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SUBJECT: HRP-CP: Pipe Line Designation Table for the
HRT Chemical Processing Plant - Revision 1

TO: W. E. Unger

FROM: H. O. Weeren

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INTRA-LABORATORY CORRESPONDENCE
OAK RIDGE NATIONAL LABORATORY

November 12, 1956

TO: W. E. Unger
FROM: H. O. Weeren, W. L. Carter
SUBJECT: HRP-CP: Pipe Line Designation Table for the
HRT Chemical Processing Plant - Revision 1

The accompanying tabulations contain a list of all pipe lines employed in the HRT Chemical Processing Plant. There are two series of numbers in this identification. One series identifies pipes with numbers in the range 100 to 999; this code corresponds to that adopted by REED designers and refers to pipes that are connections between chemical processing areas and reactor areas. The second series contains numbers in the range 1100 to 1999 and refers to pipe lines that are encompassed by the chemical processing areas.

A short table will explain the identification system.

<u>REED Identification</u>		<u>Chemical Plant Identification</u>	
<u>Line No.</u>	<u>Function</u>	<u>Line No.</u>	<u>Function</u>
100-199	Fuel solution	1100-1199	Fuel solution
200-299	Blanket solution	1400-1499	Process steam and water.
300-399	Steam system		
400-574		1500-1599	Instrument air
601-674	Service piping	1600-1629	Process air
701-949		1630-1699	Refrigerant (F-11)
950-999	Leak detection	1700-1799	Process vent
		1800-1899	Process water
		1900-1999	Leak detection

Herman Weeren

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3 PIPE LINE DESIGNATION TABLE

(Reactor System Lines Extending Into Chemical Processing Area)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
141	1/4" 80	Fuel	158	Blind end	Blind flanges for use in connecting cyclone to low pressure system
156	1/2" C 40	Gas	Vacuum Pump - 11	Stack	From pump oil separator
162	1/2" 40	Fuel	1124	127	Fuel addition line to reactor dump tank
166	Remarks	Fuel	P-1	102	1/4" Sch. 80 inside cell; 1/2" 80 outside
167	Remarks	Fuel	101	H-3	1/4" Sch. 80 inside cell; 1/2" 80 outside
247	1/2" 40	Gas	H-4	Charcoal Adsorber - 10	
248	1/2" C 40	Gas	Charcoal Adsorber - 1	Vacuum pump - 11	
249	1/2" C 40	Gas	Line 248	Line 156	By-pass around vacuum pump
512	1/2" 40	Water	Jet on T-25	Line 515, east valve pit	
514	2" 40	Water	Cell C sump jet	515	Cell C sump discharge
516	8" 40	Gas	Cell C	Line 532	Cell C vacuum line
519	6" C-40	Water	Pump 99	Holding pond	Dewatering pump discharge (Dwg. D-18309)
536	2" 40	Water	Cell A sump jet	519	Jet discharge
537	2" 40	Water	Cell D sump jet	519	Jet discharge
541	1/2" 40	Fuel	H-23	Decontamination pit	Process solution supply line to carrier in decontamination pit Carp.-20 from H-23 to cell wall, 347 in wall

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E-20246

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PIPE LINE DESIGNATION TABLE

(Reactor System Lines Extending into Chemical Processing Area)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
542	3/4" 40	Gas	Decontamination pit	Line 1128	Vent for C-4
604	1 1/4" C-40	H.P.S.	1418	Pit	Steam supply to jet in decontamination pit
605	1/2" C-40	Condensate drain	604	Line 1483	604 trap and drain
606	1 1/4" C-40	H.P.S.	1418	Cell B sump jet (appears on Dwg. E-20261 only)	
607	1 1/4" C-40	H.P.S.	1418	Cell C sump jet	
608	1 1/4" C-40	H.P.S.	1418	Cell A sump jet	
609	1 1/4" C-40	H.P.S.	1418	Cell D sump jet	
622	1/2" 40	Gas	Blanket off-gas Cell B	Line 247	

