DATE 13 NOV 77 SUBJECT PROJECT NO. 1

RADIST CALIBRATION

C = 299,670 KM/SEC (FROM RADIST MANUAL)

f_m = 3319.400 KHZ

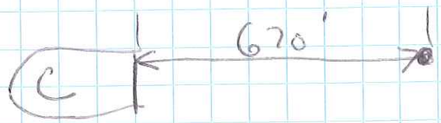
LANE = $\frac{299,670}{2 \times 3319.400}$

LANE = 45.13918 M

1 KM = 22.1537 LANES

1 NM = 41.02865 LA

1 LANE = 0.0243732 N. MI.

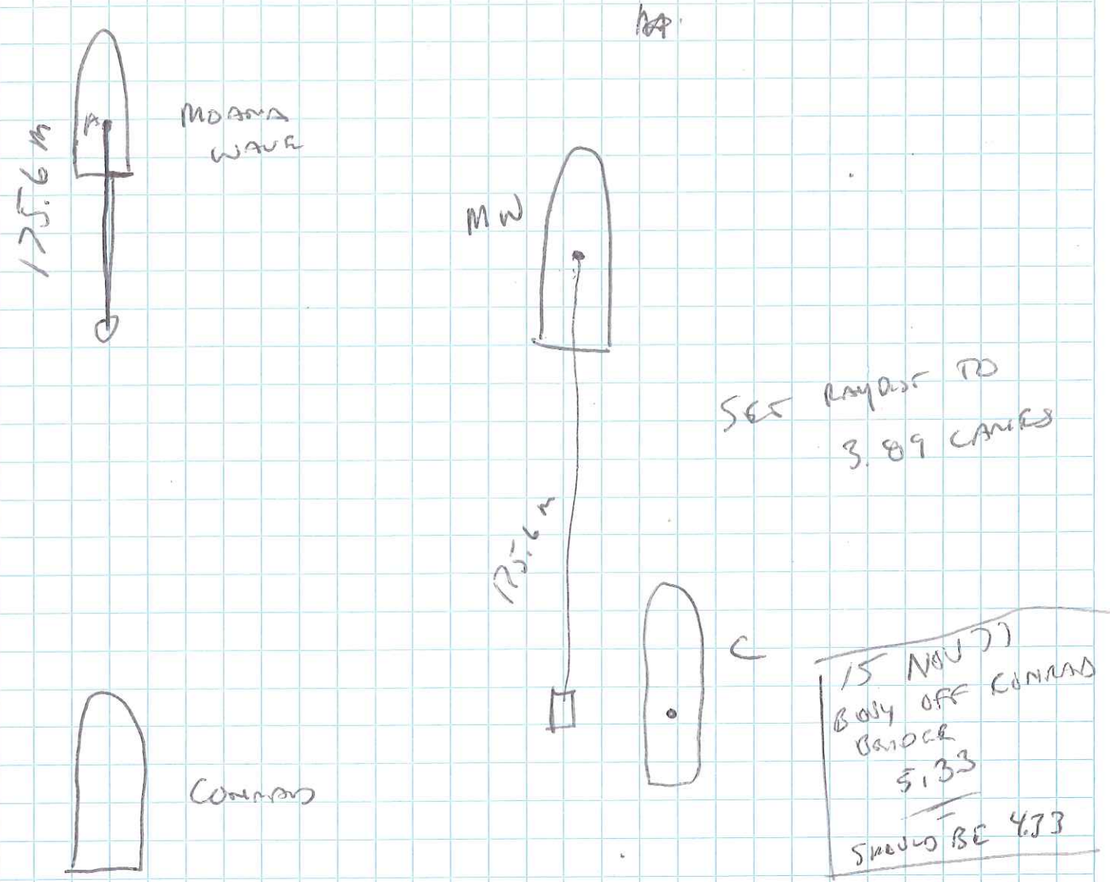


COMMAD CALIBRATION LINE

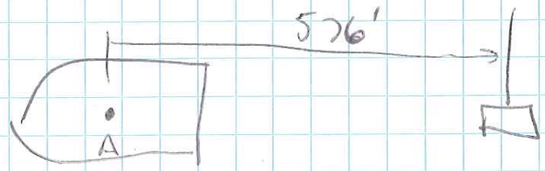
POLYPROPALINE (?)

