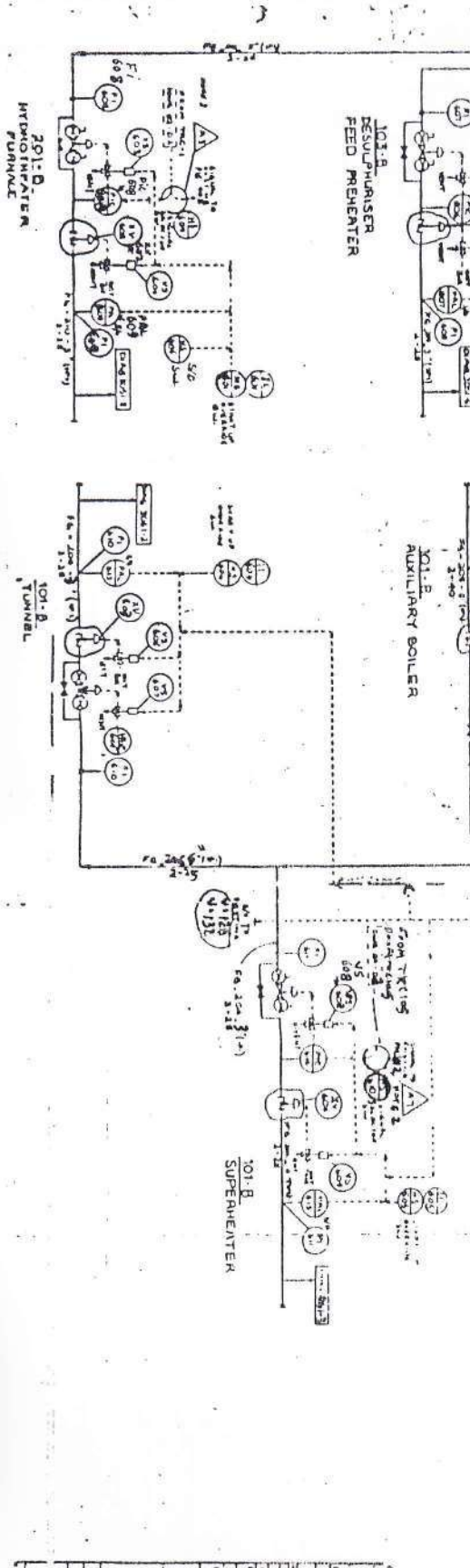
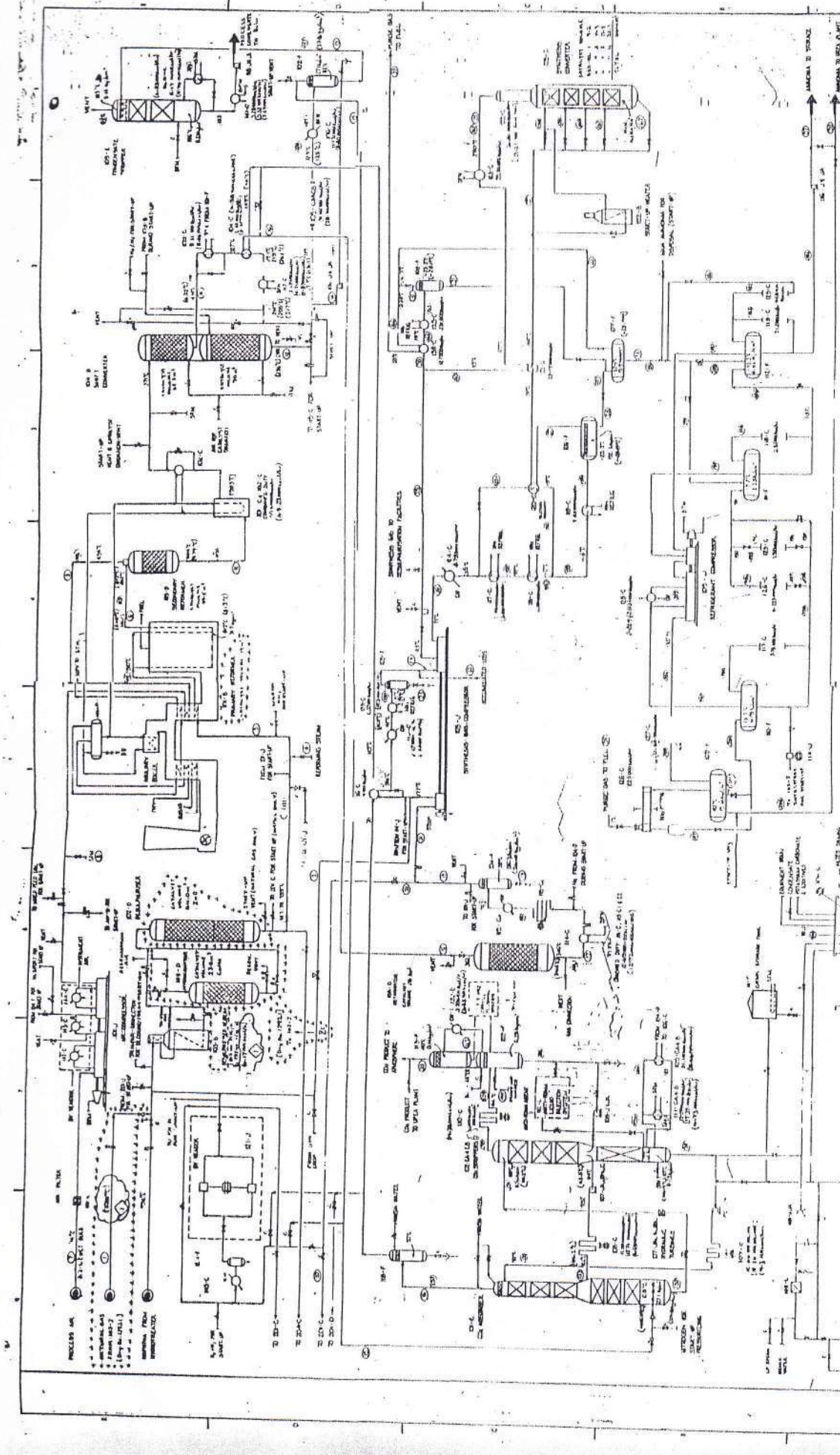


