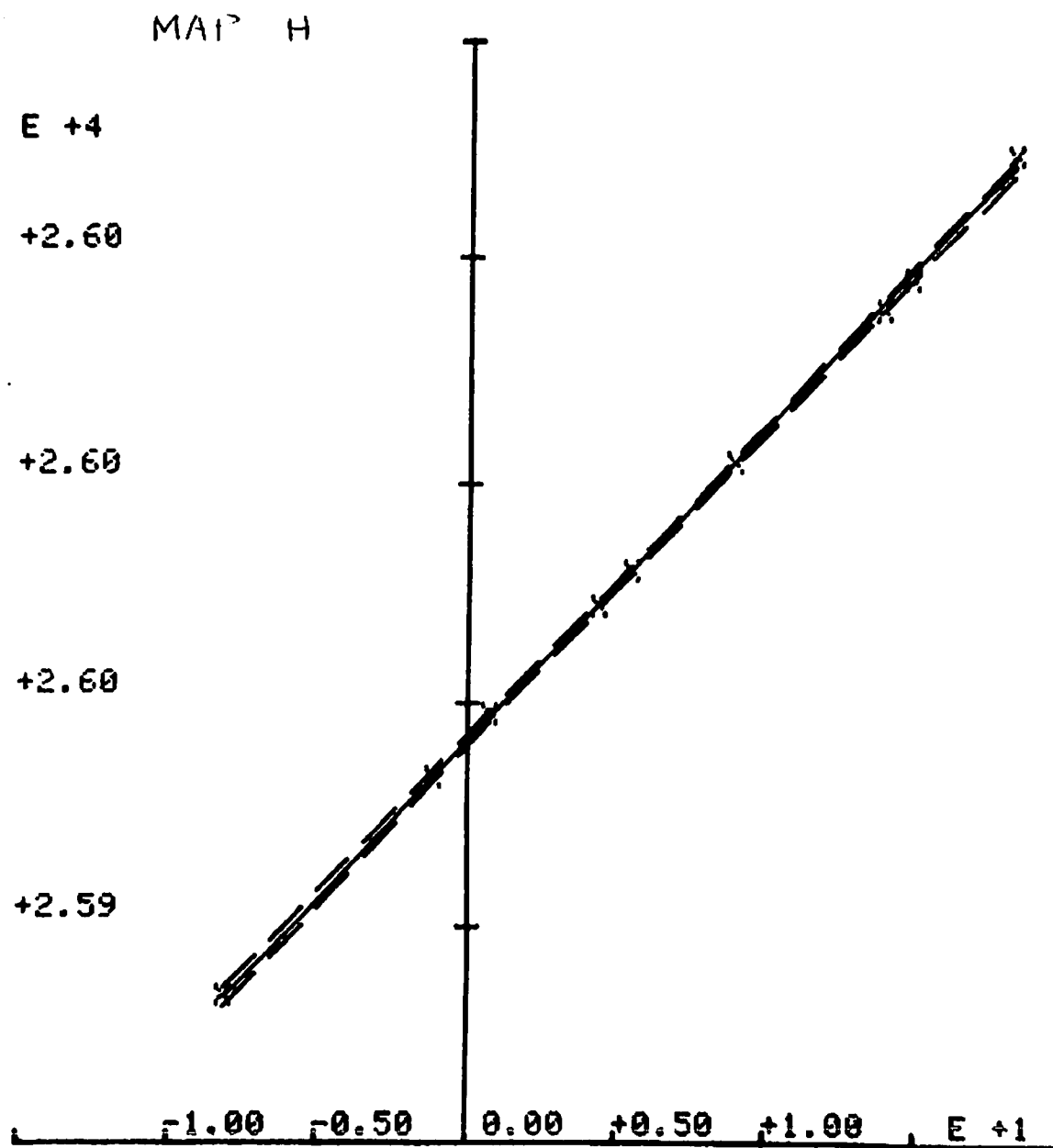
$$R\text{-SQUARE} = 0.999588984185$$

$$\text{RES ERROR} = 0.0675710512294$$

$$\text{MAX}(\text{ABS}(\text{RESIDUAL})) = 0.511610205904$$

$$\text{ANGLE} = 56.5^\circ$$

(*BEST ANGLE*)



$$Y = A + B \cdot X$$

E +4

MAP H

$$A = 13863.3932796$$

+1.39

$$B = 1.41569287083$$

+1.38

$$R\text{-SQUARE} = 0.999842274423$$

$$\text{RES ERROR} = 0.0464891095193$$

+1.38

$$\text{MAX}(\text{ABS}(\text{RESIDUAL})) = 0.323253005668$$

+1.38

$$\text{ANGLE} = -59.5^\circ$$

(*BEST ANGLE*)

