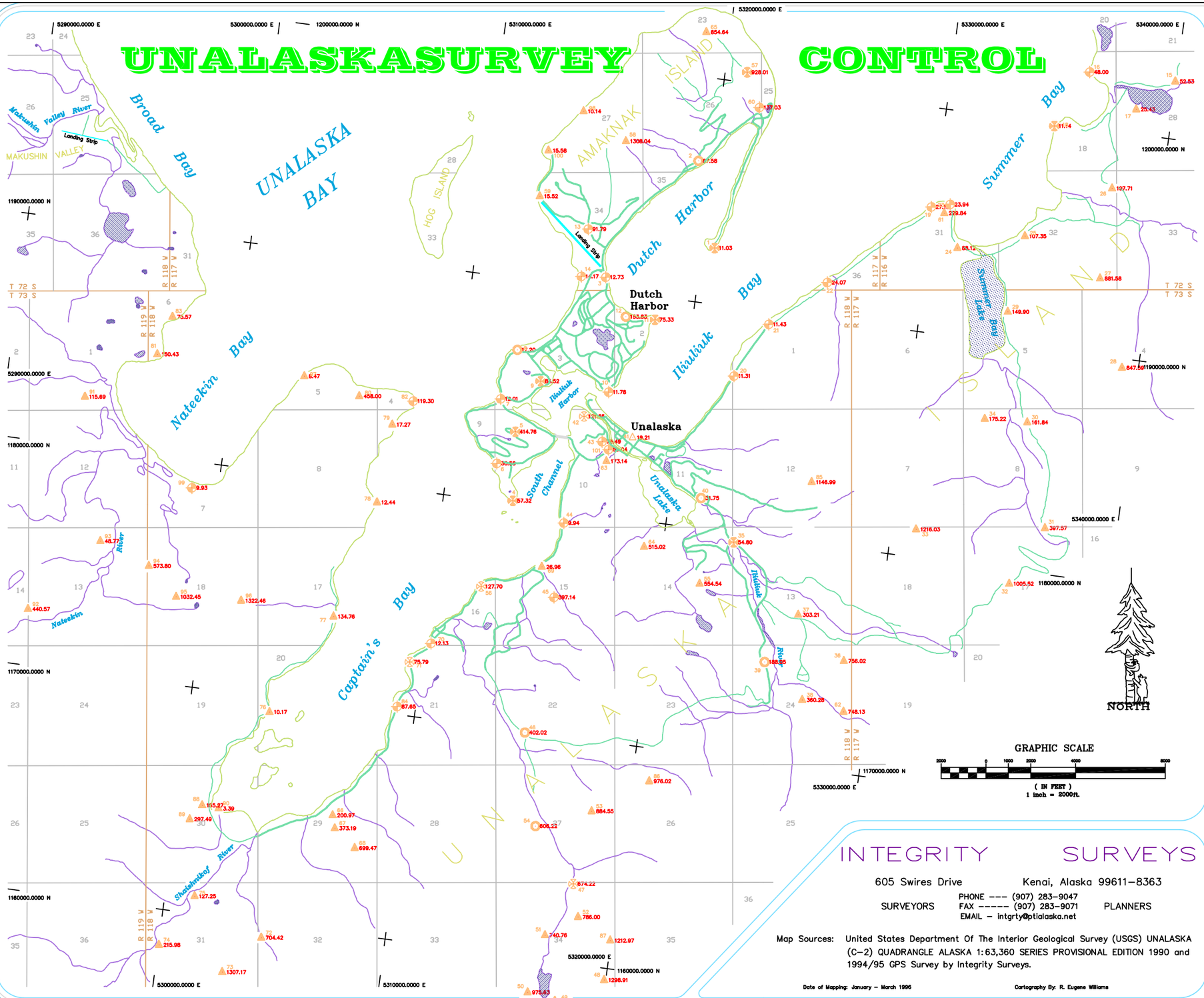
UNALASKA SURVEY CONTROL



GRAPHIC SCALE

2000 0 1000 2000 4000 8000

(IN FEET)
1 inch = 2000ft.

VICINITY MAP
1" = 500 miles

LEGEND

LOCATION NAMES

Unalaska	City Name
HOG ISLAND	Landform Name
Dutch Harbor	Water Feature Name

LAND SURVEY SYSTEMS

T 72 S	Township or Range ID
33	Section Number
5320000.0000 E	State Plane Coordinates
+	State Plane Grid Ticks

ROAD SYSTEMS

- Improved Road
- Unimproved Road
- Trail
- Bridge

SURVEY CONTROL MONUMENTATION

- 1 — USGS Control Station
- 47 — BLM or NGS Control Station
- 20 — ATS Control & Other Monuments 2 1/2" or Larger
- 32 (Typical) — Set 5/8" Rebar with 1 1/2" Aluminum Cap
- 41 — Set PK Nail in Bunker
- 54 — Other Control Stations

SURVEY CONTROL COORDINATES

Zone 10 NAD83 Alaska State Plane Coordinates shown in feet

Pt.#	Northing	Easting	Pt.#	Northing	Easting	Pt.#	Northing	Easting
1	1192495.6174,	5320536.4236	35	1179595.7925,	5323105.2909	69	1177379.0241,	5314776.2605
2	1196255.5784,	5319305.1272	36	1174994.1702,	5328684.4919	70	1173343.3357,	5310315.3497
3	1190566.8330,	5315860.7824	37	1176756.8732,	5326383.5571	71	1172368.2648,	5309484.0452
4	1180134.7364,	5313094.7413	38	1173026.3760,	5327071.7307	72	1156329.3418,	5304544.9049
5	1183200.8740,	5312801.5113	39	1174486.3085,	5325181.5717	73	1157579.8557,	5303022.1431
6	1181690.3482,	5312166.2428	40	1181359.0915,	5321406.4365	74	1158410.6986,	5300064.8909
7	1184567.7593,	5311962.3891	41	1183631.4097,	5318028.1417	75	1160773.2802,	5301356.4898
8	1186834.1485,	5312410.6561	42	1184281.8059,	5315750.9817	76	1159356.6482,	5303584.6879
9	1185582.8781,	5313622.9587	43	1183272.9500,	5318700.5516	77	1173957.7761,	5305854.0446
10	1185503.5508,	5316824.4184	44	1179450.0750,	5315484.1586	78	1179281.9649,	5307108.0321
11	1188977.3072,	5318321.8223	45	1176102.0917,	5315485.4537	79	1182790.3676,	5307323.9790
12	1188037.6373,	5317010.5311	46	1189955.3899,	5314093.6718	80	1183852.7292,	5305694.1470
13	1192590.5295,	5314832.5360	47	1183548.3184,	5318025.0132	81	1184517.5810,	5296518.1018
14	1190457.2033,	5314806.3052	48	1159474.3625,	5319961.6126	82	1183953.1592,	5308105.1893
15	1202572.8973,	5339934.4738	49	1158289.2123,	5317904.9157	83	1186283.4918,	5299972.8264
16	1202484.7349,	5338089.9737	50	1158481.8601,	5316849.0304	84	1170352.8977,	5309192.7198
17	1201107.7898,	5338372.8472	51	1161107.8886,	5317083.9708	85	1182714.2843,	5326207.4484
18	1199850.2632,	5334943.0813	52	1162108.0496,	5318436.7979	86	1185329.9157,	5320783.7499
19	1195586.2996,	5329875.8510	53	1165866.1115,	5318413.5680	87	1161256.6417,	5319997.4015
20	1186850.4832,	5322143.1164	54	1165879.4900,	5316009.7465	88	1164836.3748,	5301154.5228
21	1189442.1116,	5323380.1613	55	1177559.7833,	5321851.0730	89	1164149.5804,	5300683.7891
22	1191636.4737,	5325721.2457	56	1176156.0294,	5312200.2659	90	1164790.2576,	5318808.3794
23	1195807.5751,	5330693.3861	57	1200461.5266,	5320941.5952	91	1182214.6182,	5293566.3269
24	1193921.1642,	5331280.3227	58	1196894.9003,	5315987.0461	92	1172490.3130,	5292296.3238
25	1194845.8730,	5334196.4159	59	1193756.3400,	5312505.3265	93	1175917.9127,	5295097.3486
26	1197471.0544,	5337768.6696	60	1198972.6542,	5321690.2567	94	1175107.5657,	5297389.2211
27	1193417.8250,	5337767.3983	61	1195387.8929,	5330491.5039	95	1173903.3021,	5296777.5588
28	1189585.8032,	5339258.3965	62	1172745.7164,	5328969.2056	96	1174114.4526,	5301674.8583
29	1191399.2492,	5333881.2399	63	1182429.7123,	5317009.0111	97	1184412.2006,	5303148.5329
30	1186627.4055,	5333593.1895	64	1178864.3331,	5319177.5379	98	1177689.9483,	5313936.8333
31	1182053.8643,	5336797.6289	65	1201993.8082,	5318902.9502	99	1178815.3766,	5298826.6371
32	1179382.2350,	5330542.7993	66	1185162.1681,	5306985.8774	100	1195828.0275,	5312818.7001
33	1181241.2093,	5331105.8926	67	1184601.2630,	5307155.3897	101	1182982.9712,	5317029.0474
34	1186529.5421,	5333492.7067	68	1163843.0129,	5308152.6510			

INTEGRITY SURVEYS

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Map Sources: United States Department Of The Interior Geological Survey (USGS) UNALASKA (C-2) QUADRANGLE ALASKA 1:63,360 SERIES PROVISIONAL EDITION 1990 and 1994/95 GPS Survey by Integrity Surveys.

Date of Mapping: January - March 1996

Cartography By: R. Eugene Williams

Dutch Harbor/Unalaska Control Panels

Unit:	fts
Coordinate Type:	Grid
Reference Ellipsoid:	WGS 1984
Progection Set:	ASPC 5010

Point #	X	Y	Elev.	Description
1	5320538.4236	1192495.6174	11.03	USGS Sta. 'South Base'
2	5319305.1272	1196255.5784	87.58	fnd 1 1/2" AC PC ROW Ulatka Dr.
3	5315890.7824	1190566.833	12.72	fnd 3 1/4" AC WCMC TR38 AP 3
4	5313094.7413	1180134.7364	57.32	USGS Sta. 'Cap'
5	5312801.5113	1183200.674	414.76	RM#1 USGS Sta 'Nak2'
6	5312168.2428	1181690.3492	30.58	fnd 3 1/4" AC ATS 1396 TR A WCMC 2
7	5311962.3891	1184567.7593	12.01	fnd 2 1/2" AC ATS 1415 WCMC 1 C 1
8	5312410.6561	1186834.1485	17.20	fnd 2" AC 'PN&D CCS'
~~9~~	~~5313622.9587~~	~~1185582.8781~~	~~84.52~~	~~USGS Sta 'Bone'~~ DESTROYED
10	5316696.4184	1185503.5506	11.78	fnd 3 1/4" AC ATS 1446 TR B WCMC 1
11	5318321.8223	1188977.3072	75.33	RM#1 USGS Sta 'Dutch'
12	5317010.5311	1188937.6373	153.83	fnd unmarked AC near fuel dock
13	5314832.536	1192590.5295	91.79	fnd 3 1/4" AC AP 5 TR 38
14	5314806.3052	1190457.2033	14.17	fnd 2 1/2" AC ATS 1441 WCMC 1 TR 38
15	5339934.4738	1202572.8973	52.53	set 1 1/2" Al. Cap
16	5336089.9737	1202484.7349	48.00	fnd 3 1/4" AC ATS 1458 WCMC 1 C2
17	5338372.8472	1201107.7908	25.43	set 1 1/2" Al. Cap

Point #	X	Y	Elev.	Description
18	5334843.0613	1199890.263	11.14	USGS Sta 'Abel'
19	5329875.851	1195586.2996	27.18	fnd 2 1/2" AC SBR Control # 13
20	5322143.1164	1186950.4832	11.31	fnd 2 1/2" AC DOWL Lot 2 4758S
21	5323380.1613	1189442.1116	11.43	fnd 2 1/2" AC DOWL ATS 1397 WCMC 1
22	5325721.2457	1191636.4737	24.07	fnd 2 1/2" AC SBR Control # 9
23	5330693.3861	1195807.5751	23.94	fnd 2 1/2" AC SBR Control # 17
24	5331280.3227	1193921.1642	88.12	set 1 1/2" Al. Cap
25	5334196.4159	1194845.873	107.35	set 1 1/2" Al. Cap
26	5337768.6696	1197471.0544	197.71	set 1 1/2" AL. Cap
27	5337767.3983	1193417.825	881.58	set 1 1/2" Al. Cap
28	5339258.3965	1189595.8032	847.59	set 1 1/2" Al. Cap
29	5333881.2399	1191399.9492	149.90	set 1 1/2" Al. Cap
30	5335393.1895	1186627.4055	161.84	set 1 1/2" Al. Cap
31	5336797.6289	1182053.8643	397.57	set 1 1/2" Al. Cap
32	5335542.7993	1179382.235	1005.52	set 1 1/2" Al. Cap
33	5331105.8926	1181241.2093	1216.03	set 1 1/2" Al. Cap
34	5333492.7067	1186529.5421	175.22	set 1 1/2" Al. Cap
35	5323105.2909	1179595.7925	54.80	USGS Sta 'Gar'
36	5328684.4919	1174994.1702	756.02	set 1 1/2" Al. Cap
37	5326393.5571	1176766.8732	303.21	set 1 1/2" AL. Cap
38	5327071.7307	1173026.376	360.28	set 1 1/2" Al. Cap
39	5325181.5717	1174486.3085	188.05	fnd 1 1/2" AC TNH 60
40	5321406.4365	1181359.6914	31.75	fnd 1/2" rbr with 3/4" steel rod

Point #	X	Y	Elev.	Description
41	5318028.1417	1183631.4097	19.21	set PK top center of bunker, 4TH/Bayview
42	5315750.9817	1184281.6059	121.55	fnd Copperweld Lot 1 Block 3 USS 4988
43	5316700.5516	1183272.95	79.49	fnd 4" Fe pipe USS 1946 Cor 3
44	5315484.1586	1179450.075	9.94	fnd 3 1/4" AC PC ROW Captains Bay Road
45	5315485.4537	1176102.0917	397.14	fnd 3" Copperweld GSA Parcel 5 Cor 3
46	5314993.6718	1169955.3899	402.02	fnd 2" AC PND CTL 6
47	5318025.0132	1163548.3184	674.22	fnd 3 1/4" AC BLM AP 23 Tract 41
48	5319961.6126	1159474.3625	1298.91	set 1 1/2" Al. Cap
49	5317904.9157	1158269.2123	761.04	set 1 1/2" Al. Cap
50	5316649.0304	1158481.8601	975.63	set 1 1/2" Al. Cap
51	5317083.9708	1161107.8886	740.76	set 1 1/2" Al. Cap
52	5318436.7979	1162108.0494	786.00	set 1 1/2" Al. Cap
53	5318413.568	1166866.1115	884.55	set 1 1/2" Al. Cap
54	5316009.7465	1165879.49	606.22	fnd 1 1/2" AC CL DAM
55A	5321851.073	1177559.7833	554.54	set 1 1/2" Al. Cap
56	5312200.2659	1176156.0294	127.70	fnd 3 1/2" BC NGS 'Ober 3'
57	5320941.5952	1200461.5266	928.01	USGS Sta 'Ulakta'
58	5315987.0461	1196694.9003	1308.04	set 1 1/2" Al. Cap
59	5312505.3285	1193756.54	15.52	set 1 1/2" Al. Cap
60	5321690.2567	1198972.6542	137.03	fnd 3" Copperweld GSA Parcel 7&8 Cor 3
61	5330491.5039	1195387.8929	229.84	set 1 1/2" Al. Cap
62	5328969.2056	1172745.7164	748.13	set 1 1/2" Al. Cap

Point #	X	Y	Elev.	Description
63	5317009.0111	1182429.7123	173.14	set 1 1/2" Al. Cap
64A	5319177.5379	1178864.3331	515.02	set 1 1/2" Al. Cap
65	5318902.9502	1201993.8082	854.64	set 1 1/2" Al. Cap
66	5306985.8774	1165162.1681	200.97	set 1 1/2" Al. Cap
67	5307155.3897	1164601.263	373.19	set 1 1/2" Al. Cap
68	5308152.651	1163843.0129	699.47	set 1 1/2" Al. Cap
69	5314776.2605	1177379.0241	26.96	set 1 1/2" Al. Cap
70	5310315.3497	1173343.3357	12.13	fnd 3 1/4" AC USS 3588 L2/ROW
71	5309484.0452	1172398.2648	75.79	fnd 3 1/4" AC BLM WCMC C1 L1 S8449
72	5304544.9049	1159329.3418	704.42	set 1 1/2" Al. Cap
73A	5303022.1431	1157579.5557	1307.17	set 1 1/2" Al. Cap
74	5300064.8909	1158410.6989	215.98	set 1 1/2" Al. Cap
75	5301356.4896	1160773.2802	127.25	set 1 1/2" Al. Cap
76	5303584.6879	1169358.6482	10.17	set 1 1/2" Al. Cap
77	5305854.0446	1173957.7761	134.76	set 1 1/2" Al. Cap
78	5307108.0321	1179261.9649	12.44	set 1 1/2" Al. Cap
79	5307323.979	1182790.3676	17.27	set 1 1/2" Al. Cap
80	5305694.147	1183852.7292	458.00	set 1 1/2" Al. Cap
81	5296518.1018	1184517.581	150.43	set 1 1/2" Al. Cap
82	5308105.1893	1183953.1592	119.30	fnd 3 1/4" AC ATS 1458 WCMC 2 C 1
83	5296972.8264	1186263.4918	75.57	set 1 1/2" Al. Cap
84	5309192.7196	1170352.6977	87.65	fnd 2 1/2" AC ATS 1431 WCMC 2 C 1
85	5326207.4464	1182714.2843	1146.99	set 1 1/2" Al. Cap
86	5320783.7699	1168532.9157	976.02	set 1 1/2" Al. Cap

Point #	X	Y	Elev.	Description
87	5319997.4015	1161256.6417	1212.97	set 1 1/2" Al. Cap
88	5301154.5228	1164836.3748	165.27	set 1 1/2 Al. Cap
89	5300683.7891	1164149.5804	297.49	set 1 1/2" Al. Cap
90	5301898.3794	1164790.2576	3.39	set 1 1/2" Al. Cap
91	5293566.3269	1182214.6182	115.69	set 1 1/2" Al. Cap
92	5292296.3238	1172490.313	440.57	set 1 1/2" Al. Cap
93A	5295097.3486	1175917.9127	48.77	set 1 1/2" Al. Cap
94	5297389.2211	1175107.5657	573.80	set 1 1/2" Al. Cap
95	5298777.5588	1173903.3021	1032.45	set 1 1/2" Al. Cap
96	5301674.8583	1174114.4526	1322.46	set 1 1/2" Al. Cap
97	5303146.5329	1184413.2006	8.47	set 1 1/2" Al. Cap
98	5313939.8333	1197769.9483	10.14	set 1 1/2" Al. Cap
99	5298826.6371	1178815.3766	9.93	fnd 2" AC RM-2 ATS 1451 6067
100	5312618.7001	1195828.0275	15.58	set 1 1/2" Al. Cap
101	5317029.0474	1182962.9712	59.04	fnd 2 1/2" Brass Cap DOT BM #2

STA #1

USGS. STA 'SOUTH BASE'

FND STND USGS TRI STA MON

AS PER PUBLISHED DESCRIPTION

STA #2

FOUND 5/8" REBAR W/ 1 1/2" ALUM CAP

PC OF ROW N. SIDE OF ACCESS

ROAD TO THE TOP OF BALLYHOO MT.

APPROX 75' NE OF GREEN HOUSE.

STA #3

FND 3 1/4" ALUM CAP

WCMC TO TR 38 AP 3 & SEC 34

T 12S R 117W SET 1986

STA #4

USGS STA 'CAP'

FND STD USGS TRI STA MON

AS PER PUBLISHED DESCRIPTION

STA #5

RM #1 TO USGS STA 'NAK 2'
FND STD USGS MON AS PER
PUBLISHED DESCRIPTION

STA #6

FND 3 1/4" ALUM CAP
ATS 1396 TR A WCMC 2
67145 1990

STA #7

FND 2 1/2" ALUM CAP
ATS 1415 WCMC 1 C1
SET BY DOWL #67145 1991

STA #8

FND 2" ALCAP MARKED
PNED CCS LS5144 1988
LOCATED ON TOP BANK OF BEACH
WEST OF THE PETRO MART &
NW OF P.C. ON AIRPORT BEACH
RD APPROX 105'

STA #9

USGS STA 'BONE'
FND STD USGS CAP AS PER
PUBLISHED DESCRIPTION

STA #10

FND 3 1/4" ALUM MON
ATS 1446 TR B WCMC
LS5144 1992
LOCATED AT EAST POINT ON
AMAKNAK ISLAND.

STA #11

RM #1 TO USGS STA
'DUTCH'
FND STD USGS CAP AS
PER PUBLISHED DESCRIPTION

STA #12

FND 5/8" RBR W/ UNMARKED
ALUM CAP NEAR THE TOP OF
THE HILL ABOVE THE FUEL DOCK
ACROSS THE STREET FROM THE
POWER HOUSE. RBR IS APPROX
80' ± SE OF THE BUNKER AT
THE TOP OF THE HILL, AND
4' ± SOUTH OF THE TOP OF THE
BLUFF ABOVE THE HARBOR

STA #13

FND 3¼" ALUM MON.
AP 5 TR 38 T72S R117W
SET IN 1986.

STA #14

FND 2½" ALUM CAP
ATS 1441 WCMC1 TR38
LS5144 C1 1992
LOCATED IN FRONT OF AIRPORT
TERMINAL

STA #15

~~SET~~ 5/8" RBR W/ 1½" ALUM CAP
STAMPED LS 5152 PHOTO 15
1994, LOCATED APPROX 60' NW
OF THE INTX OF TWO TRACKS
THAT LEAD TO A GROUP OF RUINS
IN THE N½ OF PROTRACTED
SEC 28 T72S R117W NE OF
A SMALL LAKE.

