2.6 Relationship with JET Vacuum Vessel

The following dimensions, shown in Fig.2.5, relate to the position of the KN3 cameras with respect to the JET vacuum vessel. They have been abstracted from a number of sources. A number of the JET related dimensions have yet to be fully verified, and have had to be assumed. They mainly arise from the dimensions provided by JET at the KN3 design stage.

Fig. 2.5 Schematic of KN3 with appropriate dimensions

2.6.1 Horizontal Camera (Cold)

A number of the dimensions have yet to be fully verified, and have been marked with an *. The relevent dimensions are :

M/C centre to front face of shield	7620 mm *
M/C centre to rear of collimators	8820 mm *
M/C centre to pumping port door	7395 mm *
M/C centre to vacuum vessel port	5681 mm *
Vacuum vessel port to front face of shield	1939 mm *
Collimator focus to front face of shield	1565 mm *
Collimator focus to rear of collimators	2765 mm *
Horizontal front to rear of collimators	1200 mm

2.6.2 Vertical Camera (Cold)

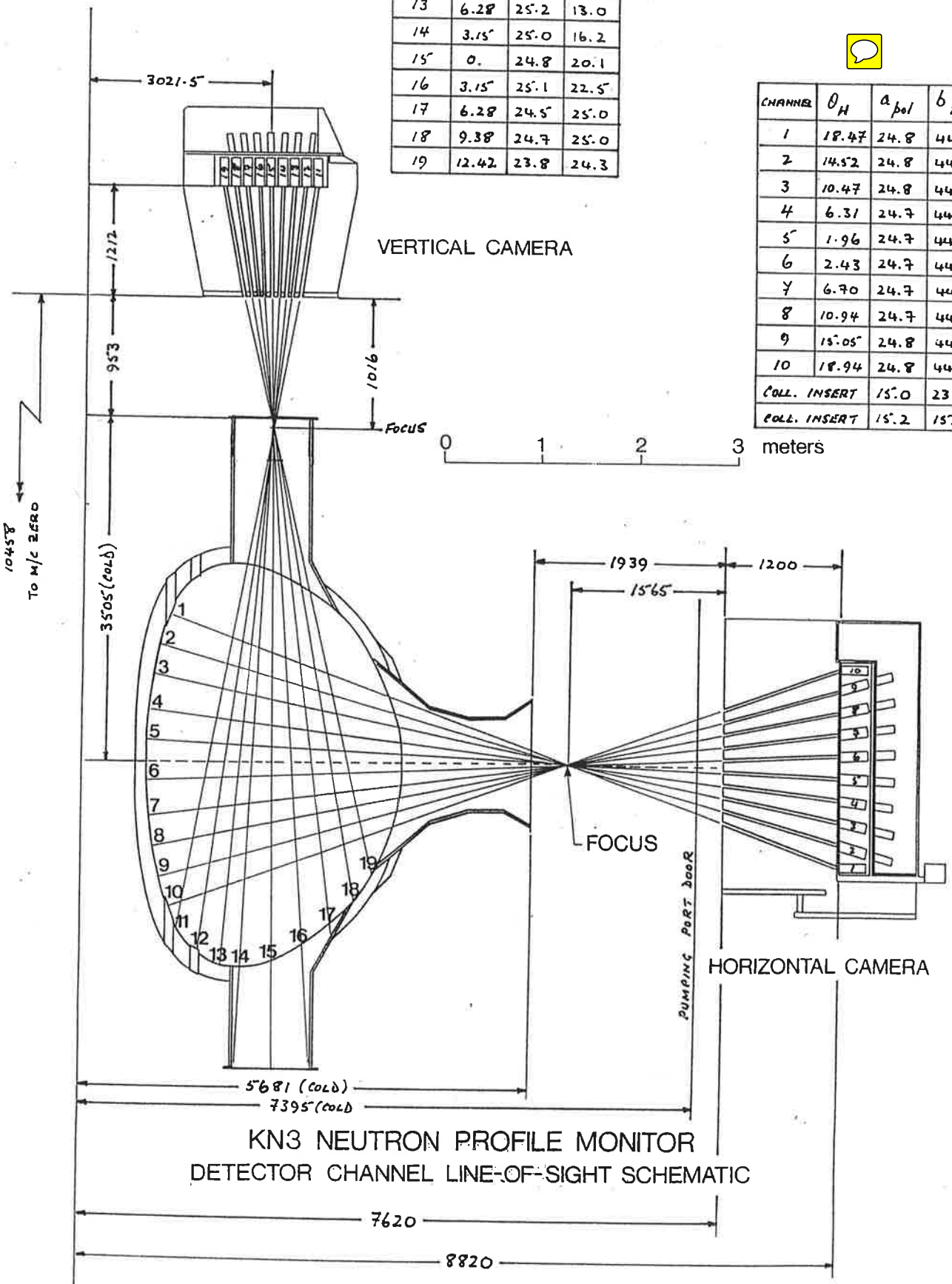
A number of dimensions have yet to be fully verified, these have been marked with a *. The dimensions of interest are :