+1.38

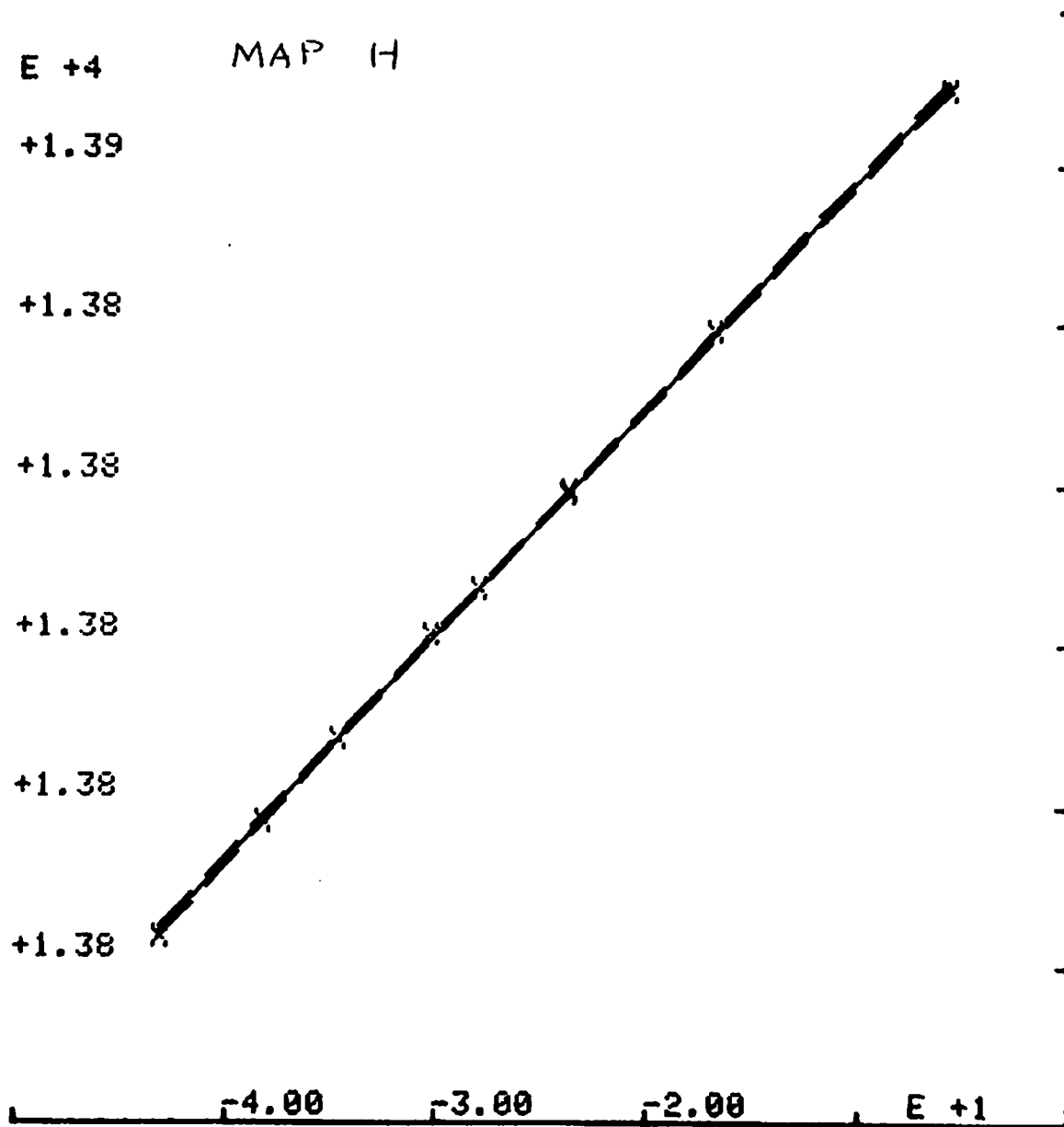
+1.38

-4.00

-3.00

-2.00

E +1



DATA FILE SELECTED # 13

INPUT TD2 CORNER VALUE 25948.2818551

INPUT TD1 CORNER VALUE 13863.3932796

INPUT GRADIENT #2 1.41390158354

INPUT GRADIENT #1 1.41569287083

INPUT ANGLE FOR TD2 56.5

INPUT ANGLE FOR TD1 59.5

INPUT NUMBER OF DATA ITEMS IN FILE

9

MEASURED X VALUE	PREDICTED X VALUE	MEASURED Y VALUE	PREDICTED Y VALUE	DIFFERENCE (FEET)
18.20	18.45	54.25	54.27	199.98
18.50	18.54	44.05	44.09	43.98
18.30	18.26	37.45	37.39	54.74
4.45	4.22	39.60	39.90	302.33
2.60	2.65	28.95	28.66	235.58
15.30	15.26	21.05	20.93	97.06
18.25	18.08	28.85	28.80	142.13
21.90	21.86	18.30	18.33	43.71
1.15	1.34	9.65	9.77	177.20

MAP I

$$Y = A + B \cdot X$$

$$A = 13731.5724818$$

$$B = 1.37707464026$$

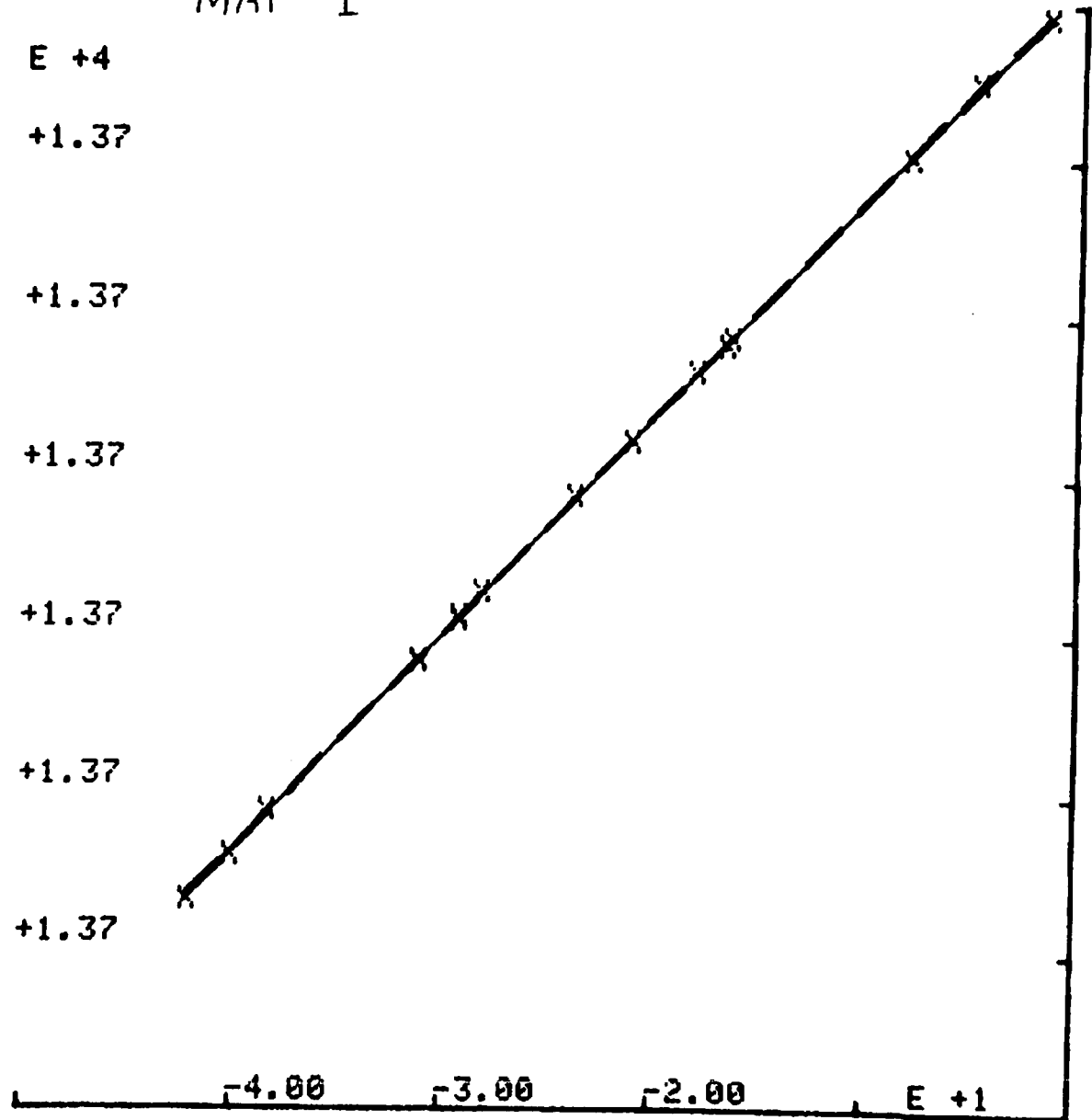
$$R\text{-SQUARE} = 0.99989085468$$

$$\text{RES ERROR} = 0.0330099714058$$

$$\text{MAX}(\text{ABS}(\text{RESIDUAL})) = 0.272050760742$$

$$\text{ANGLE} = 57.5^\circ$$

(* BEST ANGLE *)



