FERMILAB-LU-183

Fermilab

LINAC Upgrade Module Locations

LU-183

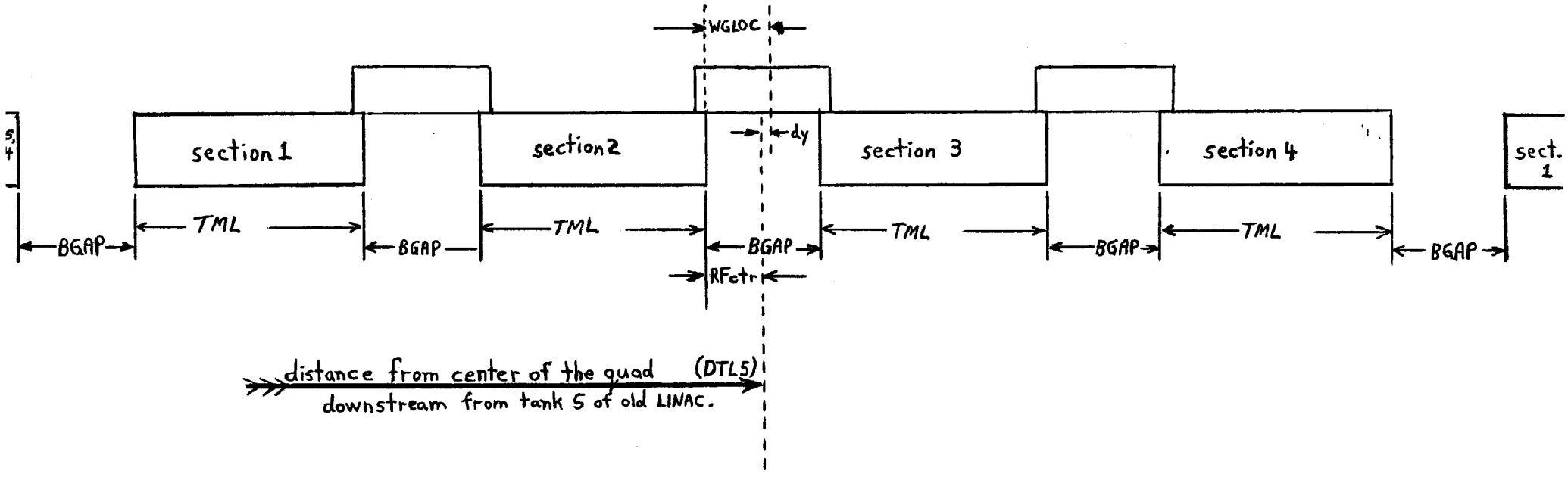
FROM: T. Jurgens
DATE: February 28, 1992

