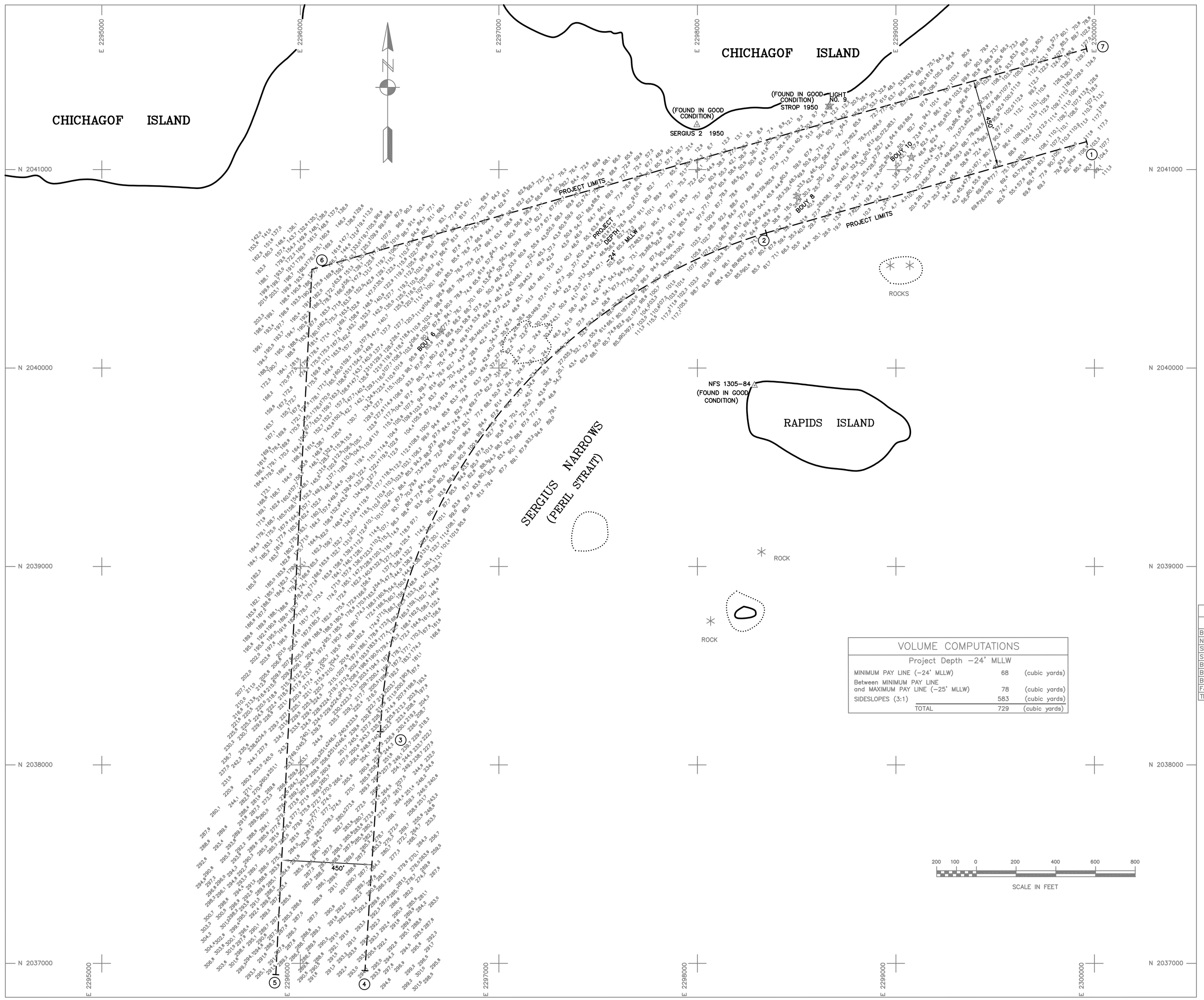
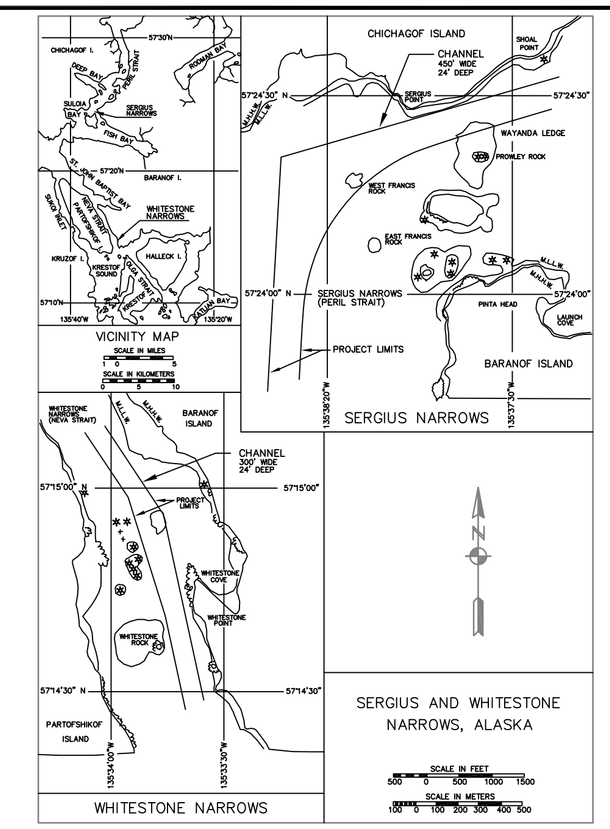
CORPS OF ENGINEERS U. S. ARMY





NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83, IN US SURVEY FEET HOLDING USACE SBC "NFS 1305 1984" AS N 2,039,912.14, E 2,298,288.28 AND USC&GS SBC "STROP 1950" AS N 2,041,314.93, E 2,298,661.23.
2. VERTICAL CONTROL IS IN FEET, BASED ON MEAN LOWER LOW WATER (MLLW=0.0'), HOLDING USC&GS TIDAL "BENCH MARK 4 1950" AS 9.44', MLLW VALUES ARE BASED ON USC&GS TIDAL BENCH MARKS LIST "SOUTHEAST ALASKA — 202, SERGIUS NARROWS, PERIL STRAIT, CHICHAGOF ISLAND — PUBLICATION DATE: 4/25/56".
3. HORIZONTAL AND VERTICAL CONTROL WERE SURVEYED, 28 APRIL, 2001, USING OPTICAL INSTRUMENTS AND CONVENTIONAL TRAVERSE AND DIFFERENTIAL LEVELING TECHNIQUES.
4. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
5. BATHYMETRY WAS COLLECTED APRIL 29, 2001. SOUNDINGS WERE COLLECTED USING A "RESON 8124 SEABAT" MULTIBEAM SOUNDER (120° SWATH, 80 BEAM FLAT ARRAY TRANSDUCER). SOUND VELOCITY WAS PROFILED AND COLLECTED USING AN "APPLIED MICROSYSTEMS — SVP PLUS" PROFILER. POSITIONING AND VESSEL ATTITUDE WERE MEASURED USING A "SEATEX — SEAPATH 200 RTK" SYSTEM COUPLED WITH A "SEATEX — MRU-5" MOTION REFERENCE UNIT. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION SET AT "FJERN 2001". DATA WAS COLLECTED AND FIELD PROCESSED USING "RESON 6042" INTEGRATED SOFTWARE. WATER LEVEL WAS MEASURED USING A "VYNER LP1 TELEMETRY TIDE GAUGE" COUPLED WITH AN "ENDECO TYPE 1029" WATER LEVEL RECORDER. FINAL DATA PROCESSING WAS PERFORMED USING "CARIS HIPS" HDCS SOFTWARE AND TERRA SURVEYS, LLC PROPRIETARY SOFTWARE.
6. THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
7. PRIOR TO COMMENCEMENT OF THIS SURVEY, RECORD CONTROL, PROJECT LIMITS AND AIDS TO NAVIGATION COORDINATES WERE CONVERTED FROM NAD27, IN US SURVEY FEET, TO NAD83, IN US SURVEY FEET, USING "CORPSCON V5.11.08".