$$Y = A + B * X$$

A =
25987.5322337

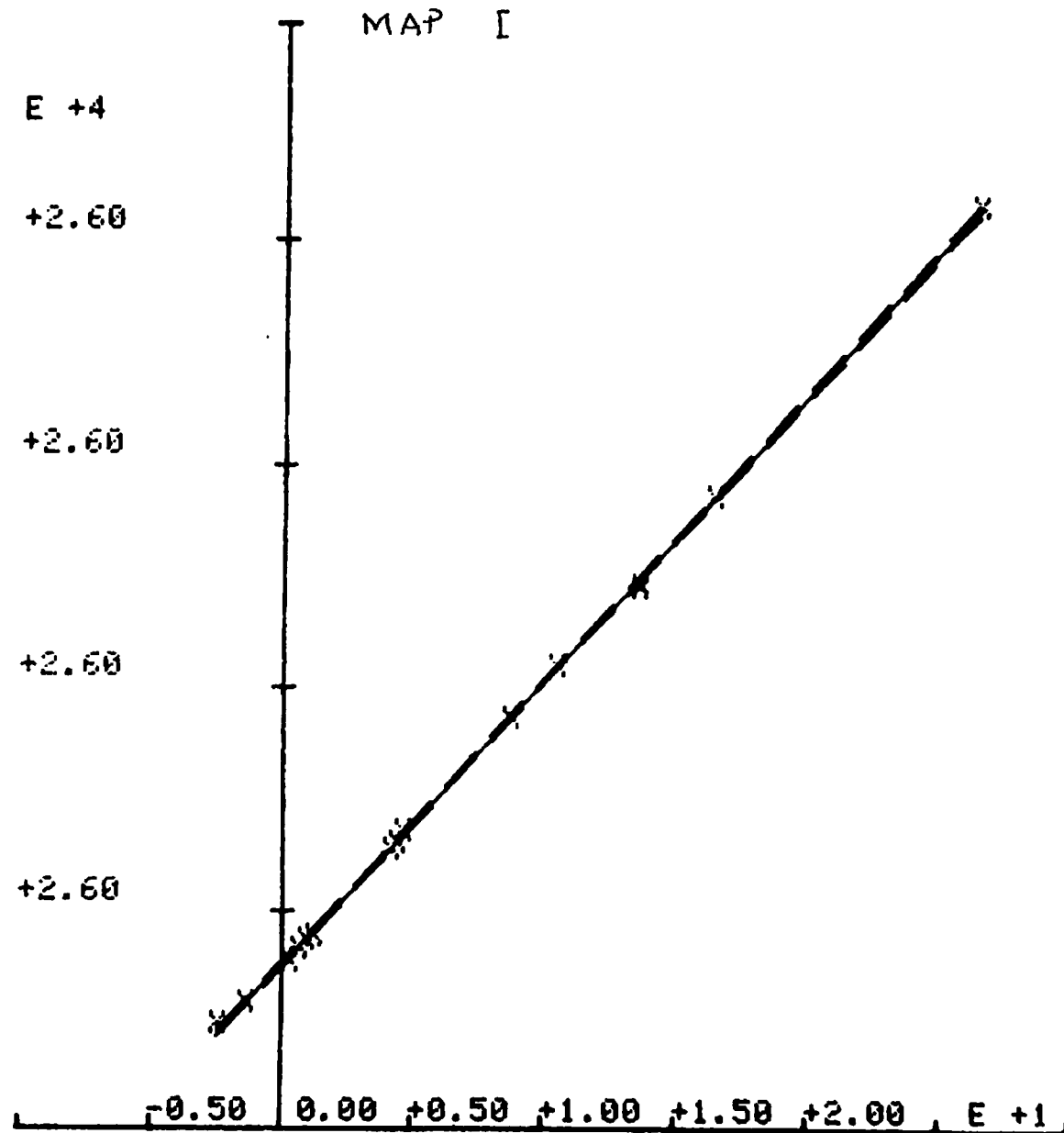
B =
1.27142401678

R-SQUARE =
0.999712572437

RES ERROR
0.0422949628178

MAX(ABS(RESIDUAL))
0.429429941609

ANGLE = 55°
(* BEST ANGLE *)



DATA FILE SELECTED # 14

INPUT TD2 CORNER VALUE 25987.5322337

INPUT TD1 CORNER VALUE 13731.5724818

INPUT GRADIENT #2 1.27142401678

INPUT GRADIENT #1 1.37707464026

INPUT ANGLE FOR TD2 55

INPUT ANGLE FOR TD1 57.5

INPUT NUMBER OF DATA ITEMS IN FILE

16

MEASURED X VALUE	PREDICTED X VALUE	MEASURED Y VALUE	PREDICTED Y VALUE	DIFFERENCE (FEET)
4.00	3.93	51.95	52.04	91.02
22.50	22.59	39.30	39.49	163.55
10.30	10.46	38.40	38.32	143.62
27.60	27.49	35.15	35.58	351.78
12.15	11.94	25.35	25.36	165.56
9.75	9.74	15.45	15.45	10.30
1.90	1.94	0.30	0.37	66.76
14.25	14.10	48.95	48.86	141.28
4.00	3.96	51.95	52.07	98.54
2.75	2.70	4.95	4.84	98.26
2.50	2.63	11.20	11.36	163.23
10.25	10.41	15.15	15.06	146.96
12.45	12.57	19.90	19.82	110.77
5.20	5.07	25.70	25.58	141.10
12.50	12.42	33.05	32.90	137.45
10.30	10.45	38.40	38.06	295.22