NO.	DATE	REVISION	BY	CHKD.	DESCRIPTION
1	10/1/53				ISSUED FOR CONSTRUCTION
2	10/15/53				REVISED TO SHOW CHANGES
3	11/1/53				REVISED TO SHOW CHANGES
4	11/15/53				REVISED TO SHOW CHANGES
5	12/1/53				REVISED TO SHOW CHANGES
6	12/15/53				REVISED TO SHOW CHANGES
7	1/1/54				REVISED TO SHOW CHANGES
8	1/15/54				REVISED TO SHOW CHANGES
9	2/1/54				REVISED TO SHOW CHANGES
10	2/15/54				REVISED TO SHOW CHANGES
11	3/1/54				REVISED TO SHOW CHANGES
12	3/15/54				REVISED TO SHOW CHANGES
13	4/1/54				REVISED TO SHOW CHANGES
14	4/15/54				REVISED TO SHOW CHANGES
15	5/1/54				REVISED TO SHOW CHANGES
16	5/15/54				REVISED TO SHOW CHANGES
17	6/1/54				REVISED TO SHOW CHANGES
18	6/15/54				REVISED TO SHOW CHANGES
19	7/1/54				REVISED TO SHOW CHANGES
20	7/15/54				REVISED TO SHOW CHANGES
21	8/1/54				REVISED TO SHOW CHANGES
22	8/15/54				REVISED TO SHOW CHANGES
23	9/1/54				REVISED TO SHOW CHANGES
24	9/15/54				REVISED TO SHOW CHANGES
25	10/1/54				REVISED TO SHOW CHANGES
26	10/15/54				REVISED TO SHOW CHANGES
27	11/1/54				REVISED TO SHOW CHANGES
28	11/15/54				REVISED TO SHOW CHANGES
29	12/1/54				REVISED TO SHOW CHANGES
30	12/15/54				REVISED TO SHOW CHANGES

- NOTES
- 1) SEE DRAWING 101-B ARCH FOR DETAILS OF ARCH.
  - 2) SEE DRAWING 101-B TUNNEL FOR DETAILS OF TUNNEL.
  - 3) SEE DRAWING 101-B SUPERHEATER FOR DETAILS OF SUPERHEATER.
  - 4) SEE DRAWING 101-B AUXILIARY FOR DETAILS OF AUXILIARY.
  - 5) SEE DRAWING 101-B FOR DETAILS OF MAIN SYSTEM.
  - 6) SEE DRAWING 101-B BURNER FOR DETAILS OF BURNER.



NO.	DATE	REVISION	BY	CHKD.	DESCRIPTION
1	10/1/53				ISSUED FOR CONSTRUCTION
2	10/15/53				REVISED TO SHOW CHANGES
3	11/1/53				REVISED TO SHOW CHANGES
4	11/15/53				REVISED TO SHOW CHANGES
5	12/1/53				REVISED TO SHOW CHANGES
6	12/15/53				REVISED TO SHOW CHANGES
7	1/1/54				REVISED TO SHOW CHANGES
8	1/15/54				REVISED TO SHOW CHANGES
9	2/1/54				REVISED TO SHOW CHANGES
10	2/15/54				REVISED TO SHOW CHANGES
11	3/1/54				REVISED TO SHOW CHANGES
12	3/15/54				REVISED TO SHOW CHANGES
13	4/1/54				REVISED TO SHOW CHANGES
14	4/15/54				REVISED TO SHOW CHANGES
15	5/1/54				REVISED TO SHOW CHANGES
16	5/15/54				REVISED TO SHOW CHANGES
17	6/1/54				REVISED TO SHOW CHANGES
18	6/15/54				REVISED TO SHOW CHANGES
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25	10/1/54				REVISED TO SHOW CHANGES
26	10/15/54				REVISED TO SHOW CHANGES
27	11/1/54				REVISED TO SHOW CHANGES
28	11/15/54				REVISED TO SHOW CHANGES
29	12/1/54				REVISED TO SHOW CHANGES
30	12/15/54				REVISED TO SHOW CHANGES