STA #16

FND 3¼" ALUM MON MARKED
ATS 1458 WCMC1 C2
LS5144 1992
LOCATED ON SMALL PROMINENT
KNOLL ABOVE THE BEACH ON
THE NORTH SIDE OF MORRIS
COVE

STA #17

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS5152 PHOTO 17 1994 LOCATED ON THE FIRST BENCH SW OF AND IN LINE W/ THE WEST EDGE OF A SMALL PENINSULA ON THE SOUTH SIDE OF A SMALL LAKE IN SEC 28 T72S R117W (PROTRACTED)

STA #18

USGS STA 'ABEL'
FND STD USGS MON AS PER PUBLISHED DESCRIPTION

STA #19

FND 2 1/2" ALUM CAP MARKED SBR CONTROL #13 4758S 1993

STA #20

FND 2 1/2" ALUM CAP MARKED DOWL LOT 2 4758S 1993 LOCATED JUST SOUTH OF THE LANDFILL BETWEEN THE ROAD AND THE BEACH

STA #21

FND 2 1/2" ALUM CAP MARKED DOWL-ATS 1397 - WCMC& C1 6714S 1990
LOCATED AT THE NORTH END OF THE LANDFILL BETWEEN THE ROAD AND THE BEACH

STA 22

FND 2 1/2" ALUM CAP MARKED SBR CONTROL 4758 S NO 9 1993

STA 23

FND 2 1/2" ALUM CAP MARKED SBR CONTROL 4758 S NO 17 1993

STA 24

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 - PHOTO 24 1994
LOCATED ON TOP OF A GRASS COVERED SAND DUNE AT THE SE COR OF SUMMER'S BAY APPROX 125'± EAST OF THE ROAD

STA #25

SET 5/8" RBR W/ 1½" ALUM CAP MARKED LS 5152 PHOTO 25 1994 LOCATED BETWEEN THE MIDDLE TWO OF FOUR GUN EMPLACEMENTS ON THE BLUFF AT THE MIDDLE OF SUMMERS BAY APPROX 30' WEST OF THE ROAD

STA #26

SET 5/8" RBR W/ 1½" ALUM CAP MARKED LS 5152 PHOTO 26 1994 LOCATED ON THE RIDGE ON THE EAST SIDE OF SUMMER BAY AND SOUTH OF MORRIS COVE APPROX 0.4 MI NORTH OF THE BRIDE CROSSING THE CREEK AND 15' EAST OF THE ROAD

STA #27

SET 5/8" RBR W/ 1½" ALUM CAP MARKED LS 5152 PHOTO 27 1994 LOCATED ON A ROCKY POINT IN THE SE 1/4 OF PROTRACTED SEC 32 T 72S R 118W. VISIBLE FROM STA #26

STA 28

SET 5/8" RBR W/ ALUM CAP MARKED LS 5152 PHOTO 28 1994 LOCATED AT THE TOP OF A SMALL, POINTED, PROMINENT KNOLL ON THE WEST SIDE OF THE VALLEY IN THE CENTER OF THE SE 1/4, SW 1/4 PROTRACTED SEC 4, T 73S R 117W

STA #29

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS5152 PHOTO 29, 1994 LOCATED ON THE FIRST KNOLL OF A POINT APPROX 2/3 THE WAY SOUTH ALONG THE EAST SIDE OF SUMMERS BAY LAKE.

STA #30

SET 5/8" RBR W/ ALUM CAP MARKED LS5152 PHOTO 30 1994 LOCATED ON A LOW RIDGE EAST OF THE ROAD RUNNING UP THE VALLEY SOUTH OF SUMMERS BAY IN THE NW1/4, NE1/4 PROTRACTED SEC 8 T735 R117W.

STA #31

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS5152 PHOTO 31 1994 LOCATED TO THE EAST OF A BEND IN THE ROAD AND ABOVE AN OLD GRAVEL PIT IN THE SE COR. OF THE VALLEY ABOVE SUMMERS BAY LAKE IN THE SW1/4, SE1/4 PROTRACTED SEC 8 T735 R117W

STA #32

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS5152 PHOTO 32 1994 LOCATED AT THE HEAD OF THE VALLEY BEHIND SUMMERS BAY LAKE APPROX 30' NORTH OF THE ROAD 1/4 MILE BELOW THE PASS IN THE ~~CENTER~~ SE1/4 NW1/4 PROTRACTED SEC 17 T735 R117W

STA # 33

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 PHOTO 33 1994 LOCATED ON TOP OF A PROMINENT KNOLL IN A BOWL CREATED BY THE RIDGES AROUND THE S W COR OF THE VALLEY IN VICINITY OF PROTRACTED SEC COR 7/8 / 18/17 T 73S R 117W

STA # 34

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 PHOTO 34 1994 LOCATED ON A LOW KNOLL ON THE WEST SIDE OF THE VALLEY SOUTH OF SUMMER'S BAY LAKE IN THE NW 1/4 NW 1/4 OF PROTRACTED SEC 8 T. 73 S. R 117 W.

STA # 35

USGS STA 'GAR'

FND STD USGS MON AS PER PUBLISHED DESCRIPTION

STA # 36

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 PHOTO 36 1994 LOCATED NEAR THE TOP OF A ROCKY RIDGE FACING DOWN ILIULIUK VALLY DIRECTLY ABOVE A ROCK QUARRY IN THE NE 1/4 NE 1/4 OF PROTRACTED SEC 24 T 73S R 118W

STA #37

SET 5/8" RBR W/ ALUM CAP MARKED LS 5152 PHOTO 37 1994 LOCATED ON A LOW KNOLL 20'± NW OF A RUIN AND 200' N OF THE ROAD TO THE QUARRY, IN THE NW1/4 SE1/4 OF PROTRACTED SEC 13 T73S R118W

STA #38

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 PHOTO 38 1994 LOCATED ON A PROMINENT KNOLL AT THE HEAD OF THE 1/2 MILE VALLEY BETWEEN TWO DEEP CREEKS IN THE SW1/4 ~~SE~~ NE1/4 ~~SE~~ PROTRACTED SEC 24 T73S R118W

STA #39

MARKED TNH 60

FND 1 1/2" ALUM CAP IN SMALL MOUND ON TOP OF A LOW KNOLL APPROX 60' EAST OF STEWARD RD AND APPROX 60' NW OF A RUIN IN THE NE1/4 NW1/4 OF PROTRACTED SEC 24 T73S R118W

STA #40

FND 1/2" RBR W/ 3/4" STEEL ROD NEXT TO A CARSONITE POST - APPARENT PROPERTY COR - ON THE LOW HILL EAST OF THE ISLAND AUTO CLINIC AND APPROX 100' NORTH OF BROADWAY

STA #41

SET PK NAIL IN TOP CENTER OF THE BUNKER AT THE INTY 4TH & BAYVIEW

STA #42

FOUND BLM COPPER WELD MON AT APT 2 LOT 1 BLK 3 USS 4988

STA #43

FND 4" FE PIPE W/CAP MARKED USS 1946 COR 3

STA #44

FND 3 1/4" ALUM MON MARKED PC ROW 1994 ON THE EAST SIDE OF CAPTAINS BAY RD NEXT TO A SMALL DRAINAGE

STA #45

FND 3 1/2" COPPER WELD MON
MARKED GSA PARCEL 5 COR 3
62E 1968
LOCATED ON A KNOLL ABOVE
WESTWARD SEAFOODS

STA #46

FND 2" ALUM CAP MARKED
PND CTL 6 LS5144 1990
LOCATED 75' ± NE OF AND
INTERSECTION OF TWO ROADS
ON THE N SIDE OF ICY CREEK

STA #47

FND 3 1/4" ALUM CAP ON 1"
ALUM ROD MARKED USDI-BLM
T73S R118W TR41 AP23 | S27
- S34
NORTH SIDE OF ICY CREEK
ABOVE A WATERFALL

STA #48

SET 5/8" RBR W/ 1 1/2" ALUM CAP
MARKED LS5152 PHOTO 48 1994
LOCATED ON A TOP OF PROMINENT ROCKY
KNOLL EAST OF THE LAKE AT
THE HEAD OF ICY CREEK IN
THE SE 1/4 SE 1/4 PROTRACTED
SEC 34 T73S R118W

STA #49

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS5152 PHOTO 49 1994 LOCATED ON THE LOW RIDGE LINE ABOVE THE SE COR OF THE LAKE AT THE HEAD OF ICY CREEK IN THE SW1/4 SE1/4 OF PROTRACTED SEC 34 T73S R118W

STA #50

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 PHOTO 50 1994 LOCATED ON THE TOP OF A ROCKY KNOLL WEST OF AND OVERLOOKING THE LAKE AT THE HEAD OF ICY CREEK IN THE SW1/4 SW1/4 PROTRACTED SEC 34 T73S R118W

STA 51

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 PHOTO 51 1994 LOCATED 180' ± WEST OF A EASTWARD BEND IN ICY CREEK APPROX 1/4 MI N OF THE LAKE IN THE SE1/4 NW1/4 PROTRACTED SEC 34 T73N R118W

STA #52

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 PHOTO 52 1994 LOCATED IN A SLIGHT DEPRESSION ON A LOW RIDGE EAST OF ICY CREEK IN THE SW1/4 NE1/4 OF PROTRACTED SEC 34 T73S R118W

STA # 53

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152. PHOTO 53 1994 LOCATED ON A ROCKY RIDGE OVER-LOOKING PYRAMID VALLEY IN THE SE 1/4 NE 1/4 PROTRACTED SEC 27 T 73 S R 118 W

STA # 54

FND 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152 CL DAM 1994 LOCATED SW OF THE ICY CREEK RESERVIOR ON A BENCH @ THE 606' ELEV.

STA # 55

SET 5/8" RBR W/ 1 1/2" ALUM CAP MARKED LS 5152. PHOTO 55 1994 LOCATED IN A MOUND ON A LOWER BENCH OF A HIGH ROCKY RIDGE ABOVE GENERAL'S HILL ON THE SOUTH SIDE OF THE ILIULIUK VALLEY IN THE SE 1/4 NE 1/4 & PROTRACTED SEC 14 T 73 S R 118 W

STA 56

FND 3 1/2" BRASS CAP SET IN CONCRETE - NGS STA 'OBER 3' - SET IN 1991. LOCATED IN VICINITY OF 'OBER 2' (SEE PUBLISHED DESCRIPTION)

STA #57

USGS STA 'ULAKTA'
FND STD USGS MON AS PER
PUBLISHED DESCRIPTION

STA #58

SET 5/8" RBR W/ 1 1/2" ALUM CAP
MARKED LS 5152 PHOTO 58 1994
LOCATED ON THE NORTH SIDE OF A
DRAINAGE ON THE EAST SIDE OF
BALLY HOO MT. DIRECTLY ABOVE
THE CITY DOCK. ANOTHER DRAINAGE
LIES DIRECTLY NORTH OF THE STA.

STA #59

SET 5/8" RBR W/ 1 1/2" ALUM CAP
MARKED LS 5152 PHOTO 59 1994
LOCATED AT THE NORTH END OF
THE UNALASKA RUNWAY 12' N
OF THE CHAINLINK FENCE
AND APPROX 45' ± EAST OF
THE END OF THE FENCE

STA #60

FND 3" COPPERWELD MON
MARKED GSA PARCEL 7+8
COR 3 62E 1968

BAKER 6-18-94

STA #61

SET 5/8" RBR W/ 1½" ALUM CAP
MARKED PHOTO 61 1994
LOCATED ABOVE POINT OVERLOOKING
SECOND PRIEST ROCK, ILIULIUK BAY,
SUMMER BAY & SUMMER BAY LAKE
ABOUT 100' NORTH OF TROLLEY WINCH
USED FOR HAULING SUPPLIES FOR MILITARY

S31 T7S R116W

STA #62

SET 5/8" RBR W/ 1½" ALUM CAP
MARKED PHOTO 62 1994
LOCATED @ SOUTH END OF
THE ILIULIUK RIVER VALLEY @ ON
SADDLE TO UGADAGA BAY
NEAR ¼ SEC 19 & 24
T7S R117W/ R118W

STA #63

SET 5/8 RBR W/ 1½" ALUM CAP
MARKED PHOTO 63 1994
HILL BEHIND SUBSTA IN OGUN-NEUMAN S/D
SOUTH SIDE OF AIRPORT BEACH RD.
NEAR ¼ SEC 10 & 11
T7S R118W

STA #64

SET 5/8 RBR W/ ½" ALUM CAP
MARKED PHOTO 64 1994
IN CLOUDS SET ON LINE WITH
SE END OF LAKE SW OF TOWN

S14 T7S R118W

STA #65

SET 5/8" RBR W/ 1 1/2" ALUM CAP
MARK PHOTO 65 1994
SET @ APPROX. LOCATION OF
"EPI-A" AS SHOWN ON QUAD MAP
WHICH APPEARS TO BE DESTROYED
APPROX 100 FT SW OF CIRCLE
TRACT FOR BATTERY.
S23 T7S R117W

6-14-94

STA #66

SET 5/8" RBR W/ 1 1/2" ALUM CAP
MARKED PHOTO 66 1994
@ APPROX LOCATION OF GLASS 2

S29 T7S R118W

BAKER

STA #67

SET 5/8" RBR W/ 1 1/2" ALUM CAP
MARKED PHOTO 67 1994
APPROX CENTER OF PROTRACTED
SEC 29 ABOVE & INTER VISIBLE
WITH STA #'S 66 & 68.

T7S R118W

STA #68

SET 5/8" RBR W/ 1 1/2" ALUM CAP
MARKED PHOTO 68 1994
IN THE NE1/4 (PROTRACTED) SEC 32 VISIBLE
FROM STA # 67

T7S R118W

STA #69

SET 5/8" RBR W/ 1½" ALUM CAP
MARKED PHOTO 69 1994
@ THE ~~SAW~~ EAST SIDE OF INTERSECTION
OF CAPTAINS BAY RD & ACCESS TO
PYRAMID CK. DAM.

S15 T72S R118W

STA #70

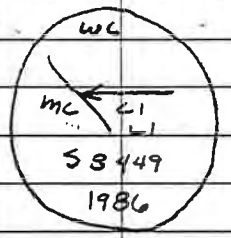
FND 3¼" ALUM CAP MON

LS 5152
USS 3588
LZ ROW
1993

SE¼ S16 T72S R118W

STA # 71

FND 3¼" ALUM CAP BLM MON



NW¼ NE¼ S21 T72S R118W

STA # 72

SET 5/8" RBR W/ 1½" ALUM CAP
MARKED PHOTO 72 1994
@ TOP OF TRIBUTARY OVERLOOKING FALLS
IN SW¼ ~~SW~~ PROTRACTED SEC 32
DUE SOUTH CAPT'S BAY ISLANDS

T72S R118W

STA #73

SET 5/8" RBR W/ 1½" ALUM-CAP
MARKED PHOTO 73 1994
NEAR THE ¼ QTR COR OF PROTRACTED
SECTIONS 31 & 6 ON TOWNSHIP LINE

T72S/T73S R118W

STA #74

SET 5/8" RBR W/ 1½ ALUM CAP
MARKED PHOTO 74 1994
ON KNOLL OVERLOOKING
SHAISHNIKOF RIVER NEAR ¼ COR
PROTRACTED SEC'S 31 & 36

T72S R118W/R119W

BAKER

STA #75

SET 5/8" RBR W/ 1½" ALUM CAP
MARKED PHOTO 75 1994
ON KNOLL C BEND IN SHAISHNIKOF
RIVER LOOKING SW INTO FALLS.
NEAR ¼ QTR COR BETWEEN
PROTRACTED SECTIONS 30 & 31

T72S R118W

20 JUNE 1994

STA #76

SET 5/8" RBR W/ 1½" ALUM CAP
MARKED PHOTO 76 1994
IN OLD ROAD BED ON MAINLAND BETWEEN
MIDDLE (BIG) ISLAND & NORTHER SMALL ISLAND
NEAR SL BETWEEN 19 & 20

T72S R118W

STA # 77

SET 5/8" RBR W/ 1½" ALUM CAP ON TOP OF POINT NEAR APPROX LOCATION OF LOST 2 WITHIN PROTRACTED SECTION 17 MARKED

PHOTO 77 1994

T 72S R 118 W

STA # 78

SET 5/8" RBR W/ 1½" ALUM CAP IN OLD ROAD BED NEAR LOCATION OF NECK 2 WITHIN PROTRACTED SEC. 8 MARKED

PHOTO 78 1994

T 72S - R 118 W

STA # 79

SET 5/8" RBR W/ 1½" ALUM CAP IN OLD ROAD BED ¾ OF BREAK H₂O APPROX. 200 YARDS SOUTH OF OLD CABIN IN NE ¼ OF PROTRACTE SECTION 8 9 MARKED

PHOTO 79 1994

T 72S R 118 W

STA # 80

SET 5/8" RBR W/ 1½" ALUM CAP NEAR APPER BETWEEN DEVIL FISH POINT ¼ BOLD POINT APPROX 150 YDS EAST OF ROCK OUTCROP WITH EAGLE NEST OVERLOOKING OCEAN MARKED

PHOTO 80 1994

S 5 T 72S R 118 W

STA # 81

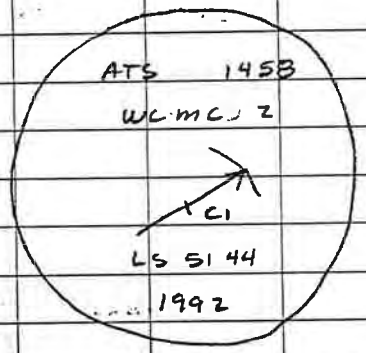
SET 5/8" RBR W/ 1½" ALUM CAP ON POINT KIND OVERLOOKING NATEEKIN BAY ABOVE PUFFIN CAVE IN TALL GRASS MARKED

PHOTO 81 1994

S 6 T 7S R 11 W

STA # 82

FND 3¼" ALUM CAP NEAR BOLD POINT MARKED



S 4 T 7S R 11 W

STA # 83

SET 5/8" RBR WITH 1½" ALUM CAP ON HOOKED POINT FACING POINT KIND ¼ STEEP SANDY BEACH WITHIN PROTRACTED SECTION 6 APPROX. ½ WAY BETWEEN POINTS KIND & KIM MARKED

PHOTO 83 1994

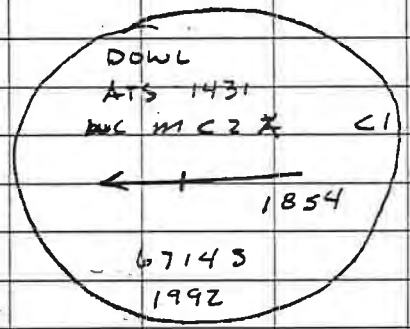
T 7S R 11 W

BAKER 21 JUNE

SANON & S

STA # 84

FND 2½" ALUM CAP 180° OUT OF ORIENTATION



S 21 T 7S R 11 W

STA 85

SET 5/8" RBR W/ 1½ ALUM CAP ON KNOB ABOVE NIRVANA HILLS ¼ THE SKI BOWL IN THE NE¼ OF PROTRACTED SEC. 12 MARKED

PHOTO 85 1994

T 72S R 118W

STA 86 SET 5/8" RBR W/ 1½" ALUM CAP ON KNOB SOUTH OF HEADWATERS OF EAST FORK PYRAMID CK. APPROX CENTER OF PROTRACTED SECTION 26 MARKED

PHOTO 86 1994

T 72S R 118W

BAKER
SANDNESS

22 JUNE 94

STA 87

SET 5/8" RBR W/ 1½" ALUM CAP APPROX. CENTER OF SEC. 35 ON A BENCH JUST BELOW SADDLE CAN SEE ICY CK DAM PK 1 TO NW & LAKE WSW MARKED

PHOTO 87 1994

T 72S R 118W

STA 88

SET 5/8" RBR W/ 1½" ALUM CAP ON KNOLL OVERLOOKING SMALL COVE SW OF MILITARY SHIPWRECK @ SOUTH END OF CAPTAINS BAY IN NW¼ SEC 33 MARKED

PHOTO 88 1994

T 72S R 118W

STA 89

SET 5/8" RBR W/ 1½" ALUM CAP WITHIN SE¼ OF SECTION 25 T 72S R 119W OVERLOOKING SITAISHNIKOF RIVER VALLEY MARKED

PHOTO 89 1994

STA 90

SET 5/8 RBR W/ 1½" ALUM CAP RIGHT @ HIGH TIDE LINE SE OF COVE BELOW STA 88 WITHIN NE¼ SEC 33 T 72S, R 118W MARKED

PHOTO 90 1994

BAKER SANDNESS

23 JUNE 94

STA 91

SET 5/8" RBR WITH 1½" ALUM CAP ON SMALL KNOLL NEAR SEC. COR. FOR 1, 2, 11 & 12 T 72S R 119W LOOKS DUE EAST TO NATEEKIN BAY MARKED

PHOTO 91 1994

STA 92

SET 5/8" RBR W/ 1½" ALUM CAP ON SOUTH EDGE OF SADDLE BETWEEN SMALL LAKE TO NORTH & OVERLOOKING NATEEKIN RIVER TO SOUTH WITHIN S 14 T 72S R 119W MARKED

PHOTO 92 1994

STA 93

SET 5/8" REBAR W/ 1½" ALUM. CAP
KNOB DIRECTLY ABOVE NATEELIN R.
NEAR CW 1/16 SEC 13 T 12S R 11E W
MARKED

PHOTO 93 1994

BAKER
SERPENTINE

24 JUNE 94

STA 94

SET 5/8" RBR W/ 1½" ~~RBR~~ ALUM CAP
ON KNOLL ABOVE US SURVEY 3595
WITHIN NW1/4 SEC 18 T 12S R 11E W
MARKED

PHOTO 94 1994

STA 95

SET 5/8" RBR W/ 1½" ALUM CAP
@ APPROX C 1/4 OF SEC 18 T 12S R 11E W
INTERVISIBLE WITH STA 93 & 94
MARKED

PHOTO 95 1994

STA 96

SET 5/8" RBR W/ 1½" ALUM CAP
NEAR 1/4 COR FOR SEC. 17 & 18
T 12 S R 11E W ON EAST SIDE OF
SADDLE OVERLOOKING CANYON BAR
MARKED

PHOTO 96 1994

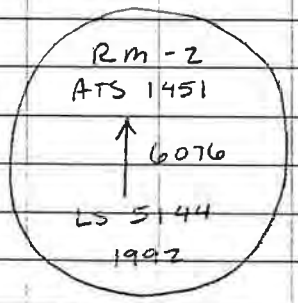
STA 97
STA 98

SET 5/8 RBR W/ 1 ½" ALUM CAP
LOCATED WEST SIDE OF DEVILFISH
POINT WITHIN SEC 5 T72S R11BW
MARKED

PHOTO 98 1994
97

STA 99

FND 2" ALUM CAP MARKED



LOCATED @ EASTERN MOST POINT
OF US SURVEY 3595 WITHIN
SECTION 7, T72S R118W

STA 98

SET 5/8" RBR W/ 1½" ALUM CAP
LOCATED WITHIN SEC 25 T71S R117W
LOCATED OUT ACROSS UNNAMED
BAY TO WIDE BAY MARKED

PHOTO 98 1994

STA 100

SET 5/8" RBR W/ 1½" ALUM CAP
ON POINT OF AMALNAK IS. ACCESS
FROM NORTHERN MOST POINT OF
HOG ISLAND ON TOP OF BURIED
BUNKER WITHIN SEC 25 T71S R117W
MARKED