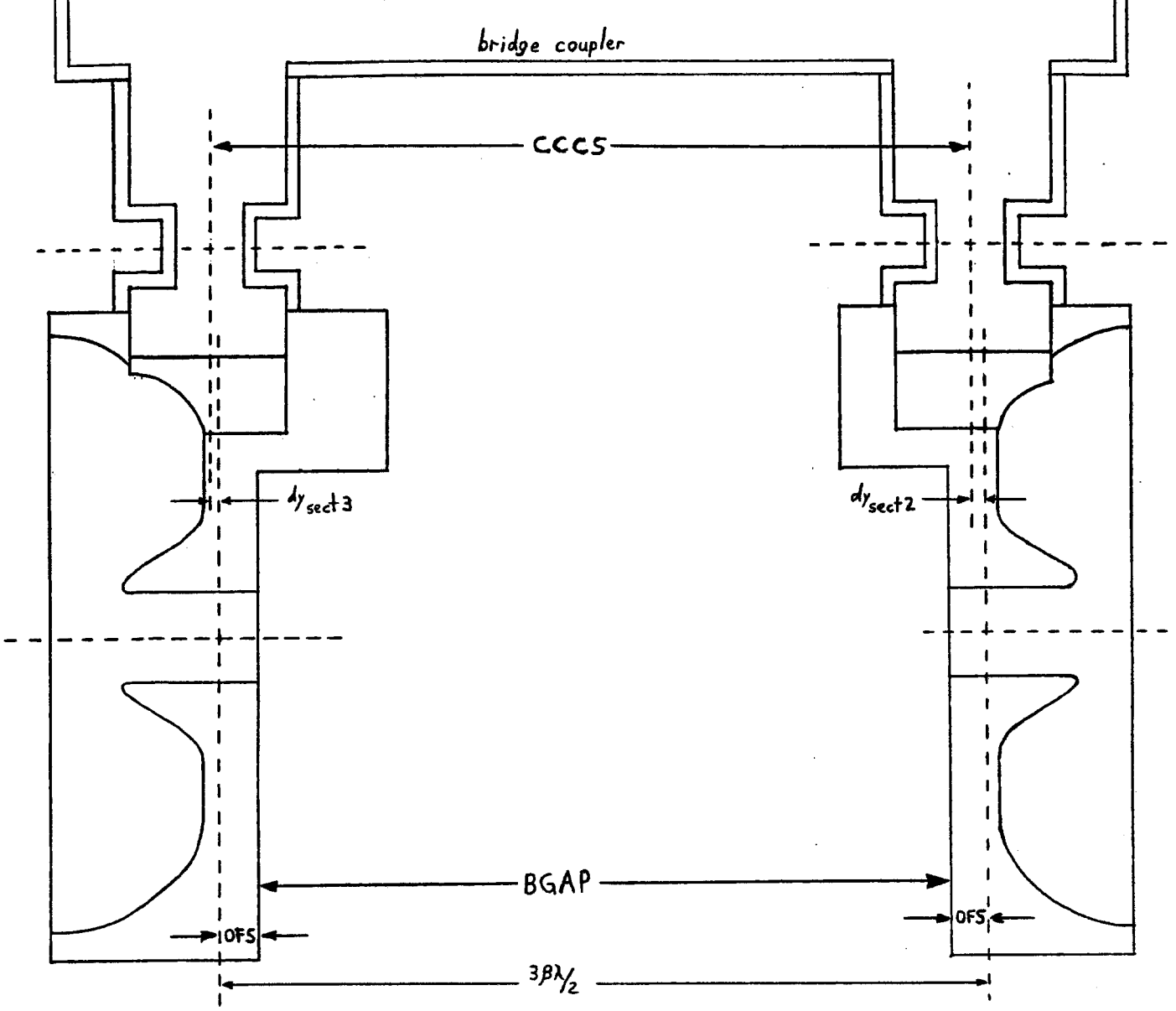
This table and diagrams that follow locate the modules and sections with respect to the center of the quad (DUSAF 99,845.339) downstream from tank 5 of the old LINAC. As compared to the last revision, a correction in the sketch "Layout of Modules 1 to 7" has been made, wgloc is greater than RFctr. A caption has been added to the sketch which shows CCCS. Dimension measurements for the Debuncher section and the Coupled Cavity Center Spacing (CCCS) have been added. Please discard any old versions of this memo, including those dated November 13, 1991, January 3, 1992 and January 8, 1992.

Distribution:

M. Foley	MS340
J. Fritz	MS340
T. Hamerla	MS340
F. Harfoush	MS345
Q. Kerns	MS307
G. Lee	MS340
J. Maclachlan	MS341
H. Miller	MS306
R. Noble	MS307
J. Satti	MS340
C. Schmidt	MS307
D. Snee	MS340
J. Wildenradt	MS340