1/2"

DATE SUBJECT 3.280835 1/m PROJECT NO. 2



SEE REPORT TO 3.89 CAMES



= 3.890 CAMES

M.W. CALIBRATION LINE = 175.6 m

ANTENNA - BUOY 576' — POLYPRO LINE

$\frac{202.4}{27.4} = 5.09$ LANES EXPECTED

$= \cancel{4.49 \text{ LANES}} =$

ACTUAL 4.99 LANES

---

16 NOV 77 ~ 0100

REQUEST @ 1 TO GREAT BEFORE CALIB
−1 TO SMALL AFTER CALIB

---

17 NOV 77 2358 BEFORE ESP #3

BRIDGE READING 1.5

---

20 NOV 77 1614 BEFORE ESP #4

Line: 112 Experiment: COP 6m Cruise RC2103

DATE 19 SUBJECT PROJECT NO. 12

19 Nov 77	Shot	Time	Rayleigh	Size	
	02	202.0	504.2	9 lbs.	
	04	2028	508.3	11	
	05	2032	510.4	"	
	06	3603151	513.5	"	
	08	2044.06	517.4	"	
	10	2052.04	522.4	"	
	12	2100.04	527.3		
	14	2108.02	532.8	"	
	17	2120.03	543.3		
	19	212805	554.2	"	
	21	213604	564.0	"	
	23	214404	574.3	"	
	25	215203	584.2	"	
	27	220004	593.8	"	
	29	220801	604.1	"	
	31	221600	613.1	"	
	33	222403	627.1	"	
	35	223203	638.2	"	
	37	224003	649.4	"	
	39	224805	661.9	"	
	41	225604	672.7	"	
	43	230404	684.3	"	
	45	231204	698.3	"	
	48	232103	706.4	"	
	50	232802	715.2	"	
	52	233604	723.7	"	
	54	234405	727.5	"	
	56	235220	730.2	"	
NOV. 20	58	00 00:03	733.6	"	
	60	00:08:04	737.7	"	
	62	00:16:02	740.7	"	
	64	00 24:04	743.4	"	
	66	00:32:08	745.65	"	
	68	00 40:04	747.5		
	70	00 48:01	749.3	"	
	72	00:56:09	751.4		
	74	01:04:06	753.8	"	
	76	01:12:01	754.3		
	78	01:20:04	754.8	"	better fair to poor
	80	01:28:04	755.7		

WITNESSED AND UNDERSTOOD

SIGNED DATE

SIGNED DATE

SIGNED

DATE

Line: 112 Experiment: COP 6m RC2103

DATE NOV 20 1977 SUBJECT PROJECT NO.

	Shot	Time	Rayplot	Size	Comments
NOV.20,1977	82	01:36:03	757.5	9 lbs.	GOOD?
	84	01:44:02	762.3	"	
	86	01:52:03	767.2	"	POOR → INVISIBLE
		~~02:5~~	~~770.35~~		
	88	02:00:05	770.35	"	
	90	02:08:12	771.46		
	92	02:16:06	772.3	"	
	94	02:24:02	772.[illegible]	"	
	96	02:32:03	772.68	"	
	98	02:40:03	773.0		Barely visible
	100	02:48:06	774.47		
	102	02:56:16	775.96		
	104	03:04:03	776.7		
	106	03:12:04	777.3	"	Poor → invisible
	108				false early trip
	109	03:20:04	777.76	"	
	111	03:28:03	779.08	"	
	113	03:36:04	779.2	"	
	115	03:44:06	778.7	"	
	117	03:52:03	778.04	"	Poor → invisible
	119	04:00:05	777.5	"	
	121	04:08	776.40		invisible
	123	04:16	776.11		"
	125	04:24	776.29		"
	127	04:32	776.00		"
	129	04:40	774.10		
	131	04 48	774.28		
	133	0456	774.21		
	135	0504	774.40		
	137	0512	774.45		change Aux delay from 13 to 12 sec
	139	0520	774.25		got it near beginning of rec
	141	0528	774.28		~~waiting way on delay~~, go
	143	0536	774.55		to 14 sec at shot. NG
	145	0544	775.10		back to 13 sec.
	147	0552 09	775.58		got something near beginning
	149	0600	775.60		try 12 sec again
	151	0608	774.95		
	153	0616	774.90		change back to Aux TB = 13 sec
	155	0624	775.11		
	157	0632	774.95		