PHOTO 100 1994

The NGS Data Sheet

```
DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 5.60
Starting Datasheet Retrieval...
1         National Geodetic Survey,   Retrieval Date = MAY 27, 1998
 UV9293 ***********************************************************************
 UV9293  DESIGNATION -  DUTCH HARBOR DOLPHIN
 UV9293  PID         -  UV9293
 UV9293  STATE/COUNTY-  AK/
 UV9293  USGS QUAD   -
 UV9293
 UV9293                          *CURRENT SURVEY CONTROL
 UV9293
 UV9293* NAD 83(1986)-  53 54 06.24293(N)     166 30 26.88198(W)      ADJUSTED
 UV9293* NAVD 88     -
 UV9293
 UV9293  LAPLACE CORR-            8.57  (seconds)                      DEFLEC96
 UV9293  GEOID HEIGHT-           16.66  (meters)                       GEOID96
 UV9293
 UV9293  HORZ ORDER  -  THIRD
 UV9293
 UV9293.The horizontal coordinates were established by classical geodetic methods
 UV9293.and adjusted by the National Geodetic Survey in July 1986.
 UV9293
 UV9293
 UV9293.The Laplace correction was computed from DEFLEC96 derived deflections.
 UV9293
 UV9293.The geoid height was determined by GEOID96.
 UV9293
 UV9293;                     North         East     Units   Scale      Converg.
 UV9293;SPC AK10      -   364,016.387 1,622,147.540   MT  1.00002168 +7 33 53.3
 UV9293;UTM  03       - 5,973,641.520   400,957.129   MT  0.99972037 -1 13 05.3
 UV9293
 UV9293                          SUPERSEDED SURVEY CONTROL
 UV9293
 UV9293  NAD 27       -  53 54 09.35900(N)     166 30 20.05300(W)      ADJUSTED
 UV9293
 UV9293.Superseded values are not recommended for survey control.
 UV9293.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 UV9293.See file format.dat to determine how the superseded data were derived.
 UV9293
 UV9293_MARKER: 12 = DOLPHIN
 UV9293
 UV9293  HISTORY      - Date     Condition        Recov. By
 UV9293  HISTORY      - 1951     FIRST OBSERVED   CGS
 UV9293
 UV9293                           STATION DESCRIPTION
 UV9293
 UV9293'DESCRIBED BY COAST AND GEODETIC SURVEY 1951 (GLA)
 UV9293'STATION IS THE CENTER OF THE TOP OF A CLUSTER OF PILING SECURED
 UV9293'TOGETHER BY A HEAVY WIRE CABLE, LOCATED ABOUT 1/8 MILE OFF THE
 UV9293'SPIT ALONG THE EAST SIDE OF DUTCH HARBOR.
1         National Geodetic Survey,   Retrieval Date = MAY 27, 1998
 UV9296 ***********************************************************************
 UV9296  DESIGNATION -  NORTH RADIO TOWER
 UV9296  PID         -  UV9296
 UV9296  STATE/COUNTY-  AK/
 UV9296  USGS QUAD   -
 UV9296
 UV9296                          *CURRENT SURVEY CONTROL
 UV9296
 UV9296* NAD 83(1986)-  53 53 11.96390(N)     166 32 06.50484(W)      ADJUSTED
 UV9296* NAVD 88     -
 UV9296
 UV9296  LAPLACE CORR-            7.86  (seconds)                      DEFLEC96
 UV9296  GEOID HEIGHT-           16.66  (meters)                       GEOID96
 UV9296
 UV9296  HORZ ORDER  -  THIRD
 UV9296
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UV9296.The horizontal coordinates were established by classical geodetic methods
UV9296.and adjusted by the National Geodetic Survey in July 1986.
UV9296
UV9296
UV9296.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9296
UV9296.The geoid height was determined by GEOID96.
UV9296
UV9296;                     North         East     Units   Scale      Converg.
UV9296;SPC AK10      -   362,113.585 1,620,564.627   MT  1.00001678 +7 32 33.9
UV9296;UTM  03       - 5,972,003.216   399,102.784   MT  0.99972492 -1 14 25.0
UV9296
UV9296                            SUPERSEDED SURVEY CONTROL
UV9296
UV9296  NAD 27       -  53 53 15.07300(N)    166 31 59.68700(W)     ADJUSTED
UV9296
UV9296.Superseded values are not recommended for survey control.
UV9296.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9296.See file format.dat to determine how the superseded data were derived.
UV9296
UV9296_MARKER: 43 = RADIO/TV TOWER
UV9296
UV9296  HISTORY      - Date     Condition        Recov. By
UV9296  HISTORY      - 1934     FIRST OBSERVED   CGS
UV9296  HISTORY      - 1975     GOOD             CONOCO
UV9296
UV9296                            STATION DESCRIPTION
UV9296
UV9296'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9296'THIS IS AN INTERSECTION STATION LOCATED BY THREE DIRECT AND
UV9296'REVERSE OBSERVATIONS.  STATION IS THE TOP OF THE THREE-SIDED
UV9296'STEEL TOWER, WHICH IS 210 FEET HIGH.  THIS TOWER IS PAINTED
UV9296'YELLOW AND SHOWS TWO RED LIGHTS AT NIGHT.  ONE AT THE TOP, THE
UV9296'OTHER HALF WAY UP THE STRUCTURE.  THESE LIGHTS SERVE AS VERY
UV9296'GOOD BEACONS FOR SHIPS INTO ILIULIUK BAY.  THIS TOWER IS
UV9296'THE MOST NORTHERLY ONE OF THE TWO, WHICH ARE USED BY THE DUTCH
UV9296'HARBOR NAVAL RADIO STATION, LOCATED IN THE IMMEDIATE VICINITY
UV9296'OF THESE TOWERS IN DUTCH HARBOR.
UV9296
UV9296                            STATION RECOVERY (1975)
UV9296
UV9296'RECOVERY NOTE BY CONTINENTAL OIL COMPANY INCORPORATED 1975 (CJB)
UV9296'INTERSECTION STATION - CONDITION OK.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9299 ***********************************************************************
UV9299  DESIGNATION -  DUTCH 1934
UV9299  PID         -  UV9299
UV9299  STATE/COUNTY-  AK/
UV9299  USGS QUAD   -
UV9299
UV9299                           *CURRENT SURVEY CONTROL
UV9299 ______________________________________________________________________
UV9299* NAD 83(1986)-  53 53 19.28366(N)    166 31 40.08488(W)     ADJUSTED
UV9299* NAVD 88     -
UV9299 ______________________________________________________________________
UV9299  LAPLACE CORR-           8.03  (seconds)                     DEFLEC96
UV9299  GEOID HEIGHT-          16.67  (meters)                      GEOID96
UV9299
UV9299  HORZ ORDER  -  THIRD
UV9299
UV9299.The horizontal coordinates were established by classical geodetic methods
UV9299.and adjusted by the National Geodetic Survey in July 1986.
UV9299
UV9299
UV9299.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9299
UV9299.The geoid height was determined by GEOID96.
UV9299
UV9299;                     North         East     Units   Scale      Converg.
UV9299;SPC AK10      -   362,401.305 1,621,013.285   MT  1.00001743 +7 32 55.0
UV9299;UTM  03       - 5,972,218.992   399,589.971   MT  0.99972372 -1 14 03.7
UV9299
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UV9299                          SUPERSEDED SURVEY CONTROL
UV9299
UV9299  NAD 27       -  53 53 22.39500(N)     166 31 33.26600(W)      ADJUSTED
UV9299
UV9299.Superseded values are not recommended for survey control.
UV9299.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9299.See file format.dat to determine how the superseded data were derived.
UV9299
UV9299_MARKER: DS = TRIANGULATION STATION DISK
UV9299_SETTING: 20 = SET INTO TOP OF METAL PIPE IMBEDDED IN MASS OF CONCRETE
UV9299_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
UV9299+STABILITY: SURFACE MOTION
UV9299
UV9299  HISTORY      - Date      Condition         Recov. By
UV9299  HISTORY      - 1934      MONUMENTED        CGS
UV9299  HISTORY      - 1972      MARK NOT FOUND    DOD
UV9299
UV9299                           STATION DESCRIPTION
UV9299
UV9299'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9299'STATION IS LOCATED ON TOP OF THE BLUFF AT ROCKY POINT (THE
UV9299'FIRST PROMINENT POINT SOUTHEAST OF DUTCH HARBOR).  STATION IS
UV9299'MARKED BY A DISK SET IN A MASS OF CONCRETE FLUSH WITH THE
UV9299'SURFACE SURMOUNTING AN IRON PIPE 3 FEET LONG SUNK INTO THE
UV9299'GROUND WITHIN 6 INCHES OF THE SURFACE.  REFERENCE MARK
UV9299'NO. 1 IS A STANDARD DISK CEMENTED INTO A DRILL HOLE IN A FLAT
UV9299'OUTCROP OF ROCK AT THE EXTREME NORTHEAST END OF THE BLUFF.
UV9299'THE BEARING TAKEN FROM THE REFERENCE MARK TOWARDS
UV9299'THE STATION IS S 70 DEG W MAGNETIC, DISTANCE 22.72 METERS.
UV9299
UV9299                           STATION RECOVERY (1972)
UV9299
UV9299'RECOVERY NOTE BY US DEPARTMENT OF DEFENSE 1972 (RLM)
UV9299'DUTCH NO. 1 - GOOD
UV9299'
UV9299'LOCATION OF STATION DUTCH IS IN THE PROXIMITY OF AN OLD GUN
UV9299'EMPLACEMENT AND MAY HAVE BEEN DESTROYED.  A THOROUGH SEARCH
UV9299'WAS CONDUCTED, BUT NO TRACE OF THE MONUMENT OR IRON PIPE WAS
UV9299'FOUND.  REFERENCE MARK NO. 1 WAS FOUND AS DESCRIBED.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9304 ***********************************************************************
UV9304  DESIGNATION -  DOCK 1941
UV9304  PID         -  UV9304
UV9304  STATE/COUNTY-  AK/
UV9304  USGS QUAD   -
UV9304
UV9304                          *CURRENT SURVEY CONTROL
UV9304 ______________________________________________________________________
UV9304* NAD 83(1986)-  53 53 00.01286(N)     166 31 58.68209(W)      ADJUSTED
UV9304* NAVD 88     -
UV9304 ______________________________________________________________________
UV9304  LAPLACE CORR-           7.80  (seconds)                     DEFLEC96
UV9304  GEOID HEIGHT-          16.67  (meters)                      GEOID96
UV9304
UV9304  HORZ ORDER  -  THIRD
UV9304
UV9304.The horizontal coordinates were established by classical geodetic methods
UV9304.and adjusted by the National Geodetic Survey in July 1986.
UV9304
UV9304
UV9304.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9304
UV9304.The geoid height was determined by GEOID96.
UV9304
UV9304;                    North         East     Units   Scale      Converg.
UV9304;SPC AK10      -   361,766.040 1,620,754.789   MT  1.00001571 +7 32 40.2
UV9304;UTM  03       - 5,971,630.818   399,237.609   MT  0.99972459 -1 14 18.5
UV9304
UV9304:                Primary Azimuth Mark                     Grid Az
UV9304:SPC AK10      -  GRAVE RESET                            140 19 12.5
UV9304:UTM  03       -  GRAVE RESET                            149 06 11.2
UV9304
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UV9304|-----------------------------------------------------------------------|
UV9304| PID    Reference Object                          Distance      Geod. Az |
UV9304|                                                                dddmmss.s|
UV9304| UV9347 GRAVE RESET                             APPROX. 1.3 KM 1475152.7|
UV9304| UV9297 AMAK                                    267.068 METERS 25934    |
UV9304|-----------------------------------------------------------------------|
UV9304
UV9304                            SUPERSEDED SURVEY CONTROL
UV9304
UV9304  NAD 27       -  53 53 03.12200(N)     166 31 51.86700(W)      ADJUSTED
UV9304
UV9304.Superseded values are not recommended for survey control.
UV9304.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9304.See file format.dat to determine how the superseded data were derived.
UV9304
UV9304_MARKER: DS = TRIANGULATION STATION DISK
UV9304_SETTING: 0 = UNSPECIFIED SETTING
UV9304_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9304
UV9304  HISTORY      - Date     Condition        Recov. By
UV9304  HISTORY      - 1941     MONUMENTED       CGS
UV9304  HISTORY      - 1951     MARK NOT FOUND   CGS
UV9304
UV9304                             STATION DESCRIPTION
UV9304
UV9304'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9304'THE STATION IS ON THE SE SIDE OF AMAKNAK ISLAND ABOUT 17 METERS
UV9304'E OF THE LARGER OF TWO BUILDINGS AT THE SHORE END OF THE DOCK
UV9304'THAT SERVES THE NAVAL RADIO STATION.  IT IS ABOUT 8 METERS
UV9304'N OF THE HIGH-WATER LINE.
UV9304'
UV9304'THE STATION IS MARKED BY A STANDARD DISK SET IN A MONUMENT
UV9304'OF COMMON BRICK CEMENTED TOGETHER, WITH THE TOP OF THE MONUMENT
UV9304'FLUSH WITH THE GROUND SURFACE.  THE DISK IS STAMPED DOCK
UV9304'1941.  THERE ARE NO REFERENCE MARKS.
UV9304
UV9304                             STATION RECOVERY (1951)
UV9304
UV9304'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1951 (GLA)
UV9304'A FORTY-FIVE MINUTE SEARCH OF THE AREA FAILED TO UNEARTH ANY
UV9304'EVIDENCE OF THE STATION.  SINCE THERE HAD BEEN CONSIDERABLE
UV9304'CONSTRUCTION WORK IN THIS AREA, IT IS PROBABLE THAT THE
UV9304'STATION HAS BEEN DESTROYED.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9308 ***********************************************************************
UV9308  DESIGNATION -  UNALASKA SOUTH BASE
UV9308  PID         -  UV9308
UV9308  STATE/COUNTY-  AK/
UV9308  USGS QUAD   -
UV9308
UV9308                            *CURRENT SURVEY CONTROL
UV9308 ______________________________________________________________________
UV9308* NAD 83(1986)-  53 53 51.53100(N)     166 30 53.30916(W)      ADJUSTED
UV9308* NAVD 88     -
UV9308 ______________________________________________________________________
UV9308  LAPLACE CORR-           8.42  (seconds)                      DEFLEC96
UV9308  GEOID HEIGHT-          16.66  (meters)                       GEOID96
UV9308
UV9308  HORZ ORDER  -  THIRD
UV9308
UV9308.The horizontal coordinates were established by classical geodetic methods
UV9308.and adjusted by the National Geodetic Survey in July 1986.
UV9308
UV9308
UV9308.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9308
UV9308.The geoid height was determined by GEOID96.
UV9308
UV9308;                    North         East     Units   Scale      Converg.
UV9308;SPC AK10      -   363,501.974 1,621,729.045   MT  1.00002034 +7 33 32.3
UV9308;UTM  03       - 5,973,197.174   400,465.142   MT  0.99972157 -1 13 26.4
UV9308
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UV9308:                  Primary Azimuth Mark                      Grid Az
UV9308:SPC AK10      -   PIN 1896                                  077 24 04.9
UV9308:UTM  03       -   PIN 1896                                  086 11 03.6
UV9308
UV9308|-----------------------------------------------------------------------|
UV9308| PID    Reference Object                          Distance      Geod. Az |
UV9308|                                                                dddmmss.s|
UV9308| UV9328 POINTED PEAK                          APPROX. 2.2 KM 0052103.4 |
UV9308| UV9332 HEAD                                  APPROX. 2.4 KM 0100533.4 |
UV9308| UV9242 PINNACLE ROCK                         APPROX. 3.1 KM 0785400.9 |
UV9308| UV9236 PIN 1896                              APPROX. 2.5 KM 0845737.2 |
UV9308| UV9237 PEAK A                                APPROX. 2.6 KM 1042823.4 |
UV9308| UV9230 PEAK B                                APPROX. 1.8 KM 1334723.4 |
UV9308| UV9231 PEAK C CAIRN                          APPROX. 2.5 KM 1584059.4 |
UV9308|-----------------------------------------------------------------------|
UV9308
UV9308                          SUPERSEDED SURVEY CONTROL
UV9308
UV9308  NAD 27       -   53 53 54.64500(N)     166 30 46.48300(W)      ADJUSTED
UV9308
UV9308.Superseded values are not recommended for survey control.
UV9308.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9308.See file format.dat to determine how the superseded data were derived.
UV9308
UV9308_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9308
UV9308  HISTORY      - Date     Condition        Recov. By
UV9308  HISTORY      - 1896     MONUMENTED       CGS
UV9308  HISTORY      - 1934     SEE DESCRIPTION  CGS
UV9308
UV9308                           STATION DESCRIPTION
UV9308
UV9308'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9308'STATION WAS THOROUGHLY SEARCHED FOR BUT COULD NOT BE RECOVERED
UV9308'DUE TO CONSIDERABLE ARCHEOLOGICAL DIGGING IN THE VICINITY.
UV9308'NEW STATION, SOUTH BASE 2, ESTABLISHED.
1         National Geodetic Survey,   Retrieval Date = MAY 27, 1998
 UV9310 ***********************************************************************
 UV9310  DESIGNATION -  MAGNETIC STATION 1938
 UV9310  PID         -  UV9310
 UV9310  STATE/COUNTY-  AK/
 UV9310  USGS QUAD   -
 UV9310
 UV9310                         *CURRENT SURVEY CONTROL
 UV9310 ______________________________________________________________________
 UV9310* NAD 83(1986)-  53 53 20.06906(N)     166 32 03.34776(W)      ADJUSTED
 UV9310* NAVD 88     -
 UV9310 ______________________________________________________________________
 UV9310  LAPLACE CORR-           7.94  (seconds)                      DEFLEC96
 UV9310  GEOID HEIGHT-          16.65  (meters)                       GEOID96
 UV9310
 UV9310  HORZ ORDER  -  THIRD
 UV9310
 UV9310.The horizontal coordinates were established by classical geodetic methods
 UV9310.and adjusted by the National Geodetic Survey in July 1986.
 UV9310
 UV9310
 UV9310.The Laplace correction was computed from DEFLEC96 derived deflections.
 UV9310
 UV9310.The geoid height was determined by GEOID96.
 UV9310
 UV9310;                    North         East     Units   Scale      Converg.
 UV9310;SPC AK10      -   362,369.581 1,620,588.895   MT  1.00001750 +7 32 36.4
 UV9310;UTM  03       - 5,972,252.432   399,165.838   MT  0.99972477 -1 14 22.6
 UV9310
 UV9310:                  Primary Azimuth Mark                      Grid Az
 UV9310:SPC AK10      -   UNALASKA ASTRO STATION                    172 28 27.4
 UV9310:UTM  03       -   UNALASKA ASTRO STATION                    181 15 26.4
 UV9310
 UV9310|-----------------------------------------------------------------------|
 UV9310| PID    Reference Object                          Distance      Geod. Az |
 UV9310|                                                                dddmmss.s|
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UV9310| UV9339 UNALASKA ASTRO STATION                APPROX. 1.5 KM 1800103.8 |
UV9310| UV9298 RUSSIAN CHURCH                        APPROX. 1.5 KM 1852256.5 |
UV9310| UV9296 NORTH RADIO TOWER                     257.140 METERS 19258     |
UV9310| UV9322 SOUTH RADIO TOWER                     400.579 METERS 1984613.7 |
UV9310|-------------------------------------------------------------------------|
UV9310
UV9310                          SUPERSEDED SURVEY CONTROL
UV9310
UV9310  NAD 27       -  53 53 23.18100(N)    166 31 56.53100(W)     ADJUSTED
UV9310
UV9310.Superseded values are not recommended for survey control.
UV9310.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9310.See file format.dat to determine how the superseded data were derived.
UV9310
UV9310_MARKER: DS = TRIANGULATION STATION DISK
UV9310_SETTING: 0 = UNSPECIFIED SETTING
UV9310_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9310
UV9310  HISTORY      - Date     Condition        Recov. By
UV9310  HISTORY      - 1938     MONUMENTED       CGS
UV9310
UV9310                           STATION DESCRIPTION
UV9310
UV9310'DESCRIBED BY COAST AND GEODETIC SURVEY 1938 (RDH)
UV9310'ON THE NORTHWESTERN SLOPE OF THE HILL WHICH LIES JUST SOUTHEAST
UV9310'OF THE VILLAGE OF DUTCH HARBOR, 164 FEET DUE SOUTH OF A
UV9310'WATER TANK COVERED WITH SOD, AND ABOUT 20 FEET LOWER THAN
UV9310'THE CREST OF THE HILL AT THE POINT WHERE THE TOP SOIL HAS
UV9310'BEEN SCRAPED OFF.  THE SIDE HILL HAS BEEN CUT AWAY AT THE
UV9310'STATION SITE TO ALLOW A MAGNETIC TENT TO BE SET UP OVER THE
UV9310'MARK.
UV9310'
UV9310'THE STATION IS MARKED BY A STANDARD DISK IN A CONCRETE POST,
UV9310'AND SET FLUSH WITH THE GROUND.