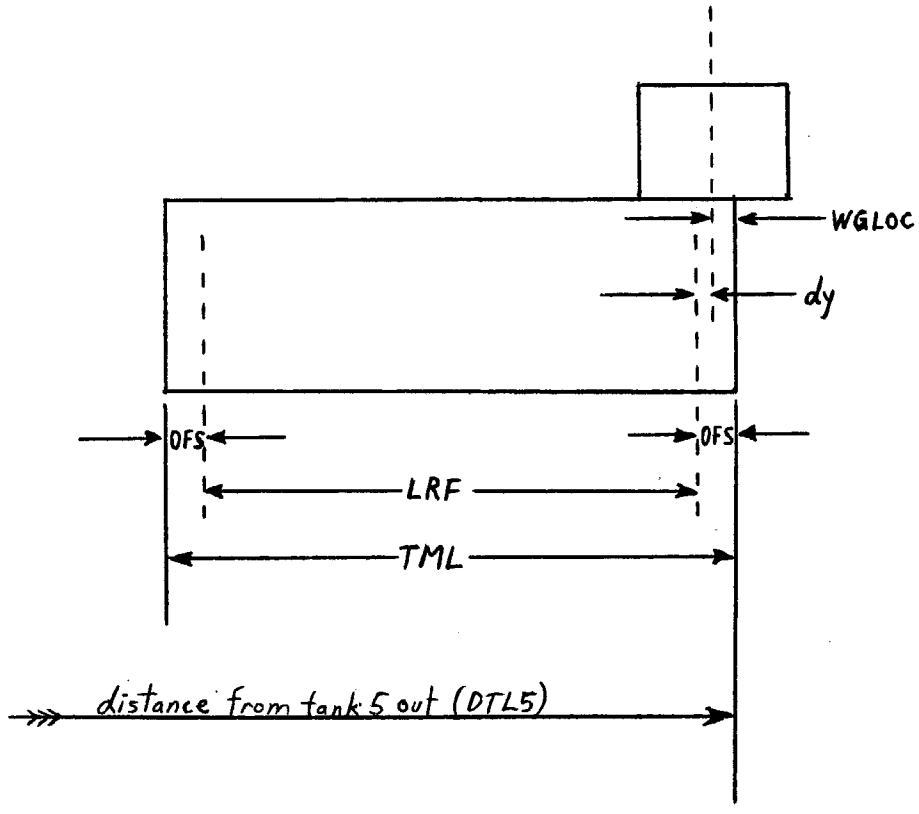
LAYOUT of MODULES 1 to 7





The dimensional symbols dy_{sect2} and dy_{sect3} are different from the dy dimensional symbol used in the sketch entitled 'Layout of Modules 1 to 7'.

LAYOUT of TRANSITION SECTIONS



Linear dimensions in inches Module 0 is the Transition Module 8 is the Debuncher OFS= 0.852350

