

1.4. TIDE PLANNING:

The Earth Gravitational Model (EGM2008) was applied after data collection and ellipsoidal height merge. It is maintained by the National Geospatial-Intelligence Agency (NGA) and provides the WGS84 Ellipsoid to local Mean Sea Level Separation (SEP) value by interpolating from a 1 minute interval grid world model of SEP values. Two GPS buoys were deployed and recovered.

Buoys	Latitude	Longitude	Deployed	Recovered
1	63° 39.0016N	172° 55.7931W	JD 193	JD 214
2	65° 19.8112N	168° 55.9980W	JD 194	JD 201

Table 2: Buoys Deployed.

2.0. GEODETIC CONTROL

2.1. DATASUMS

Horizontal Datum: World Geodetic System of 1984
Projection: UTM 02
Spheroid: World Geodetic System of 1984
Grid: Universal Transverse Mercator

2.2. SOUNDING DATUM

Predicted tide correctors were not utilized. Instead, SABER's *GPSZ* program was used to achieve geoid-referenced soundings utilizing the 1 minute EGM2008. EGM2008 is the vertical datum for all field-processed data.

3.0. (B/H) HYDROGRAPHY

3.1. (B/H) CALIBRATION REPORT

Waterline

The ship waterline value used during this survop was -2.79 m, and the draft value for EM122 sonar was 6.87 and for EM710 sonar was 6.90. Waterline changes are also dynamic, changing slowly and linearly as fuel is consumed.

Weather

JD / TIME	SKY	VISIBILITY	WIND	SEA TEMPERATURE
194 / 1553	Cloudy	11 NM	11-16 KT	43° F
194 / 2200	Cloudy	11 NM	7-10 KT	44° F

Table 3: Weather Report for JD 194.

CALIBRATION FOR MULTIBEAM SYSTEMS					
VESSEL:	USNS SUMNER TAGS-61				
SYSTEM:	EM710				
DATE / JD:	July 12, 2012 / JD 194				
LOCATION:	Bering Sea				
SSSV Range During Testing: 1469.5 m/s				Depth Range: 49 - 57 meters	
CURRENT SETTINGS (TRANSDUCER)				ADJUSTMENTS	FINAL SETTINGS
Sensor Location		Installation Angles			
		Beam Angle:	55/55		
Forward (X):	.00	Timing:	N/A	none	N/A
Starboard (Y):	.00	Pitch:	0.00	none	0.00
Downward (Z):	.00	Roll:	0.08	none	0.08
Waterline:	-2.79	Heading:	0.00	none	0.00
Line #		1 – timing/pitch/roll		Line #	2 – pitch/roll
ISS_60 File #:		61mbn12194_u_84.d13		ISS_60 File #:	61mbn12194_u_84.d16
Heading (deg):		226		Heading (deg):	46
Speed (knots):		10		Speed (knots):	10
Start Time (Z):		1951		Start Time (Z):	2010
End Time (Z):		2000		End Time (Z):	2021
Line #		3 – timing			
ISS_60 File #:		61mbn121194_u_84.d18			
Heading (deg):		226			
Speed (knots):		5.0			
Start Time (Z):		2036			
End Time (Z):		2057			

Table 4: Calibration Parameters.

3.2. SOUNDING DEVELOPMENT (OVERALL PLAN)

The multibeam sounding collection methodology was constructed in the 610612 plan. Development lines were based on depth and were adjusted accordingly with regard to the dynamic nature of the sea floor. See table below.

Area	Survey	Azimuth	Spacing
1_7survey.ARE	1_7survey.srv	77° / 257°	100
1_7prime.ARE	1_7prime.srv	77° / 257°	90

Table 5: Survey Plan.

3.3. (B/H) JUNCTION ANALYSIS