UV9310'
UV9310'THE AZIMUTH MARK MENTIONED IN THE ORIGINAL DESCRIPTION OF
UV9310'THE MAGNETIC STATION HAS BEEN DESTROYED IN SCRAPING OFF THE
UV9310'TOP OF THE HILL FOR COVERING FOR THE WATER TANK, AND NO NEW
UV9310'MARKS WERE SET.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9312 ***********************************************************************
UV9312  FBN          -  This is a Candidate for Federal Base Network Control.
UV9312  DESIGNATION -  SOUTH BASE 2
UV9312  PID          -  UV9312
UV9312  STATE/COUNTY-  AK/ALEUTIANS EAST BOROUGH
UV9312  USGS QUAD    -
UV9312
UV9312                          *CURRENT SURVEY CONTROL
UV9312
UV9312* NAD 83(1992)-  53 53 50.72386(N)    166 30 54.90971(W)     ADJUSTED
UV9312* NAVD 88      -
UV9312
UV9312  X            -  -3,662,624.002  (meters)                    COMP
UV9312  Y            -    -878,287.066  (meters)                    COMP
UV9312  Z            -   5,130,040.902  (meters)                    COMP
UV9312  LAPLACE CORR-            8.41   (seconds)                   DEFLEC96
UV9312  ELLIP HEIGHT-           20.05   (meters)                    GPS OBS
UV9312  GEOID HEIGHT-           16.66   (meters)                    GEOID96
UV9312
UV9312  HORZ ORDER   -  B
UV9312  ELLP ORDER   -  FOURTH    CLASS II
UV9312
UV9312.The horizontal coordinates were established by GPS observations
UV9312.and adjusted by the National Geodetic Survey in September 1992.
UV9312.This is a SPECIAL STATUS position.  See SPECIAL STATUS under the
UV9312.DATUM ITEM on the data sheet items page.
UV9312
UV9312
UV9312.The X, Y, and Z were computed from the position and the ellipsoidal ht.
UV9312
UV9312.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9312
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UV9312.The ellipsoidal height was determined by GPS observations
UV9312.and is referenced to NAD 83.
UV9312
UV9312.The geoid height was determined by GEOID96.
UV9312
UV9312;                    North         East     Units   Scale      Converg.
UV9312;SPC AK10      -   363,473.391 1,621,703.355   MT  1.00002027 +7 33 31.0
UV9312;UTM  03       - 5,973,172.856   400,435.398   MT  0.99972164 -1 13 27.7
UV9312
UV9312:                 Primary Azimuth Mark                     Grid Az
UV9312:SPC AK10      -  GRAVE 2                                  181 56 51.6
UV9312:UTM  03       -  GRAVE 2                                  190 43 50.3
UV9312
UV9312|-----------------------------------------------------------------------|
UV9312| PID    Reference Object                        Distance      Geod. Az |
UV9312|                                                              dddmmss.s|
UV9312|        SOUTH BASE 2 RM 1                      15.260 METERS 02939    |
UV9312| UV9242 PINNACLE ROCK                         APPROX. 3.2 KM 0783336.1|
UV9312| UV9348 GRAVE 2                               APPROX. 2.7 KM 1893022.6|
UV9312| UV9298 RUSSIAN CHURCH                        APPROX. 2.8 KM 2095108.7|
UV9312| UV9322 SOUTH RADIO TOWER                     APPROX. 1.9 KM 2260611.6|
UV9312| UV9296 NORTH RADIO TOWER                     APPROX. 1.8 KM 2273007.8|
UV9312| UV9331 BEACON LIGHT                            9.767 METERS 28010    |
UV9312|-----------------------------------------------------------------------|
UV9312
UV9312                          SUPERSEDED SURVEY CONTROL
UV9312
UV9312  NAD 83(1986)-  53 53 50.82372(N)    166 30 54.45726(W)     ADJUSTED
UV9312  NAD 83(1986)-  53 53 50.72570(N)    166 30 54.93034(W)     ADJUSTED
UV9312  NAD 27      -  53 53 53.93800(N)    166 30 47.63200(W)     ADJUSTED
UV9312
UV9312.Superseded values are not recommended for survey control.
UV9312.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9312.See file format.dat to determine how the superseded data were derived.
UV9312
UV9312_MARKER: DH = HORIZONTAL CONTROL DISK
UV9312_SETTING: 80 = SET IN A BOULDER
UV9312_STAMPING: SB 2 1934
UV9312_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
UV9312+STABILITY: SURFACE MOTION
UV9312_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
UV9312+SATELLITE: SATELLITE OBSERVATIONS - August 12, 1991
UV9312
UV9312  HISTORY      - Date     Condition        Recov. By
UV9312  HISTORY      - 1934     MONUMENTED       CGS
UV9312  HISTORY      - 1934     GOOD             CGS
UV9312  HISTORY      - 1935     GOOD             CGS
UV9312  HISTORY      - 1938     GOOD             CGS
UV9312  HISTORY      - 1951     GOOD             CGS
UV9312  HISTORY      - 1975     GOOD             CONOCO
UV9312  HISTORY      - 19910812 GOOD             NGS
UV9312
UV9312                          STATION DESCRIPTION
UV9312
UV9312'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9312'OLD STATION SEARCHED FOR AND NOT RECOVERED.  CONSIDERABLE
UV9312'DIGGING IN THE IMMEDIATE VICINITY PROBABLY OBLITERATED IT.
UV9312'
UV9312'SOUTH BASE 2 IS ON THE SOUTH END OF THE LONG NARROW GRAVEL
UV9312'SPIT EXTENDING FROM THE NORTHEAST END OF AMAKNAK ISLAND AND
UV9312'NORTHEAST OF THE TOWN OF UNALASKA.  IT IS 4 METERS FROM EAST
UV9312'EDGE OF THE SPIT, 45 METERS FROM THE SOUTH EDGE AND 17.0 METERS
UV9312'NORTHEAST OF THE NAVY BEACON.  STATION IS MARKED BY A STANDARD
UV9312'DISK SET IN CEMENT IN A DRILL HOLE IN ROCK TWO FEET IN THE
UV9312'GROUND AND SURMOUNTED BY A PILE OF ROCKS.
UV9312
UV9312                          STATION RECOVERY (1934)
UV9312
UV9312'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1934
UV9312'RECOVERED IN GOOD CONDITION.
UV9312
UV9312                          STATION RECOVERY (1935)
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UV9312
UV9312'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1935 (AMS)
UV9312'RECOVERED AS DESCRIBED.  THE STATION IS ON THE SOUTH END OF THE
UV9312'LONG GRAVEL SPIT EXTENDING FROM THE NORTHEAST END OF AMAKNAK
UV9312'ISLAND AND NORTHEAST OF THE TOWN OF UNALASKA.  THE STATION IS
UV9312'4 METERS FROM THE EAST EDGE OF THE SPIT, 45 METERS FROM THE
UV9312'SOUTH EDGE AND 17 METERS NORTHEAST OF THE NAVY BEACON.  THE
UV9312'STATION IS MARKED BY A STANDARD DISK SET IN CEMENT IN A
UV9312'DRILL HOLE IN A ROCK 2 FEET IN THE GROUND AND SURMOUNTED BY A
UV9312'PILE OF ROCKS.
UV9312
UV9312                          STATION RECOVERY (1938)
UV9312
UV9312'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1938 (RDH)
UV9312'RECOVERED AS DESCRIBED.  ORIGINAL DESCRIPTION COMPLETE AND
UV9312'ADEQUATE.
UV9312
UV9312                          STATION RECOVERY (1951)
UV9312
UV9312'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1951 (GLA)
UV9312'THE STATION WAS RECOVERED AND APPARENTLY IN GOOD CONDITION.  IT
UV9312'IS LOCATED NEAR THE SOUTH END OF THE EAST SIDE OF DUTCH HARBOR.
UV9312'THE MARK IS A STANDARD DISC, STAMPED S.B.-2, 1934 SET IN A DRILL
UV9312'HOLE IN THE TOP OF A BOULDER ABOUT 1 FT. BELOW THE SURFACE OF
UV9312'THE GROUND.  STATION IS 12.857 M. NORTHEAST FROM A U.S.E.
UV9312'TRIANGULATION STATION MARK WHICH IS SET IN THE TOP OF THE
UV9312'NORTHEAST OF 4 CONCRETE PIERS FORMING THE BASE FOR SPITHEAD LT.
UV9312'THE U.S.E. MARK HAS AN ARROW CHISELLED IN THE FACE WHICH
UV9312'POINTS TOWARDS SOUTH BASE-2, AND IS STAMPED S-BASE-2, 1942.
UV9312'THE REFERENCE MARK WAS NOT RECOVERED AND WAS PROBABLY
UV9312'DESTROYED BY THE MILITARY CONSTRUCTION IN THIS AREA.
UV9312
UV9312                          STATION RECOVERY (1975)
UV9312
UV9312'RECOVERY NOTE BY CONTINENTAL OIL COMPANY INCORPORATED 1975 (CJB)
UV9312'RECOVERED AS DESCRIBED.
UV9312
UV9312                          STATION RECOVERY (1991)
UV9312
UV9312'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1991
UV9312'THE STATION IS LOCATED ON AMAKNAK ISLAND IN THE ALEUTIAN ISLAND CHAIN.
UV9312'IT IS ABOUT 1 MI (1.6 KM) NORTHEAST OF DUTCH HARBOR, NEAR THE SOUTH
UV9312'END OF THE LONG GRAVEL SPIT.
UV9312'TO REACH THE STATION FROM THE TOWN OF DUTCH HARBOR, GO NORTHEASTERLY
UV9312'ALONG THE ROAD THAT FOLLOWS THE SHORELINE OF DUTCH HARBOR FOR ABOUT 1
UV9312'1/2 MILES TO WHERE THE ROAD TURNS SOUTH AT THE BASE OF THE GRAVEL
UV9312'SPIT.  FOLLOW THE ROAD SOUTHERLY ALONG THE SPIT FOR ABOUT 1 MI
UV9312'(1.6 KM) TO THE END OF THE SPIT AND THE STATION AS DESCRIBED.
UV9312'THE STATION IS ABOUT 12.8 M (42.0 FT) NORTHEAST OF THE NORTHEAST ONE
UV9312'OF FOUR PIERS FORMING THE BASE FOR THE SPITHEAD BEACON, 4.0 M
UV9312'(13.1 FT) FROM THE EAST EDGE OF THE SPIT, AND 45.7 M (149.9 FT) FROM
UV9312'THE SOUTH EDGE OF THE SPIT.  THE MARK IS IN THE TOP OF A BOULDER THAT
UV9312'IS ABOUT 0.3 M (1.0 FT) BELOW GROUND.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9315 ***********************************************************************
UV9315  DESIGNATION -  DUTCH HARBOR WATER TANK
UV9315  PID         -  UV9315
UV9315  STATE/COUNTY-  AK/
UV9315  USGS QUAD   -
UV9315
UV9315                          *CURRENT SURVEY CONTROL
UV9315 ______________________________________________________________________
UV9315* NAD 83(1986)-  53 53 18.60646(N)    166 32 00.24440(W)     ADJUSTED
UV9315* NAVD 88     -
UV9315 ______________________________________________________________________
UV9315  LAPLACE CORR-           7.94  (seconds)                    DEFLEC96
UV9315  GEOID HEIGHT-          16.66  (meters)                     GEOID96
UV9315
UV9315  HORZ ORDER  -  THIRD
UV9315
UV9315.The horizontal coordinates were established by classical geodetic methods
UV9315.and adjusted by the National Geodetic Survey in July 1986.
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UV9315
UV9315
UV9315.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9315
UV9315.The geoid height was determined by GEOID96.
UV9315
UV9315;                    North         East      Units   Scale      Converg.
UV9315;SPC AK10      -   362,332.193 1,620,651.022   MT  1.00001737 +7 32 38.9
UV9315;UTM  03       - 5,972,206.009   399,221.511   MT  0.99972463 -1 14 20.0
UV9315
UV9315                            SUPERSEDED SURVEY CONTROL
UV9315
UV9315  NAD 27       -  53 53 21.72200(N)     166 31 53.42400(W)      ADJUSTED
UV9315
UV9315.Superseded values are not recommended for survey control.
UV9315.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9315.See file format.dat to determine how the superseded data were derived.
UV9315
UV9315_MARKER: 51 = TANK
UV9315
UV9315  HISTORY      - Date      Condition         Recov. By
UV9315  HISTORY      - 1951      FIRST OBSERVED    CGS
UV9315  HISTORY      - 1975      GOOD              CONOCO
UV9315
UV9315                             STATION DESCRIPTION
UV9315
UV9315'DESCRIBED BY COAST AND GEODETIC SURVEY 1951 (GLA)
UV9315'STATION IS THE CENTER OF THE BALL ON TOP OF THE METAL WATER
UV9315'TANK WHICH IS LOCATED ON THE HIGH GROUND ABOUT 1/4 MI. SOUTH
UV9315'OF THE OIL PIER IN DUTCH HARBOR.  THE TANK IS ATOP A QUADRIPOD
UV9315'STRUCTURE APPROXIMATELY 50 FT. ABOVE THE GROUND.
UV9315
UV9315                             STATION RECOVERY (1975)
UV9315
UV9315'RECOVERY NOTE BY CONTINENTAL OIL COMPANY INCORPORATED 1975 (CJB)
UV9315'INTERSECTION STATION - OK, FOUND AS DESCRIBED.
1         National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9317 ***********************************************************************
UV9317  DESIGNATION -  SPUR
UV9317  PID         -  UV9317
UV9317  STATE/COUNTY-  AK/
UV9317  USGS QUAD   -
UV9317
UV9317                            *CURRENT SURVEY CONTROL
UV9317 ______________________________________________________________________
UV9317* NAD 83(1986)-  53 53 17.57803(N)     166 30 10.88278(W)      ADJUSTED
UV9317* NAVD 88     -
UV9317 ______________________________________________________________________
UV9317  LAPLACE CORR-           8.15  (seconds)                     DEFLEC96
UV9317  GEOID HEIGHT-          16.71  (meters)                      GEOID96
UV9317
UV9317  HORZ ORDER  -  SECOND
UV9317
UV9317.The horizontal coordinates were established by classical geodetic methods
UV9317.and adjusted by the National Geodetic Survey in July 1986.
UV9317
UV9317
UV9317.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9317
UV9317.The geoid height was determined by GEOID96.
UV9317
UV9317;                    North         East      Units   Scale      Converg.
UV9317;SPC AK10      -   362,563.334 1,622,635.295   MT  1.00001728 +7 34 06.1
UV9317;UTM  03       - 5,972,131.483   401,217.220   MT  0.99971974 -1 12 51.6
UV9317
UV9317:                Primary Azimuth Mark                      Grid Az
UV9317:SPC AK10      -  AMAK                                     247 36 09.2
UV9317:UTM  03       -  AMAK                                     256 23 06.9
UV9317
UV9317|-----------------------------------------------------------------------|
UV9317| PID    Reference Object                          Distance      Geod. Az |
UV9317|                                                                dddmmss.s|
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UV9317|         SPUR RM 1                              10.365 METERS 08312      |
UV9317|         SPUR RM 2                               8.179 METERS 16018      |
UV9317| UV9297 AMAK                                  APPROX. 2.3 KM 2551015.3    |
UV9317|--------------------------------------------------------------------------|
UV9317
UV9317                            SUPERSEDED SURVEY CONTROL
UV9317
UV9317  NAD 27       -  53 53 20.68700(N)     166 30 04.05500(W)      ADJUSTED
UV9317
UV9317.Superseded values are not recommended for survey control.
UV9317.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9317.See file format.dat to determine how the superseded data were derived.
UV9317
UV9317_MARKER: DS = TRIANGULATION STATION DISK
UV9317_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT (ROUND)
UV9317_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
UV9317+STABILITY: SURFACE MOTION
UV9317
UV9317  HISTORY      - Date     Condition        Recov. By
UV9317  HISTORY      - 1938     MONUMENTED       CGS
UV9317
UV9317                             STATION DESCRIPTION
UV9317
UV9317'DESCRIBED BY COAST AND GEODETIC SURVEY 1938 (RDH)
UV9317'THE STATION IS ON THE EAST SHORE OF ILIULIUK BAY, 1.6 MILES
UV9317'NORTHEAST BY EAST OF THE RUSSIAN CHURCH IN UNALASKA, 1.0 MILE
UV9317'EAST OF ROCKY POINT, AND 0.8 MILE SOUTHEAST BY SOUTH OF
UV9317'SPITHEAD LIGHT.  IT IS ON TOP OF A LOW GRASSY SPUR OF THE MOUNTAIN
UV9317'AT THE NORTH END OF A LOW GRASSY FLAT, AND ABOUT 40 FEET ABOVE
UV9317'AND 75 FEET BACK FROM THE STORM WATER LINE.
UV9317'
UV9317'STATION MARK IS A STANDARD DISK SET IN A 12- BY 12-INCH
UV9317'CONCRETE POST FLUSH WITH THE GROUND AND EXTENDING 3 FEET BELOW
UV9317'THE SURFACE.
UV9317'
UV9317'REFERENCE MARK NO. 1 IS A STANDARD DISK SET IN DRILL HOLE IN
UV9317'A BOULDER, AND IS NORTHEAST OF THE STATION.
UV9317'
UV9317'REFERENCE MARK NO. 2 IS A STANDARD DISK SET IN DRILL HOLE IN A
UV9317'BOULDER, AND IS SOUTHEAST OF THE STATION.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9319 ***********************************************************************
UV9319  DESIGNATION -  TRIP
UV9319  PID         -  UV9319
UV9319  STATE/COUNTY-  AK/
UV9319  USGS QUAD   -
UV9319
UV9319                          *CURRENT SURVEY CONTROL
UV9319
UV9319* NAD 83(1986)-  53 52 33.26686(N)     166 33 11.37178(W)      ADJUSTED
UV9319* NAVD 88     -
UV9319
UV9319  LAPLACE CORR-           7.16  (seconds)                      DEFLEC96
UV9319  GEOID HEIGHT-          16.66  (meters)                       GEOID96
UV9319
UV9319  HORZ ORDER  -  THIRD
UV9319
UV9319.The horizontal coordinates were established by classical geodetic methods
UV9319.and adjusted by the National Geodetic Survey in July 1986.
UV9319
UV9319
UV9319.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9319
UV9319.The geoid height was determined by GEOID96.
UV9319
UV9319;                    North         East     Units   Scale      Converg.
UV9319;SPC AK10      -   360,772.089 1,619,546.803   MT  1.00001332 +7 31 42.2
UV9319;UTM  03       - 5,970,833.203   397,892.407   MT  0.99972794 -1 15 16.8
UV9319
UV9319:                Primary Azimuth Mark                     Grid Az
UV9319:SPC AK10      -  BONE 1941                               005 24 38.4
UV9319:UTM  03       -  BONE 1941                               014 11 37.4
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UV9319
UV9319|----------------------------------------------------------------------|
UV9319| PID    Reference Object                          Distance      Geod. Az |
UV9319|                                                                dddmmss.s|
UV9319| UV9320 BONE 1941                               APPROX. 0.6 KM 0125620.6|
UV9319| UV9337 NAK 2                                   221.306 METERS 24139    |
UV9319|----------------------------------------------------------------------|
UV9319
UV9319                          SUPERSEDED SURVEY CONTROL
UV9319
UV9319  NAD 27       -  53 52 36.37500(N)    166 33 04.56200(W)     ADJUSTED
UV9319
UV9319.Superseded values are not recommended for survey control.
UV9319.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9319.See file format.dat to determine how the superseded data were derived.
UV9319
UV9319_MARKER: DS = TRIANGULATION STATION DISK
UV9319_SETTING: 4 = OBJECT SURROUNDED BY MASS OF CONCRETE
UV9319_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9319
UV9319  HISTORY      - Date     Condition        Recov. By
UV9319  HISTORY      - 1941     MONUMENTED       CGS
UV9319
UV9319                           STATION DESCRIPTION
UV9319
UV9319'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9319'THE STATION IS ON THE SOUTHERN PART OF AMAKNAK ISLAND, ON THE
UV9319'SHORE THAT LIES TO THE SW OF EXPEDITION ISLAND, AND IT IS THE
UV9319'APPARENT HIGHEST PART OF A LOW PROJECTING KNOLL THAT IS DIRECTLY
UV9319'ACROSS FROM THAT ISLAND.  THE STATION IS ABOUT 20 FEET ABOVE THE
UV9319'WATER AND ABOUT 50 FEET TO THE SE OF A SMALL DOCK.
UV9319'
UV9319'THE STATION IS MARKED BY A STANDARD DISK SET IN AN IRREGULAR MASS
UV9319'OF CONCRETE WITH THE TOP FLUSH WITH THE GROUND.  IT IS STAMPED
UV9319'TRIP 1941.
UV9319'
UV9319'NOTE--THIS STATION WILL PROBABLY BE DESTROYED IN THE NEAR
UV9319'FUTURE BY CONSTRUCTION OPERATIONS.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9320 ***********************************************************************
UV9320  DESIGNATION -  BONE 1941
UV9320  PID         -  UV9320
UV9320  STATE/COUNTY-  AK/
UV9320  USGS QUAD   -
UV9320
UV9320                          *CURRENT SURVEY CONTROL
UV9320 ______________________________________________________________________
UV9320* NAD 83(1986)-  53 52 52.22341(N)    166 33 04.00053(W)     ADJUSTED
UV9320* NAVD 88     -
UV9320 ______________________________________________________________________
UV9320  LAPLACE CORR-           7.38  (seconds)                     DEFLEC96
UV9320  GEOID HEIGHT-          16.65  (meters)                      GEOID96
UV9320
UV9320  HORZ ORDER  -  THIRD
UV9320