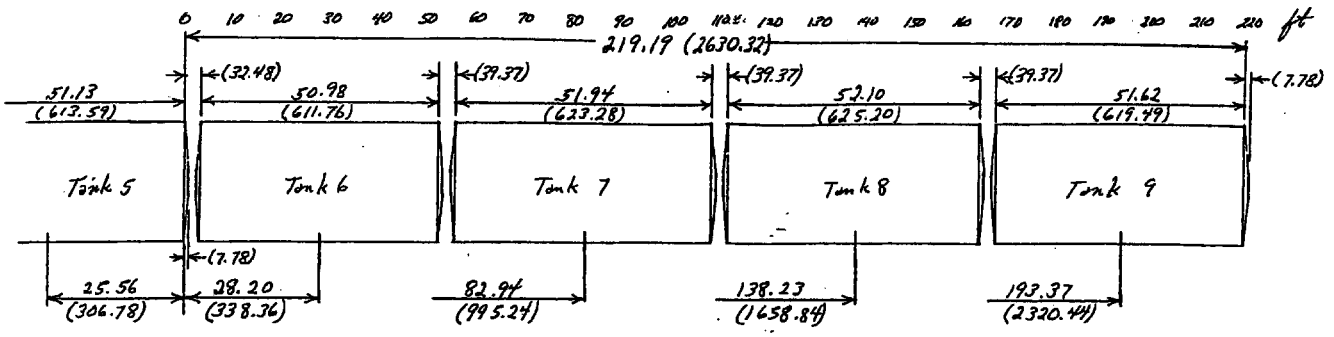
mod	sec	LRF	DY	KEout,MeV	TMLtheory	TMLmeas	3Blambda/2	BGAP	CCCS	CCCSmeas	RFctr	WGloc	DistDTL5
0	1	53.59449	0.065669	116.5400	55.29919	55.27700						0.786681	84.5743
0	2	13.39764	0.065669	116.5400	15.10234	15.09400						0.786681	125.3323
1	1	54.38555	0.049209	125.0600	56.09025	56.07100							
							10.34809	8.64339	10.28266	10.2660			
1	2	55.96409	0.016220	133.8300	57.66879	57.63900							
							10.64045	8.93575	10.64045	10.6280	4.467875	4.484096	289.0800
1	3	57.50352	0.016220	142.8400	59.20822	59.20000							
							10.92558	9.22088	10.98988	10.9800			
1	4	59.00397	0.048079	152.0700	60.70867	60.68900							
							11.20314	9.49844					
2	1	60.44528	0.044350	161.2500	62.14998	62.13700							
							11.46587	9.76117	11.40694	11.4005			
2	2	61.82870	0.014579	170.6300	63.53340	63.52000							
							11.72176	10.01706	11.72176	11.7165	5.008531	5.023110	572.6400
2	3	63.17633	0.014579	180.2100	64.88103	64.85300							
							11.97106	10.26636	12.02878	12.0140			
2	4	64.48855	0.043142	189.9800	66.19325	66.15600							
							12.21375	10.50905					
3	1	65.75020	0.039701	199.6900	67.45490	67.44100							
							12.44428	10.73958	12.39152	12.3870			
3	2	66.96263	0.013051	209.5600	68.66733	68.65500							
							12.66849	10.96379	12.66849	12.6490	5.481896	5.494947	881.8400
3	3	68.14500	0.013051	219.6000	69.84970	69.83600							
							12.88686	11.18216	12.93838	12.9310			
3	4	69.29200	0.038469	229.7900	70.99670	70.98000							
							13.09919	11.39449					
4	1	70.39763	0.035350	239.9100	72.10233	72.08700							
							13.30140	11.59670	13.25445	13.2390			
4	2	71.46122	0.011598	250.1700	73.16592	73.13500							
							13.49818	11.79348	13.49818	13.4680	5.896742	5.908340	1213.5100
4	3	72.49665	0.011598	260.5600	74.20135	74.19000							
							13.68956	11.98486	13.73541	13.7130			
4	4	73.50453	0.034252	271.0900	75.20923	75.19200							
							13.87592	12.17122					
5	1	74.47630	0.031520	281.5500	76.18100	76.17100							
							14.05393	12.34923	14.01207	14.0020			
5	2	75.41303	0.010339	292.1300	77.11773	77.11300							
							14.22720	12.52250	14.22720	14.2230	6.261249	6.271588	1564.8800
5	3	76.32512	0.010339	302.8300	78.02982	78.02100							
							14.39591	12.69121	14.43689	14.4240			
5	4	77.21817	0.030642	313.6500	78.92287	78.90300							
							14.56022	12.85552					
6	1	78.06952	0.028059	324.3600	79.77422	79.75800							
							14.71698	13.01228	14.67972	14.6750			
6	2	78.89518	0.009201	335.1800	80.59988	80.58400							
							14.86973	13.16503	14.86973	14.8700	6.582517	6.591718	1933.6100
6	3	79.69943	0.009201	346.1100	81.40413	81.38200							
							15.01862	13.31392	15.05499	15.0500			
6	4	80.48283	0.027169	357.1300	82.18753	82.18100							
							15.16351	13.45881					
7	1	81.24013	0.025071	368.0800	82.94483	82.92000							
							15.30256	13.59786	15.26927	15.2740			
7	2	81.97211	0.008220	379.1200	83.67681	83.65200							
							15.43803	13.73333	15.43803	15.4350	6.866665	6.874885	2317.6400
7	3	82.68543	0.008220	390.2500	84.39013	84.36700							
							15.57005	13.86535	15.60255	15.5970			
7	4	83.38060	0.024280	401.4600	85.08530	85.06100							
8	1	15.69863	0.032272	401.4600	17.40333	17.40000							

