

Table I

COMPARISON OF FIXED MONITORING INSTRUMENTS

Method	Advantages of Method	Disadvantages of Method ⁽¹⁾
Total Hydrocarbon Analyzer with Flame Ionization Detector	1. Outstanding sensitivity (0-1 ppm full scale) 2. Linear response ($\pm 2\%$ full scale) 3. Good reproducibility ($\pm 2\%$ full scale) 4. Rapid response time (almost instantaneous) and cycle time 5. Easy to operate, low maintenance requirements 6. Moderate cost (\$2000 w/o recorder)	1. Not specific for VCM
Gas Chromatograph	1. Good sensitivity (low ppm) 2. Acceptable response; good reproducibility 3. Specific for VCM	1. Longer cycle time (5-10 min.) 2. More complex equipment 3. More difficult to operate and maintain 4. More expensive
Infrared Spectrometer w/20m Gas Cell	1. Excellent sensitivity [0.7 ppm MDL⁽²⁾] 2. Acceptable response; good reproducibility 3. Specific for VCM	1. Longer cycle time (5-10 min.) 2. More complex equipment 3. More difficult to operate and maintain 4. More expensive
Combustion-Conductivity Method	1. Good sensitivity (low ppm) 2. Specific for halogens	1. Not specific for VCM 2. Longer cycle time 3. Requires excessive operator attention and maintenance 4. Not commercially available

(1) as compared with the Total Hydrocarbon Analyzer

(2) Minimum Detection Limit

UCC 094017

Table II
COMPARISON OF PORTABLE SURVEY INSTRUMENTS

Method	Advantages of Method	Disadvantages of Method ⁽¹⁾
Organic Vapor Analyzer (OVA) with flame ionization detector	1. Good sensitivity (low ppm) 2. linear response (1-1000 ppm) 3. Good reproducibility 4. Rapid response (almost instantaneous) 5. Light weight; easily portable 6. Easy to operate and maintain 7. Moderate cost (<\$3,000)	1. Not specific for VCM 2. Not approved for use in a Class I, Group D work area⁽²⁾
Gas Chromatography	1. Good sensitivity (low ppm) 2. Acceptable response; good reproducibility 3. Specific for VCM 4. Excellent for multi-component mixtures	1. Lacks instantaneous response for leak detection 2. Not as easily portable as OVA
Infrared Spectrometer w/20m Gas Cell	1. Excellent sensitivity [0.7 MDL⁽³⁾] 2. Linear response; good reproducibility 3. Specific for VCM 4. Good for multi-component mixtures	1. Lacks instantaneous response for leak detection 2. Not easily portable 3. Not explosion proof; requires enclosure with N₂ or air purge
Catalytic Oxidation	1. Easily portable 2. Explosion proof 3. Good response at high concentrations	1. Lacks sensitivity (not reliable below 50 ppm) 2. Bad zero level drift