UV9320.The horizontal coordinates were established by classical geodetic methods
UV9320.and adjusted by the National Geodetic Survey in July 1986.
UV9320
UV9320
UV9320.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9320
UV9320.The geoid height was determined by GEOID96.
UV9320
UV9320;                   North         East     Units   Scale      Converg.
UV9320;SPC AK10      -   361,370.777 1,619,603.508   MT  1.00001501 +7 31 48.1
UV9320;UTM  03       - 5,971,416.045   398,039.821   MT  0.99972757 -1 15 11.1
UV9320
UV9320:                Primary Azimuth Mark                     Grid Az
UV9320:SPC AK10      -  AMAK                                    070 46 35.1
UV9320:UTM  03       -  AMAK                                    079 33 34.3
UV9320
UV9320|----------------------------------------------------------------------|
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UV9320| PID    Reference Object                      Distance      Geod. Az  |
UV9320|                                                           dddmmss.s |
UV9320| UV9297 AMAK                                APPROX. 1.0 KM 0781823.2 |
UV9320|-------------------------------------------------------------------- |
UV9320
UV9320                            SUPERSEDED SURVEY CONTROL
UV9320
UV9320  NAD 27       -  53 52 55.33400(N)    166 32 57.19000(W)     ADJUSTED
UV9320
UV9320.Superseded values are not recommended for survey control.
UV9320.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9320.See file format.dat to determine how the superseded data were derived.
UV9320
UV9320_MARKER: DS = TRIANGULATION STATION DISK
UV9320_SETTING: 4 = OBJECT SURROUNDED BY MASS OF CONCRETE
UV9320_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9320
UV9320  HISTORY      - Date     Condition        Recov. By
UV9320  HISTORY      - 1941     MONUMENTED       CGS
UV9320  HISTORY      - 1969     GOOD             CGS
UV9320
UV9320                             STATION DESCRIPTION
UV9320
UV9320'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9320'THE STATION IS ON THE SOUTHERN PART OF AMAKNAK ISLAND, ON A
UV9320'POINT OF LAND THAT LIES BETWEEN ILIULIUK HARBOR AND XATACYAN
UV9320'LAGOON.  IT IS ABOUT IN THE CENTER OF THE POINT TRANSVERSELY
UV9320'AND ABOUT 125 METERS FROM THE END.  IT IS ABOUT 30 METERS BACK
UV9320'FROM THE HIGHEST PART OF THE POINT AND ABOUT 5 FEET LOWER.
UV9320'
UV9320'THE STATION IS MARKED BY A STANDARD DISK SET IN AN IRREGULAR
UV9320'MASS OF CONCRETE WITH THE TOP FLUSH WITH THE GROUND.  THE
UV9320'DISK IS STAMPED BONE 1941.  THERE ARE NO REFERENCE MARKS.
UV9320
UV9320                             STATION RECOVERY (1969)
UV9320
UV9320'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1969 (EWR)
UV9320'THE STATION WAS RECOVERED AS PREVIOUSLY DESCRIBED, IN GOOD
UV9320'CONDITION.
UV9320'
UV9320'THERE ARE NO REFERENCE MARKS.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
 UV9322 ***********************************************************************
 UV9322  DESIGNATION -  SOUTH RADIO TOWER
 UV9322  PID         -  UV9322
 UV9322  STATE/COUNTY-  AK/
 UV9322  USGS QUAD   -
 UV9322
 UV9322                          *CURRENT SURVEY CONTROL
 UV9322  ______________________________________________________________________
 UV9322* NAD 83(1986)-  53 53 07.80169(N)    166 32 10.40466(W)     ADJUSTED
 UV9322* NAVD 88     -
 UV9322  ______________________________________________________________________
 UV9322  LAPLACE CORR-          7.81  (seconds)                     DEFLEC96
 UV9322  GEOID HEIGHT-         16.66  (meters)                      GEOID96
 UV9322
 UV9322  HORZ ORDER  -  THIRD
 UV9322
 UV9322.The horizontal coordinates were established by classical geodetic methods
 UV9322.and adjusted by the National Geodetic Survey in July 1986.
 UV9322
 UV9322
 UV9322.The Laplace correction was computed from DEFLEC96 derived deflections.
 UV9322
 UV9322.The geoid height was determined by GEOID96.
 UV9322
 UV9322;                    North         East      Units  Scale      Converg.
 UV9322;SPC AK10      -   361,976.661 1,620,510.903   MT  1.00001640 +7 32 30.8
 UV9322;UTM  03       - 5,971,876.138   399,028.804   MT  0.99972510 -1 14 28.1
 UV9322
 UV9322                          SUPERSEDED SURVEY CONTROL
 UV9322
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UV9322  NAD 27       -  53 53 10.91200(N)     166 32 03.58900(W)      ADJUSTED
UV9322
UV9322.Superseded values are not recommended for survey control.
UV9322.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9322.See file format.dat to determine how the superseded data were derived.
UV9322
UV9322_MARKER: 43 = RADIO/TV TOWER
UV9322
UV9322  HISTORY      - Date      Condition        Recov. By
UV9322  HISTORY      - 1934      FIRST OBSERVED   CGS
UV9322  HISTORY      - 1975      GOOD             CONOCO
UV9322
UV9322                            STATION DESCRIPTION
UV9322
UV9322'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9322'THIS IS AN INTERSECTION STATION LOCATED BY THREE DIRECT AND
UV9322'REVERSE OBSERVATIONS.  STATION IS THE TOP OF THE THREE-SIDED
UV9322'STEEL STRUCTURE, WHICH IS 210 FEET HIGH.  TOWER IS PAINTED
UV9322'YELLOW AND SHOWS 2 RED LIGHTS AT NIGHT.  ONE AT THE TOP, THE
UV9322'OTHER HALF WAY UP THE STRUCTURE.  THESE LIGHTS SERVE AS VERY
UV9322'GOOD BEACONS FOR SHIPS COMING INTO ILIULIUK BAY.  THIS TOWER
UV9322'IS THE MOST SOUTHERLY ONE OF THE TWO, WHICH ARE USED BY THE
UV9322'DUTCH HARBOR NAVAL RADIO STATION, LOCATED IN THE IMMEDIATE
UV9322'VICINITY OF THESE TOWERS IN DUTCH HARBOR.
UV9322
UV9322                            STATION RECOVERY (1975)
UV9322
UV9322'RECOVERY NOTE BY CONTINENTAL OIL COMPANY INCORPORATED 1975 (CJB)
UV9322'RECOVERED AS DESCRIBED.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9330 ***********************************************************************
UV9330  DESIGNATION -  SOUTH BASE 2 RM
UV9330  PID         -  UV9330
UV9330  STATE/COUNTY-  AK/
UV9330  USGS QUAD   -
UV9330
UV9330                          *CURRENT SURVEY CONTROL
UV9330 ______________________________________________________________________
UV9330* NAD 83(1986)-  53 53 50.63499(N)     166 30 55.08467(W)      ADJUSTED
UV9330* NAVD 88     -
UV9330 ______________________________________________________________________
UV9330  LAPLACE CORR-           8.41  (seconds)                      DEFLEC96
UV9330  GEOID HEIGHT-          16.66  (meters)                       GEOID96
UV9330
UV9330  HORZ ORDER  -  THIRD
UV9330
UV9330.The horizontal coordinates were established by classical geodetic methods
UV9330.and adjusted by the National Geodetic Survey in July 1986.
UV9330
UV9330
UV9330.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9330
UV9330.The geoid height was determined by GEOID96.
UV9330
UV9330;                    North          East      Units   Scale      Converg.
UV9330;SPC AK10      -   363,470.247 1,621,700.549   MT  1.00002026 +7 33 30.8
UV9330;UTM  03       - 5,973,170.178   400,432.146   MT  0.99972165 -1 13 27.9
UV9330
UV9330                          SUPERSEDED SURVEY CONTROL
UV9330
UV9330  NAD 27       -  53 53 53.74900(N)     166 30 48.25900(W)      ADJUSTED
UV9330
UV9330.Superseded values are not recommended for survey control.
UV9330.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9330.See file format.dat to determine how the superseded data were derived.
UV9330
UV9330_MARKER: DH = HORIZONTAL CONTROL DISK
UV9330_SETTING: 0 = UNSPECIFIED SETTING
UV9330_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9330
UV9330  HISTORY      - Date      Condition        Recov. By
UV9330  HISTORY      - 1942      MONUMENTED       CGS
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 UV9330
 UV9330                          STATION DESCRIPTION
 UV9330
 UV9330'DESCRIBED BY COAST AND GEODETIC SURVEY 1942
 UV9330'SEE STATION SOUTH BASE 2.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
 UV9331 ***********************************************************************
 UV9331  DESIGNATION -  BEACON LIGHT
 UV9331  PID         -  UV9331
 UV9331  STATE/COUNTY-  AK/
 UV9331  USGS QUAD   -
 UV9331
 UV9331                          *CURRENT SURVEY CONTROL
 UV9331 ______________________________________________________________________
 UV9331* NAD 83(1986)-  53 53 50.77961(N)    166 30 55.43621(W)     ADJUSTED
 UV9331* NAVD 88     -
 UV9331 ______________________________________________________________________
 UV9331  LAPLACE CORR-           8.41  (seconds)                    DEFLEC96
 UV9331  GEOID HEIGHT-          16.66  (meters)                     GEOID96
 UV9331
 UV9331  HORZ ORDER  -  THIRD
 UV9331
 UV9331.The horizontal coordinates were established by classical geodetic methods
 UV9331.and adjusted by the National Geodetic Survey in July 1986.
 UV9331
 UV9331
 UV9331.The Laplace correction was computed from DEFLEC96 derived deflections.
 UV9331
 UV9331.The geoid height was determined by GEOID96.
 UV9331
 UV9331;                    North         East     Units   Scale      Converg.
 UV9331;SPC AK10     -   363,473.836 1,621,693.598   MT  1.00002028 +7 33 30.6
 UV9331;UTM  03      - 5,973,174.784   400,425.825   MT  0.99972167 -1 13 28.2
 UV9331
 UV9331                          SUPERSEDED SURVEY CONTROL
 UV9331
 UV9331  NAD 27      -  53 53 53.89200(N)    166 30 48.61100(W)     ADJUSTED
 UV9331
 UV9331.Superseded values are not recommended for survey control.
 UV9331.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 UV9331.See file format.dat to determine how the superseded data were derived.
 UV9331
 UV9331_MARKER: 14 = NAVIGATION LIGHT
 UV9331
 UV9331  HISTORY     - Date     Condition        Recov. By
 UV9331  HISTORY     - 1934     FIRST OBSERVED   CGS
 UV9331
 UV9331                          STATION DESCRIPTION
 UV9331
 UV9331'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
 UV9331'THIS IS AN INTERSECTION STATION LOCATED BY THREE DIRECT
 UV9331'AND REVERSE OBSERVATIONS.  STATION IS THE TOP OF LIGHT, ON
 UV9331'WHITE SLATTED TRIPOD, 35 FEET ABOVE HIGH WATER.  THIS LIGHT
 UV9331'IS KNOWN AS THE SPITHEAD LIGHT, ON NORTH SIDE OF ENTRANCE
 UV9331'TO DUTCH HARBOR.  THE OLD LIGHT IS IN THE FORM OF A SMALL
 UV9331'WHITE HOUSE ABOUT 15 FEET SOUTH OF BEACON LIGHT.  SOUTH BASE
 UV9331'2 IS 17 METERS EAST OF STATION, MEASUREMENT BEING TAKEN TO
 UV9331'CLOSEST SIDE OF SLATTED TRIPOD.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
 UV9337 ***********************************************************************
 UV9337  DESIGNATION -  NAK 2
 UV9337  PID         -  UV9337
 UV9337  STATE/COUNTY-  AK/
 UV9337  USGS QUAD   -  UNALASKA 250K
 UV9337
 UV9337                          *CURRENT SURVEY CONTROL
 UV9337 ______________________________________________________________________
 UV9337* NAD 83(1986)-  53 52 29.86714(N)    166 33 22.03153(W)     ADJUSTED
 UV9337* NAVD 88     -
 UV9337 ______________________________________________________________________
 UV9337  LAPLACE CORR-           7.04  (seconds)                    DEFLEC96
 UV9337  GEOID HEIGHT-          16.66  (meters)                     GEOID96
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UV9337
UV9337  HORZ ORDER  -  SECOND
UV9337
UV9337.The horizontal coordinates were established by classical geodetic methods
UV9337.and adjusted by the National Geodetic Survey in July 1986.
UV9337
UV9337
UV9337.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9337
UV9337.The geoid height was determined by GEOID96.
UV9337
UV9337;                      North         East     Units   Scale      Converg.
UV9337;SPC AK10      -   360,642.370 1,619,367.496   MT  1.00001302 +7 31 33.7
UV9337;UTM  03       - 5,970,732.414   397,695.451   MT  0.99972843 -1 15 25.3
UV9337
UV9337:                 Primary Azimuth Mark                      Grid Az
UV9337:SPC AK10      -  HOG                                       327 30 26.2
UV9337:UTM  03       -  HOG                                       336 17 25.2
UV9337
UV9337|-------------------------------------------------------------------------|
UV9337| PID    Reference Object                        Distance      Geod. Az   |
UV9337|                                                              dddmmss.s  |
UV9337|        NAK 2 RM 2                              3.860 METERS 07735      |
UV9337|        NAK 2 RM 1                             14.980 METERS 28658      |
UV9337| UV9324 HOG                                   APPROX. 2.8 KM 3350159.9  |
UV9337|-------------------------------------------------------------------------|
UV9337
UV9337                          SUPERSEDED SURVEY CONTROL
UV9337
UV9337  NAD 27       -  53 52 32.97500(N)    166 33 15.22300(W)     ADJUSTED
UV9337
UV9337.Superseded values are not recommended for survey control.
UV9337.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9337.See file format.dat to determine how the superseded data were derived.
UV9337
UV9337_MARKER: DS = TRIANGULATION STATION DISK
UV9337_SETTING: 66 = SET IN ROCK OUTCROP
UV9337_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
UV9337+STABILITY: POSITION/ELEVATION WELL
UV9337
UV9337  HISTORY      - Date     Condition        Recov. By
UV9337  HISTORY      - 1934     MONUMENTED       CGS
UV9337  HISTORY      - 1941     GOOD             CGS
UV9337  HISTORY      - 1969     GOOD             CGS
UV9337
UV9337                          STATION DESCRIPTION
UV9337
UV9337'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9337'THE STATION IS ON THE HIGHEST POINT OF HIGH LAND AT THE SOUTH
UV9337'END OF AMAKNAK ISLAND, IN ILIULIUK HARBOR SOUTH OF EXPEDITION
UV9337'ISLAND.  IT IS MARKED BY A STANDARD BRONZE DISK CEMENTED
UV9337'IN A DRILL HOLE, ABOUT 12 INCHES BELOW THE SURFACE IN BEDROCK.
UV9337'REFERENCE MARK NO. 1 IS WEST OF THE STATION ABOUT
UV9337'10 FEET LOWER IN ELEVATION THAN THE STATION, AND IS ON A
UV9337'PROMINENT OUTCROP OF BEDROCK.  THE DISTANCE MEASURED
UV9337'IS A SLOPE DISTANCE.  REFERENCE MARK NO. 2 IS NORTHEAST OF
UV9337'THE STATION AND IS A STANDARD BRONZE DISK CEMENTED IN A DRILL
UV9337'HOLE IN BEDROCK.
UV9337
UV9337                          STATION RECOVERY (1941)
UV9337
UV9337'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9337'THE STATION WAS RECOVERED AS DESCRIBED IN 1934.  THE EXISTING
UV9337'DESCRIPTION IS ADEQUATE.
UV9337
UV9337                          STATION RECOVERY (1969)
UV9337
UV9337'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1969 (EWR)
UV9337'THIS STATION AND THE TWO REFERENCE MARKS WERE RECOVERED IN
UV9337'GOOD CONDITION.  THIS STATION IS ON THE HIGHEST POINT OF HIGH
UV9337'LAND AT THE SOUTH END OF AMAKNAK ISLAND, IN ILIVLIUK HARBOR
UV9337'SOUTH OF EXPEDITION ISLAND.  IT IS MARKED BY A STANDARD
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UV9337'BRONZE DISC CEMENTED IN A DRILL HOLE, ABOUT 12 IN BELOW
UV9337'THE SURFACE IN BEDROCK.  IT IS ON THE CENTERLINE BETWEEN
UV9337'A CONCRETE PILL BOX AND A WOODEN WATER TANK.  IT IS INSIDE AND
UV9337'ABOUT 18 IN FROM THE BACK WALL OF THE PILL BOX.  THE STRUCTURE
UV9337'IS VISIBLE FROM THE HARBOR.  REFERENCE MARK NO. 1 IS ABOUT
UV9337'48.5 FEET (SLOPE DISTANCE) WEST OF THE STATION AND ABOUT
UV9337'10 FEET LOWER IN ELEVATION, ON A PROMINENT OUTCROP OF
UV9337'BEDROCK.  REFERENCE MARK NO. 2 IS ABOUT 12.5 FEET NE OF THE
UV9337'STATION.  BOTH REFERENCE MARKS ARE STANDARD BRONZE DISKS
UV9337'IN DRILL HOLES IN BEDROCK.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9338 ***********************************************************************
UV9338  DESIGNATION -  NAK 1896
UV9338  PID         -  UV9338
UV9338  STATE/COUNTY-  AK/
UV9338  USGS QUAD   -  UNALASKA 250K
UV9338
UV9338                          *CURRENT SURVEY CONTROL
UV9338
UV9338* NAD 83(1986)-  53 52 29.90746(N)    166 33 22.00113(W)     ADJUSTED
UV9338* NAVD 88     -
UV9338
UV9338  LAPLACE CORR-           7.04  (seconds)                    DEFLEC96
UV9338  GEOID HEIGHT-          16.66  (meters)                     GEOID96
UV9338
UV9338  HORZ ORDER  -  THIRD
UV9338
UV9338.The horizontal coordinates were established by classical geodetic methods
UV9338.and adjusted by the National Geodetic Survey in July 1986.
UV9338
UV9338
UV9338.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9338
UV9338.The geoid height was determined by GEOID96.
UV9338
UV9338;                     North         East     Units   Scale      Converg.
UV9338;SPC AK10     -   360,643.679 1,619,367.883   MT  1.00001303 +7 31 33.8
UV9338;UTM  03      - 5,970,733.647   397,696.034   MT  0.99972843 -1 15 25.3
UV9338
UV9338:                 Primary Azimuth Mark                    Grid Az
UV9338:SPC AK10     -   FROST RESET                             295 58 41.7
UV9338:UTM  03      -   FROST RESET                             304 45 40.8
UV9338
UV9338|-----------------------------------------------------------------------|
UV9338| PID    Reference Object                          Distance      Geod. Az |
UV9338|                                                                dddmmss.s|
UV9338| UV9309 POLE PEAK                               APPROX. 4.2 KM 0172112.4|
UV9338| UV9294 DUTCH HARBOR CO FLAGSTAFF               APPROX. 2.2 KM 0372846.3|
UV9338| UW0119 PRIEST ROCK                             APPROX.18.9 KM 0382151.1|
UV9338| UV9243 CONSTANTINE                             APPROX.11.6 KM 0423135.0|
UV9338| UV9303 UNALASKA AC CO FLAGSTAFF                APPROX. 1.2 KM 0781634.5|
UV9338| UV9231 PEAK C CAIRN                            APPROX. 3.6 KM 0872105.7|
UV9338| UV9364 PIP                                     APPROX. 3.7 KM 1920102.4|
UV9338| UV9370 PEAK 3                                  APPROX. 3.9 KM 2430601.4|
UV9338| UV9352 PEAK 2                                  APPROX. 3.2 KM 2555051.4|
UV9338| UV9353 PEAK 1                                  APPROX. 2.9 KM 2622757.4|
UV9338| UV9323 RIDGE POINT                            APPROX. 2.0 KM 2744432.4|
UV9338| UV9318 FROST RESET                             APPROX. 5.5 KM 3033015.5|
UV9338|-----------------------------------------------------------------------|
UV9338
UV9338                          SUPERSEDED SURVEY CONTROL
UV9338
UV9338  NAD 27      -  53 52 33.01500(N)    166 33 15.19700(W)     ADJUSTED
UV9338
UV9338.Superseded values are not recommended for survey control.
UV9338.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9338.See file format.dat to determine how the superseded data were derived.
UV9338
UV9338_MARKER: N = NAIL
UV9338_SETTING: 0 = UNSPECIFIED SETTING
UV9338_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9338
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UV9338  HISTORY      - Date      Condition        Recov. By
UV9338  HISTORY      - 1896      MONUMENTED       CGS
UV9338  HISTORY      - 1934      SEE DESCRIPTION  CGS
UV9338
UV9338                            STATION DESCRIPTION
UV9338
UV9338'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9338'IN ILIULIUK BAY, THE STAKE MARKING THE STATION WAS RECOVERED.