DESIGNED BY	DATE	REV
APPROVED BY	DATE	REV
SCALE	1/2" = 1'-0"	
NO. OF SHEETS	12 OF 15	
CHECKED BY	DATE	REV
DRAWN BY	DATE	REV
CHECKED BY	DATE	REV

**HOMAS FERTILIZER PLANT**  
**CREUSOT-LOIRE ENTERPRISES**  
**KELLOGG INTERNATIONAL CORPORATION**  
 1000 HPD AMMONIA PLANT  
 CONVERSION TO NATURAL GAS  
 PROCESS-FLOW DIAGRAM

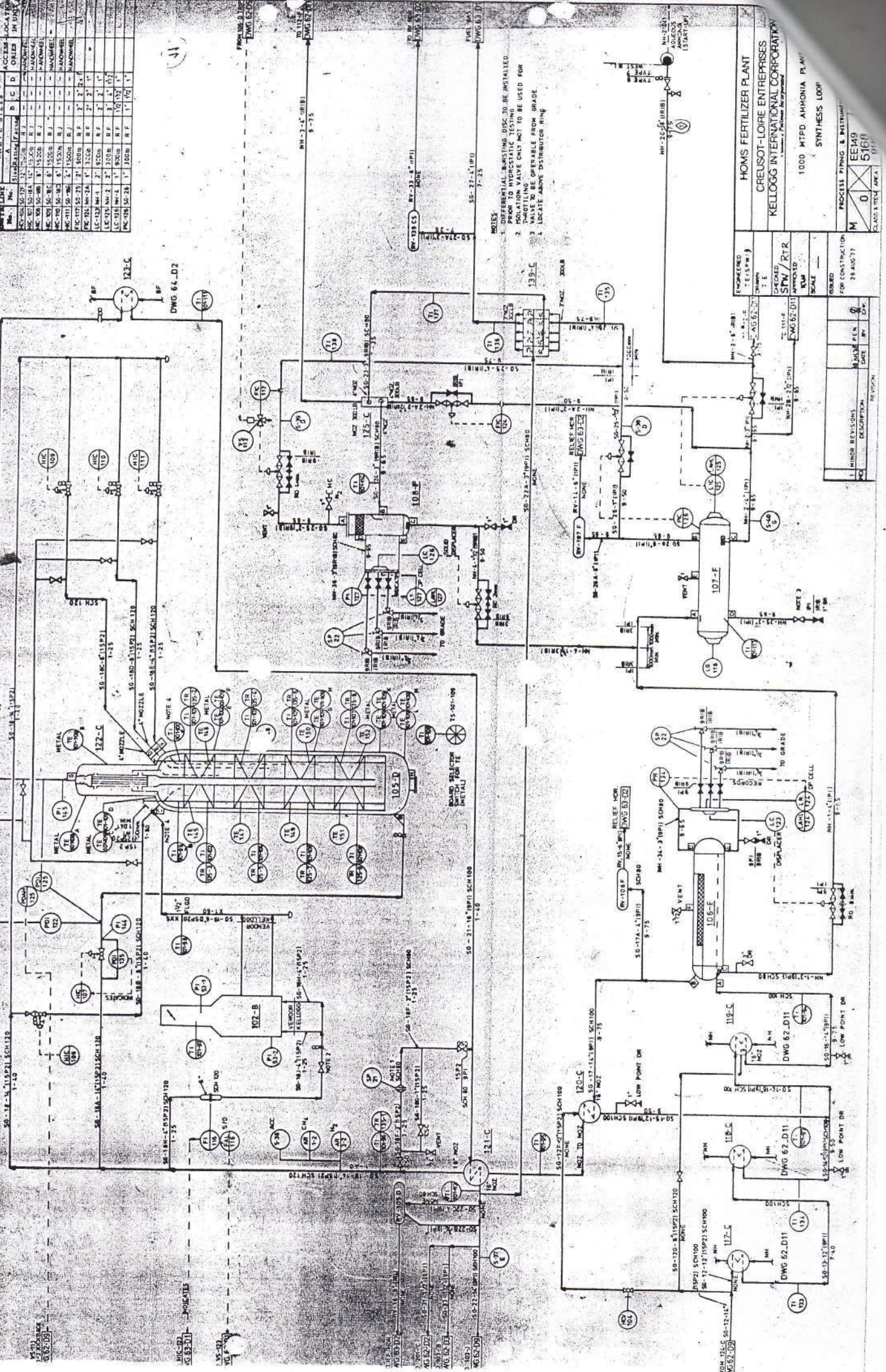
- ALL PRESSURES ARE ABSOLUTE UNLESS NOTED OTHERWISE  
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 2. FLOWRATE IN [ ] REPRESENTS DESIGN VALUE; OPERATING RATE  
 3. FLOWRATE IN [ ] REPRESENTS DESIGN VALUE; OPERATING RATE  
 4. FLOWRATE IN [ ] REPRESENTS DESIGN VALUE; OPERATING RATE  
 5. FLOWRATE IN [ ] REPRESENTS DESIGN VALUE; OPERATING RATE