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E-27432

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PIPE LINE DESIGNATION TABLE
(Process Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1100	1/4" 80	Fuel	H-3	F-1	
1101	1/4" 80	Fuel	F-1	S-1	
1102	1/4" 80	Fuel	S-1	P-1	Hydroclone overflow
1103	1/4" 80	Fuel	P-1	167	Pump P-1 drain
1104	1/4" 80	Fuel	T-1	F-1	Underflow receiver dump line
1105	2" 40	Fuel	Sampler	139	Sampler housing vent and drain
1106	1/4" 80	Fuel	T-1	Line 1102	Recirculation line
1107	1/4" 40	Vent	1118	1121	Vent loop in reflux line
1108	1/4" 80	Fuel	1102	H-5	Overflow sample line
1109	1/4" 80	Fuel	H-5	Sampler	
1110	Remarks	Fuel	167	Line 1112	1/4" - 80 to HCV T-1-2 1/4" - 40 from HCV T-1-2 to line 1112
1112	1/2" 40	Fuel	Line 1110	H-21	347 SS to HCV D-3-4 Carp-20 from HCV D-3-4 to H-21
1113	1/4" 80	Fuel	Line 166	Sampler	Underflow sample supply
1114	1/4" 40	Fuel	Sampler	1124	Underflow sample return
1115	1/2" 40	Fuel	T-5	1124	Tie line in close to valve HCV T-11-2
1116	1/2" 40	Fuel	1112	162	
1117	1/2" 40	Fuel	T-3	T-2	
1118	3/4" 40	Fuel	Line 1136	S-2	D-3 vapor line

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PIPE LINE DESIGNATION TABLE

(Process Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1119	1" 40	Fuel	S-2	H-7	S-2 vapor line
1120	1/2" 40	Fuel	H-1	1121	D ₂ O condensate
1121	1/2" 40	Fuel	T-3	1112	D ₂ O reflux to D-3
1122	1/2" 40	Fuel	S-2	1121	Entrainment separator drain
1124	1/4" 40	Fuel	Line 162	1110	Fuel supply line
1125	1/2" 40	Fuel	Sampler	162	Overflow sample
1126	1/2" 40	Fuel	H-2	T-25	Condensate to catch tank
1127	2" 40	Fuel	Sampler	Line 139	Sampler housing vent and drain
1128	3/4" 40	Fuel	Line 1152	S-3	T-22 vapor line
1129	1" 40	Fuel	S-3	H-8	S-3 vapor line
1131	1/2" 40	Fuel	S-3	T-22	Entrainment separator drain
1132	1/2" 40	Fuel	162	Blind end	Blind flanges for use in connecting cyclone to low pressure system
1133	1/2" 40	Fuel	T-2	1115	T-2 bottom outlet
1134	1/2" 40	Fuel	H-21	D-3	Fuel to D-3. Carp-20
1135	1/2" 40	Fuel	D-3	H-20	D-3 vent line. Carp-20
1136	1/2" 40	Fuel	H-20	Line 1145	D-3 vent line. Carp-20
1137	3/4" 40	Fuel	Line 1145	Line 1128	D-3 vent line
1138	1/2" 40	Fuel	H-22	D-3	Acid addition line. Carp-20
1139	1/2" 40	Fuel	T-26	H-22	Acid addition line. Carp-20

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7 PIPE LINE DESIGNATION TABLE

(Process Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

Line No.	Size	Flowing Medium	From	To	Remarks
1140	1/2" 40	Fuel	Line 1139	T-21	Carp-20
1141	1/2" 40	Fuel	Line 1140	T-22	Carp-20
1142	1/2" 40	Fuel	Line 1139	Line 1145	By-pass line for D ₂ O. Carp-20
1143	1/2" 40	Fuel	Line 1139	H-24	Carp-20
1144	1/2" 40	Fuel	Sampler	T-23	Carp-20
1145	1/2" 40	Fuel	T-23	Line 1136	Carp-20
1146	1/2" 40	Fuel	T-24	Line 1118	D ₂ O charge to FP-1
1147	1/2" 40	Fuel	T-24	Line 1112	D ₂ O charge to FP-2
1148	1/2" 40	Fuel	Line 1133	T-24	D ₂ O charging line
1149	1" 40	Fuel	T-21	R-1	Gas and vapor line. Carp-20
1150	1" 40	Fuel	R-1	T-21	Gas and vapor line
1151	1" 40	Fuel	T-22	R-2	Gas and vapor line. Carp-20
1152	1" 40	Fuel	R-2	T-22	Gas and vapor line
1153	3/4" 40	Fuel	Line 1150	Line 1137	Off-gas line for T-21
1154	1/2" 40	Fuel	H-24	Sampler	Carp-20
1155	1/2" 40	Fuel	T-21	T-27	Carp-20
1156	1/2" 40	Fuel	T-22	T-27	Carp-20
1157	1/2" 40	Fuel	T-27	H-23	For discharge to carrier. Carp-20
1158	3/4" 40	Fuel	T-27	Line 1128	Gas and vapor from T-27. Carp-20 to HCV T-27-2, 347 SS to line 1128