M/C mid-plane to front face of shield	4458 mm
M/C mid-plane to rear of collimators	5670 mm
M/C mid-plane to pumping port door	3505 mm *
(In 1986 3260 mm) *	
Pumping port door to front face of shield	953 mm *
(In 1986 1191 mm) *	
Front face of shield to collimator focus	1016 mm
Rear of collimators to collimator focus	2228 mm
Front face of shield to Torus Hall floor	10458 mm
(This is the reference datum of the survey)	
M/C centre to Channel 15 (vertical)	3021.5 mm
(This is the reference datum of the survey)	

It should be noted that the distance differences between 1986 and 1987 arise due to the major 1987 JET shutdown when the pumping ports were raised. From the KN3 viewpoint, this means that, whereas in 1986, the collimator focus was above the pumping port, it is now just inside it.

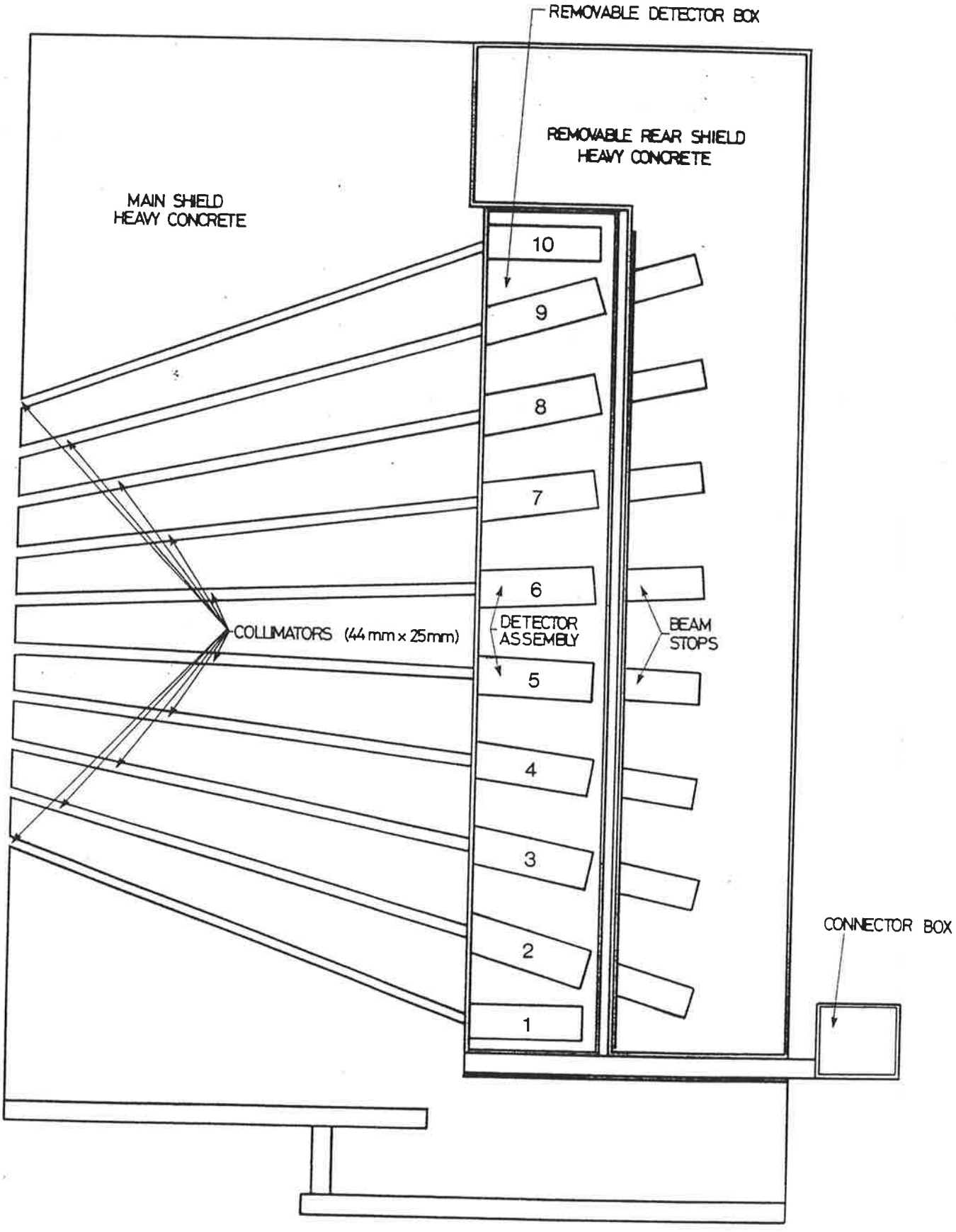
CHANNEL	θ_V	a_{pol}	b_{tor}
11	12.42	25.7	8.5
12	9.38	25.1	10.2
13	6.28	25.2	13.0
14	3.15	25.0	16.2
15	0.	24.8	20.1
16	3.15	25.1	22.5
17	6.28	24.5	25.0
18	9.38	24.7	25.0
19	12.42	23.8	24.3