D-1.1  
 COND. SOLUBLE STRAIN GAINING PT  
 COND. SOLUBLE STRAIN GAINING PT

PROJECT NO.	DATE	REV
DRAWN BY	DATE	REV
CHECKED BY	DATE	REV
APPROVED BY	DATE	REV
CHECKED BY	DATE	REV
DRAWN BY	DATE	REV
CHECKED BY	DATE	REV

**CONNECTION VALVE SCHEDULE**

LINE NO.	VALVE SIZE	ACCES.	LOC.
A	B	C	D
102-B	12"	12"	12"
103-C	12"	12"	12"
104-D	12"	12"	12"
105-E	12"	12"	12"
106-F	12"	12"	12"
107-G	12"	12"	12"
108-H	12"	12"	12"
109-I	12"	12"	12"
110-J	12"	12"	12"
111-K	12"	12"	12"
112-L	12"	12"	12"
113-M	12"	12"	12"
114-N	12"	12"	12"
115-O	12"	12"	12"
116-P	12"	12"	12"
117-Q	12"	12"	12"
118-R	12"	12"	12"
119-S	12"	12"	12"
120-T	12"	12"	12"
121-U	12"	12"	12"
122-V	12"	12"	12"
123-W	12"	12"	12"
124-X	12"	12"	12"
125-Y	12"	12"	12"
126-Z	12"	12"	12"
127-AA	12"	12"	12"
128-AB	12"	12"	12"
129-AC	12"	12"	12"
130-AD	12"	12"	12"
131-AE	12"	12"	12"
132-AF	12"	12"	12"
133-AG	12"	12"	12"
134-AH	12"	12"	12"
135-AI	12"	12"	12"
136-AJ	12"	12"	12"
137-AK	12"	12"	12"
138-AL	12"	12"	12"
139-AM	12"	12"	12"
140-AN	12"	12"	12"
141-AO	12"	12"	12"
142-AP	12"	12"	12"
143-AQ	12"	12"	12"
144-AR	12"	12"	12"
145-AS	12"	12"	12"
146-AT	12"	12"	12"
147-AU	12"	12"	12"
148-AV	12"	12"	12"
149-AW	12"	12"	12"
150-AX	12"	12"	12"
151-AY	12"	12"	12"
152-AZ	12"	12"	12"
153-BA	12"	12"	12"
154-BB	12"	12"	12"
155-BB	12"	12"	12"
156-BC	12"	12"	12"
157-BC	12"	12"	12"
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193-BC	12"	12"	12"
194-BC	12"	12"	12"
195-BC	12"	12"	12"
196-BC	12"	12"	12"
197-BC	12"	12"	12"
198-BC	12"	12"	12"
199-BC	12"	12"	12"
200-BC	12"	12"	12"