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PIPE LINE DESIGNATION TABLE
(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1400					
1401	Remarks	Water and L.P.S.	1418	H-26	$\frac{1}{4}$ "-C40 changes to $\frac{1}{2}$ "T-0.035W at shield; steam in and cold water return to Cell A
1402	Remarks	Water and L.P.S.	1418	H-28	$\frac{1}{4}$ "-C40 changes to $\frac{1}{2}$ "T-0.035W at shield; steam in and cold water return to Cell A
1403	Remarks	Water and L.P.S.	H-28	1415	Steam condensate out to Cell A and cold water supply into H-28, 3/8" nom Cu in Cell A; $\frac{1}{2}$ "-0.035W in Cell C
1404	Remarks	Water and L.P.S.	H-26	1415	Steam condensate out to Cell A and cold water supply into H-26, 3/8" nom Cu in Cell A; $\frac{1}{2}$ "-0.035W in Cell C
1405	$\frac{1}{2}$ "T 0.035W	H.P.S.	H-8	1406	Ties into discharge line of H-10
1406	$\frac{1}{2}$ "T 0.035W	H.P.S.	H-10	1411	Ties into discharge line of H-9
1407	3/4" 40	L.P.S.	1418	T-12	Steam supply to jet
1408	$\frac{1}{2}$ "T 0.035W	H.P.S.	1419	H-9	
1409	$\frac{1}{2}$ "T 0.035W	H.P.S.	1408	H-7	From steam supply line of H-9
1410	Remarks	L.P.S.	1418	Pit	$\frac{1}{2}$ "-C40 in Cell A; $\frac{1}{2}$ " 40 in concrete from L.P.S. header to pit, Dwg. E-27410, 3/8" nom Cu in Cell A; $\frac{1}{2}$ "T-0.065W in Cell C
1411	Remarks	Cond.	H-9	1415	1415 located in Cell A
1412	$\frac{1}{2}$ "T 0.035W	Cond.	H-7	1411	Ties into discharge of H-9
1413	$\frac{1}{2}$ "T 0.035W	H.P.S.	1419	H-10	

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PIPE LINE DESIGNATION TABLE

(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1414	$\frac{1}{2}$ "T 0.035W	H.P.S.	1413	H-8	From steam supply line of H-10
1415	1"C 40	Cond.	Top floor Cell A	T-12	Header
1416	$\frac{1}{2}$ "C 40	H.P.S.	1418	Sk Fig. 320 Jet	Water heater
1417	$\frac{1}{2}$ "T 0.035W	Water	1473	H-16	Water supply
1418	$1\frac{1}{4}$ "C 40	100 psi steam	1419	Dead end	100 psi steam header at service rack
1419	1"C 40	250 psi H.P.S.	250 psi bldg. supply	Dead end at 803' level	Changes to $\frac{1}{2}$ " C-40 below service panel
1420	$\frac{1}{2}$ "C 40	Cond.	Line 1419	Line 1464	Line condensate
1421	$\frac{1}{2}$ "T 0.035W	L.P.S.	Line 1418	H-25	Steam to H-25
1422	$\frac{1}{2}$ "T 0.035W	L.P.S.	Line 1418	H-27	Steam to H-27
1423					
1424	$\frac{1}{2}$ "T 0.035W	H.P.S.	Line 1419	R-1	H.P.S. to recombiner
1425	$\frac{1}{2}$ "T 0.035W	H.P.S.	R-1	Line 1415	Steam condensate
1426	$\frac{1}{2}$ "C 40	Steam service	Line 1418	Sump jet in sample carrier cubicle	
1427	$\frac{1}{2}$ "T 0.035W	Water	H-17	Line 1454	
1428	Remarks	Steam	H-25	Line 1415	$\frac{3}{8}$ " nom Cu in Cell A $\frac{1}{2}$ "T 0.035W in Cell C
1429	$\frac{1}{4}$ " 40	Water	1472	Instrument box in Cell C	Water to flush down instrument box
1430	Remarks	Steam	H-27	Line 1415	$\frac{3}{8}$ " nom Cu in Cell A $\frac{1}{2}$ "T-0.035W in Cell C

