RV Langseth Gravity Tie

Cruise	MGL0910
PI	Douglas Toomey
Tech-in-charge	A Johnson
Tie Operator	D Martinson
Tie Computed by	A Johnson

Date	2009-08-21	(at first tie reading)

Ship's Position	46 11.41995 N
	123 51.61406 W

Gravity Tie Record

Time (UTC)	Entry	Value	Notes
19:07	Main Deck Level BELOW Pier	1.2	meters
19:07	Pier 1 L&R Value	4258.56	L&R
19:40	Reference L&R Value	4258.81	L&R
20:00	Pier 2 L&R Value	4258.65	L&R
20:00	Main Deck Level BELOW Pier	1.2	meters
	Reference Gravity	980712.92	mGals
19:07	Grav Meter Value (BGM Reading)	980727.85	mGals, filtered

Reference is Potsdam Corrected (1 true, 0 false)	1

Difference in meters between pier and main deck	1.2 m
Difference in meters between main deck and BGM	3.08 m
(positive value means deck is below pier, bgm is below deck)	

Difference in mGals between Pier and Reference

(L&R_Pier	-	L&R_ref)	*	1.06 L&R	=	L&R Delta
4258.61		4258.81		1.06		**-0.21** mGal

Computed Pierside Gravity in mGal

Reference	+	L&R_Delta	+	Potsdam	=	Pier Gravity
980712.92		-0.21		13.6		**980726.31** mGal

Height Correction in mGal

pier height	+	BGM height	*	FAA Constant	=	Height Correction
1.2		3.08		0.31		**1.33** mGal

Calculated Gravity in mGal at Meter

Pier Gravity	+ Height Correction (mGal)		=	Gravity at meter
980726.31	1.33			**980727.64** mGal

Current Mistie

Filtered BGM Reading - Calc. Gravity		=	Current Mistie
980727.85	980727.64		**0.21** mGal

RV Langseth Gravity Tie

Cruise   MGL0910
PI   Douglas Toomey
Tech-in-charge   A Johnson
Tie Operator   D Martinson
Tie Computed by   A Johnson

Date   2009-09-20   (at first tie reading)

Ship's Position   46 11.43544 N
                  123 51.53282 W

Gravity Tie Record

Time (UTC)	Entry	Value	Notes
00:24	Main Deck Level BELOW Pier	1.7	meters
00:24	Pier 1 L&R Value	4258.80	L&R
00:39	Reference L&R Value	4258.67	L&R
00:54	Pier 2 L&R Value	4258.65	L&R
00:54	Main Deck Level BELOW Pier	1.7	meters
	Reference Gravity	980712.92	mGals
00:24	Grav Meter Value (BGM Reading)	980727.86	mGals, filtered

Reference is Potsdam Corrected (1 true, 0 false)   1

Difference in meters between pier and main deck   1.7 m
Difference in meters between main deck and BGM   3.08 m
(positive value means deck is below pier, bgm is below deck)

Difference in mGals between Pier and Reference

(L&R_Pier	-	L&R_ref)	*	1.06 L&R	=	L&R Delta
4258.73		4258.67		1.06		**0.06** mGal

Computed Pierside Gravity in mGal

Reference	+	L&R_Delta	+	Potsdam	=	Pier Gravity
980712.92		0.06		13.6		**980726.58** mGal

Height Correction in mGal

pier height	+	BGM height	* FAA	Constant	=	Height Correction
1.7		3.08		0.31		**1.48** mGal

Calculated Gravity in mGal at Meter

Pier Gravity	+ Height Correction (mGal)		=	Gravity at meter
980726.58	1.48			**980728.06** mGal

Current Mistie

Filtered BGM Reading - Calc. Gravity		=	Current Mistie
980727.85	980728.06		**-0.21** mGal