WITNESSED AND UNDERSTOOD

SIGNED DATE SIGNED

SIGNED DATE DATE

Line 112 Experiment C.O.P. 604 (ctd) RC 21103

DATE 11/20/77 SUBJECT PROJECT NO.

NOV 20 1977

Shot	Time	Raydist	Size	Comments
159	0640	771.73		
161	0648	771.25		
163	0656	771.55		
165	0704	772.91		Aut change delay from 13 sec to 12 sec
167	0712	774.65		0713 - Mananalone dropped OBS
169	0720	774.60		
171	0728	774.75		
173	0736	773.95		
175	0744	774.25		
177	0752	775.30		
179	0800	774.62		
181	0808:04	774.7		
183	0816:02	774.9		NO CAMERA RECORD
189	0840 05	776.0		
192	0848:04	774.2		
194	0856:03	774.1		
197	0916:03	775.2		START 8 MIN INTERV
?	0924	?		
199	0932:05	774.9		
200	0940:06	776.0		
201	0948:09	776.3		
202	0956:02	775.5		
203	1004:03	775.0		
204	1012:05	774.9		
206	1020:06	775.2		
207	1028:02	775.8		
208	1036:05	776.3		
209	1044:03	776.9		
210	1052:04	776.6		
211	1100:06	776.4		
212	1108:04	775.2		
213	1116:11	776.3		
214	1124:04	778.4		
215	1132:05	779.6		
216	1140:03	779.0		
217	1148:03	776.0		
218	1156:05	775.0		
219	12:04:04	774.5		
220	12:20:02	774.0		Shot late (16 min int.)
221	12:28:02	772.4		GOOD

Line: 112 Experiment: COP 6-M contd RC2103

DATE NOV 20 1977 SUBJECT PROJECT NO. 15

	Shot	Time	Rawlist	Size	Comments
NOV 20 1977	222	12:36:04	770.4		Very good, last shot

Line: 113 Experiment: ESP 4 RC2103

DATE SUBJECT PROJECT NO.

Date	Shot	Time	Raydist	Size	Comments
NOV 20 77	0001	1910:34		1 lb	Moana Wave local time clock and our local time clock zeroed at same time. Time difference = 1.032 to 1.033 when sending test stream
	2	1911:15	~~[illegible]~~	"	
	3	1912:04	110.6	"	
	4	1913:	104.5	"	
	5	1913:26	102.4	"	
	6	1914:15	99.3	"	
	7	1915:09	93.8	"	
	7	1917:08	80.4	"	shot count ok
	8	1918:06	73.9	"	← after - with 7.
	9	1919:10	67.7	"	camera second
	10	1920:05	?	"	
	11	1921:01	56.6	"	
	12	1922:11	50.5	"	← camera second
	16	1925:54	41.9	"	
	20	1930:02	49.1	"	
	24	1934:02	67.5	"	
	28	1938.00	90.4	"	← camera second
	32	1942:02	114.8	"	
	36	1946:01	140.3	"	← camera second
	40	1950:01	166.8	"	
	44	1954:03	194.0	"	
	48	1958:02	?	"	
	49	1959:02	227.6	"	
	52	2002:09	248.5	"	
	56	2006:00	275.2	"	
	60	2010.07	303.0	"	
	64	2014.02	329.4	"	
	68	2018:07	356.3	"	← camera second
	(~~72~~)	(~~2021:05~~)	(~~384.0~~)	"	
	72	2021:55	384.0	"	
	76	2026:03	411.3	"	←
	78	2028:03	424.7	"	
	80	2030:06	?	"	
	84	2034:00	465.0	"	
	88	2038:05	492.2	"	← camera
	91	2042:08	520.0	3 lbs	
	92	2044:03	533.0	"	
	94	2048:01	559.7	"	
	95	2050:10	573.1	"	