PIPE LINE DESIGNATION TABLE
(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1431	3/4" 40	L.P.S. or water	H-22	Line 1444	SS in Cell C, carbon steel in Cell A
1432	3/4" 40	L.P.S. or water	Line 1487	H-22	SS in Cell C, carbon steel in Cell A
1433	1/2" 40	L.P.S.	Line 1431	Line 1415	Steam cond. from H-22
1434	1/2" 40	L.P.S.	Line 1418	Line 1432	Steam to H-22
1435	3/4" 40	L.P.S. or water	Line 1487	H-20	SS in Cell C, carbon steel in Cell A
1436	3/4" 40	L.P.S. or water	H-20	Line 1444	SS in Cell C, carbon steel in Cell A
1437	1/2" 40	L.P.S.	Line 1435	Line 1415	Steam cond. from H-20
1438	1/2" 40	L.P.S.	Line 1418	Line 1436	Steam to H-20
1439	1/2" 40	L.P.S.	Line 1418	Line 1441	Steam to D-3
1440	1/2" 40	L.P.S.	Line 1442	Line 1415	Steam cond. from D-3
1441	1/2" T 0.035W	L.P.S. or water	D-3	Line 1444	SS in Cell C, carbon steel in Cell A
1442	1/2" T 0.035W	L.P.S. or water	Line 1487	D-3	SS in Cell C, carbon steel in Cell A
1443	1/2" 40	H.P.S.	Line 1419	Line 1439	H.P.S. to D-3
1444	1 1/2" 40	C.W.return	Header	Line 536	
1445	3/8" 40	100 lb steam	609	Jet in instrument box in Cell C	Jet to remove flush water from instrument box
1446	3/8" 40	Steam	1418	Cell C scavenging jet	

PIPE LINE DESIGNATION TABLE

(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1447	1/4" T 0.065W	Cooling water	FE H-2	1476	Coolant for FE on H-2 vapor line
1448	1/4" T 0.065W	Cooling water	FE H-1	1478	
1449	2" C 40	Potable water	Building supply header	Dead end in Cell A 805' level	Supplies safety showers and heating and ventilating system
1450	Remarks	Cooling water	1455	P-1	3/8" No. Cu in Cell A; 1/2" T 0.035W SS in Cell C
1451	1/2" T 0.035W	Cooling water	P-1	1454	
1452	1/2" T 0.035W	Warm water	1479	H-5	Overflow sampler coolant
1453	1/2" T 0.035W	Warm water	H-5	1454	CWR
1454	1" 40	Cooling water	Cell C	1464	Return header
1455	1" C-40	Cooling water	1487	Dead end	CW header at service rack
1456	Remarks	Cooling water	1455	1404	3/8" nom Cu cooling water to H-26 (via 1404)
1457	Remarks	Cooling water	1455	1403	3/8" nom Cu CW to H-28 (via 1403)
1458	1" 40	Cooling water	Space cooler	1483	CW outlet
1459	1/4" C-40	Cooling water	1401	1461	CWR from H-26

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PIPE LINE DESIGNATION TABLE

(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1460	1/4" C-40	Cooling water	1402	1461	CWR from H-28
1461	1" C-40	Cooling water	Dead end on service panel	1454	CWR in Cell A
1462	1/4" C-40	Cooling water	1454	To open drain	Drain on low point of 1454
1463	1" C-40	Cond.	T-12	Jet	Jet suction
1464	1" 40	Cond.	T-12 jet discharge	536	Ties into discharge line of sump jet of Cell A
1465	Remarks	Cold water	H-13	H-4	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C
1466	1/2" T 0.035W	Cold water	H-4	1454	
1467	3/8" T 0.035W	Cooling water	S-2	1454	CWR
1468	Remarks	Cooling water	1455	S-2	3/8" nom Cu in Cell A; 1/2" T 0.035W in Cell C
1469	Remarks	Cooling water	1455	S-3	3/8" nom Cu in Cell A; 1/2" T 0.035W in Cell C
1470	3/8" T 0.035W	Cooling water	S-3	1454	CWR
1471	Remarks	Cooling water	1455	To pit	3/8" nom Cu in Cell A; 1/2" -40 to decontamination pit
1472	1" 40	Cooling water	1487	Space cooler	