MAP L

17 + B*3

12855.5045124

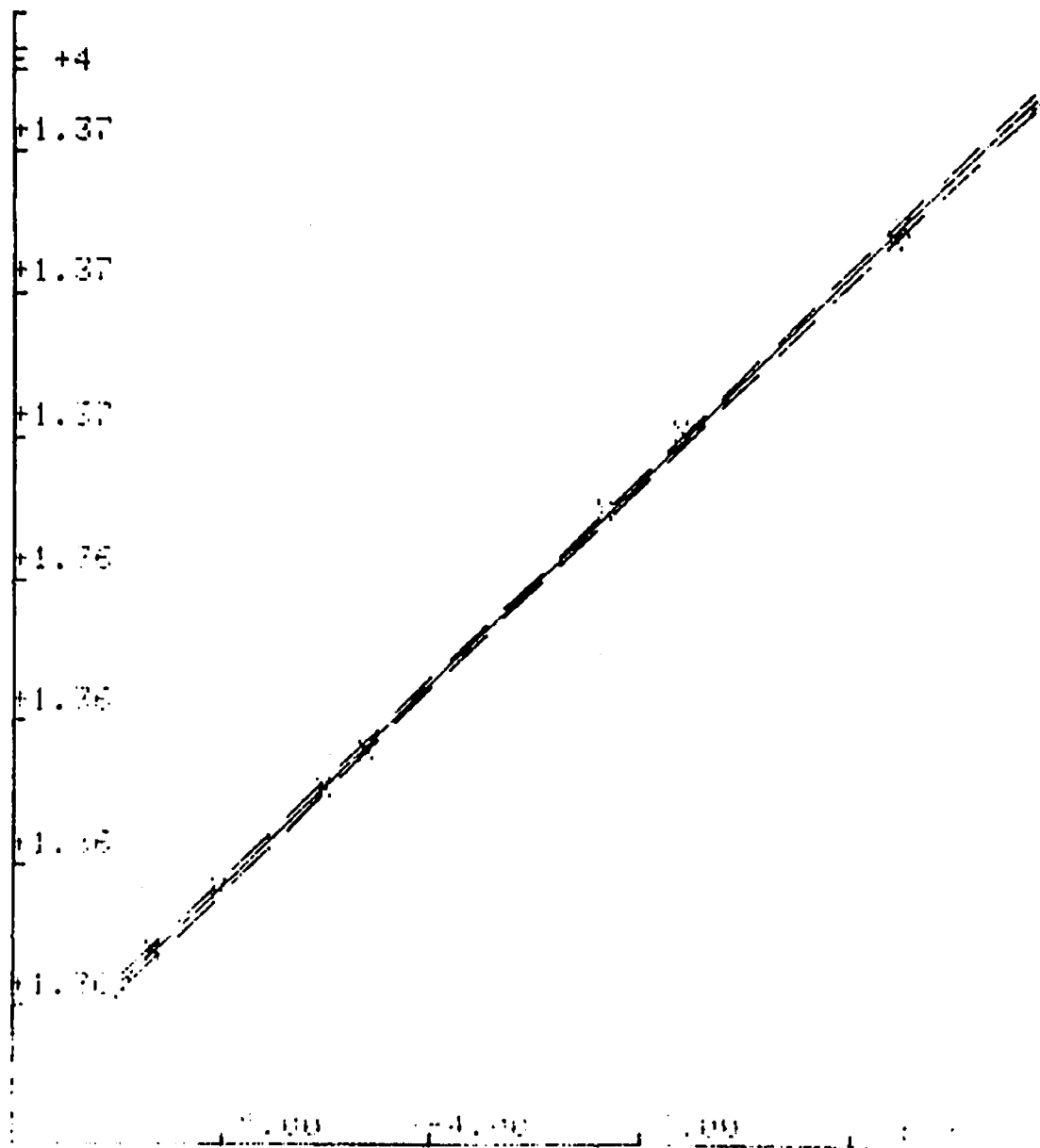
14294259

REF ID: A66178

REF ID: A66087
10-7-1274129

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED

ANGLE = -57.5°
(*BEST ANGLE*)



MAP L

$$Y = A + B \cdot X$$

$A =$
-0.430152927

$B =$
0.0033912797

$\text{STANDARD ERROR} =$
0.00385496

$\text{CORRELATION COEFFICIENT} =$
0.999912451592

$\text{ADJUSTED R-SQUARED} =$
0.99991171533

ANGLE = 55°

(*BEST ANGLE*)

E +4

+2.60

+2.60

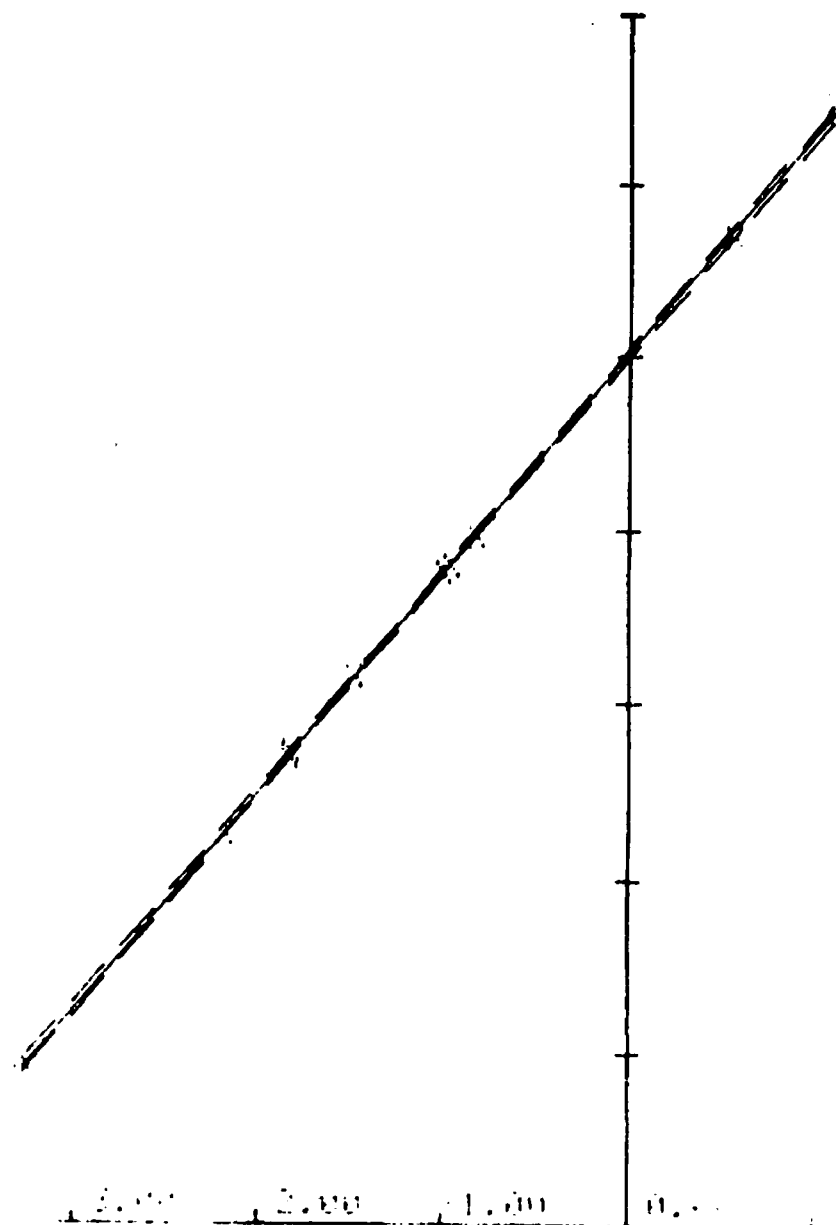
+2.60

+2.60

12.00

0.00

4.00 3.00 2.00 1.00 0.00



DATA FILE SELECTED # 17

INPUT TD2 CORNER VALUE 26030.2152927

INPUT TD1 CORNER VALUE 13689.5045124

INPUT GRADIENT #2 1.25732812797

INPUT GRADIENT #1 1.42154294259

INPUT ANGLE FOR TD2 55

INPUT ANGLE FOR TD1 57.5

INPUT NUMBER OF DATA ITEMS IN FILE 10

MEASURED X VALUE	PREDICTED X VALUE	MEASURED Y VALUE	PREDICTED Y VALUE	DIFFERENCE (FEET)
37.55	37.74	21.40	21.48	164.38
36.00	36.05	37.00	36.72	224.63
33.90	33.87	30.80	30.79	24.37
4.55	4.30	25.70	26.09	365.57
28.45	28.19	14.55	14.31	281.76
3.85	4.18	15.05	15.11	268.10
16.80	17.04	7.15	7.23	196.50
30.20	29.92	5.00	4.33	571.96
43.80	43.71	30.50	30.43	91.22
53.00	53.10	18.70	19.37	537.34

APPENDIX IF

MAP	POINT	H	V	TD1	TD2
A	1	17.9	7.8	13762.03	26106.76
	1	17.9	7.8	13761.97	26106.84
	1	17.9	7.9	13762.00	26106.90
	1A	35.6	43.0	13714.40	26112.06
	2	17.0	22.9	13752.59	26118.17
	2	17.0	22.9	13751.60	26118.00
	2A	29.85	6.15	13749.19	26092.59
	3	16.4	33.0	13744.20	26125.96
	3	16.4	33.0	13744.63	26125.96
	3A	14.9	50.1	13733.46	26139.32
	3A	14.9	50.1	13733.46	26139.32
	4	26.9	29.7	13734.76	26112.12
	4	26.9	29.7	13734.74	26112.18
	4A	4.2	39.4	13754.58	26143.60
	5	33.7	25.6	13729.68	26101.98
	5	33.7	25.6	13729.69	26102.09
	5	33.7	25.6	13729.69	26102.06
	6	39.5	26.6	13722.00	26096.66
B	7	38.1	11.85	13685.44	26049.95
	7A	12.6	32.8	13698.58	26084.15
	8	12.15	41.25	13694.36	26091.60
	8A	34.9	22.2	13680.75	26045.90
	9	11.2	12.0	13716.15	26071.20
	10	21.2	47.15	13677.28	26085.73
	10A	6.5	18.2	13718.06	26081.22
	11	22.9	26.65	13692.23	26069.32
	11A	34.35	3.0	13696.44	26039.97
	12	27.95	42.1	13673.93	26075.34
C	13	6.65	56.22	13782.81	26112.77
	14	12.3	48.3	13781.78	26100.80
	14	12.3	48.3	13781.61	26100.69
	14A	39.3	45.2	13751.47	26067.72
	15	4.15	36.8	13799.44	26102.31
	16	13.75	26.31	13796.07	26083.80
	16	13.75	26.31	13796.32	26083.78
	16A	34.95	25.2	13771.81	26059.76
	17	22.7	21.25	13789.17	26070.13
	18	28.9	11.4	13789.15	26056.53
	18A	5.35	8.25	13819.09	26080.64
	19	28.65	5.05	13794.26	26052.13