Line: 113 Experiment: ESP #4 RC2103

DATE SUBJECT PROJECT NO. 17

	Shot	Time	Rng dist	Size	Comments
20 Nov 77	96	20 52:00	588.2	9 lbs.	
	97	20 54:04	613.7	"	
	98	21 00:00	640.3	"	
	99	21 04:01	668.0	"	
	100	21 08:00	694.4	"	
	101	21 12:02	721.5	"	
	102	21 16:00	748.2	"	
	103	21 23:00	796.2	30 lbs.	
	104	21 30:02	843.2	"	
	105	21 37:16	892.2	"	
	106	21 44:05	939.5	"	
	107	21 51:05	988.1	"	
	108	21 58:05	1036.1	60 lbs.	
	109	22 05:07	1084.5	"	
	110	22 12:07	1132.5	"	
	111	22 19:05	1181.4	"	120?
	112	22 26:22	1231.7	120	
	113	22 33:06	1279.1	"	
	114	22 39:13	1323.0	"	
	115	22 46:18	1379.2	"	

END ESP #4

R / V CONRAD

Cruise: RC2103

Date: NOV 20 1978

Time: 2247.18

Shot Pt: 115

Line 1, 116 — Experiment ESP-5 — RC21-03

DATE — SUBJECT — PROJECT NO. — 18

	Shot	Time	Playlist	Size	Comments
21 NOV 1977	0002	1455:03	120.8	1 lb	
	3	1456:06	113	"	
	4	1457:07	106.9	"	← camera
	5	1458:06	100.0	"	
	6	1459:03	93.9	"	
	7	1500:06	87.3	"	
	8	1501:04	81.0	"	← camera
	9	1502:05	"	"	
	10	1503:09	70.4	"	
	11	1504:13	65.7	"	
	12	1505:06	61.7	"	← camera
	13	1506:02	58.8	"	
	14	1507:03	56.7	"	
	15	1508:17	56.0	"	
	16	1509:05	56.5	"	← camera
	17	1510:07	58.1	"	.
	18	1511:05	60.7	"	.
	19	1512:07	64.3	"	.
	20	1513:04	68.6	"	← camera
	21	1514:11	74.0	"	.
	22	1515:09	79.3	"	.
	23	1516:06	84.8	"	.
	24	1517:05	91.1	"	← camera
	25	1518:09	97.8	"	.
	26	1519:06	104.4	"	.
	27	1520:09	111.4	"	.
	28	1521:04	118.5	"	← camera
	32	1525:05	149.2	"	← camera
	36	1529:06	180.1		.
	40	1533:07	211.77		.
	44	1537:13	246.47		←
	48	1541:03	277.06		← camera
	52	1545:10	311.3	"	← camera
	56	1549:03	344.7	"	← camera
	57	1550:04	353.3	~~3 lbs~~	
	58	1551:10	362.2	3 lbs	← camera
	59	1553:03	387.2	"	← camera
	60	1556:04	404.3	"	← camera

Line 116 Experiment: ESP 5 R2103

DATE SUBJECT PROJECT NO.

	Shot	Time	Raydist	Size	Comments
2/Nov 77'	61	1558:02	420.8	3 lbs	← camera
	62	~~1576:09~~ 1600:17	438.5	"	← camera
	63	1602:07	454.4	"	← camera
	64	1604:04	471.7	"	← camera
	65	1606:04	488.6	"	← camera
	66	1608:02	506.1	"	← camera
	67	1610:04	522.8	"	← camera?
	68	1612:11	540.8	"	← camera
	69	1614:02	556.8	"	[illegible camera]
	70	1616:00	573.4	"	← camera
	71	1617:57	590.2	"	
	72	1622:00	624.2	9 lbs	← camera
	73	1626:06	658.8	"	
	74	1630:06	693.4	"	← camera
	75	1634:02	726.0	"	← camera
	76	1638:04	758.1	30 lbs	← camera
	77	1644:07	806.4	"	← camera
	78	1650:06	853.4	"	← camera
	79	1656:11	900.1	"	← camera
	80	1702:06	946.2	60 lbs	← camera
	81	1708:04	992.7	"	← camera
	82	1714:01	1039.71	"	← camera
	83	1720:00	1087.1	"	← camera
	84	1726:02	1134.8	"	← camera
	85	1732:08	1184	"	missed camera
	86	1738.10	1237.0	"	" "
	87	1744.09	1281.2	120	
	~~88~~	~~1750.00~~	~~1326.9~~	~~120~~	
	88	17 5009	1326.9	120	
	89	1756.15	1378.2	120	
	90	1802.81	1422.33	120	
	91	1808:00	1470.1	120	
	92	1814:10	1517.8	120	
	93	1820:03	1564.7	120	end ESP 5