VOLUME COMPUTATIONS

Project Depth –24' MLLW

MINIMUM PAY LINE (–24' MLLW)	68	(cubic yards)
Between MINIMUM PAY LINE and MAXIMUM PAY LINE (–25' MLLW)	78	(cubic yards)
SIDESLOPES (3:1)	583	(cubic yards)
TOTAL	729	(cubic yards)

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
BOON 2 1950	2,040,623.28	2,294,418.13	---	USCGS TRI STA SBC
NFS 1305–84	2,039,912.14	2,298,288.28	---	USACE SBC
SERGIUS 2 1950	2,041,225.33	2,297,998.06	---	USCGS TRI STA SBC
STROP 1950	2,041,314.93	2,298,661.23	---	USCGS TRI STA SBC
BM 4 (SHOAL 2 1950)	2,041,993.70	2,299,928.26	9.44'	USCGS TRI STA SBC
BM 5 (SHOAL 2 NO 2 1950)	------	------	13.78'	USCGS REF. MARKER SBC
BM 6 (SHOAL 2 NO 1 1950)	------	------	13.49'	USCGS BENCHMARK SBC
FJERN 2001	2,037,804.14	2,293,139.34	---	SET 3.25" DOMED BRASS CAP
TIDAL 2001	2,042,029.17	2,299,963.15	11.84	SET 3.25" DOMED BRASS CAP

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	2,041,141	2,299,961	6	2,040,497	2,296,058
2	2,040,681	2,298,347	7	2,041,609	2,299,961
3	2,038,168	2,296,403			
4	2,036,964	2,296,325			
5	2,036,944	2,295,876			

☆ NAVIGATION AIDS ☆

DESCRIPTION	USCG NO	NORTHING	EASTING
WEST FRANCIS ROCK LIGHTED BUOY 6 – RED	25190	2,040,189	2,296,710
SERGIUS NARROWS BUOY 8 – RED NUN.	25195	2,040,860	2,298,505
SERGIUS NARROWS LIGHT 9 – SG	25200	2,041,322	2,298,666
WAYANDA LEDGE BUOY 10 – RED NUN.	25205	2,041,062	2,299,078

CONTRACT NO. DACW85–98–D–0004

CONTRACTOR TERRA SURVEYS, LLC

CITY PALMER CITY ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: KDW
DRAWN: LES
CHECKED: TSN
SUBMITTED:

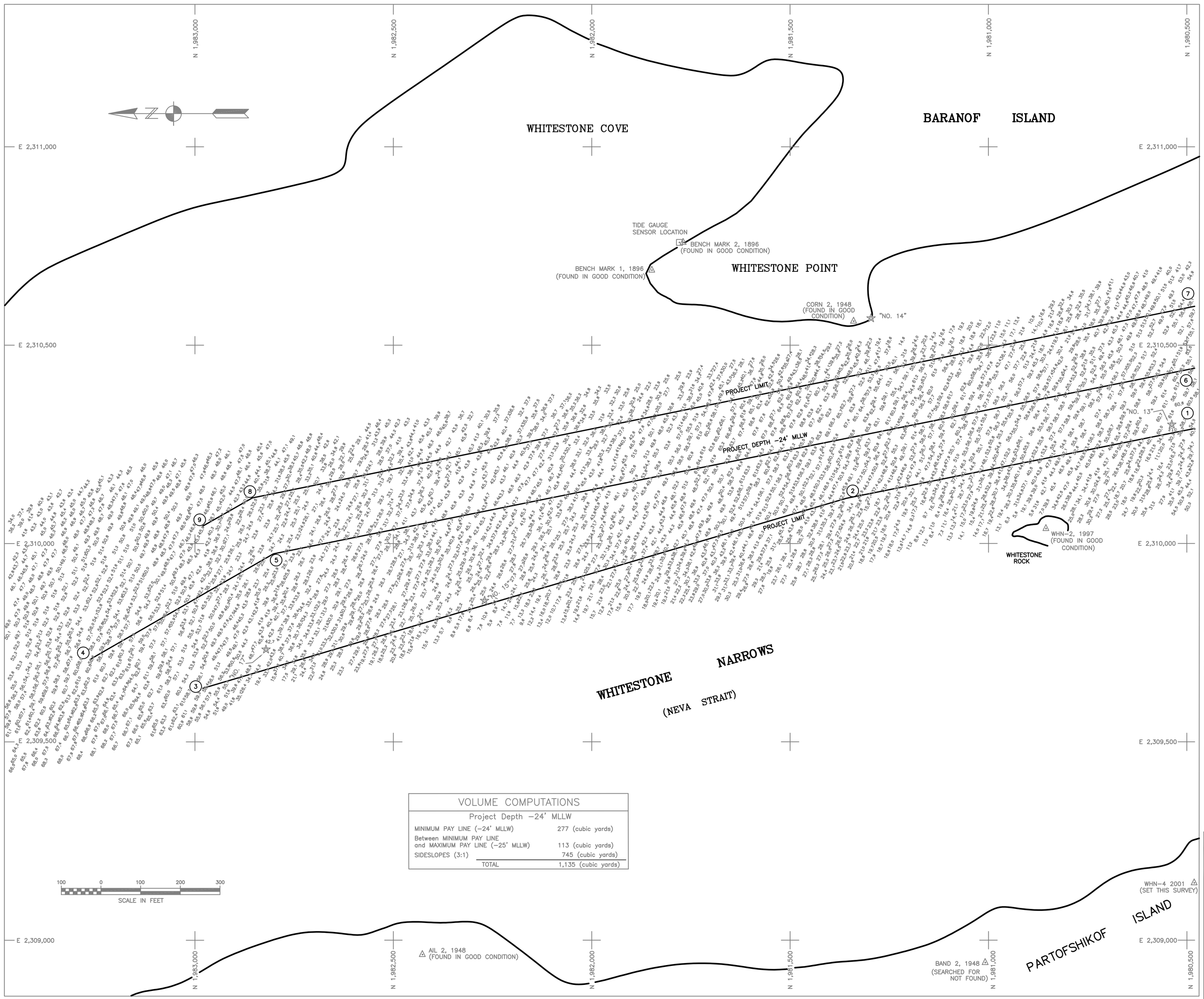
PERIL STRAIT, ALASKA
SERGIUS NARROWS
PROJECT CONDITION SURVEY
APRIL 29 ,2001

RECOMMENDED: PROJECT MANAGER
APPROVED: CHIEF OPERATIONS–READINESS BRANCH
DATE:

SURVEY NO. 1915–01

SCALE: 1" = 200'

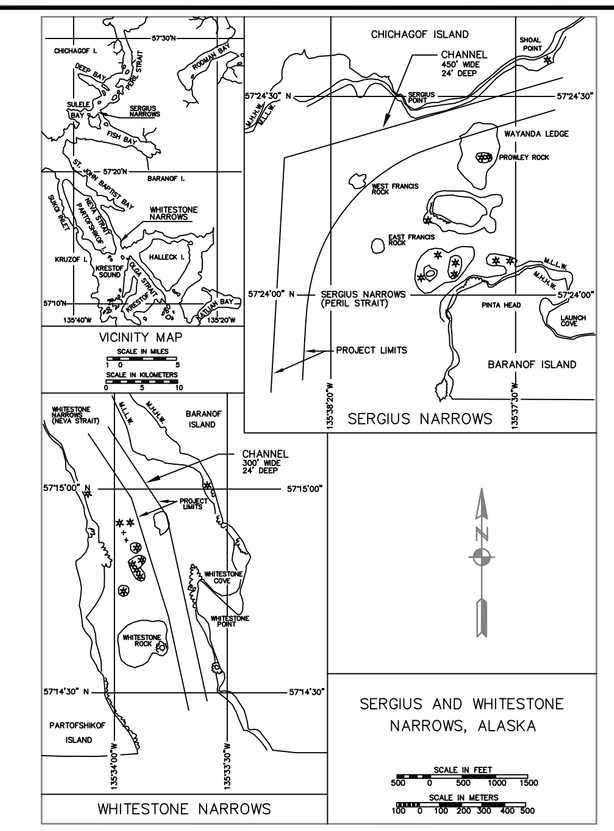
SHEET 1 OF 1



VOLUME COMPUTATIONS

Project Depth -24' MLLW

MINIMUM PAY LINE (-24' MLLW)	277 (cubic yards)
Between MINIMUM PAY LINE and MAXIMUM PAY LINE (-25' MLLW)	113 (cubic yards)
SIDESLOPES (3:1)	745 (cubic yards)
TOTAL	1,135 (cubic yards)



NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83, IN US SURVEY FEET HOLDING USC&GS TRI-STA SBC "AIL 2 1948" AS N 1,982,426.56, E 2,308,963.89 AND USC&GS TRI-STA SBC "CORN 2 1948" AS N 1,981,339.65, E 2,310,560.44.
2. VERTICAL CONTROL IS IN FEET, BASED ON MEAN LOWER LOW WATER (MLLW=0.0'). HOLDING USC&GS TIDAL BM "BENCH MARK 1 1896" AS 13.32', MLLW VALUES ARE BASED ON USC&GS TIDAL BENCH MARKS LIST "SOUTHEAST ALASKA, WHITESTONE POINT, NEVA STRAIT" PUBLICATION DATE: 5/27/59.
3. HORIZONTAL AND VERTICAL CONTROL WERE SURVEYED, MAY 9-10, 2001, USING OPTICAL INSTRUMENTS AND CONVENTIONAL TRAVERSE AND DIFFERENTIAL LEVELING TECHNIQUES.
4. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
5. BATHYMETRY WAS COLLECTED MAY 10, 2001. SOUNDINGS WERE COLLECTED USING A "RESON 8124 SEABAT" MULTIBEAM SOUNDER (120° SWATH, 80 BEAM FLAT ARRAY TRANSDUCER). SOUND VELOCITY WAS PROFILED AND COLLECTED USING AN "APPLIED MICROSYSTEMS – SVP PLUS" PROFILER. POSITIONING AND VESSEL ATTITUDE WERE MEASURED USING A "SEATEX – SEAPATH 200 RTK" SYSTEM COUPLED WITH A "SEATEX – MRU-5" MOTION REFERENCE UNIT. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION SET AT "WHN-2 1997". DATA WAS COLLECTED AND FIELD PROCESSED USING "RESON 6042" INTEGRATED SOFTWARE. WATER LEVEL WAS MEASURED USING A "VYNER LP1 TELEMETRY TIDE GAUGE" COUPLED WITH AN "ENDECO TYPE 1029" WATER LEVEL RECORDER. FINAL DATA PROCESSING WAS PERFORMED USING "CARIS HIPS" HDCS SOFTWARE AND TERRA SURVEYS, LLC PROPRIETARY SOFTWARE.
6. THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
7. PRIOR TO COMMENCEMENT OF THIS SURVEY, RECORD CONTROL, PROJECT LIMITS AND AIDS TO NAVIGATION COORDINATES WERE CONVERTED FROM NAD27, IN US SURVEY FEET, TO NAD83, IN US SURVEY FEET, USING "CORPSCON V5.11.08".

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
AIL 2, 1948	1,982,426.56	2,308,963.89	12.69	USCGS TRI STA SBC
BAND 2, 1948	1,981,008.04	2,308,943.63	--	USCGS SBC
CORN 2, 1948	1,981,339.65	2,310,560.44	9.06	USCGS TRI STA SBC
WHN-1, 1997	1,985,054.32	2,309,225.14	9.74	USACE DOMED BC
WHN-2, 1997	1,980,854.89	2,310,037.89	13.76	USACE DOMED BC
WHN-3, 2001	1,983,769.91	2,310,360.29	11.13	SET 3.25" DOMED BC
WHN-4, 2001	1,980,481.21	2,309,144.84	10.76	SET 3.25" DOMED BC
BM-1, 1896	--	--	13.32	COPPER BOLT
BM-2, 1896	--	--	11.96	COPPER BOLT

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	1,980,480	2,310,290	6	1,980,945	2,310,442
2	1,981,358	2,310,114	7	1,980,480	2,310,598
3	1,982,980	2,309,635	8	1,982,855	2,310,115
4	1,983,264	2,309,708	9	1,982,980	2,310,044
5	1,982,802	2,309,974			

☆ NAVIGATION AIDS ☆

USCG No.	DESCRIPTION	NORTHING	EASTING
25095	ROCK LIGHTED BUOY 13	1,980,538	2,310,300
25100	WHITESTONE POINT LIGHT 14	1,981,296	2,310,568
25105	CHANNEL BUOY 15	1,982,270	2,309,856
25110	CHANNEL LIGHTED BUOY 17	1,982,821	2,309,733
25115	WHITESTONE SANDSPIT BUOY 18	1,983,736	2,309,569
25120	CHANNEL RANGE FRONT LIGHT	1,984,530.0	2,309,500.4
25125	CHANNEL RANGE REAR LIGHT	1,984,896.6	2,309,413.3

CONTRACT NO. DACW85-98-D-0004
CONTRACTOR TERRA SURVEYS, LLC
CITY PALMER CITY ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: KDW
DRAWN: SGB
CHECKED: TSN
SUBMITTED:

NEVA STRAIT, ALASKA
WHITESTONE NARROWS
PROJECT CONDITION SURVEY
MAY 10, 2001

RECOMMENDED: PROJECT MANAGER
APPROVED: CHIEF OPERATIONS-READINESS BRANCH
DATE:

SURVEY NO. 1916-01
SCALE: 1"= 100'
SHEET 1 OF 1