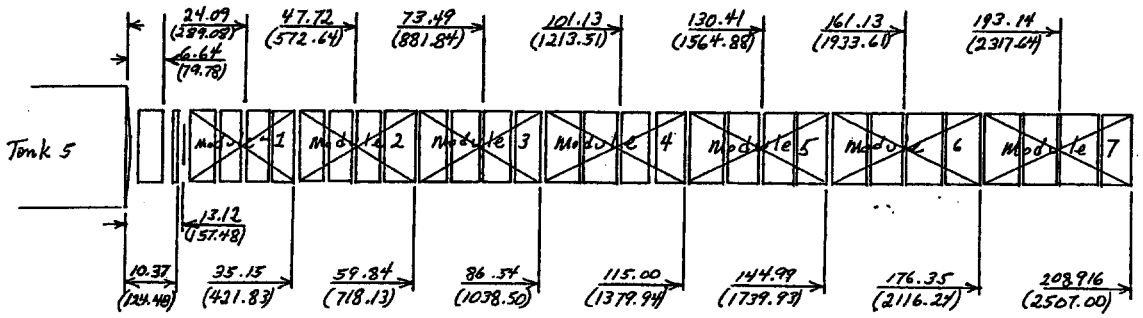
Linear dimensions in meters Module 0 is the Transition Module 8 is the Debuncher OFS= 0.021650

mod	sec	LRF	DY	KEout,MeV	TMLtheory	TMLmeas	3Blambda/2	BGAP	CCCS	CCCSmeas	RFctr	WGloc	DistDTL5
0	1	1.36130	0.001668	116.5400	1.40460	1.40404						0.019982	2.1482
0	2	0.34030	0.001668	116.5400	0.38360	0.38339						0.019982	3.1834
1	1	1.38139	0.001250	125.0600	1.42469	1.42420							
							0.26284	0.21954	0.26118	0.2608			
1	2	1.42149	0.000412	133.8300	1.46479	1.46403							
							0.27027	0.22697	0.27027	0.2700	0.113484	0.113896	7.3426
1	3	1.46059	0.000412	142.8400	1.50389	1.50368							
							0.27751	0.23421	0.27914	0.2789			
1	4	1.49870	0.001221	152.0700	1.54200	1.54150							
							0.28456	0.24126					
2	1	1.53531	0.001127	161.2500	1.57861	1.57828							
							0.29123	0.24793	0.28974	0.2896			
2	2	1.57045	0.000370	170.6300	1.61375	1.61341							
							0.29773	0.25443	0.29773	0.2976	0.127217	0.127587	14.5451
2	3	1.60468	0.000370	180.2100	1.64798	1.64727							
							0.30406	0.26077	0.30553	0.3052			
2	4	1.63801	0.001096	189.9800	1.68131	1.68036							
							0.31023	0.26693					
3	1	1.67006	0.001008	199.6900	1.71335	1.71300							
							0.31608	0.27279	0.31474	0.3146			
3	2	1.70085	0.000332	209.5600	1.74415	1.74384							
							0.32178	0.27848	0.32178	0.3213	0.139240	0.139572	22.3987
3	3	1.73088	0.000332	219.6000	1.77418	1.77383							
							0.32733	0.28403	0.32863	0.3284			
3	4	1.76002	0.000977	229.7900	1.80332	1.80289							
							0.33272	0.28942					
4	1	1.78810	0.000898	239.9100	1.83140	1.83101							
							0.33786	0.29456	0.33666	0.3363			
4	2	1.81512	0.000295	250.1700	1.85841	1.85763							
							0.34285	0.29955	0.34285	0.3421	0.149777	0.150072	30.8232
4	3	1.84141	0.000295	260.5600	1.88471	1.88443							
							0.34771	0.30442	0.34888	0.3483			
4	4	1.86701	0.000870	271.0900	1.91031	1.90988							
							0.35245	0.30915					
5	1	1.89170	0.000801	281.5500	1.93500	1.93474							
							0.35697	0.31367	0.35591	0.3557			
5	2	1.91549	0.000263	292.1300	1.95879	1.95867							
							0.36137	0.31807	0.36137	0.3613	0.159036	0.159298	39.7480
5	3	1.93866	0.000263	302.8300	1.98196	1.98173							
							0.36566	0.32236	0.36670	0.3664			
5	4	1.96134	0.000778	313.6500	2.00464	2.00414							
							0.36983	0.32653					
6	1	1.98297	0.000713	324.3600	2.02627	2.02585							
							0.37381	0.33051	0.37286	0.3727			
6	2	2.00394	0.000234	335.1800	2.04724	2.04683							
							0.37769	0.33439	0.37769	0.3777	0.167196	0.167430	49.1137
6	3	2.02437	0.000234	346.1100	2.06766	2.06710							
							0.38147	0.33817	0.38240	0.3823			
6	4	2.04426	0.000690	357.1300	2.08756	2.08740							
							0.38515	0.34185					
7	1	2.06350	0.000637	368.0800	2.10680	2.10617							
							0.38868	0.34539	0.38784	0.3880			
7	2	2.08209	0.000209	379.1200	2.12539	2.12476							
							0.39213	0.34883	0.39213	0.3920	0.174413	0.174622	58.8681
7	3	2.10021	0.000209	390.2500	2.14351	2.14292							
							0.39548	0.35218	0.39630	0.3962			
7	4	2.11787	0.000617	401.4600	2.16117	2.16055							
8	1	0.39875	0.000820	401.4600	0.44204	0.44196							