22 Nov 77	Shot	Time	Raydist	Size	Comments
	~~[struck]~~	~~08 0833~~			
	0003	0832:06	140 ?	1 lb	
	0004	0832:59	133.9	"	← camera
	0005	0834:03	126	"	
	6				
	7	0836:01	109.4		← camera
	8	0830:04	98.0	"	
	10	0839:04	90.0	"	
	11	0840:00	85.	"	← camera
	12	0841:04	78.	"	
	13	0842:01	73	"	
	14	0843:04	67	"	
	15	0844:00	62	"	
	16	0845:06	57	"	
	17	0846:03	54.2	"	← camera
	18	0847:04	50.2	"	
	19	0848:07	49.4	"	
	20	0849:05	49.06	"	
	21	0850:08	50.09	"	
	22	0851:10	50.3	"	
	23	0852:05	52.7	"	
	24	0853:06	56.6	"	
	25	0854:05	60.7	"	
	26	0855:06	66.0	"	
	27	0856:06	71.2	"	
	28	0857:04	76.8	"	
	29	0858:10	83.2	"	
	30	0859:01	89.1	"	
	32	0901:10	102.7	"	
	33	0902:08	110.1	"	← misfire
	34	0903:43	122.0	"	
	35	0904:07	125.2	"	
	36	0905:02	130.4	"	
	37	0906:00	137.2	"	
	38	0907:05	145.0	"	
	39	0908:06	152.3	"	
	40	0909:08	160.1	"	← camera
	41	0910:12	166.8		
	42	0910:59	174.2	"	
	43	0911:59	181.6	"	

Line: 118 Experiment: ESP 6 RC2103

DATE SUBJECT PROJECT NO. 21

	Shot	Time	Rayslist	Size	Remarks
22 Nov. 77'	~~0913:00~~	~~0913:00~~	~~190.6~~	~~1 lbs~~	
	44	0913:00	190.6	1 lbs	CAMERA
	48	0917:00	219.1	"	"
	52	0921:04	249.0	"	"
	56	0925:05	279.2	"	"
	60	0929:07	309.2	"	"
	61	0930:00	316	3 lbs	3 lbs a 1 minute
	62	0931:03	324.0	"	
	63	0932:02	331.2	"	
	64	0933:04	338.7	"	← camera
	68	0937:05	369.2	"	← camera
	72	0941:05	399.2	"	← camera
	75	0944:17	424	"	
	76	0945:05	429.4	"	
	79	0948:12	451.8	"	
	82		475.1		96
	83	0952:10	481.7	9 lbs	at 4 mm
	84	0956:00	511.0	"	← camera
	85	1000:00	540.6	"	
	86	1004:03	570.8	"	← camera
	87	1008:	602.1	30 lbs	← camera 34
	88	1014:05	645.6	"	← camera 130
	89	1020:02	689.6	"	← camera
	90	1026:05	735.5	60 lbs	← camera
actually shown	91	1032:08	~~778.8~~	120 lbs	← camera
↓	92	1038:00	822.0	"	← camera
94	~~93~~	1044:05	866.6	"	← camera
95	~~94~~	1050:10	910.7	"	← camera
96	95	1056	957.6	"	← camera
97	96	1102:03	999.2	"	← camera
~~98~~	~~97~~	~~1043~~	~~1043~~		
98	97	1108:12	1043.7	"	← camera
99	98	1114:10	1088.5	150 lbs	← camera
100	99	1120:02	1131.7	150 lbs	← camera

Note: matte annul or bad shot