**ENGINEERED**  
T.E. (S.W.)

**DESIGNED**  
S.W. R. 2

**SCALE**  
1" = 10'

**ASKED FOR CONSTRUCTION**  
28 AUG 77

**REVISIONS**

NO.	DESCRIPTION	DATE	BY	CHK.
1	MINOR REVISIONS			
2	DESCRIPTION			

**PROCESS TYPING & INSTRUMENT**

**1000 MTPD ANHONIA PLANT**

**SYNTHESIS LOOP**

**HWMS FERTILIZER PLANT**

**CREUSOT-LOIRE ENTERPRISES**

**KELLOGG INTERNATIONAL CORPORATION**

**PROJECT NO. 5161**

**DATE 5/6/77**

**SCALE 1" = 10'**

**ASKED FOR CONSTRUCTION 28 AUG 77**

**REVISIONS**

**NO. 0**

**DESCRIPTION**

**DATE**

**BY**

**CHK.**

**REVISIONS**

**NO. 0**

**DESCRIPTION**

**DATE**

**BY**

**CHK.**

**102-B**

**START-UP HEATER**

**103-C**

**104-D**

**105-E**

**106-F**

**107-G**

**108-H**

**109-I**

**110-J**

**111-K**

**112-L**

**113-M**

**114-N**

**115-O**

**116-P**

**117-Q**

**118-R**

**119-S**

**120-T**

**121-U**

**122-V**

**123-W**

**124-X**

**125-Y**

**126-Z**

**127-AA**

**128-AB**

**129-AC**

**130-AD**

**131-AE**

**132-AF**

**133-AG**

**134-AH**

**135-AI**

**136-AJ**

**137-AK**

**138-AL**