(1) as compared with the Organic Vapor Analyzer

(2) Requires Hot Work Permit

(3) Minimum Detection Limit

UCC 094018

PROPOSED VINYL ANALYZER SYSTEM

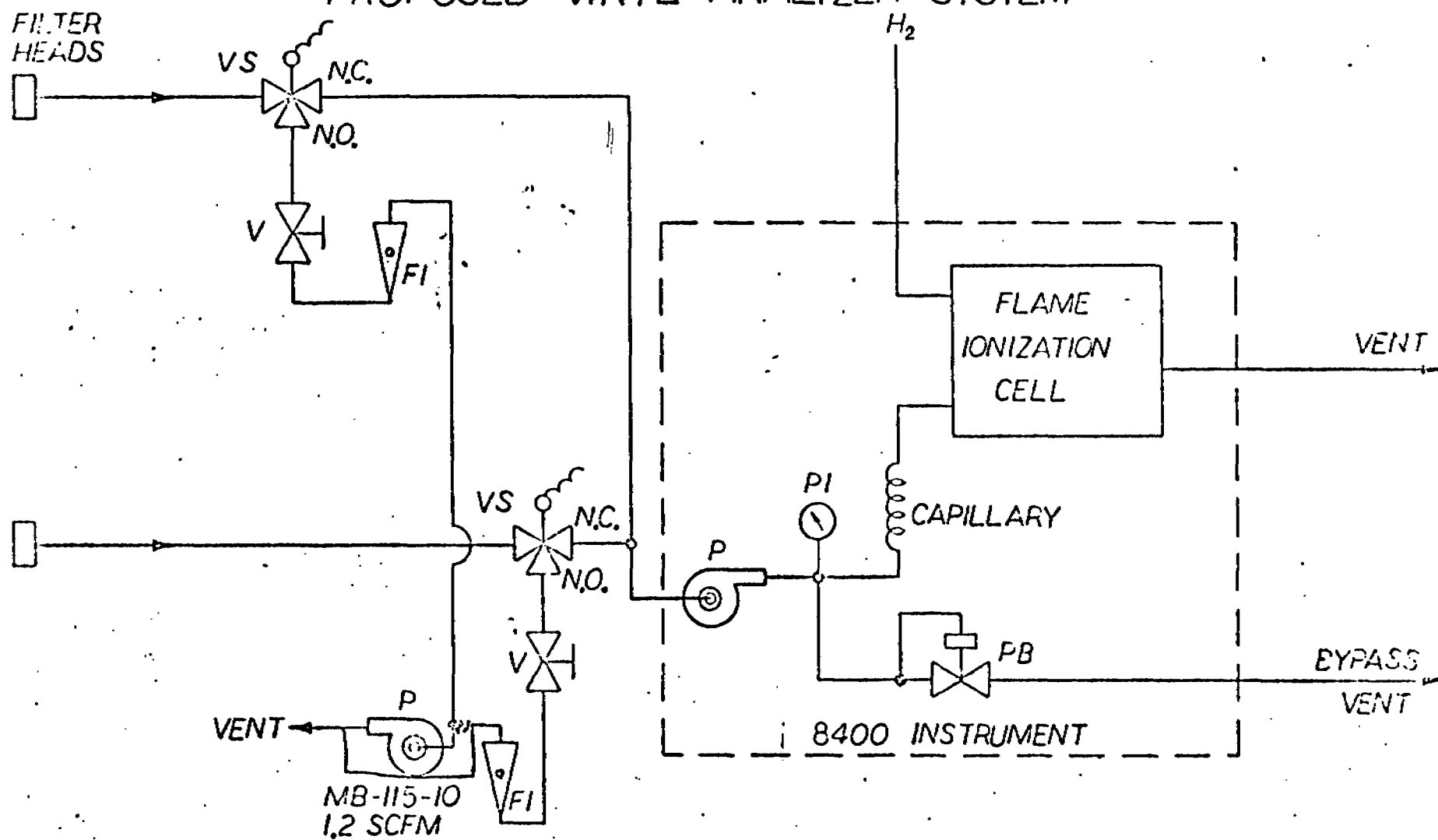


Figure 1

UCC 094019

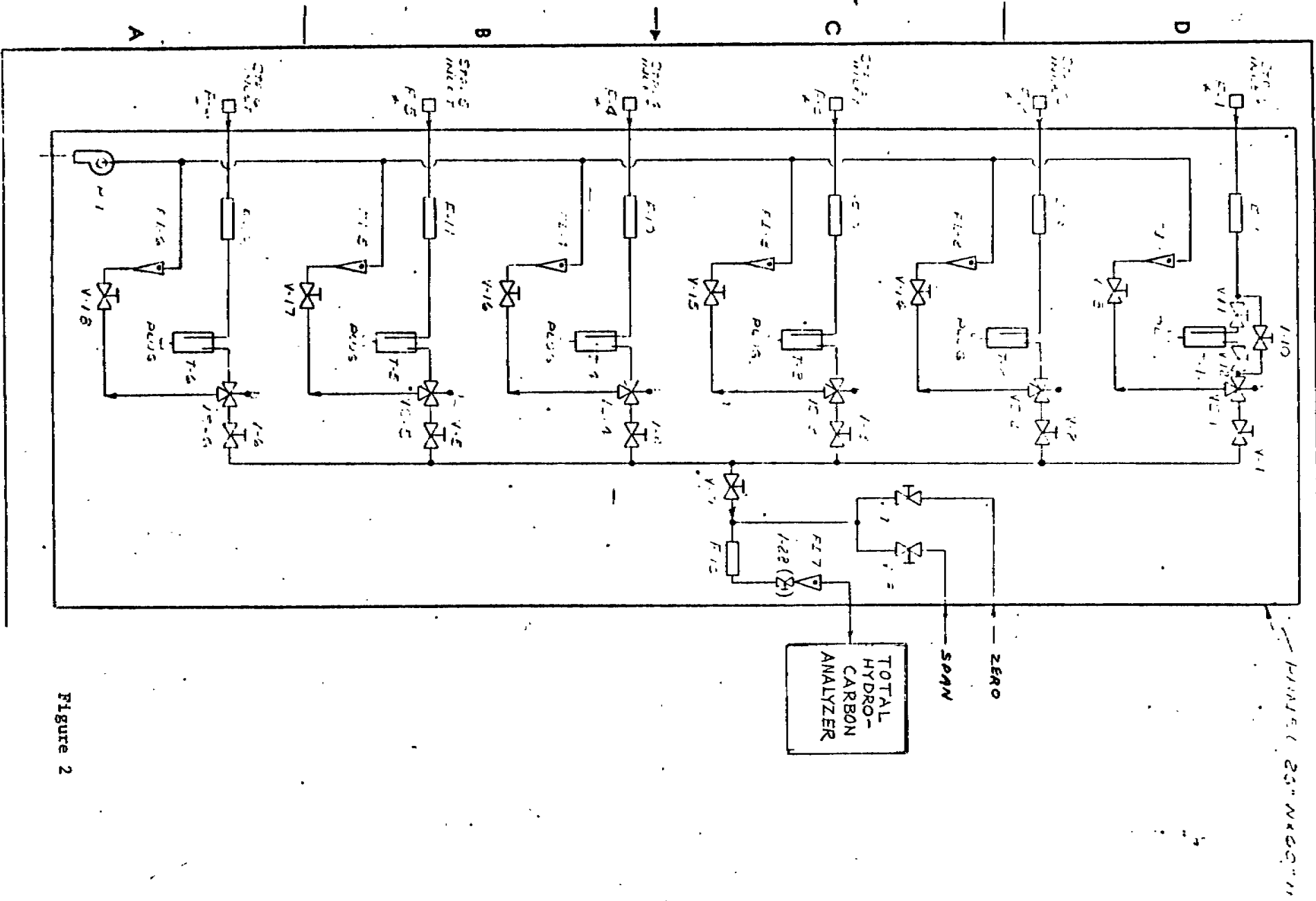