CHANNEL	θ_H	a_{pol}	b_{tor}
1	18.47	24.8	44.2
2	14.52	24.8	44.2
3	10.47	24.8	44.1
4	6.31	24.7	44.0
5	1.96	24.7	44.2
6	2.43	24.7	44.3
7	6.70	24.7	44.1
8	10.94	24.7	44.1
9	15.05	24.8	44.0
10	18.94	24.8	44.3
COLL. INSERT		15.0	23.9
COLL. INSERT		15.2	15.0



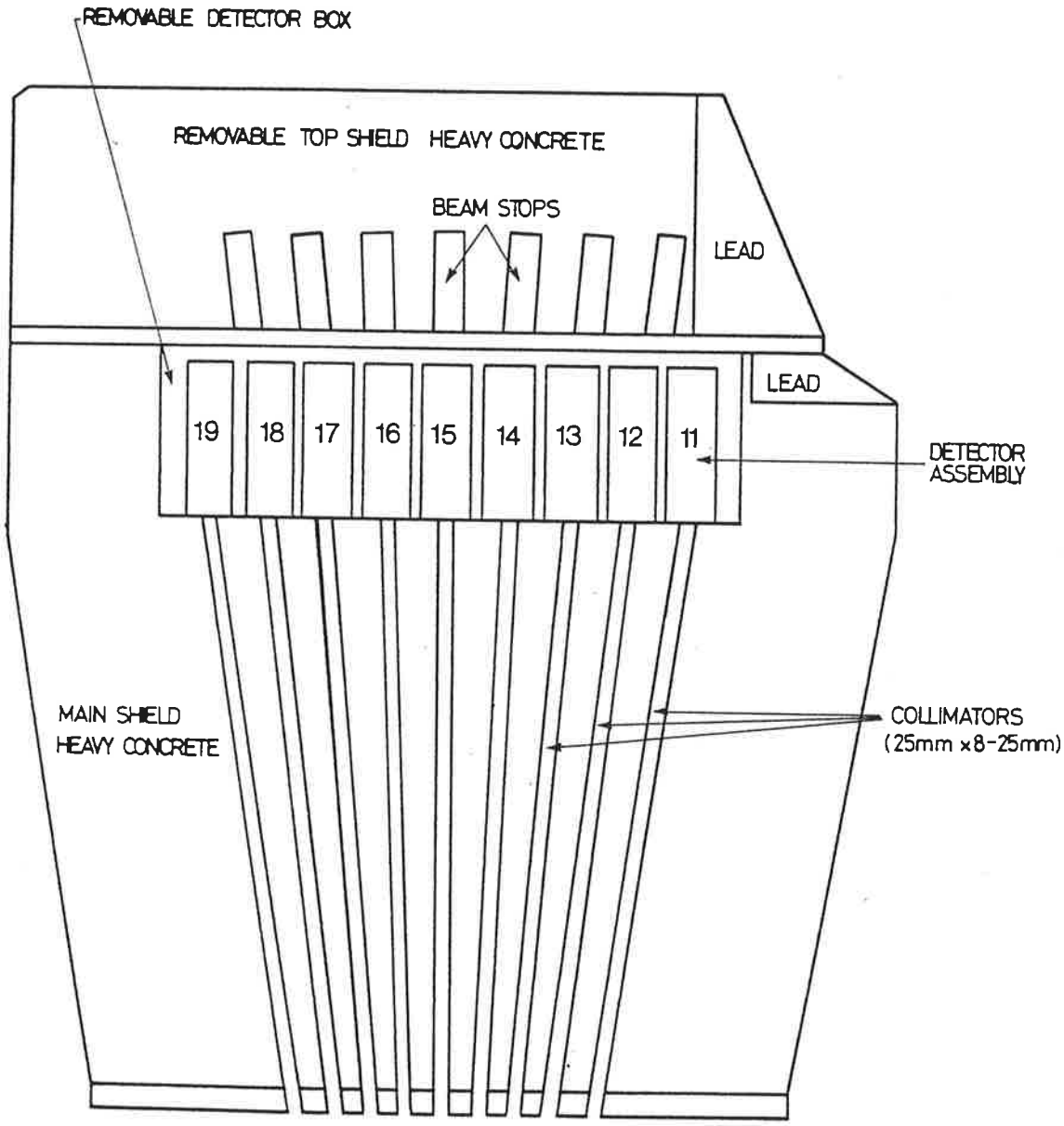
KN3 NEUTRON PROFILE MONITOR
DETECTOR CHANNEL LINE-OF-SIGHT SCHEMATIC

FIG 2.5 SCHEMATIC OF KN3 WITH APPROPRIATE DIMENSIONS



KN 3 HORIZONTAL CAMERA SHIELD ASSEMBLY
(32 Tonnes)