**139-AM**

**140-AN**

**141-AO**

**142-AP**

**143-AQ**

**144-AR**

**145-AS**

**146-AT**

**147-AU**

**148-AV**

**149-AW**

**150-AX**

**151-AY**

**152-AZ**

**153-BA**

**154-BB**

**155-BB**

**156-BC**

**157-BC**

**158-BC**

**159-BC**

**160-BC**

**161-BC**

**162-BC**

**163-BC**

**164-BC**

**165-BC**

**166-BC**

**167-BC**

**168-BC**

**169-BC**

**170-BC**

**171-BC**

**172-BC**

**173-BC**

**174-BC**

**175-BC**

**176-BC**

**177-BC**

**178-BC**

**179-BC**

**180-BC**

**181-BC**

**182-BC**

**183-BC**

**184-BC**

**185-BC**

**186-BC**

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**192-BC**

**193-BC**

**194-BC**

**195-BC**

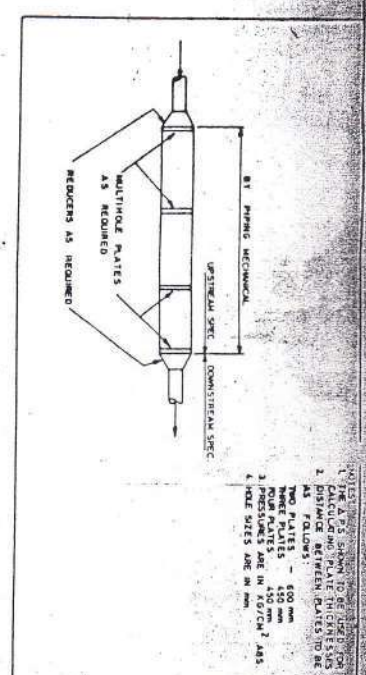
**196-BC**

**197-BC**

**198-BC**

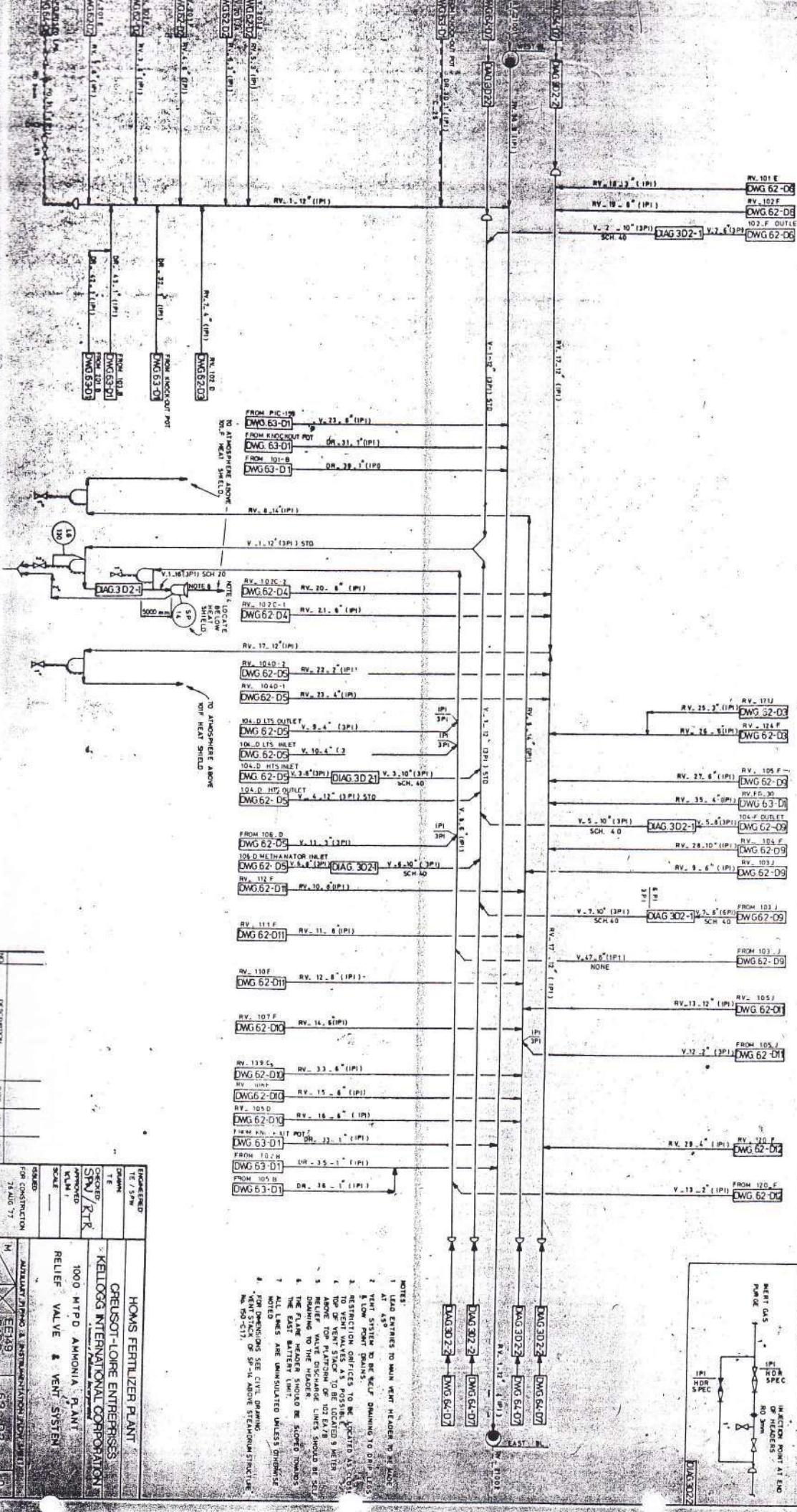
**199-BC**

**200-BC**



RESTRICTION OFFICE DESIGN DATA

LINE NO.	SIZE	SCH.	TEMP.	HEAT FLOW	SECOND PLATE 2	THIRD PLATE	FOURTH PLATE
V-1	12"	STD	320	12.5	12.5	12.5	12.5
V-2	10"	STD	320	10.0	10.0	10.0	10.0
V-3	8"	STD	320	8.0	8.0	8.0	8.0
V-4	6"	STD	320	6.0	6.0	6.0	6.0