Figure 2

BY ME = DATE 1-21-74 SUBJECT VCL MONITORING
 CHKD. BY _____ DATE _____ WANG CALCULATOR
 _____ SYSTEM

SHEET NO. _____ OF _____
 JOB NO. _____

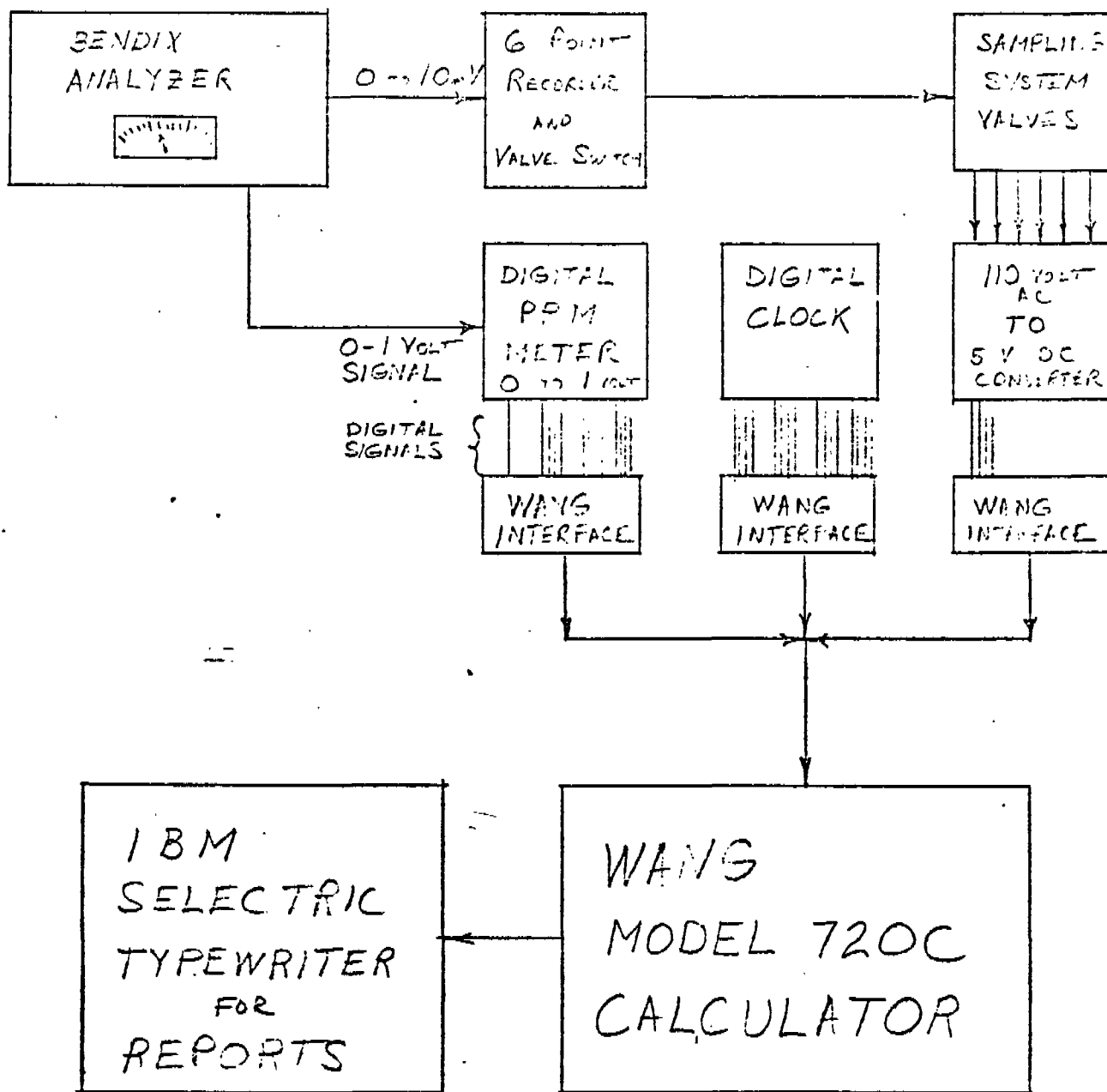


Figure 3

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