UV9338'THE NAIL MARKING THE CENTER WAS GONE, DUE TO THE ROTTING AWAY
UV9338'OF THE STAKE.  A NEW STATION, NAK 2, WAS ESTABLISHED AT THE
UV9338'CENTER OF THE OLD STAKE.  SEE DESCRIPTION OF NAK 2.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9339 ***********************************************************************
UV9339  DESIGNATION -  UNALASKA ASTRO STATION
UV9339  PID         -  UV9339
UV9339  STATE/COUNTY-  AK/
UV9339  USGS QUAD   -
UV9339
UV9339                            *CURRENT SURVEY CONTROL
UV9339 ______________________________________________________________________
UV9339* NAD 83(1986)-  53 52 30.44140(N)    166 32 03.37375(W)      ADJUSTED
UV9339* NAVD 88     -
UV9339 ______________________________________________________________________
UV9339  LAPLACE CORR-           7.57  (seconds)                     DEFLEC96
UV9339  GEOID HEIGHT-          16.69  (meters)                      GEOID96
UV9339
UV9339  HORZ ORDER  -  SECOND
UV9339
UV9339.The horizontal coordinates were established by classical geodetic methods
UV9339.and adjusted by the National Geodetic Survey in July 1986.
UV9339
UV9339
UV9339.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9339
UV9339.The geoid height was determined by GEOID96.
UV9339
UV9339;                     North         East      Units   Scale      Converg.
UV9339;SPC AK10      -   360,848.414 1,620,789.856   MT  1.00001307 +7 32 36.4
UV9339;UTM  03       - 5,970,718.863   399,132.182   MT  0.99972485 -1 14 21.8
UV9339
UV9339:                 Primary Azimuth Mark                     Grid Az
UV9339:SPC AK10      -  SPUR                                     047 05 57.5
UV9339:UTM  03       -  SPUR                                     055 52 55.7
UV9339
UV9339|----------------------------------------------------------------------|
UV9339| PID    Reference Object                    Distance      Geod. Az    |
UV9339|                                                          dddmmss.s   |
UV9339| UV9317 SPUR                              APPROX. 2.5 KM 0543833.9   |
UV9339|----------------------------------------------------------------------|
UV9339
UV9339                            SUPERSEDED SURVEY CONTROL
UV9339
UV9339  NAD 27       -  53 52 33.54800(N)    166 31 56.56000(W)      ADJUSTED
UV9339
UV9339.Superseded values are not recommended for survey control.
UV9339.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9339.See file format.dat to determine how the superseded data were derived.
UV9339
UV9339_MARKER: H = DRILL HOLE
UV9339_SETTING: 0 = UNSPECIFIED SETTING
UV9339_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9339
UV9339  HISTORY      - Date      Condition        Recov. By
UV9339  HISTORY      - 1896      MONUMENTED       CGS
UV9339  HISTORY      - 1934      GOOD             CGS
UV9339  HISTORY      - 1938      SEE DESCRIPTION  CGS
UV9339  HISTORY      - 1945      SEE DESCRIPTION  CGS
UV9339  HISTORY      - 1967      GOOD             CGS
UV9339
UV9339                            STATION DESCRIPTION
UV9339
UV9339'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
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UV9339'STATION WAS RECOVERED, BUT NO NEW STATION OR REFERENCE MARKS
UV9339'WERE PUT IN PLACE. THE STATION IS LOCATED IN THE TOWN OF
UV9339'UNALASKA, ABOUT 150 METERS SOUTHEAST OF THE GREEK RUSSIAN
UV9339'CHURCH, 90 METERS NORTHWEST OF THE MARSHALLS FLAGPOLE, 40 METERS
UV9339'NORTHEAST OF THE FOX THEATRE, AND ABOUT 10 METERS SOUTH OF THE
UV9339'TRAIL THAT RUNS ALONG THE WATER FRONT. THE SMALL OBSERVATORY
UV9339'STILL REMAINS OVER IT, BUT WILL SOON BE IN RUINS. THE MARK
UV9339'IS BUILT OUT OF A 2- BY 2-FOOT BRICK PIER WITH A 4-INCH
UV9339'GRANITE SLAB PLACED ON TOP, IN THE CENTER OF WHICH IS A
UV9339'SHALLOW DRILL HOLE.
UV9339
UV9339 STATION RECOVERY (1938)
UV9339
UV9339'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1938 (RDH)
UV9339'THE STATION IS LOCATED NEAR THE CENTER OF THE VILLAGE OF UNALASKA,
UV9339'IN A VACANT PLOT OF GROUND IN THE SOUTHEAST CORNER OF THE
UV9339'INTERSECTION OF BAYVIEW AVENUE AND SECOND STREET, DIRECTLY
UV9339'OPPOSITE (EAST OF) PATS LIQUOR STORE AND ABOUT 60 FEET BACK FROM
UV9339'THE HIGH WATER LINE IN ILIULIUK BAY.
UV9339'
UV9339'THE STATION IS MARKED BY A BRICK PIER, CAPPED WITH A GRANITE
UV9339'STONE 6- BY 18- BY 24 INCHES. THE PIER RESTS ON SOLID GROUND
UV9339'AT ABOUT 4 FEET BELOW THE SURFACE, AND ITS BASE IS ABOUT 2-
UV9339'BY 3 FEET. THE TOP OF THE CAPSTONE HAS THE LETTERS U.S.C. AND
UV9339'G.S. 1896 CUT IN ITS FACE, AND THE STONE IS SO PLACED THAT THE
UV9339'LETTERING IS ERECT WHEN STANDING ON THE SOUTH SIDE OF THE PIER
UV9339'AND LOOKING NORTH. CENTER IS MARKED BY 1/2-INCH DRILL HOLE.
UV9339'
UV9339'THE CAPSTONE WAS FOUND TO BE LOOSE, AND WAS RESET IN NEAT CEMENT,
UV9339'AND REPLACED IN ORIGINAL POSITION BY MEANS OF PROJECTIONS ON THE
UV9339'ROUGH-DRESSED SURFACE OF THE BOTTOM OF THE STONE. TOP OF CAPSTONE
UV9339'IS ABOUT FOUR FEET ABOVE GROUND SURFACE.
UV9339'
UV9339'A 10- BY 12-FOOT FRAME OBSERVATORY WAS ERECTED OVER THE PIER
UV9339'AND AN 18- BY 24- BY 40-INCH CONCRETE GRAVITY PIER SET IN THE
UV9339'NORTHWEST CORNER OF THE OBSERVATORY. THIS PIER PROJECTS ABOUT 1
UV9339'FOOT ABOVE THE GROUND SURFACE.
UV9339
UV9339 STATION RECOVERY (1945)
UV9339
UV9339'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1945 (LCW)
UV9339'THE STATION IS LOCATED NEAR THE CENTER OF THE VILLAGE OF UNALASKA,
UV9339'IN A VACANT PLOT OF GROUND IN THE S.E. CORNER OF THE INTERSECTION
UV9339'OF BAYVIEW AVE., AND SECOND ST., 44 FT. S.E. OF SCUTTLEBUTT
UV9339'INN, 66 FT. E. OF BLUE FOX COCKTAIL BAR, 49 FT. N.E. OF PATS
UV9339'CURIO SHOP AND ABOUT 60 FT. BACK FROM THE HIGH WATER LINE IN
UV9339'ILIULIUK BAY.
UV9339'
UV9339'THE STATION IS MARKED BY A BRICK PIER, CAPPED WITH A GRANITE
UV9339'STONE 6 X 18 X 24 INCHES. THE PIER RESTS ON SOLID GROUND AT
UV9339'ABOUT 4 FT. BELOW THE SURFACE, AND ITS BASE IS ABOUT 2 X 3 FT.
UV9339'THE TOP OF THE CAPSTONE HAS THE LETTERS USC AND GS 1896 CUT
UV9339'IN ITS FACE AND THE STONE IS SO PLACED THAT THE LETTERING IS
UV9339'ERECT WHEN STANDING ON THE SOUTH SIDE OF THE PIER AND LOOKING
UV9339'NORTH. CENTER IS MARKED BY 1/2 INCH DRILL HOLE.
UV9339'
UV9339'THE CAPSTONE AND PART OF THE PIER WAS FOUND LYING NEAR THE
UV9339'STATION. IT WAS RESET IN NEAT CEMENT AND REPLACED IN ORIGINAL
UV9339'POSITION BY MEANS OF PROJECTIONS ON THE ROUGH DRESSED SURFACE
UV9339'OF THE PIER AND CAPSTONE. TOP OF CAPSTONE IS ABOUT 4 FT. ABOVE
UV9339'THE GROUND SURFACE.
UV9339'
UV9339'THE FRAME OBSERVATORY THAT WAS ERECTED OVER THE STATION IN 1938
UV9339'NO LONGER EXISTS. THE 18 X 24 X 40 INCH CONCRETE GRAVITY PIER
UV9339'IS ABOUT 5 FT. W. OF THE STATION.
UV9339
UV9339 STATION RECOVERY (1967)
UV9339
UV9339'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1967 (HSC)
UV9339'THIS MARK RECOVERED IN GOOD CONDITION. DUE TO LOCAL CHANGES
UV9339'A NEW DESCRIPTION FOLLOWS.
UV9339'

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UV9339'THE STATION IS LOCATED NEAR THE CENTER OF THE VILLAGE OF
UV9339'UNALASKA, 0.2 MILE SOUTHEAST OF CARLS GENERAL STORE, 0.05 MILE
UV9339'NORTHEAST OF THE UNALASKA POST OFFICE, 70 FEET EAST NORTHEAST
UV9339'OF THE NORTHEAST CORNER OF THE ELBOW ROOM (COCKTAIL BAR AND
UV9339'LOUNGE), AND 20 FEET SOUTHEAST OF THE T INTERSECTION OF THE
UV9339'GRAVEL ROADS.
UV9339'
UV9339'THE STATION IS A BRICK PIER, CAPPED WITH A GRANITE STONE 6 X 18
UV9339'X 24 INCHES WITH A STANDARD BENCH MARK DISK STAMPED NO 6 1955
UV9339'SET IN THE ORIGINAL DRILL HOLE.  THE TOP OF THE CAPSTONE HAS
UV9339'THE LETTERS U.S.C. AND G.S. 1896 CUT IN ITS FACE, AND THE
UV9339'STONE IS SO PLACED THAT THE LETTERING IS ERECT WHEN STANDING ON
UV9339'THE SOUTH SIDE OF THE PIER AND LOOKING NORTH, AND PROJECTS 2.5
UV9339'FEET ABOVE THE SURFACE OF THE GROUND.
UV9339'
UV9339'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--AT UNALASKA.
1         National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9344 ***********************************************************************
UV9344  DESIGNATION -  SLOPE 1896
UV9344  PID         -  UV9344
UV9344  STATE/COUNTY-  AK/
UV9344  USGS QUAD   -  UNALASKA 250K
UV9344
UV9344                          *CURRENT SURVEY CONTROL
UV9344 ______________________________________________________________________
UV9344* NAD 83(1986)-  53 51 34.06191(N)    166 32 21.25391(W)     ADJUSTED
UV9344* NAVD 88     -
UV9344 ______________________________________________________________________
UV9344  LAPLACE CORR-           6.78  (seconds)                    DEFLEC96
UV9344  GEOID HEIGHT-          16.73  (meters)                     GEOID96
UV9344
UV9344  HORZ ORDER  -  THIRD
UV9344
UV9344.The horizontal coordinates were established by classical geodetic methods
UV9344.and adjusted by the National Geodetic Survey in July 1986.
UV9344
UV9344
UV9344.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9344
UV9344.The geoid height was determined by GEOID96.
UV9344
UV9344;                    North         East     Units   Scale      Converg.
UV9344;SPC AK10      -   359,077.486 1,620,694.722   MT  1.00000811 +7 32 22.2
UV9344;UTM  03       - 5,968,983.721   398,767.868   MT  0.99972575 -1 14 35.3
UV9344
UV9344:                Primary Azimuth Mark                     Grid Az
UV9344:SPC AK10      -  NAK 1896                                319 43 46.8
UV9344:UTM  03       -  NAK 1896                                328 30 44.3
UV9344
UV9344|----------------------------------------------------------------------|
UV9344| PID    Reference Object                          Distance      Geod. Az |
UV9344|                                                                dddmmss.s|
UV9344| UV9309 POLE PEAK                              APPROX. 5.7 KM 0012057.9 |
UV9344| UV9338 NAK 1896                               APPROX. 2.1 KM 3271609.0 |
UV9344|----------------------------------------------------------------------|
UV9344
UV9344                          SUPERSEDED SURVEY CONTROL
UV9344
UV9344  NAD 27       -  53 51 37.16200(N)    166 32 14.44700(W)     ADJUSTED
UV9344
UV9344.Superseded values are not recommended for survey control.
UV9344.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9344.See file format.dat to determine how the superseded data were derived.
UV9344
UV9344_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9344
UV9344  HISTORY      - Date     Condition        Recov. By
UV9344  HISTORY      - 1896     MONUMENTED       CGS
UV9344  HISTORY      - 1934     SEE DESCRIPTION  CGS
UV9344
UV9344                           STATION DESCRIPTION
UV9344
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 UV9344'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
 UV9344'STATION SEARCHED FOR AND SMALL CIRCLE OF ROCKS, WITH A SMALL
 UV9344'PIECE OF 2- BY 4-INCH LYING INSIDE THE CIRCLE WAS FOUND.  A
 UV9344'NEW STATION WAS ESTABLISHED AS THE ACTUAL STATION CENTER COULD
 UV9344'ONLY BE APPROXIMATED.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
 UV9345 ***********************************************************************
 UV9345  DESIGNATION -  SLOPE 2 1934
 UV9345  PID         -  UV9345
 UV9345  STATE/COUNTY-  AK/
 UV9345  USGS QUAD   -  UNALASKA 250K
 UV9345
 UV9345                          *CURRENT SURVEY CONTROL
 UV9345 ______________________________________________________________________
 UV9345* NAD 83(1986)-  53 51 34.07121(N)    166 32 21.27731(W)     ADJUSTED
 UV9345* NAVD 88     -
 UV9345 ______________________________________________________________________
 UV9345  LAPLACE CORR-           6.78  (seconds)                    DEFLEC96
 UV9345  GEOID HEIGHT-          16.73  (meters)                     GEOID96
 UV9345
 UV9345  HORZ ORDER  -  THIRD
 UV9345
 UV9345.The horizontal coordinates were established by classical geodetic methods
 UV9345.and adjusted by the National Geodetic Survey in July 1986.
 UV9345
 UV9345
 UV9345.The Laplace correction was computed from DEFLEC96 derived deflections.
 UV9345
 UV9345.The geoid height was determined by GEOID96.
 UV9345
 UV9345;                     North         East     Units   Scale      Converg.
 UV9345;SPC AK10     -   359,077.715 1,620,694.260   MT  1.00000811 +7 32 22.2
 UV9345;UTM  03      - 5,968,984.018   398,767.446   MT  0.99972575 -1 14 35.4
 UV9345
 UV9345                            SUPERSEDED SURVEY CONTROL
 UV9345
 UV9345  NAD 27      -  53 51 37.17400(N)    166 32 14.46800(W)     ADJUSTED
 UV9345
 UV9345.Superseded values are not recommended for survey control.
 UV9345.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 UV9345.See file format.dat to determine how the superseded data were derived.
 UV9345
 UV9345_MARKER: DS = TRIANGULATION STATION DISK
 UV9345_SETTING: 0 = UNSPECIFIED SETTING
 UV9345_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
 UV9345
 UV9345  HISTORY     - Date     Condition        Recov. By
 UV9345  HISTORY     - 1934     MONUMENTED       CGS
 UV9345
 UV9345                           STATION DESCRIPTION
 UV9345
 UV9345'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
 UV9345'IT IS ON A ROUNDED SPUR OF THE MOUNTAIN JUST SOUTH OF THE TOWN
 UV9345'OF UNALASKA AND AT AN ELEVATION OF ABOUT 900 FEET.  THE TOWN
 UV9345'IS NOT VISIBLE FROM THE STATION AS THE IMMEDIATE HILLS BACK
 UV9345'OF THE TOWN CUT OUT THE VIEW.  THIS SPUR IS ROUNDED ON THE TOP
 UV9345'AND HAS A SHARP SLOPE ON THE NORTHERN AND WESTERN FACES.  THERE
 UV9345'IS A SHARP POINTED SPUR JUST NORTHEAST AND A LITTLE LOWER.  IT
 UV9345'IS THE ONLY POINT AS LOW FROM WHICH BOTH OBERNOI POINT AND
 UV9345'STATION GRAVE (NEAR THE GRAVEYARD) ARE VISIBLE.  THE STATION
 UV9345'WAS LOCATED ON THE NORTHERN SLOPE ABOUT FIFTY FEET FROM THE TOP
 UV9345'OF THE SPUR.  THE STATION WAS MARKED BY A 3-FOOT IRON PIPE SET
 UV9345'IN A MASS OF ROCK AND CONCRETE WITH THE DISK CEMENTED INTO
 UV9345'THE TOP OF THE PIPE AND A MOUND OF ROCKS PILED AROUND IT.
 UV9345'A 3- BY 3-INCH CENTER POLE SIGNAL WAS BUILT OVER
 UV9345'THE STATION.  REFERENCE MARK NO. 1 IS AN IRON PIPE 3 FEET LONG
 UV9345'SET IN A MASS OF ROCKS AND CONCRETE WITH THE DISK CEMENTED
 UV9345'INTO THE TOP OF THE PIPE AND A SMALL MOUND OF ROCKS PILED
 UV9345'AROUND IT.  MARK IS 7.24 METERS SOUTH OF THE
 UV9345'STATION AND ON RANGE WITH THE PROMINENT GRAVEL SPIT TO THE
 UV9345'NORTH ON AMAKNAK ISLAND.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
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UV9347 ***********************************************************************
UV9347  DESIGNATION -  GRAVE RESET
UV9347  PID         -  UV9347
UV9347  STATE/COUNTY-  AK/
UV9347  USGS QUAD   -  UNALASKA 250K
UV9347
UV9347                          *CURRENT SURVEY CONTROL
UV9347
UV9347* NAD 83(1986)-  53 52 23.37925(N)    166 31 19.74406(W)     ADJUSTED
UV9347* NAVD 88     -
UV9347
UV9347  LAPLACE CORR-           7.65  (seconds)                     DEFLEC96
UV9347  GEOID HEIGHT-          16.72  (meters)                      GEOID96
UV9347
UV9347  HORZ ORDER  -  SECOND
UV9347
UV9347.The horizontal coordinates were established by classical geodetic methods
UV9347.and adjusted by the National Geodetic Survey in July 1986.
UV9347
UV9347
UV9347.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9347
UV9347.The geoid height was determined by GEOID96.
UV9347
UV9347;                     North         East     Units   Scale      Converg.
UV9347;SPC AK10      -   360,736.674 1,621,608.772   MT  1.00001245 +7 33 11.2
UV9347;UTM  03       - 5,970,483.462   399,924.206   MT  0.99972290 -1 13 46.4
UV9347
UV9347:                 Primary Azimuth Mark                     Grid Az
UV9347:SPC AK10      -  NAK 1896                                 267 37 25.7
UV9347:UTM  03       -  NAK 1896                                 276 24 23.3
UV9347
UV9347|----------------------------------------------------------------------|
UV9347| PID    Reference Object                        Distance      Geod. Az |
UV9347|                                                              dddmmss.s|
UV9347| UV9348 GRAVE 2                                  2.565 METERS 04546    |
UV9347|        GRAVE 2 RM 2                            11.852 METERS 13136    |
UV9347| UV9338 NAK 1896                               APPROX. 2.2 KM 2751036.9 |
UV9347| UV9321 UNALASKA CHURCH LOWER CROSS            APPROX. 1.0 KM 2862334.7 |
UV9347| UV9298 RUSSIAN CHURCH                         APPROX. 1.0 KM 2863947.6 |
UV9347| UV9303 UNALASKA AC CO FLAGSTAFF               APPROX. 1.1 KM 2930432.0 |
UV9347|----------------------------------------------------------------------|
UV9347
UV9347                          SUPERSEDED SURVEY CONTROL
UV9347
UV9347  NAD 27      -  53 52 26.48500(N)    166 31 12.92700(W)     ADJUSTED
UV9347
UV9347.Superseded values are not recommended for survey control.
UV9347.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9347.See file format.dat to determine how the superseded data were derived.
UV9347
UV9347_MARKER: H = DRILL HOLE
UV9347_SETTING: 0 = UNSPECIFIED SETTING
UV9347_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9347
UV9347  HISTORY     - Date     Condition        Recov. By
UV9347  HISTORY     - 1935     MONUMENTED       CGS
UV9347  HISTORY     - 1934     SEE DESCRIPTION  CGS
UV9347  HISTORY     - 1935     GOOD             CGS
UV9347  HISTORY     - 1941     GOOD             CGS
UV9347
UV9347                          STATION DESCRIPTION
UV9347
UV9347'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9347'A NEW STATION, GRAVE 2 WAS ESTABLISHED.  SEE DESCRIPTION OF
UV9347'GRAVE 2.
UV9347
UV9347                          STATION RECOVERY (1935)
UV9347
UV9347'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1935 (AMS)
UV9347'RECOVERED AS DESCRIBED.  ON THE TOP OF A SMALL PROJECTING KNOLL
UV9347'AT THE SOUTHEAST END OF UNALASKA BAY, ABOUT 0.7 MILE FROM THE
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UV9347'ALASKA COMMERCIAL COMPANY DOCK IN UNALASKA.  THE STATION
UV9347'IS ABOUT 50 FEET ABOVE THE BEACH AND ABOUT 10 FEET FROM THE
UV9347'EDGE OF THE SMALL BLUFF WHICH IS JUST NORTH OF THE GRAVEYARD.
UV9347'IT IS THE MOST PROJECTING POINT IN THE NEIGHBORHOOD.
UV9347'
UV9347'THE SUBSURFACE MARK, A DRILL HOLE IN A ROUND FLAT STONE WAS
UV9347'RECOVERED, LEFT IN PLACE AND A SURFACE MARK PLACED.  THE
UV9347'SURFACE MARK IS A STANDARD STAMPED DISK SET IN A CONCRETE POST.
UV9347'
UV9347'A NEW STATION, GRAVE 2, WITH ONE REFERENCE MARK, WAS ESTABLISHED
UV9347'IN 1934 BY H.B. CAMPBELL.  THESE TWO MARKS ARE USED AS REFERENCE
UV9347'MARKS.
UV9347
UV9347                          STATION RECOVERY (1941)
UV9347
UV9347'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9347'THE STATION WAS RECOVERED FROM THE PREVIOUS DESCRIPTIONS.
UV9347'THE FOLLOWING DESCRIPTION SUPERSEDES ALL OTHERS--THE STATION
UV9347'IS ON THE TOP OF A BLUFF, THE MOST PROMINENT IN THE VICINITY, AT