V-5	4"	STD	320	4.0	4.0	4.0	4.0
V-6	3"	STD	320	3.0	3.0	3.0	3.0
V-7	2"	STD	320	2.0	2.0	2.0	2.0

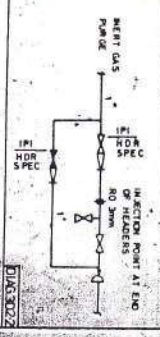


HOVIS FERTILIZER PLANT  
 CHELUSOT-LOIRE ENTREPRISES  
 KELLOGG INTERNATIONAL CORPORATION  
 1000 MTPO AMMONIA PLANT  
 RELIEF VALVE & VENT SYSTEM

DESIGNED FOR CONSTRUCTION  
 DATE: 28 AUG 77  
 DRAWN BY: [ ]  
 CHECKED BY: [ ]  
 APPROVED BY: [ ]  
 SCALE: [ ]

H  
 5168  
 63-502  
 10  
 9146  
 9146

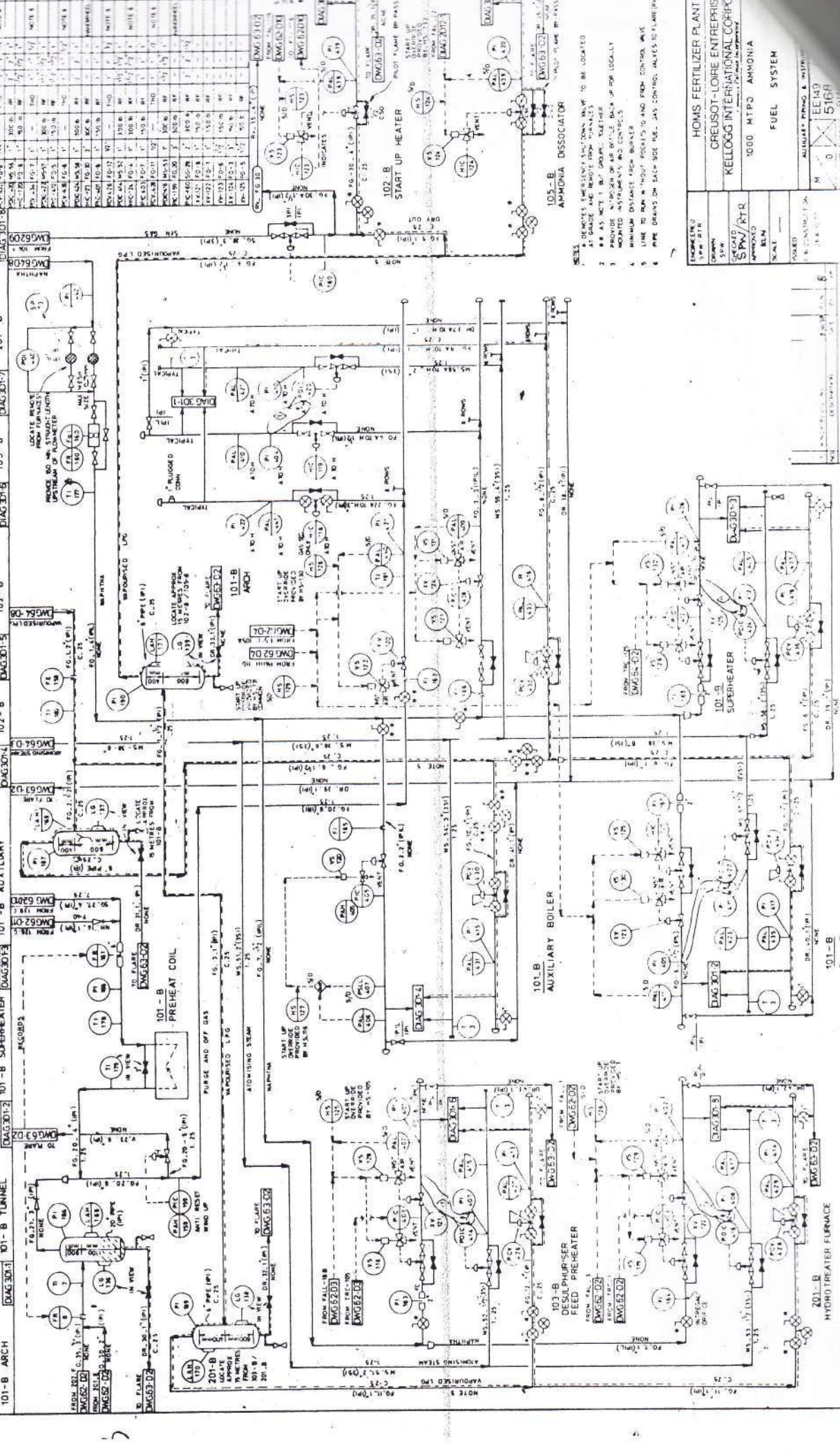
- NOTES:
1. LEAD ENTRIES TO MAIN VENT HEADERS TO BE LOCATED AT 45°
  2. VENT SYSTEM TO BE WELD DRAMMING TO ONE LEGS & LOW POINT DRAINS.
  3. RESTRICTION OFFICES TO BE LOCATED AT 45° ON DOWN LINE.
  4. TOP OF VENT STACK TO BE LOCATED 3 METERS ABOVE FOR PLATFORM OR 107 FT. ABOVE.
  5. INCLUDE WATER DISCHARGE LINES SHOULD BE SET IN FLAME HEADERS SHOULD BE LOCATED TOWARDS THE EAST BATTERY LIMIT.
  6. ALL LINES ARE UNINSULATED UNLESS OTHERWISE NOTED.
  7. FOR DIMENSIONS SEE CIVIL DRAWING.
  8. FOR DIMENSIONS OF SP-14 ABOVE STEAMDRUM STRUCTURE. SEE 60-011.