MAP	POINT	H	V	TD1	TD2
D	1D	9.85	50.9	13731.87	26058.97
	2D	10.45	44.65	13735.87	26053.75
	3D	16.9	48.1	13725.99	26049.93
	4D	24.7	45.65	13719.99	26040.49
	5D	13.3	39.45	13736.75	26047.25
	6D	8.25	18.4	13758.41	26037.77
	7D	4.9	9.8	13768.81	26035.18
	8D	1.2	4.25	13777.49	26035.86
	9D	10.8	4.5	13765.93	26025.08
	10D	14.65	13.5	13755.13	26027.74
	11D	20.0	4.95	13754.07	26014.80
	12D	25.2	17.2	13739.30	26018.64
	13D	40.4	9.85	13727.01	25996.95
	14D	35.4	20.55	13725.15	26009.89
	15D	41.85	38.55	13704.16	26016.49
	16D	35.5	50.5	13702.45	26031.12
	17D	41.65	52.5	13693.65	26026.39
	18D	38.5	55.5	13695.83	26032.59
	19D	27.7	54.6	13709.25	26042.88
	20D	.45	53.1	13740.03	26071.22
	20	31.65	33.65	13719.54	26023.69
	20	31.65	33.65	13719.60	26023.68
	20A	3.45	42.05	13745.83	26059.90
	20B	15.35	28.8	13742.15	26037.39
	21	19.55	22.1	13742.64	26028.39
	21	19.55	22.1	13742.67	26028.40
	21A	15.65	55.3	13722.08	26056.02
	21C	36.9	44.65	13705.35	26026.01
	22	15.05	9.4	13757.15	26024.10
	22A	2.3	23.87	13761.16	26047.85
	22B	31.45	9.85	13737.03	26005.82
	22C	35.4	26.35	13720.96	26014.63

E	23	14.7	40.0	13827.24	26051.27
	24	2.45	25.65	13852.35	26054.98
	25	25.3	13.65	13834.09	26020.52
	25A	27.6	47.5	13806.91	26042.27
	25B	7.1	6.32	13860.69	26035.95
	26	40.75	8.95	13819.24	25999.70
	27	41.8	14.8	13813.87	26002.70
	28	33.7	34.65	13808.97	26026.13
	28B	23.4	28.2	13825.79	26033.25
	29B	6.52	50.9	13829.25	26068.39

MAP	POINT	H	V	TD1	TD2
F	29	8.95	55.3	13773.33	26021.85
	29A	19.7	52.1	13761.85	26007.35
	30	6.55	43.5	13784.39	26015.78
	31	4.72	31.15	13795.65	26008.65
	31	4.72	31.15	13195.73	26008.49
	31A	17.45	21.75	13787.32	25987.83
	32	1.5	20.85	13806.49	26004.61
	33	21.55	8.0	13792.15	25973.22
	33A	9.2	3.95	13809.47	25984.10
	34	33.65	38.3	13756.24	25982.61
	34	33.65	38.3	13756.36	25982.36
	34A	24.65	35.43	13768.83	25989.92
G	58	40.65	54.45	13828.31	25990.85
	59	29.05	31.3	13858.73	25987.33
	60	19.55	2.9	13888.79	25976.67
	61	4.1	15.15	13898.57	26003.69
	62	33.6	3.95	13871.59	25961.52
	63	41.85	20.5	13850.76	25964.50
	64	10.97	26.3	13882.71	26003.86
	65	20.8	20.55	13875.41	25988.31
	66	5.4	51.75	13871.68	26028.86
	67	6.6	38.6	13879.59	26017.90
H	49	18.2	54.25	13801.89	25968.88
	50	18.5	44.05	13809.10	25960.83
	51	18.3	37.45	13814.25	25955.93
	52	4.45	39.6	13829.38	25974.45
	53	2.6	28.95	13839.57	25967.52
	54	15.3	21.05	13829.74	25946.63
	55	18.25	28.85	13820.65	25949.44
	56	21.9	18.3	13823.56	25936.82
	57	10.35	12.65	13841.87	25944.44
	57A	1.15	9.65	13854.74	25954.33

1210

MAP	POINT	H	V	TD1	TD2
I	11	2.75	4.95	13724.86	25988.25
	12	2.5	11.2	13720.11	25993.07
	13	5.6	15.25	13714.75	25994.55
	14	10.25	15.15	13708.34	25987.67
	15	12.45	19.9	13702.31	25988.90
	16	5.2	25.7	13706.76	26000.91
	17	12.5	33.05	13692.81	25998.59
	35	4.0	51.95	13688.45	26021.38
	35	4.0	51.95	13688.50	26021.39
	35A	28.95	54.75	13657.44	26996.93
	36	22.5	39.3	13676.12	25992.80
	36A	14.25	48.95	13679.05	26008.48
	37	10.3	38.4	13691.07	26004.58
	37	10.3	38.4	13691.27	26004.40
	38	27.6	35.15	13673.32	25984.85
	39	12.15	25.35	13698.94	25993.59
	40	9.75	15.45	13708.83	25988.66
	41	1.9	2.3	13729.04	25985.78
J	42	18.15	40.7	13672.70	25938.61
	43	14.95	32.55	13682.36	25935.40
	44	14.6	28.45	13685.09	25931.97
	45	15.6	28.3	13685.80	25932.90
	46	14.4	32.4	13683.47	25936.33
	47	14.85	28.5	13685.55	25932.74
	48	15.05	27.13	13686.41	25931.34
L	68	53.0	18.7	13611.05	25989.50
	69	37.55	21.4	13627.85	26006.83
	70	36.0	37.0	13618.24	26019.57
	71	33.9	30.8	13625.38	26017.53
	72	43.8	30.5	13613.86	26007.15
	73	4.55	25.7	13664.42	26044.60
	74	28.45	14.55	13644.78	26011.50
	75	3.85	15.05	13672.95	26036.80
	76	40.7	12.1	13631.73	26996.90
	77	16.8	7.15	13663.56	26017.88
	78	30.2	5.0	13650.32	26002.52

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

QUAD 420704 NE STATION 1006
MECS-NM
LATITUDE 42° 30' 10" 42° 00'
LONGITUDE 70° 20' 10" 71° 00'
DIAGRAM "K 15-4" P. 57

APPLEDORE ISLAND 141 (York County, Maine, P.L.B., 1941)--Station is located on approximately the highest part of Appledore Island which is one of the Isle of Shoals group. It is 81.05 ft. SW of the SE corner and 72.25 ft. S-SW of the SW corner of the Isle of Shoals Coast Guard station, 111 ft. NE of the Coast Guard signal mast, and 24.4 ft. NE of the Coast Guard flagpole. It is a U.S. Army map-control bronze disk, stamped "APPLEDORE ISLAND 141 1941" and set in bedrock.