Feet (inches) from Tank 5 Cavity Out (Center of last Quad)

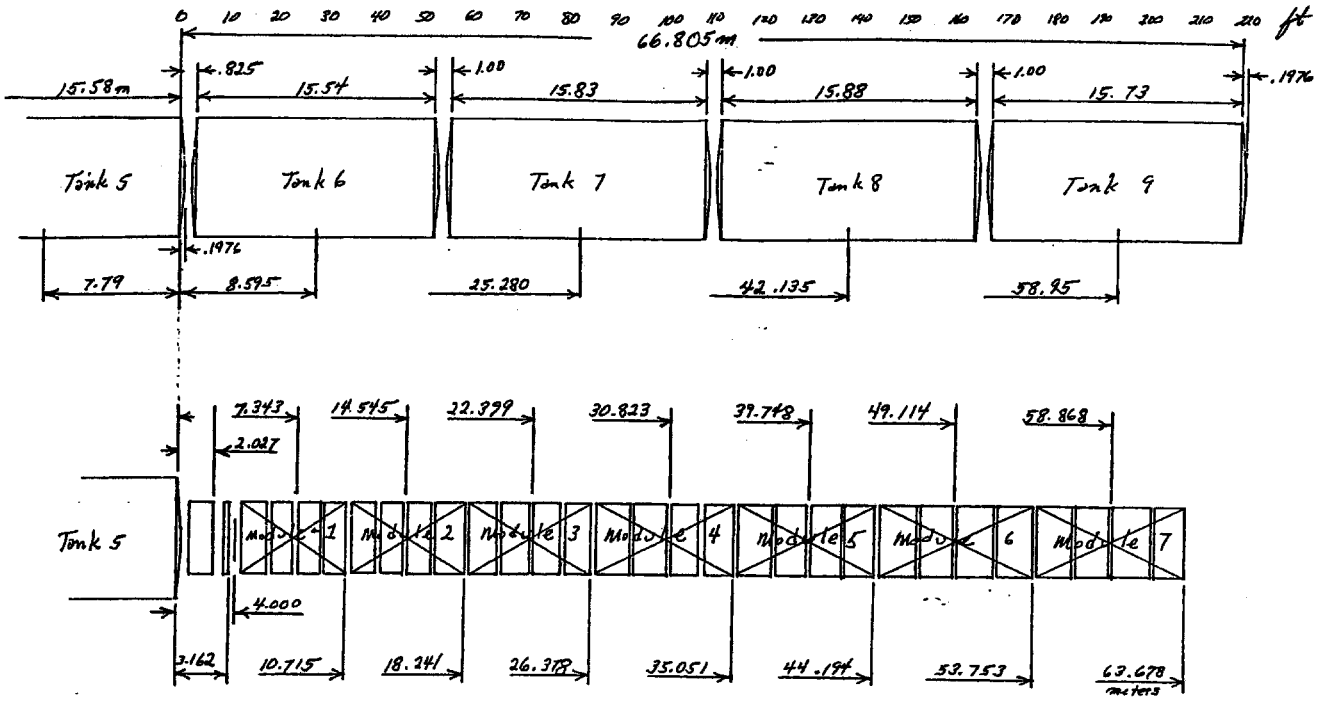
C. Schmidt
6/27/90