FIG. 2.1 SCHEMATIC OF HORIZONTAL CAMERA



KN3 VERTICAL CAMERA SHIELD ASSEMBLY
(12 Tonnes)

Fig. 2.3 Schematic of Vertical Camera

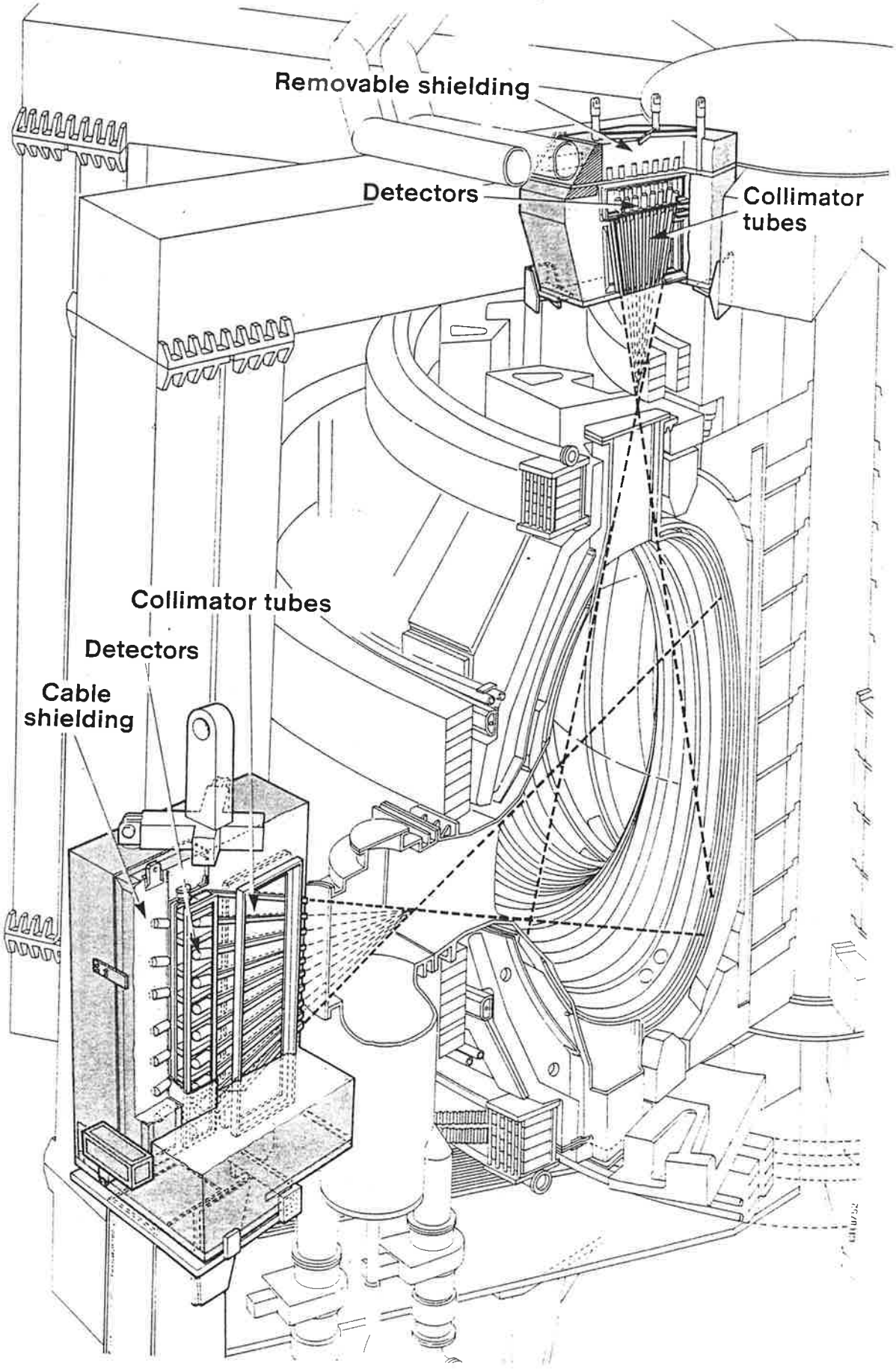


FIG 1.1 GENERAL SCHEMATIC OF KN3 NEUTRON PROFILE MONITOR DIAGNOSTIC