Reference mark 1 is S of the station. It is a standard reference-mark disk, set in a drill hole.

Reference mark 2 is W of the station. It is a standard reference-mark disk, set in a drill hole.

The old station, APPLEDORE, a standard bronze unstamped disk, set in a flat outcrop, is on the S side of Appledore Island and may be used as an azimuth mark.

OBJECT	DISTANCE	DIRECTION
	meters feet	
PULPIT ROCK 142		0°00'00"
R.M. 1	15.563 51.16	199 43 44
Oceanic Hotel Cupola		239 57 32.7
White Island L.H.		258 27 38.96
Appledore Island C.O.		
signal mast		263 32.8
Appledore Island C.O.		
flagpole		291 42.5
APPLEDORE		295 48 14.19
R.M. 2	13.841 45.41	334 24 43
Height of instrument above station mark - 4 ft.		

(P.L.O., 1943)--The station was recovered as described except for the following discrepancy: Reference mark 1 is 51.15 ft. (15.596 m.) instead of 15.563 m. from the station.

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION APPLEDORE ISLAND 141

STATE MAINE

YEAR 1942

SOURCE G-5044

MEODS THE LATITUDE	42° 55' 13.698	DATE	1942
MEODS THE LONGITUDE	70° 20' 11.547	REMARKS	4031 E

STATE COORDINATED DATA			
STATE & ZONE	CODE	X	Y
ME W	1902	280,225.53	56,773.45
ME	2800	781,545.07	176,248.04

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE FORMULA A = 180 - (B + C) WHERE A = PLANE AZIMUTH, B = TRUE AZIMUTH, C = TRUE AZIMUTH

STATION OR OBJECT	MEASURED AZIMUTH	PLANE AZIMUTH	TRUE AZIMUTH
PULPIT ROCK 142	120 47 47.5	121 06 07	1802
PULPIT ROCK 142	120 47 47.6	120 04 45	2800

JULY 1964

PUBLISHED AND PRINTED BY:
U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
WASHINGTON D.C.

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

QUAD 420704 STATION 1001
NH-MASS
LATITUDE 42°30' TO 43°00'
LONGITUDE 70°30' TO 71°00'
DIAGRAM HK 19-4 BOSTON

LITTLE BOAR (Rockingham County, N.H., P.T., 1953)--Station is located at Little Boars Head, about 3 mi. E of the town of Hampton, about 2.75 mi. N of Great Boars Head, on the E side of Highway 1A, 146 ft. S of its intersection with Highway 101D, 26.4 ft. E of the centerline of Highway 1A, and in the top of the S and largest of three boulders. It is a standard station disk, stamped "LITTLE BOAR 1953" and set in concrete in a drill hole in the top of the boulder.

Reference mark 1 is N of the station, 87 ft. SE of the intersection of Highways 1A and 101D, 36.7 ft. E of the centerline of Highway 1A, and in the top of a large boulder. It is a standard reference-mark disk, stamped "LITTLE BOAR NO 1 1953" and set in concrete in a drill hole in the top of the boulder.

Reference mark 2 is W of the station, on the W side of Highway 1A, 119.8 ft. S of the intersection of Highways 1A and 101D, 15.3 ft. W of the centerline of Highway 1A, and 2.5 ft. E of a rock wall. It is a standard reference-mark disk, stamped "LITTLE BOAR NO 2 1953" and set in a drill hole in outcropping bedrock which is flush with the ground.

To reach the station from the town of Hampton, go E along Highway 101D for 3 mi. to the intersection of Highway 1A at the coast, and the station site.

OBJECT		DISTANCE		DIRECTION
Ile of Shoals Lighthouse		meters	feet	0°00'00"0
R.M. 2	W	15.140	49.67	233 24 34
R.M. 1	N	19.640	64.44	299 54 24

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: LITTLE BOAR

YEAR: 1953

STATE: New Hampshire LOCALITY: Cape Ann, Mass. to Cape Porpoise, Maine

Third-Order Triangulation SOURCE: G-10287, G5044, FIGURE SHEET G-5043

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH & TUNING ANGLE	MARK
STATE: NH ZONE: CODE: 2800	E 738,421.11 Y 168,167.22	4- 0 36 25	
STATE: ZONE: CODE:	E Y		

GEODETIC DATA	POSITION				ELEVATION	
	LATITUDE	LONGITUDE	NORTH	WEST	FEET	METERS
	42 57 28.697	70 46 33.787	4	4	885.5	765.8

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOCALITY (Meters)	METERS
PLUM ID CATHOLIC CHURCH	THIRD-ORDER 9 34 39.7		17,064.8
GREAT BOARS HEAD STANDPIPE	21 30 06.9		4,716.3
NEWBURYPORT POWDER PLANT STACK	23 52 05.6		17,628.7
HAMPTON MUNICIPAL STANDPIPE	68 33 41.7		4,593.5
ISLES OF SHOALS LIGHTHOUSE	265 15 38.8		12,400.4

SFP 1977

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY, NATIONAL GEODETIC SURVEY

HORIZONTAL CONTROL DATA

by the
National Ocean Survey
NORTH AMERICAN 1927 DATUM

QUAD 430703 STATION 1312
MAINE-NH
LATITUDE 43° 30' TO 43° 30'
LONGITUDE 70° 30' TO 71° 00'
DIAGRAM NK 19-1 PORTLAND

ADJUSTED HORIZONTAL CONTROL DATA

ODIORNES PT. 143 (Rockingham County, N.H., P.L.B., 1941)--Station is located about 0.15 mi. W of the extreme end of Odiornes Point, about 2 mi. S of New Castle, 150 ft. E of State Highway 1A, 40 ft. N of a gravel road and telephone line leading to two houses on the extreme end of the point, and about 300 ft. S of a two-story frame residence. It is a U.S. Army map-control disk, set in a rock outcrop, surrounded by small brush.

Reference marks are standard reference-mark disks set in drill holes in small outcrops which are about 2 ft. higher than the surrounding ground. Reference mark 1 is W and reference mark 2 is N of the station.

OBJECT	DISTANCE		DIRECTION
	meters	feet	
PULPIT ROCK 142			0°00'00"
R.M. 1	11.303	37.09	57 23 11
R.M. 2	8.802	28.88	151 16 27
Whaleback L.H.			206 28 20.64

Height of instrument above station mark - 16 ft.

(P.L.O., 1943)--Station was recovered as described.

(P.L.B., 1943)--The station and reference marks 1 and 2 were recovered as described and found in good condition. Original description submitted by P.L.B. in 1941 is adequate.

Reference mark 1 is 37.10 ft. (11.308 m.) SW of the station.
Reference mark 2 is 28.88 ft. (8.802 m.) N of the station.

(P.T., 1953)--The station and the reference marks were recovered in good condition. The distances to the reference marks were measured with a steel tape and the distance to reference mark 1 was found to be in agreement with the measurement in the 1943 recovery note by P.L.B. The description is adequate and correct with the following exceptions:

The two-story frame residence and the telephone line no longer exist. The station is on the grounds of Port Dearborn, 171.0 ft. NE of the S fence post of the most S gate to the reservation, and 50.5 ft. N of the center of a gravel road. It is a Corps of Engineers, U.S. Army, standard disk, stamped "ODIORNES PT 143 1941."

Reference mark 1 is a standard reference-mark disk, stamped "ODIORNES PT NO 1 1941 143."

Reference mark 2 is a standard reference-mark disk, stamped "ODIORNES PT NO 2 1941 143."