**CONTROL VALVE SCHEDULE**

Type of valve to be shown on line sheet

INSTR. LINE NO.	VALVE SYMBOL	VALVE SIZES	ACC. LOC. LOCATION
A	B	C	D
AC-101	FC-2	BY BURNER	LOC. 101-B
AC-102	FC-3	BY BURNER	LOC. 101-B
AC-103	FC-4	BY BURNER	LOC. 101-B
AC-104	FC-5	BY BURNER	LOC. 101-B
AC-105	FC-6	BY BURNER	LOC. 101-B
AC-106	FC-7	BY BURNER	LOC. 101-B
AC-107	FC-8	BY BURNER	LOC. 101-B
AC-108	FC-9	BY BURNER	LOC. 101-B
AC-109	FC-10	BY BURNER	LOC. 101-B
AC-110	FC-11	BY BURNER	LOC. 101-B
AC-111	FC-12	BY BURNER	LOC. 101-B
AC-112	FC-13	BY BURNER	LOC. 101-B
AC-113	FC-14	BY BURNER	LOC. 101-B
AC-114	FC-15	BY BURNER	LOC. 101-B
AC-115	FC-16	BY BURNER	LOC. 101-B
AC-116	FC-17	BY BURNER	LOC. 101-B
AC-117	FC-18	BY BURNER	LOC. 101-B
AC-118	FC-19	BY BURNER	LOC. 101-B
AC-119	FC-20	BY BURNER	LOC. 101-B
AC-120	FC-21	BY BURNER	LOC. 101-B
AC-121	FC-22	BY BURNER	LOC. 101-B
AC-122	FC-23	BY BURNER	LOC. 101-B
AC-123	FC-24	BY BURNER	LOC. 101-B
AC-124	FC-25	BY BURNER	LOC. 101-B
AC-125	FC-26	BY BURNER	LOC. 101-B
AC-126	FC-27	BY BURNER	LOC. 101-B
AC-127	FC-28	BY BURNER	LOC. 101-B
AC-128	FC-29	BY BURNER	LOC. 101-B
AC-129	FC-30	BY BURNER	LOC. 101-B
AC-130	FC-31	BY BURNER	LOC. 101-B
AC-131	FC-32	BY BURNER	LOC. 101-B
AC-132	FC-33	BY BURNER	LOC. 101-B
AC-133	FC-34	BY BURNER	LOC. 101-B
AC-134	FC-35	BY BURNER	LOC. 101-B
AC-135	FC-36	BY BURNER	LOC. 101-B
AC-136	FC-37	BY BURNER	LOC. 101-B
AC-137	FC-38	BY BURNER	LOC. 101-B
AC-138	FC-39	BY BURNER	LOC. 101-B
AC-139	FC-40	BY BURNER	LOC. 101-B
AC-140	FC-41	BY BURNER	LOC. 101-B
AC-141	FC-42	BY BURNER	LOC. 101-B
AC-142	FC-43	BY BURNER	LOC. 101-B
AC-143	FC-44	BY BURNER	LOC. 101-B
AC-144	FC-45	BY BURNER	LOC. 101-B
AC-145	FC-46	BY BURNER	LOC. 101-B
AC-146	FC-47	BY BURNER	LOC. 101-B
AC-147	FC-48	BY BURNER	LOC. 101-B
AC-148	FC-49	BY BURNER	LOC. 101-B
AC-149	FC-50	BY BURNER	LOC. 101-B
AC-150	FC-51	BY BURNER	LOC. 101-B
AC-151	FC-52	BY BURNER	LOC. 101-B
AC-152	FC-53	BY BURNER	LOC. 101-B
AC-153	FC-54	BY BURNER	LOC. 101-B
AC-154	FC-55	BY BURNER	LOC. 101-B
AC-155	FC-56	BY BURNER	LOC. 101-B
AC-156	FC-57	BY BURNER	LOC. 101-B
AC-157	FC-58	BY BURNER	LOC. 101-B
AC-158	FC-59	BY BURNER	LOC. 101-B
AC-159	FC-60	BY BURNER	LOC. 101-B
AC-160	FC-61	BY BURNER	LOC. 101-B
AC-161	FC-62	BY BURNER	LOC. 101-B
AC-162	FC-63	BY BURNER	LOC. 101-B
AC-163	FC-64	BY BURNER	LOC. 101-B
AC-164	FC-65	BY BURNER	LOC. 101-B
AC-165	FC-66	BY BURNER	LOC. 101-B
AC-166	FC-67	BY BURNER	LOC. 101-B
AC-167	FC-68	BY BURNER	LOC. 101-B
AC-168	FC-69	BY BURNER	LOC. 101-B
AC-169	FC-70	BY BURNER	LOC. 101-B
AC-170	FC-71	BY BURNER	LOC. 101-B
AC-171	FC-72	BY BURNER	LOC. 101-B
AC-172	FC-73	BY BURNER	LOC. 101-B
AC-173	FC-74	BY BURNER	LOC. 101-B
AC-174	FC-75	BY BURNER	LOC. 101-B
AC-175	FC-76	BY BURNER	LOC. 101-B
AC-176	FC-77	BY BURNER	LOC. 101-B
AC-177	FC-78	BY BURNER	LOC. 101-B
AC-178	FC-79	BY BURNER	LOC. 101-B
AC-179	FC-80	BY BURNER	LOC. 101-B
AC-180	FC-81	BY BURNER	LOC. 101-B
AC-181	FC-82	BY BURNER	LOC. 101-B
AC-182	FC-83	BY BURNER	LOC. 101-B
AC-183	FC-84	BY BURNER	LOC. 101-B
AC-184	FC-85	BY BURNER	LOC. 101-B
AC-185	FC-86	BY BURNER	LOC. 101-B
AC-186	FC-87	BY BURNER	LOC. 101-B
AC-187	FC-88	BY BURNER	LOC. 101-B
AC-188	FC-89	BY BURNER	LOC. 101-B
AC-189	FC-90	BY BURNER	LOC. 101-B
AC-190	FC-91	BY BURNER	LOC. 101-B
AC-191	FC-92	BY BURNER	LOC. 101-B
AC-192	FC-93	BY BURNER	LOC. 101-B
AC-193	FC-94	BY BURNER	LOC. 101-B
AC-194	FC-95	BY BURNER	LOC. 101-B
AC-195	FC-96	BY BURNER	LOC. 101-B
AC-196	FC-97	BY BURNER	LOC. 101-B
AC-197	FC-98	BY BURNER	LOC. 101-B
AC-198	FC-99	BY BURNER	LOC. 101-B
AC-199	FC-100	BY BURNER	LOC. 101-B



- NOTES:**
1. DENOTES EMERGENCY SHUTDOWN VALVE TO BE LOCATED AT GRADE AND REMOVED FROM PLANT.
  2. SEE AS NOTED BY OWNER. TOGETHER PROVIDE WITH OWNER'S AS BUILT DRAWINGS FOR LOCAL MOUNTING AND CONNECTIONS.
  3. MINIMUM DISTANCE 400'-0" MINIMUM.
  4. LINE TO RUN IN TUNNEL LOCATED TO AND FROM CONTROL VALVE.
  5. PIPE BRANDS ON EACH SIDE TO BE GAS CONTROL VALVES TO PLANT (S.A.I.)

**HOMS FERTILIZER PLANT**  
**CREUSOT-LOIRE ENTREPRISES**  
**KELLOGG INTERNATIONAL CORPORATION**  
 1000 MTPO AMMONIA  
 FUEL SYSTEM

ENGINEERING: SPM/RTR  
 DRAWN: SPM/RTR  
 APPROVED: SPM/RTR  
 SCALE: AS SHOWN  
 PROJECT: HOMS FERTILIZER PLANT  
 SHEET: 516H