UV9347'THE SE END OF ILIULIUK BAY, 1/2 MILE E OF THE CENTER OF THE TOWN
UV9347'OF UNALASKA, AND JUST N OF THE CEMETERY.  THE TOP OF THE BLUFF
UV9347'FORMS A SHELF ABOUT 50 FEET ABOVE THE WATER AND ABOUT HALFWAY
UV9347'UP FROM THE BEACH TO THE TOP OF THE KNOLL.  THE STATION IS
UV9347'ABOUT 10 FEET IN FROM THE OUTER EDGE OF THE BLUFF.
UV9347'
UV9347'THE STATION IS MARKED BY A STANDARD DISK SET IN CONCRETE, FLUSH
UV9347'WITH THE GROUND SURFACE.  THE DISK IS STAMPED GRAVE 1901-35.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9348 ***********************************************************************
UV9348  DESIGNATION -  GRAVE 2
UV9348  PID         -  UV9348
UV9348  STATE/COUNTY-  AK/
UV9348  USGS QUAD   -  UNALASKA 250K
UV9348
UV9348                          *CURRENT SURVEY CONTROL
UV9348 ______________________________________________________________________
UV9348* NAD 83(1986)-  53 52 23.43712(N)    166 31 19.64345(W)     ADJUSTED
UV9348* NAVD 88     -
UV9348 ______________________________________________________________________
UV9348  LAPLACE CORR-           7.65  (seconds)                     DEFLEC96
UV9348  GEOID HEIGHT-          16.72  (meters)                      GEOID96
UV9348
UV9348  HORZ ORDER  -  SECOND
UV9348
UV9348.The horizontal coordinates were established by classical geodetic methods
UV9348.and adjusted by the National Geodetic Survey in July 1986.
UV9348
UV9348
UV9348.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9348
UV9348.The geoid height was determined by GEOID96.
UV9348
UV9348;                    North         East     Units   Scale      Converg.
UV9348;SPC AK10     -   360,738.689 1,621,610.359   MT  1.00001245 +7 33 11.3
UV9348;UTM  03      - 5,970,485.211   399,926.081   MT  0.99972289 -1 13 46.3
UV9348
UV9348:                Primary Azimuth Mark                     Grid Az
UV9348:SPC AK10     -  NAK 2                                    267 32 28.1
UV9348:UTM  03      -  NAK 2                                    276 19 25.7
UV9348
UV9348|-----------------------------------------------------------------------|
UV9348| PID    Reference Object                    Distance       Geod. Az    |
UV9348|                                                           dddmmss.s   |
UV9348| UV9331 BEACON LIGHT                      APPROX. 2.7 KM  0091746.4   |
UV9348|        GRAVE 2 RM 1                        9.970 METERS  04150       |
UV9348|        GRAVE 2 RM 2                       11.950 METERS  14358       |
UV9348| UV9337 NAK 2                             APPROX. 2.2 KM  2750539.4   |
UV9348| UV9322 SOUTH RADIO TOWER                 APPROX. 1.7 KM  3255640.5   |
UV9348| UV9296 NORTH RADIO TOWER                 APPROX. 1.7 KM  3301749.0   |
UV9348|-----------------------------------------------------------------------|
UV9348
UV9348                          SUPERSEDED SURVEY CONTROL
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UV9348
UV9348  NAD 27       -  53 52 26.54200(N)     166 31 12.82600(W)      ADJUSTED
UV9348
UV9348.Superseded values are not recommended for survey control.
UV9348.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9348.See file format.dat to determine how the superseded data were derived.
UV9348
UV9348_MARKER: DS = TRIANGULATION STATION DISK
UV9348_SETTING: 4 = OBJECT SURROUNDED BY MASS OF CONCRETE
UV9348_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9348
UV9348  HISTORY      - Date     Condition        Recov. By
UV9348  HISTORY      - 1934     MONUMENTED       CGS
UV9348  HISTORY      - 1935     GOOD             CGS
UV9348  HISTORY      - 1972     GOOD             DOD
UV9348
UV9348                          STATION DESCRIPTION
UV9348
UV9348'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9348'STATION IS ON TOP OF A SMALL KNOLL AT THE SOUTHEAST END OF
UV9348'ILIULIUK BAY.  IT IS ABOUT A HALF MILE EAST OF THE CENTER OF THE
UV9348'TOWN AND JUST NORTH OF THE GRAVEYARD.  THE STATION IS ABOUT 50
UV9348'FEET ABOVE THE BEACH IN ELEVATION AND ABOUT 15 FEET INSHORE
UV9348'FROM THE FACE OF THE BLUFF.  THE MARK IS A STANDARD BRONZE
UV9348'DISK SET IN AN IRREGULAR MASS OF CONCRETE WHICH IS ANCHORED BY
UV9348'A PIECE OF IRON PIPE.  REFERENCE MARK NO. 1 IS A
UV9348'STANDARD BRONZE DISK CEMENTED IN A SECTION OF IRON PIPE AND IS
UV9348'ABOUT 4 INCHES ABOVE THE GROUND.  IT IS NORTH OF
UV9348'THE STATION ABOUT 5 FEET FROM THE FACE OF THE BLUFF AND ABOUT
UV9348'A FOOT LOWER IN ELEVATION THAN THE STATION.  REFERENCE
UV9348'MARK NO. 2 IS A BRONZE DISK CEMENTED IN A SECTION OF IRON PIPE
UV9348'AND IS ABOUT 4 INCHES ABOVE THE GROUND.  THE MARK
UV9348'IS INSHORE FROM THE STATION AND ABOUT THE SAME
UV9348'ELEVATION.
UV9348
UV9348                          STATION RECOVERY (1935)
UV9348
UV9348'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1935 (AMS)
UV9348'RECOVERED AS DESCRIBED.  THE STATION IS ON TOP OF A SMALL KNOLL
UV9348'AT THE SOUTHEAST END OF ILIULIUK BAY.  IT IS ABOUT ONE HALF
UV9348'MILE EAST OF THE CENTER OF THE TOWN OF UNALASKA AND IS JUST
UV9348'NORTH OF THE GRAVEYARD.  STATION IS ABOUT 50 FEET ABOVE THE
UV9348'BEACH AND ABOUT 15 FEET INSHORE FROM THE FACE OF THE BLUFF.
UV9348'THE MARK IS A STANDARD DISK SET IN A CIRCULAR MASS OF CONCRETE
UV9348'ANCHORED IN PLACE BY AN IRON PIPE.
UV9348
UV9348                          STATION RECOVERY (1972)
UV9348
UV9348'RECOVERY NOTE BY US DEPARTMENT OF DEFENSE 1972 (RLM)
UV9348'GRAVE 2 1935 - GOOD.
UV9348'
UV9348'STATION RECOVERED AS DESCRIBED.  DESCRIPTION IS ADEQUATE.
UV9348'COMPUTATIONS INDICATE STATION HAS PROBABLY MOVED, DUE TO POSSIBLE
UV9348'QUAKE MOVEMENT - AZIMUTH TO SOUTH BASE 2 IS OFF BY 90 DEGREES PLUS
UV9348'OR MINUS.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9355 ***********************************************************************
UV9355  DESIGNATION -  PY 1941
UV9355  PID         -  UV9355
UV9355  STATE/COUNTY-  AK/
UV9355  USGS QUAD   -  UNALASKA 250K
UV9355
UV9355                         *CURRENT SURVEY CONTROL
UV9355 ______________________________________________________________________
UV9355* NAD 83(1986)-  53 51 28.66476(N)     166 32 03.25371(W)      ADJUSTED
UV9355* NAVD 88     -
UV9355 ______________________________________________________________________
UV9355  LAPLACE CORR-           6.74   (seconds)                     DEFLEC96
UV9355  GEOID HEIGHT-          16.74   (meters)                      GEOID96
UV9355
UV9355  HORZ ORDER  -  THIRD
UV9355
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UV9355.The horizontal coordinates were established by classical geodetic methods
UV9355.and adjusted by the National Geodetic Survey in July 1986.
UV9355
UV9355
UV9355.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9355
UV9355.The geoid height was determined by GEOID96.
UV9355
UV9355;                      North         East      Units   Scale      Converg.
UV9355;SPC AK10      -   358,955.242 1,621,042.771   MT  1.00000764 +7 32 36.5
UV9355;UTM  03       - 5,968,809.817   399,093.079   MT  0.99972495 -1 14 20.7
UV9355
UV9355:                  Primary Azimuth Mark                      Grid Az
UV9355:SPC AK10      -  AMAK                                      348 45 50.1
UV9355:UTM  03       -  AMAK                                      357 32 47.3
UV9355
UV9355|-------------------------------------------------------------------------|
UV9355| PID    Reference Object                        Distance      Geod. Az   |
UV9355|                                                              dddmmss.s  |
UV9355| UV9297 AMAK                                  APPROX. 2.8 KM 3561826.6  |
UV9355|-------------------------------------------------------------------------|
UV9355
UV9355                            SUPERSEDED SURVEY CONTROL
UV9355
UV9355  NAD 27       -  53 51 31.76700(N)    166 31 56.44200(W)     ADJUSTED
UV9355
UV9355.Superseded values are not recommended for survey control.
UV9355.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9355.See file format.dat to determine how the superseded data were derived.
UV9355
UV9355_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9355
UV9355  HISTORY      - Date     Condition        Recov. By
UV9355  HISTORY      - 1941     MONUMENTED       CGS
UV9355
UV9355                            STATION DESCRIPTION
UV9355
UV9355'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9355'THE STATION IS ON THE NORTHERN SLOPE OF PYRAMID PEAK, A PROMINENT
UV9355'BALD MOUNTAIN JUST S OF THE TOWN OF UNALASKA.  THE STATION IS
UV9355'ON THE E SIDE OF A SMALL APRON, SO SITUATED THAT STATIONS GAR,
UV9355'CENT AND NAK 2 ARE VISIBLE.  IT IS ABOUT HALFWAY UP THE SLOPE
UV9355'OF THE MOUNTAIN, AND IT IS THE ONLY LOGICAL SPOT FOR A STATION
UV9355'TO BE LOCATED SO THAT THE ABOVE-MENTIONED STATIONS CAN BE SEEN.
UV9355'
UV9355'THE STATION IS MARKED BY A 2 BY 4 STAKE PROJECTING ABOUT 1-1/2
UV9355'FEET FROM THE GROUND.  THREE STAKES FOR SUPPORTING THE TRIPOD
UV9355'LEGS ARE LOCATED ABOUT THE STAKE THAT MARKS THE STATION.  THERE
UV9355'ARE NO REFERENCE MARKS.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9357 ***********************************************************************
UV9357  DESIGNATION -  LAS 1941
UV9357  PID         -  UV9357
UV9357  STATE/COUNTY-  AK/
UV9357  USGS QUAD   -  UNALASKA 250K
UV9357
UV9357                          *CURRENT SURVEY CONTROL
UV9357
UV9357* NAD 83(1986)-  53 51 42.08662(N)    166 30 34.53793(W)     ADJUSTED
UV9357* NAVD 88     -
UV9357
UV9357  LAPLACE CORR-          6.98  (seconds)                     DEFLEC96
UV9357  GEOID HEIGHT-         16.77  (meters)                      GEOID96
UV9357
UV9357  HORZ ORDER  -  THIRD
UV9357
UV9357.The horizontal coordinates were established by classical geodetic methods
UV9357.and adjusted by the National Geodetic Survey in July 1986.
UV9357
UV9357
UV9357.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9357
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UV9357.The geoid height was determined by GEOID96.
UV9357
UV9357;                      North         East     Units   Scale      Converg.
UV9357;SPC AK10      -   359,579.748 1,622,595.593   MT  1.00000881 +7 33 47.2
UV9357;UTM  03       - 5,969,189.802   400,722.581   MT  0.99972094 -1 13 09.3
UV9357
UV9357                           SUPERSEDED SURVEY CONTROL
UV9357
UV9357  NAD 27       -  53 51 45.18900(N)    166 30 27.71700(W)     ADJUSTED
UV9357
UV9357.Superseded values are not recommended for survey control.
UV9357.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9357.See file format.dat to determine how the superseded data were derived.
UV9357
UV9357_MARKER: P = PIPE CAP
UV9357_SETTING: 17 = SET INTO TOP OF METAL PIPE DRIVEN INTO GROUND
UV9357_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9357
UV9357  HISTORY      - Date     Condition        Recov. By
UV9357  HISTORY      - 1941     MONUMENTED       CGS
UV9357
UV9357                            STATION DESCRIPTION
UV9357
UV9357'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9357'THE STATION IS ABOUT 1-1/2 MILES SE OF THE TOWN OF UNALASKA AND
UV9357'ABOUT 1/2 MILE SE OF UNALASKA LAKE.  IT IS APPROXIMATELY 200
UV9357'METERS BEYOND THE HEAD OF THE BROADEST PART OF THE VALLEY BOTTOM
UV9357'ON THE E SIDE OF THE MAIN STREAM FEEDING INTO UNALASKA LAKE
UV9357'AND ABOUT 100 METERS FROM THE RIVER BANK.  IT IS ON THE SECOND
UV9357'SMALL RISE OF A LOW RIDGE (LOOKING UPSTREAM) AND ABOUT 150
UV9357'METERS DOWNSTREAM FROM THE JUNCTION OF THE MAIN STREAM WITH
UV9357'A SMALLER ONE FLOWING IN FROM THE E.
UV9357'
UV9357'THE STATION IS MARKED BY A 2-INCH GALVANIZED-IRON PIPE,
UV9357'CAPPED AND WITH A SMALL HOLE DRILLED IN THE TOP OF THE CAP.
UV9357'THE PIPE PROJECTS ABOUT 1-1/2 FEET FROM THE GROUND.  THERE
UV9357'ARE NO REFERENCE MARKS.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9361 ***********************************************************************
UV9361  DESIGNATION -  CAP 1934
UV9361  PID         -  UV9361
UV9361  STATE/COUNTY-  AK/
UV9361  USGS QUAD   -  UNALASKA 250K
UV9361
UV9361                          *CURRENT SURVEY CONTROL
UV9361 ______________________________________________________________________
UV9361* NAD 83(1986)-  53 51 59.66221(N)    166 33 24.64228(W)     ADJUSTED
UV9361* NAVD 88     -
UV9361 ______________________________________________________________________
UV9361  LAPLACE CORR-          6.73  (seconds)                     DEFLEC96
UV9361  GEOID HEIGHT-         16.68  (meters)                      GEOID96
UV9361
UV9361  HORZ ORDER  -  THIRD
UV9361
UV9361.The horizontal coordinates were established by classical geodetic methods
UV9361.and adjusted by the National Geodetic Survey in July 1986.
UV9361
UV9361
UV9361.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9361
UV9361.The geoid height was determined by GEOID96.
UV9361
UV9361;                      North         East     Units   Scale      Converg.
UV9361;SPC AK10      -   359,710.298 1,619,442.513   MT  1.00001035 +7 31 31.7
UV9361;UTM  03       - 5,969,800.081   397,627.288   MT  0.99972860 -1 15 27.0
UV9361
UV9361                           SUPERSEDED SURVEY CONTROL
UV9361
UV9361  NAD 27       -  53 52 02.76800(N)    166 33 17.83600(W)     ADJUSTED
UV9361
UV9361.Superseded values are not recommended for survey control.
UV9361.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
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UV9361.See file format.dat to determine how the superseded data were derived.
UV9361
UV9361_MARKER: DS = TRIANGULATION STATION DISK
UV9361_SETTING: 17 = SET INTO TOP OF METAL PIPE DRIVEN INTO GROUND
UV9361_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9361
UV9361  HISTORY      - Date     Condition        Recov. By
UV9361  HISTORY      - 1934     MONUMENTED       CGS
UV9361  HISTORY      - 1941     GOOD             CGS
UV9361  HISTORY      - 1972     GOOD             DOD
UV9361
UV9361                          STATION DESCRIPTION
UV9361
UV9361'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (HBC)
UV9361'STATION IS LOCATED ON THE LAST PROMINENT KNOLL ON EXTREME
UV9361'SOUTHERLY END OF AMAKNAK ISLAND IN DUTCH HARBOR.  STATION BOLD
UV9361'ON THE EXTREME NORTHWESTERLY END OF CAPTAINS BAY SHOWS CLEAR
UV9361'OF THE IMMEDIATE KNOLLS ON THIS END OF THE ISLAND.  STATION IS
UV9361'MARKED BY A STANDARD DISK FLUSH WITH THE SURFACE SET IN A MASS
UV9361'OF CONCRETE SURMOUNTING A 3-FOOT IRON PIPE SUNK INTO THE GROUND.
UV9361'REFERENCE MARK NO. 1 IS A DISK SET IN A MASS OF
UV9361'CONCRETE FLUSH WITH THE GROUND AND SURMOUNTING A 3-FOOT IRON
UV9361'PIPE DRIVEN INTO THE GROUND.  REFERENCE MARK IS ALSO
UV9361'ON THE LINE BETWEEN THE STATION AND STATION NAK 2 WHICH IS
UV9361'LOCATED ABOUT HALF MILE NORTH AND IS ON THE HIGHEST POINT ON
UV9361'THIS END OF THE ISLAND.  THE BEARING TAKEN FROM THE REFERENCE
UV9361'MARK TOWARDS THE STATION IS S 14 DEG E MAGNETIC, DISTANCE
UV9361'9.12 METERS.
UV9361
UV9361                          STATION RECOVERY (1941)
UV9361
UV9361'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9361'ORIGINAL DESCRIPTION NOT AVAILABLE.  A STANDARD DISK CEMENTED
UV9361'IN ROCK ON THE TOP OF CLIFF AT THE EXTREME SE PART OF AMAKNAK
UV9361'ISLAND.  STATION IS IN GOOD CONDITION.
UV9361
UV9361                          STATION RECOVERY (1972)
UV9361
UV9361'RECOVERY NOTE BY US DEPARTMENT OF DEFENSE 1972 (RLM)
UV9361'CAP 1934 - GOOD.
UV9361'
UV9361'STATION RECOVERED AS DESCRIBED.  DESCRIPTION IS ADEQUATE.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9365 ***********************************************************************
UV9365  DESIGNATION  -  CENT 1941
UV9365  PID          -  UV9365
UV9365  STATE/COUNTY-  AK/
UV9365  USGS QUAD    -  UNALASKA 250K
UV9365
UV9365                         *CURRENT SURVEY CONTROL
UV9365 ______________________________________________________________________
UV9365* NAD 83(1986)-   53 52 01.99693(N)     166 31 09.14564(W)      ADJUSTED
UV9365* NAVD 88      -
UV9365 ______________________________________________________________________
UV9365  LAPLACE CORR-           7.36  (seconds)                      DEFLEC96
UV9365  GEOID HEIGHT-          16.74  (meters)                       GEOID96
UV9365
UV9365  HORZ ORDER   -  THIRD
UV9365
UV9365.The horizontal coordinates were established by classical geodetic methods
UV9365.and adjusted by the National Geodetic Survey in July 1986.
UV9365
UV9365
UV9365.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9365
UV9365.The geoid height was determined by GEOID96.
UV9365
UV9365;                    North          East      Units   Scale      Converg.
UV9365;SPC AK10      -   360,106.778 1,621,887.660   MT  1.00001056 +7 33 19.6
UV9365;UTM  03       - 5,969,818.561   400,103.596   MT  0.99972246 -1 13 37.5
UV9365
UV9365:                Primary Azimuth Mark                     Grid Az
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UV9365:SPC AK10      -  GAR 1941                                    132 47 11.7
UV9365:UTM  03       -  GAR 1941                                    141 34 08.8
UV9365
UV9365|-------------------------------------------------------------------------|
UV9365| PID    Reference Object                        Distance      Geod. Az   |
UV9365|                                                              dddmmss.s  |
UV9365| UV9366 SUB 1941                               92.114 METERS 05833      |
UV9365| UV9367 GAR 1941                              APPROX. 0.8 KM 1402031.3  |
UV9365|-------------------------------------------------------------------------|
UV9365
UV9365                            SUPERSEDED SURVEY CONTROL
UV9365
UV9365  NAD 27       -  53 52 05.10100(N)     166 31 02.32900(W)      ADJUSTED
UV9365
UV9365.Superseded values are not recommended for survey control.
UV9365.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9365.See file format.dat to determine how the superseded data were derived.
UV9365
UV9365_MARKER: DS = TRIANGULATION STATION DISK
UV9365_SETTING: 4 = OBJECT SURROUNDED BY MASS OF CONCRETE
UV9365_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9365
UV9365  HISTORY      - Date     Condition        Recov. By
UV9365  HISTORY      - 1941     MONUMENTED       CGS
UV9365
UV9365                            STATION DESCRIPTION
UV9365
UV9365'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9365'THE STATION IS LOCATED ABOUT 1 MILE SE OF THE TOWN OF UNALAKSA.
UV9365'IT IS ON THE NE SIDE OF UNALASKA LAKE ABOUT 30 METERS FROM THE
UV9365'SHORE AND ABOUT 175 METERS FROM THE SE END OF THE LAKE.  IT
UV9365'IS ON THE HIGHEST PART OF THE SOUTHEASTERN EXTREMITY OF A LOW
UV9365'ROLLING RIDGE THAT EXTENDS ALONG THAT SHORE OF THE LAKE.  A
UV9365'GROUP OF 3 SMALL PONDS LIE IN THE DEPRESSIONS IMMEDIATELY TO
UV9365'THE N AND E OF THE STATION.
UV9365'
UV9365'THE STATION IS MARKED BY A STANDARD DISK SET IN AN IRREGULAR
UV9365'MASS OF CONCRETE WITH THE TOP OF THE CONCRETE PROJECTING