NAME OF STATION ODIORNES POINT 143

STATE NEW HAMPSHIRE

YEAR 1941

SECOND

ORDER

SOURCE G- 5865

GEODETIC LATITUDE	43° 02' 33.453	ELEVATION	5.95
GEODETIC LONGITUDE	70 42 57.773		19.5

STATE COORDINATES (Feet)				
STATE & ZONE	CODE	X	Y	STATE & ZONE
NH	2830	754,135.35	199,146.62	0 18 56
ME W	1802	353,130.44	16,158.51	- 0 22 30

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE $\sin^{-1}$ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH (From south)	CODE
PULPIT ROCK 142	14° 50' 59.24	14° 12' 03"	2800
PULPIT ROCK 142	14 50 59.4	15 13 29	1802

HORIZONTAL CONTROL DATA

by the
 National Ocean Survey
 NORTH AMERICAN 1927 DATUM

QUAD 430703 STATION 1012H
 MAINE-NH
 LATITUDE 43° 00' TO 43° 30'
 LONGITUDE 70° 30' TO 71° 00'
 DIAGRAM NK 19-1 PORTLAND

See Station ODIORNES PT 143

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION ODIORNES POINT 143 OFFSET 2

STATE NEW HAMPSHIRE

YEAR 1943

SECOND

ORDER

G- 5865
 OBSERVATION CHECK ON THIS POSITION

GEODETIC LATITUDE	43° 02' 35.578	SCALED 3 METERS PER 1
GEODETIC LONGITUDE	73 42 47.599	

STATE COORDINATES (FEET)				
STATE & ZONE	CODE	X	Y	$\phi = \Delta \phi$ or $\Delta \phi$ or $\Delta \phi$
NH	2800	754,926.14	199,370.13	+ 0° 19' 03"

* PLANE AZIMUTH HAS BEEN COMPUTED BY THE $\phi = \Delta \phi$ FORMULA NEGLECTING THE SECOND TERM

TO STATION OR OBJECT	GEODETIC AZIMUTH (From South)	PLANE AZIMUTH (From South)	CODE

POSITION DETERMINED BY TRAVERSE FROM STATION ODIORNES PT 143

22 258

Appendix H

For the following page:

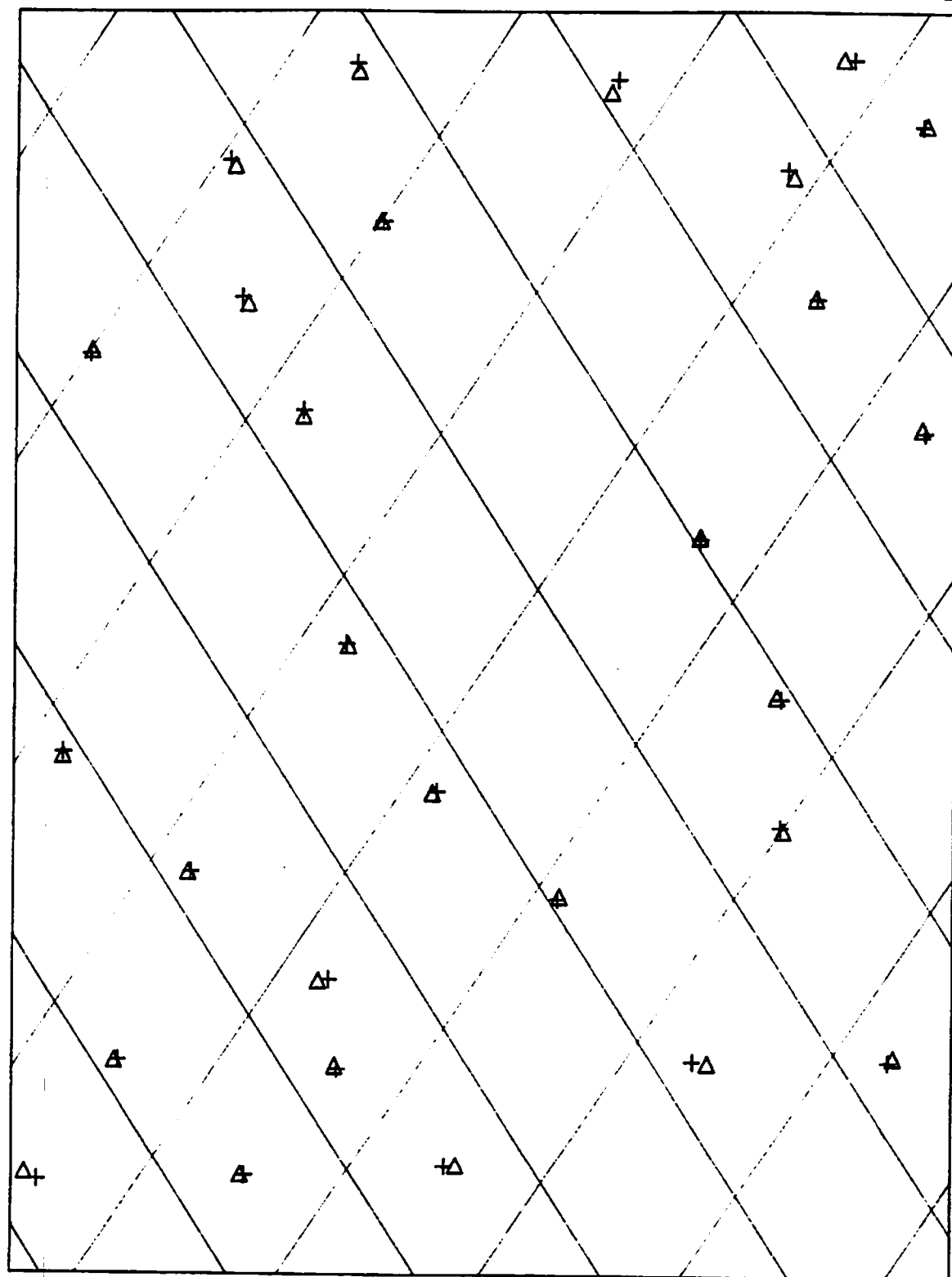
$\triangle$ are the actual site locations' x.y
coordinate measured on the map.

$+$ is the predicted site position based
on the TD values using our grid and
gradients.

UNH SEA GRANT [1985]

LORAN-C MAP PROJECT

MAP AREA D



APPENDIX I

21

EEE10A (ver 1.4) Part B Monitor Data Point

Today's Date:
03 MAY 1985

NAME: UNH MAP C

LOCATION: 43° 05' 00.000'' N
70° 55' 00.000'' W

Chain Data Update:
10 March 1983

Reference Spheroid - WGS 1972

Chain Data - Northeast U. S. 9960 Baseline Lengths and Time
Differences Corrected for Seawater

Station	Distance NM	Km	Gr.cir. TOR (Dec.deg.) (To Mon Pt)	(Fm Mon Pt)	BL Length in usec
Seneca	261.4945	484.2878	83.1338	267.1583	1616.6722
Caribou	257.1889	476.3139	210.7526	28.6393	1590.040

Nantucket	117.4825	217.5776	339.4187	158.7882	726.2450
Carolina Beach	632.4651	1171.3254	29.2036	213.5828	3910.5902
Dana	770.6982	1427.3331	70.0546	261.0749	4765.370