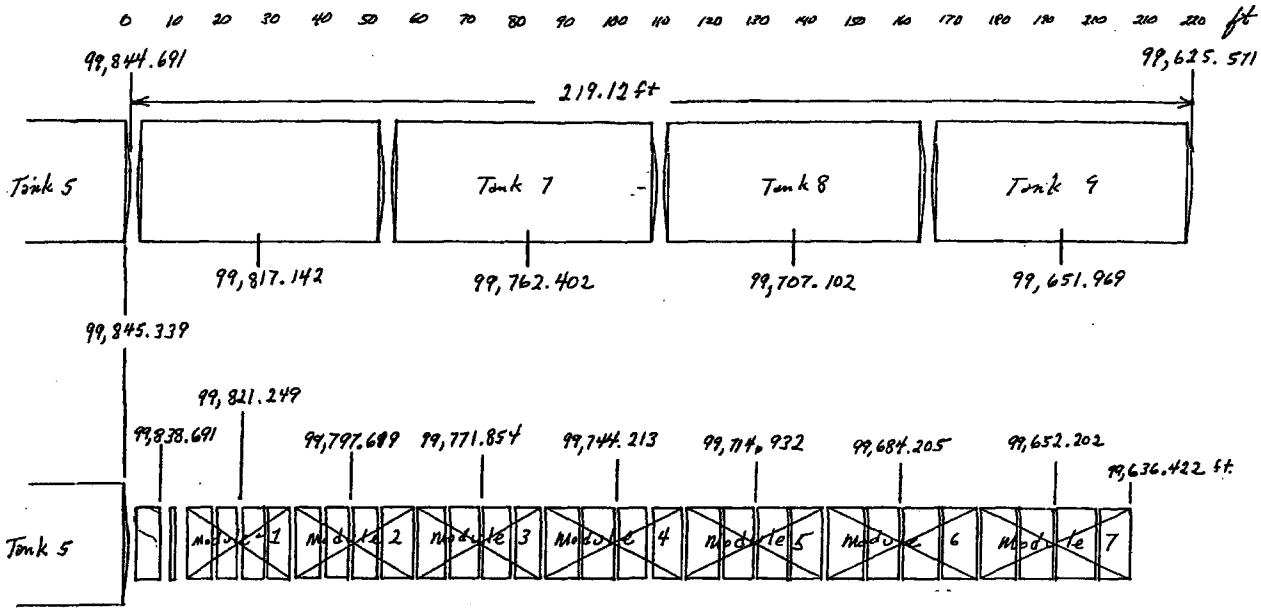




Meters from Tank 5 Cavity Out (Center of last Quad)

C. Schmidt
6/27/90



DUSAF Coordinates

C. Schmidt
6/27/90