UV9365'ABOUT 3 INCHES FROM THE GROUND.  THE DISK IS STAMPED CENT 1941.
UV9365'THERE ARE NO REFERENCE MARKS.
UV9365'
UV9365'NOTE--BECAUSE OF THE PROBABLE DESTRUCTION OF CENT DURING
UV9365'CONSTRUCTION OPERATIONS, STATION SUB WAS ESTABLISHED NEARBY.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9366 ***********************************************************************
UV9366  DESIGNATION -  SUB 1941
UV9366  PID         -  UV9366
UV9366  STATE/COUNTY-  AK/
UV9366  USGS QUAD   -  UNALASKA 250K
UV9366
UV9366                           *CURRENT SURVEY CONTROL
UV9366  ______________________________________________________________________
UV9366* NAD 83(1986)-  53 52 03.55128(N)     166 31 04.84510(W)      ADJUSTED
UV9366* NAVD 88     -
UV9366  ______________________________________________________________________
UV9366  LAPLACE CORR-           7.39  (seconds)                      DEFLEC96
UV9366  GEOID HEIGHT-          16.74  (meters)                       GEOID96
UV9366
UV9366  HORZ ORDER  -  THIRD
UV9366
UV9366.The horizontal coordinates were established by classical geodetic methods
UV9366.and adjusted by the National Geodetic Survey in July 1986.
UV9366
UV9366
UV9366.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9366
UV9366.The geoid height was determined by GEOID96.
UV9366
UV9366;                    North         East     Units   Scale      Converg.
UV9366;SPC AK10      -   360,164.751 1,621,959.244   MT  1.00001070 +7 33 23.1
UV9366;UTM  03       - 5,969,864.912   400,183.169   MT  0.99972226 -1 13 34.1
UV9366
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UV9366:                  Primary Azimuth Mark                      Grid Az
UV9366:SPC AK10      -   GAR 1941                                  139 11 29.1
UV9366:UTM  03       -   GAR 1941                                  147 58 26.3
UV9366
UV9366|-------------------------------------------------------------------------|
UV9366| PID    Reference Object                          Distance      Geod. Az  |
UV9366|                                                                dddmmss.s |
UV9366| UV9367 GAR 1941                                APPROX.  0.8 KM 1464452.2 |
UV9366| UV9365 CENT 1941                                92.114 METERS 23833     |
UV9366|-------------------------------------------------------------------------|
UV9366
UV9366                            SUPERSEDED SURVEY CONTROL
UV9366
UV9366  NAD 27       -   53 52 06.65600(N)     166 30 58.02700(W)      ADJUSTED
UV9366
UV9366.Superseded values are not recommended for survey control.
UV9366.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9366.See file format.dat to determine how the superseded data were derived.
UV9366
UV9366_MARKER: H = DRILL HOLE
UV9366_SETTING: 0 = UNSPECIFIED SETTING
UV9366_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9366
UV9366  HISTORY      - Date      Condition        Recov. By
UV9366  HISTORY      - 1941      MONUMENTED       CGS
UV9366
UV9366                             STATION DESCRIPTION
UV9366
UV9366'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9366'THE STATION IS ABOUT 1 MILE SE OF THE TOWN OF UNALASKA.  IT
UV9366'IS ON THE NE SIDE OF UNALASKA LAKE ABOUT 125 METERS FROM THE
UV9366'SHORE NEAR THE SE END OF THE LAKE AND IN RANGE WITH THE MOST
UV9366'SOUTHERLY OF A GROUP OF 3 SMALL PONDS.  IT IS ABOUT 35 METERS
UV9366'FROM THE POND, AWAY FROM THE LAKE.  IT IS ON THE LOWER PART
UV9366'OF THE MAIN WALL OF THE VALLEY AND ABOUT 50 METERS FROM THE
UV9366'WESTERLY END OF A LARGE POND.
UV9366'
UV9366'THE STATION IS MARKED BY A CAPPED 3-INCH GALVANIZED-IRON PIPE
UV9366'WITH A SMALL HOLE DRILLED IN THE TOP OF THE CAP.  THE PIPE
UV9366'PROJECTS ABOUT 1 FOOT FROM THE GROUND.  THERE ARE NO REFERENCE
UV9366'MARKS.
UV9366'
UV9366'NOTE--BECAUSE OF THE PROBABLE DESTRUCTION OF CENT, THIS STATION
UV9366'WAS ESTABLISHED.
1        National Geodetic Survey,   Retrieval Date = MAY 27, 1998
UV9367 ***********************************************************************
UV9367  DESIGNATION -  GAR 1941
UV9367  PID         -  UV9367
UV9367  STATE/COUNTY-  AK/
UV9367  USGS QUAD   -  UNALASKA 250K
UV9367
UV9367                          *CURRENT SURVEY CONTROL
UV9367
UV9367* NAD 83(1986)-  53 51 41.44443(N)     166 30 40.32453(W)      ADJUSTED
UV9367* NAVD 88     -
UV9367
UV9367  LAPLACE CORR-          6.98  (seconds)                       DEFLEC96
UV9367  GEOID HEIGHT-         16.77  (meters)                        GEOID96
UV9367
UV9367  HORZ ORDER  -  THIRD
UV9367
UV9367.The horizontal coordinates were established by classical geodetic methods
UV9367.and adjusted by the National Geodetic Survey in July 1986.
UV9367
UV9367
UV9367.The Laplace correction was computed from DEFLEC96 derived deflections.
UV9367
UV9367.The geoid height was determined by GEOID96.
UV9367
UV9367;                  North          East      Units   Scale      Converg.
UV9367;SPC AK10      -   359,546.147 1,622,493.370   MT  1.00000876 +7 33 42.6
UV9367;UTM  03       - 5,969,172.208   400,616.457   MT  0.99972120 -1 13 13.9
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UV9367
UV9367:                  Primary Azimuth Mark                      Grid Az
UV9367:SPC AK10      -   PY 1941                                   247 50 11.3
UV9367:UTM  03       -   PY 1941                                   256 37 07.8
UV9367
UV9367|---------------------------------------------------------------------|
UV9367| PID    Reference Object                      Distance      Geod. Az  |
UV9367|                                                            dddmmss.s |
UV9367| UV9355 PY 1941                             APPROX. 1.6 KM 2552353.9 |
UV9367|---------------------------------------------------------------------|
UV9367
UV9367                            SUPERSEDED SURVEY CONTROL
UV9367
UV9367  NAD 27       -  53 51 44.54600(N)    166 30 33.50700(W)     ADJUSTED
UV9367
UV9367.Superseded values are not recommended for survey control.
UV9367.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
UV9367.See file format.dat to determine how the superseded data were derived.
UV9367
UV9367_MARKER: DS = TRIANGULATION STATION DISK
UV9367_SETTING: 4 = OBJECT SURROUNDED BY MASS OF CONCRETE
UV9367_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
UV9367
UV9367  HISTORY      - Date     Condition        Recov. By
UV9367  HISTORY      - 1941     MONUMENTED       CGS
UV9367
UV9367                            STATION DESCRIPTION
UV9367
UV9367'DESCRIBED BY COAST AND GEODETIC SURVEY 1941 (FBT)
UV9367'THE STATION IS ABOUT 1-1/2 MILES SE OF THE TOWN OF UNALASKA AND
UV9367'ABOUT 1/2 MILE SE OF UNALASKA LAKE.  IT IS ON THE HIGHEST
UV9367'PART OF THE MOST PROMINENT AND SOUTHWESTERLY OF A SERIES OF
UV9367'LOW ROLLING KNOBS AT THE HEAD OF THE BROADEST PART OF THE
UV9367'VALLEY BOTTOM AND ON THE E SIDE OF THE MAIN STREAM FEEDING
UV9367'INTO UNALASKA LAKE.  IT IS ABOUT 40 METERS FROM THE RIVER BANK.
UV9367'
UV9367'THE STATION IS MARKED BY A STANDARD DISK SET IN AN IRREGULAR
UV9367'MASS OF CONCRETE WITH THE TOP OF THE CONCRETE PROJECTING ABOUT
UV9367'3 INCHES FROM THE GROUND.  THE DISK IS STAMPED GAR 1941.  THERE
UV9367'ARE NO REFERENCE MARKS.
UV9367'
UV9367'NOTE--BECAUSE OF THE PROBABLE DESTRUCTION OF GAR DURING
UV9367'CONSTRUCTION OPERATIONS, STATION LAS WAS ESTABLISHED NEARBY.
Elapsed Time = 00:00:27
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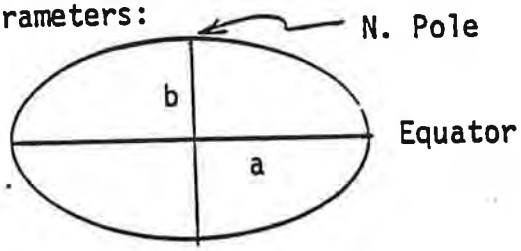
THE ALASKA COORDINATE SYSTEM

The Alaska Coordinate System was originally set up in 1959, and it has been used extensively by both private surveyors and government agencies throughout the state. Alaska was divided into ten zones, with Zone 1 being an Oblique Mercator Projection, Zones 2-9 Transverse Mercator Projections, and Zone 10 a Lambert Conformal Conic Projections. All zones had coordinates in feet. It was based on the 1927 North American Datum, which in turn was based on Clarke's 1866 Ellipsoid.

Over a decade ago, the National Geodetic Survey (NGS) undertook to determine a more accurate shape of the earth, and more accurate location of points. This was done in cooperation with Canada, Mexico, and other countries. The original target date was 1983, so this was to be called the 1983 North American Datum, or sometimes NAD-83. The earth is assumed to be an ellipsoid of revolution with the following parameters:



$a = 6{,}378{,}137$ meters exact

$b = 6{,}356{,}752.31414\ 0347$ meters

$f = \frac{a - b}{a} = 0.00335\ 28106\ 81183\ 637$

$1/f = 298.25722\ 21008\ 827$

$e^2 = \frac{a^2 - b^2}{a^2} = 0.00669\ 43800\ 22903\ 416$

$e = 0.08181\ 91910\ 42831\ 85$

$e'^2 = \frac{a^2 - b^2}{b^2} = 0.00673\ 94967\ 75481\ 622$

$e' = 0.08209\ 44381\ 51933\ 42$

$n = \frac{a - b}{a + b} = 0.00167\ 92203\ 94629\ 441$

Meridian length from Equator to Pole = $10{,}001{,}965.72922\ 984$ meters

(These values are given for those who wish to write computer programs.)

The Alaska Coordinate System of 1983 is based on this "shape of the earth." It was adopted by the 1984 Alaska State Legislature HCS CSSB 375, Chapter 152, amending Alaska Statutes 38.20.010-100.

It is VERY IMPORTANT to realize that the latitude and longitude of every control point in Alaska (and in fact the entire U.S., except for Fort Wayne, Indiana) will shift. Take, for example, a U.S.C.&G.S. (now NGS) brass cap triangulation point "EAGLE." In the 1927 system, this brass cap has certain latitude and longitude values. Under the 1983 readjustment, this brass cap will be in the same spot on the ground (that is, it will not be physically moved) but (in Alaska) it will have a new latitude value which will make it appear to have moved south, and a new longitude value which will make it appear to have moved west. The meter values of these shifts are shown below.

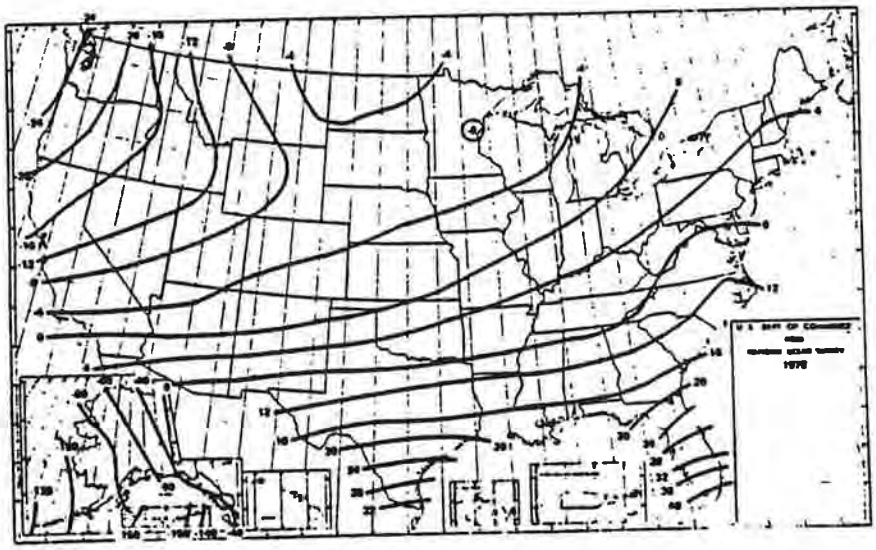


Figure 1.--Expected latitude change from NAD 27 to NAD 83 (in meters).

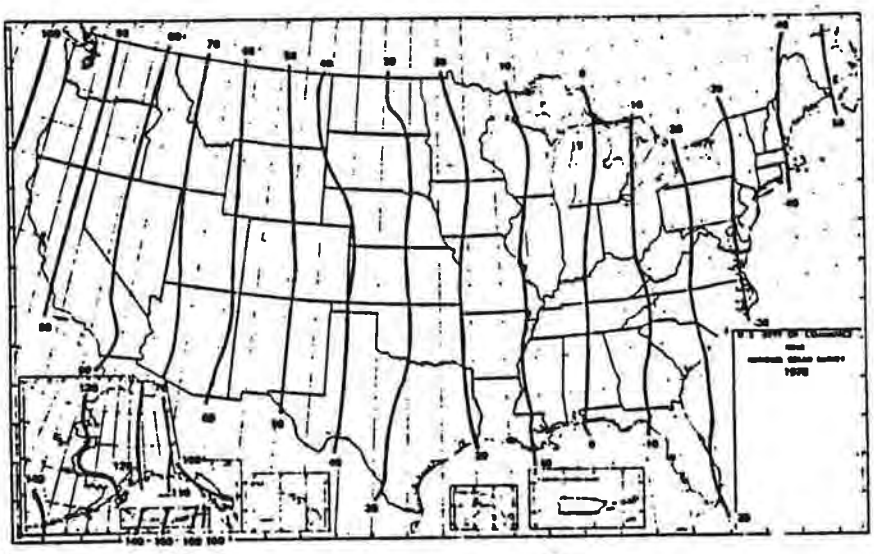


Figure 2.--Expected longitude change from NAD 27 to NAD 83 (in meters).

There is no simple way to convert any 1927 coordinate values to 1983 values. There are several reasons for this.

a. The old 1927 values were in feet; the 1983 values are in meters.

b. The central meridians will physically shift to the east.

c. Zones 7 and 9 will have central meridian constants of 500,000 meters, rather than their old values of 700,000 and 600,000 feet.

d. The Zone 10 central meridian will have a value of 1,000,000 meters, rather than its old value of 3,000,000 feet.

e. The center point of Zone 1, near Kake, will have slightly different coordinates because of the new shape of the earth.

f. Even if everything else remained the same, the mere fact of using a new shape of the earth would change almost all coordinates.

Therefore: DON'T MIX UP THE 1927 SYSTEM WITH THE 1983 SYSTEM.

A map of Alaska is shown on the next page, showing the 10 zones in Alaska.

Here are some of the key values for the 10 zones:

ZONE 1 Center point is at Lat. 57° 00' N., Long. 133° 40' W. (near Kake.)
Grid north for this zone is basically True North at the center point.
The u-axis bears N 36° 52' 11.6315" W at the center point. (The tangent of this angle is 3/4)
The scale factor along the u-axis is 0.9999000.
The Zone 1 values for the center point are X = 818,676.7335 meters
Y = 575,097.6887 meters

ZONES 2-9 The central meridians are:

Zone	C.M. Longitude
2	142° W.
3	146° W.
4	150° W.
5	154° W.
6	158° W.
7	162° W.
8	166° W.
9	170° W.

All central meridians have X values of 500,000 meters.

The Y value, at the central meridians, for Latitude 54° N., is zero.

Grid norths are the true norths of the central meridians.
All central meridians have scale factors of 0.9999000.

ZONE 10 The central meridian is at 176° W. longitude. This is grid north.
The central meridian has an X value of 1,000,000 meters.
The standard parallels are at 51° 50' N. and 53° 50' N. The scale factors along these standard parallels are exactly 1.0000000.
The Y-value of Latitude 51° N. at the central meridian is zero.
The least scale factor is 0.9998481

Comparison of Datum Elements

	NAD 27	NAD 83
Reference Ellipsoid	Clarke Ellipsoid of 1866 a = 6,378,206.4 m. b = 6,356,583.8 m.	GRS 80 a = 6,378,137 m. f = 1/298.2572221...
Datum Point	Triangulation station MEADES RANCH	NONE (mass center of the earth)
Longitude Origin	Greenwich Meridian (BIH zero meridian)	BIH zero meridian (Greenwich Meridian)
Azimuth Orientation	From SOUTH	From NORTH
Adjustment	25k Points Several hundred base lines Several hundred astro azi;	250k Points Approx. 30k EDMI base lines 5k astro azimuths Doppler point positions VLBI vectors
Best Fitting	North America	World-Wide

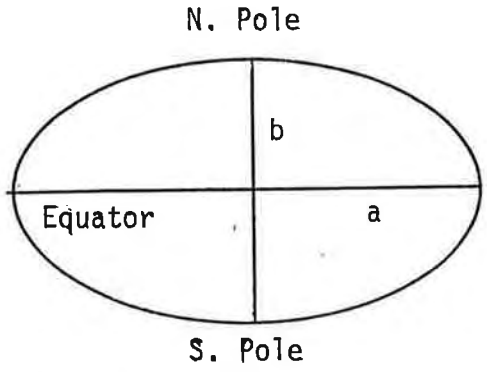
CONVERSION OF NAD-27 TO NAD-83 POSITIONS

SHAPE OF THE EARTH (ELLIPSOIDS)

Definitions and Relations

a = equatorial semi-diameter

b = polar semi-diameter



$$f = \frac{a - b}{a}$$

$$\frac{1}{f} = \frac{a}{a - b}$$

$$e^2 = \frac{a^2 - b^2}{a^2} \quad \text{and } e = \sqrt{e^2}$$

$$e'^2 = \frac{a^2 - b^2}{b^2} \quad \text{and } e' = \sqrt{e'^2}$$

$$\varepsilon = \frac{e^2}{1 - e^2} \quad \text{also} = e'^2$$

NOTE: The values shown below are expressed to a high degree of accuracy for those who wish to program computers in Double Precision. Usually ten digits (as would fit on the HP-41C calculator) are more than sufficient.

NAD-27
(Based on Clarke's 1866 Spheroid)

a = 6,378,206.4 meters (exact)

b = 6,356,583.8 meters (exact)

f = 0.0033900753039287033

$\frac{1}{f}$ = 294.97869821390582

e^2 = 0.006768657997291092

e = 0.082271854223003259

$e'^2 = \varepsilon$ = 0.006814784945915086

e' = 0.082551710738876189

NAD-83

a = 6,378,137 meters (exact)

b = 6,356,752.314140347 meters

f = 0.00335281068118363 7

$\frac{1}{f}$ = 298.2572221008827

e^2 = 0.006694380022903416

e = 0.08181919104283185

$e'^2 = \varepsilon$ = 0.006739496775481622

e' = 0.08209443815193342

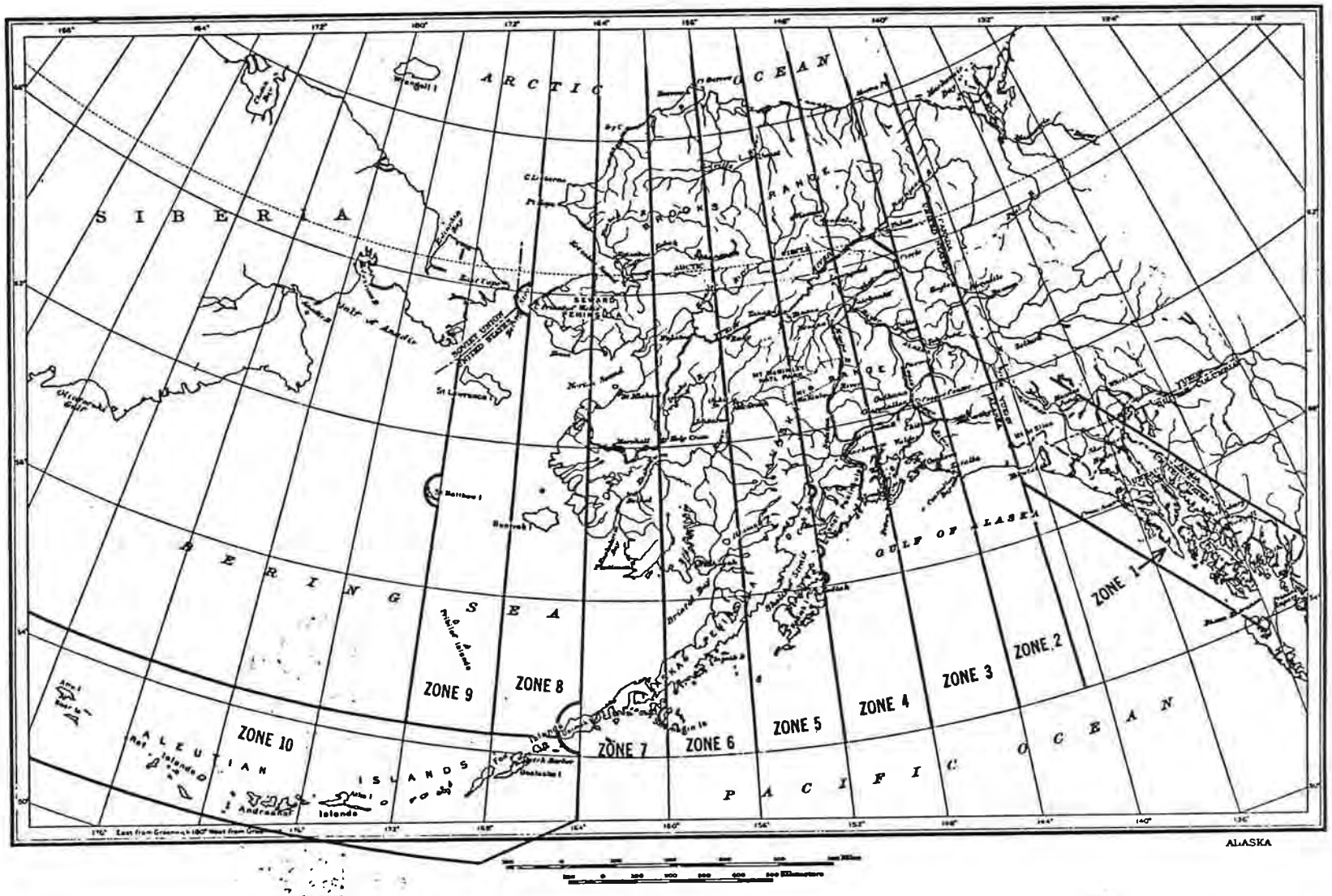

ARCTIC OCEAN
SIBERIA
BERING SEA
PACIFIC OCEAN
GULF OF ALASKA
ALEUTIAN ISLANDS
ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
ZONE 6
ZONE 7
ZONE 8
ZONE 9
ZONE 10
ALASKA

Figure 1.

CLASSICAL GEODETIC APPROACH TO DATUM TRANSFORMATIONS

WHAT IT DOES:

1. CONVERTING FROM ϕ, λ, h TO X, Y, Z:
   - REMOVES THE EFFECT OF THE SIZE AND SHAPE OF THE ELLIPSOID, THE MATHEMATICAL REPRESENTATION OF THE EARTH
2. CONVERTING FROM X_A, Y_A, Z_A TO X_B, Y_B, Z_B USING ΔX, ΔY, ΔZ:
   - CHANGES THE ORIGIN FROM ONE ELLIPSOID (SYSTEM A) TO ANOTHER (SYSTEM B)
3. CONVERTING FROM X, Y, Z BACK TO ϕ, λ, h:
   - INTRODUCES THE EFFECT OF THE NEW ELLIPSOID (SIZE AND SHAPE)
4. SUMMARY - IT CHANGES COORDINATES TO ACCOMMODATE REDEFINITION

WHAT IT DOES NOT DO:

- IT DOES NOT ACCOUNT FOR READJUSTMENT

CONVERTING RECTANGULAR COORDINATES (X, Y, Z)
TO
GEODETIC COORDINATES (ϕ, λ, h)

$$\text{TAN}(\phi) = [Z + e'^2\, b\, \text{SIN}^3(U)]/[P - e^2\, a\, \cos^3(U)]$$

WHERE: $P = (X^2 + Y^2)^{1/2}$

$$\text{TAN}(U) = (Z/P)\ (a/b)$$

$$e'^2 = \frac{a^2 - b^2}{b^2}$$

$$e^2 = \frac{a^2 - b^2}{a^2}$$

$$\text{TAN}(\lambda) = Y/X$$

$$h = P/\cos(\phi) - N$$

WHERE: $N = a\,[1 - e^2\, \text{SIN}^2(\phi)]^{-1/2}$

Subscript 2: Refers to the second coordinate system.

N = Northings.

E = Eastings.

a = Symbol for expression defined by above equation.

b = Symbol for expression defined by above equation.

TN = Northing translation.

TE = Easting translation.

S = Scale factor.

ϕ = Rotation.

n = Number of points in each coordinate system whose N, E values have been entered.

Programs 17, 18 and 19—State Plane Coordinates (Lambert, Transverse Mercator, Alaska Zones 2-9).

All equations used in these programs to convert from geographic to state plane coordinates and visa versa are those contained in the following publication:

"State Plane Coordinates by Automatic Data Processing", Charles N. Claire, U.S. Dept. of Commerce, Environmental Sciences Administration, Coast and Geodetic Survey.

Publication 62-4.

Available at many libraries and also for 45 cents (subject to change without notice) from:

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

CE 617 CONTROL SURVEYS - PUISSANT'S METHOD

BASIC FORMULAS: ϕ = Lat., λ = Longitude, α = Geodetic Azimuth, S = Sea level arc length. MUST BE IN METERS

DIFFERENCE IN LATITUDE: S. MUST BE IN METERS — USE SUM OF FIRST TWO TERMS THEN ²

* $\Delta\phi'' = -S\cos\alpha\, B - S^2 \sin^2\alpha\, C - (\Delta\phi'')^2 D + S^3 \cos\alpha \sin^2\alpha\, B\, E + \frac{S^4}{2}\sin^2\alpha\, C$

The factors B,C,D, and E must be looked up, based on the STARTING LATITUDE. It is IMPORTANT to INTERPOLATE to get the correct values. More in class.

When you get to the $-(\Delta\phi'')^2 D$ term you do not have the exact value of $\Delta\phi''$. However, you will have the first two terms, and these will give you a good enough value to use.

ACCURACY: Usually, calculate each term to .0001 second. When you have them all combined, round off to the nearest .001 second.

DIFFERENCE IN LONGITUDE:

Note: Where you see a "Primed" symbol, this means to use that value based on the ENDING LATITUDE.

$\sin(\Delta\lambda) = \sin\left(\frac{S}{N'}\right)\frac{\sin\alpha}{\cos\phi'}$

This is good for a computer, but rather awkward to use manually.

* For manual use, if the distances are under about 10,000 meters (about 6 miles)

$\Delta\lambda'' = \frac{S \sin\alpha}{\cos\phi'} A'$ — $\frac{1}{N\,\mathrm{arc}\,1''}$ @ ENDING LAT. (SAME AS ON PAGE 18)

* If the length S is over 10,000 meters, then you should use this formula:

$\Delta\lambda'' - .39174 \times 10^{-11} (\Delta\lambda'')^3 = (S - .407665 \times 10^{-14} S^3)\frac{\sin\alpha}{\cos\phi'} A'$

S MUST BE IN METERS

Usually this is modified to put the $(\Delta\lambda'')^3$ term on the right hand side. Once you have the approximate value of $\Delta\lambda''$ you can add the small amount and get a good accurate value of $\Delta\lambda''$.

$\Delta\lambda'' = (S - .407665 \times 10^{-14} S^3)\frac{\sin\alpha}{\cos\phi'} A' + .39174 \times 10^{-11} (\Delta\lambda'')^3$

DIFFERENCE IN AZIMUTH, AND BACK AZIMUTH

$\Delta\alpha'' = -\Delta\lambda'' \frac{\sin\phi_m}{\cos\left(\frac{\Delta\phi}{2}\right)} - F_m (\Delta\lambda'')^3$ (SEE PAGE 18)

$\alpha' = \alpha + 180^\circ + \Delta\alpha$

The subscript "m" means that you use the mean, or average of the beginning & ending latitudes.

CONVERTING RECTANGULAR COORDINATES (X, Y, Z)
TO
GEODETIC COORDINATES (ϕ, λ, h)

$$\text{TAN}(\phi) = [Z + e'^2\ b\ \text{SIN}^3(U)]/[P - e^2\ a\ \text{COS}^3(U)]$$

WHERE: $P = (X^2 + Y^2)^{\frac{1}{2}}$

$$\text{TAN}(U) = (Z/P)\ (a/b)$$

$$e'^2 = \frac{a^2 - b^2}{b^2}$$

$$e^2 = \frac{a^2 - b^2}{a^2}$$

$$\text{TAN}(\lambda) = Y/X$$

$$h = P/\text{COS}(\phi) - N$$

WHERE: $N = a\ [1 - e^2\ \text{SIN}^2(\phi)]^{-\frac{1}{2}}$

U
e
a
b

N ⇒ 1,183,519.27165

E ⇒ 5,320,238.75328

G

19.21'