Pair	TD Reading in usec	Az of LOP in dec.deg.	Gradients Ft/usec usec/100ft	Time of Arrival Sta Reading
MW	13770.5768	147.8988	563.5162 .1775	W 15387.2490
MX	26079.5028	212.9732	606.2561 .1649	X 27696.175
MY	44515.5587	240.3705	1090.8233 .0917	Y 46132.2309
MZ	60310.7629	264.1166	9264.8214 .0108	Z 61927.435

EEE10A (ver 1.4) Part B Monitor Data Point

Today's Date:
03 MAY 1985

NAME: UNH MAP D

LOCATION: 43° 05' 00.000'' N
70° 47' 30.000'' W

Chain Data Updated:
10 March 1983

Reference Spheroid - WGS 1972

Chain Data - Northeast U. S. 9960 Baseline Lengths and Time
Differences Corrected for Seawater

Station	Distance NM	Km	Gr.cir. TOR (Dec.deg.) (To Mon Pt)	(Fm Mon Pt)	BL Length in usec
Seneca	266.9842	494.4548	83.1915	267.3012	1650.6172
Caribou	254.5966	471.5130	209.6664	27.6416	1574.0200
Nantucket	115.6113	214.1122	341.9600	161.4134	714.6772
Carolina Beach	635.5249	1176.9922	29.6185	214.0761	3929.5118
Dana	776.1289	1437.3907	70.1178	261.2219	4798.9564

Pair	TD Reading in usec	Az of LOP in dec.deg.	Gradients Ft/usec usec/100ft	Time of Arrival Sta Reading
MW	13720.6028	147.4714	566.7045 .1765	W 15371.2200
MX	26033.9901	214.3573	616.0299 .1623	X 27684.5072
MY	44500.5346	240.6886	1097.4764 .0911	Y 46151.1518

EEE10A (ver 1.4) Part B Monitor Data Point

Today's Date:
03 MAY 1985

NAME: UNH MAP F

LOCATION: 42° 57' 30.000'' N
70° 47' 30.000'' W

Chain Data Updated:
10 March 1983

Reference Spheroid - WGS 1972

Chain Data - Northeast U. S. 9960 Baseline Lengths and Time Differences Corrected for Seawater

Station	Distance		Gr.cir. TOR (Dec.deg.)		BL Length in usec
	NM	Km	(To Mon Pt)	(Fm Mon Pt)	
Seneca	266.7361	493.9953	84.8021	268.9070	1649.0831
Caribou	261.2621	483.8575	208.9028	26.8801	1615.2353
Nantucket	108.5305	200.9986	340.6980	160.1521	670.9036
Carolina Beach	629.3281	1165.5156	30.0032	214.4542	3891.1928
Dana	775.0194	1435.3360	70.6703	261.7604	4792.0959

Pair	TD Reading in usec	Az of LOP in dec.deg.	G r a d i e n t s		Time of Arrival	
			Ft/usec	usec/100ft	Sta	Reading
MW	13763.3522	147.8935	573.6214	.1743	W	15412.4353
MX	25991.7505	214.5295	604.7940	.1653	X	27640.8336
MY	44463.7497	241.6806	1074.5615	.0931	Y	46112.8328
MZ	60305.0728	265.3337	7887.9240	.0127	Z	61954.1559

EEE10A (ver 1.4) Part B Monitor Data Point

Today's Date:
03 MAY 1985

NAME: UNH MAP H

LOCATION: 42° 50' 00.000'' N
70° 50' 00.000'' W

Chain Data Updated:
10 March 1983

Reference Spheroid - WGS 1972

Chain Data - Northeast U. S. 9960 Baseline Lengths and Time Differences Corrected for Seawater

Station	Distance		Gr.cir. TOR (Dec.deg.)		BL Length in usec
	NM	Km	(To Mon Pt)	(Fm Mon Pt)	
Seneca	264.8589	490.5186	86.4180	270.4897	1637.4753
Caribou	268.7870	497.7935	208.5296	26.4796	1661.7644
Nantucket	102.1924	189.2603	338.2997	157.7265	631.7222
Carolina Beach	622.1110	1152.1496	30.2555	214.6741	3846.5648
Dana	772.1570	1430.0348	71.2058	262.2541	4774.3959

Pair	TD Reading in usec	Az of LOP in dec.deg.	G r a d i e n t s		Time of Arrival	
			Ft/usec	usec/100ft	Sta	Reading
MW	13821.4890	148.4846	579.7396	.1725	W	15458.9644
MX	25964.1769	214.1081	590.3618	.1694	X	27601.6522
MY	44430.7295	242.5819	1050.3571	.0952	Y	46068.2048

EEE10A (ver 1.4) Part B Monitor Data Point

Today's Date:
03 MAY 1985

NAME: UNH-MAP L

LOCATION: 43° 12' 30.000'' N
70° 40' 00.000'' WChain Data Updated
10 March 1983

Reference Spheroid - WGS 1972

Chain Data - Northeast U. S.		9960		Baseline Lengths and Time Differences Corrected for Seawater	
Station	Distance		Gr.cir. TOR (Dec.deg.)	BL Length	
	NM	Km	(To Mon Pt) (Fm Mon Pt)	in usec	
Seneca	272.9121	505.4332	81.6706	265.8705	1687.2715
Caribou	245.4096	454.4987	209.3444	27.4058	1517.2136
Nantucket	121.2120	224.4846	345.5509	165.0877	749.301
Carolina Beach	644.8124	1194.1926	29.6489	214.1914	3986.942
Dana	782.7217	1449.6006	69.6322	260.8341	4839.7240

Pair	TD Reading in usec	Az of LOP in dec.deg.	G r a d i e n t s		Time of Arrival	
			Ft/usec	usec/100ft	Sta	Reading
MW	13627.1421	146.6382	563.3665	.1775	W	15314.4136
MX	26031.9601	215.4791	638.1216	.1567	X	27719.2317
MY	44521.3107	240.0309	1127.9511	.0887	Y	46208.5822
MZ	60314.5125	263.3523	11189.3072	.0089	Z	62001.7840

EEE10A (ver 1.4) Part B Monitor Data Point

Today's Date:
03 MAY 1985

NAME: UNH MAP I

LOCATION: 43° 05' 00.000'' N
70° 40' 00.000'' WChain Data Updated:
10 March 1983

Reference Spheroid - WGS 1972

Chain Data - Northeast U. S.		9960		Baseline Lengths and Time Differences Corrected for Seawater	
Station	Distance		Gr.cir. TOR (Dec.deg.)	BL Length	
	NM	Km	(To Mon Pt) (Fm Mon Pt)	in usec	
Seneca	272.4746	504.6229	83.2451	267.4400	1684.5661
Caribou	252.0900	466.8707	208.5592	26.6227	1558.5208
Nantucket	113.9825	211.0956	344.5807	164.1180	704.6077
Carolina Beach	638.6238	1182.7313	30.0291	214.5650	3948.6740
Dana	781.5617	1447.4523	70.1795	261.3674	4832.5510

Pair	TD Reading in usec	Az of LOP in dec.deg.	G r a d i e n t s		Time of Arrival	
			Ft/usec	usec/100ft	Sta	Reading
MW	13671.1547	147.0314	570.0357	.1754	W	15355.7208
MX	25989.9716	215.7790	626.7832	.1595	X	27674.5377
MY	44485.7479	241.0025	1104.2151	.0906	Y	46170.3140

VIII. Bibliography

1. Hayes, J.B. Admiral, U.S. Coast Guard. LORAN-C HANDBOOK. pp 1 - 39.
2. Frank, Robert L. IEEE. "Current Developments in Loran-C",
vol 71, no 10. October 1983. pp 1127 - 1136.