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PIPE LINE DESIGNATION TABLE
(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1473	1/2" T 0.035W	Water	1455	H-14	Cu in Cell A; 0.035W SS in Cell C
1474	Remarks	Water	1455	H-17	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C
1475	Remarks	Cooling water	1455	H-1	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; cooling water to H-1
1476	1/2" 40	Cooling water	H-2	1454	CWR
1477	Remarks	Cooling water	1455	H-2	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; cooling water to H-2
1478	1/2" 40	Cooling water	H-1	1454	CWR
1479	1"C-40	Cooling water	SK Fig. 320 Jet	Dead end	Warm water header
1480	3/8" nom Cu	Cooling water	1455	S and K Fig. 320 steam jet	Water heater supply
1481	3/8" nom Cu	Cooling water	1455	H-13	Supply to water cooler
1482	3/8" nom Cu	Cooling water	1455	F-22 Condenser	
1483	2"C 40	Cooling water	Cell D	6" C.I. Roof Drain	Drain header by-passing pond
1484	Remarks	Warm water	1479	Sampler	1/2"C-40 in Cell A; 1/2"-40 in sampler. Coolant for isolation chamber
1485	Remarks	Warm water	Sampler	1461	1/2"C-40 in Cell A; 1/2" 40 in sampler CWR

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PIPE LINE DESIGNATION TABLE
(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1486	1/4" C 40	Cooling water	1491	Open drain	Header drain
1487	2" C 40	Cooling water	Building supply	Dead end	Supply header (terminates at 803' level)
1488	3/8" nom Cu	Cooling water	1455	H-13	CWS to water cooler
1489	1/4" C 40	Cooling water	H-13	1483	CWR
1490	3/8" nom Cu	Cooling water	F-22	1491	CWR from F-22 Condenser
1491	1" C 40	Cooling water	Bottom of Cell A	1483	Vertical CWR header
1492	1/4" C 40	Cooling water	1489	Drain	Water cooler drain
1493	1/2" C 40	Cond.	1418	1415	35 lb steam header trap and drain
1494	1/2" T 0.035W	Cooling water	H-14	1454	H-14 cooling water drain
1495					
1496					
1497					
1498	1/4" T 0.065W	Cooling water	1475	FE H-1	Cooling water for FE in H-1 vapor line
1499	1/4" T 0.065W	Cooling water	1477	FE H-2	Cooling water for FE in H-2 vapor line

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PIPE LINE DESIGNATION TABLE

(Instrument Air Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1500	1" C-40	Instr. Air	Building supply	Dead end	Instrument air supply header; 40 psig
1501	3/8" T 0.035W	Instr. Air	HCV T-1-2	1522	HCV T-1-2 Vent
1502	3/8" T 0.035W	Instr. Air	HCV T-1-3	HCV T-1-4	HCV T-1-4 Supply
1503	3/8" T 0.035W	Instr. Air	HCV T-1-4	1522	HCV T-1-4 Vent
1504	1" C-40	Instr. Air	Dead end	661	Instrument air return header
1505	3/8" T 0.035W	Instr. Air	1560	HCV T-1-3	HCV T-1-3 Supply
1506	3/8" T 0.035W	Instr. Air	HCV T-1-3	1504	HCV T-1-3 Vent
1507	3/8" T 0.035W	Instr. Air	HCV T-1-1	HCV T-1-2	HCV T-1-2 Supply
1508	3/8" T 0.035W	Instr. Air	1560	HCV T-1-1	HCV T-1-1 Supply
1509	3/8" T 0.035W	Instr. Air	HCV T-1-1	1504	HCV T-1-1 Vent
1510	3/8" T 0.035W	Instr. Air	1560	HCV H-5-1	HCV H-5-1 Supply
1511	3/8" T 0.035W	Instr. Air	HCV H-5-1	1504	HCV H-5-1 Vent
1512	3/8" T 0.035W	Instr. Air	HCV H-5-1	HCV H-5-2	HCV H-5-2 Supply
1513	3/8" T 0.035W	Instr. Air	HCV H-5-2	1522	HCV H-5-2 Vent

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PIPE LINE DESIGNATION TABLE

(Instrument Air Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1514	3/8" T 0.035W	Instr.Air	1500	Space cooler	Motor pressurizer
1515	3/8" T 0.035W	Instr.Air	1500	HCV 1112-1	HCV 1112-1 supply
1516	3/8" T 0.035W	Instr.Air	HCV 1112-1	1504	HCV 1112-1 vent
1517	3/8" T 0.035W	Instr.Air	HCV 1112-2	1522	HCV 1112-2 vent
1518	3/8" T 0.035W	Instr.Air	HCV 1112-1	HCV 1112-2	HCV 1112-2 supply
1519	3/8" T 0.035W	InstrAir	1560	HCV P-1-1	HCV P-1-1 supply
1520	3/8" T 0.035W	InstrAir	HCV P-1-1	1504	HCV P-1-1 vent
1521	3/8" T 0.035W	Instr.Air	HCV P-1-1	HCV P-1-2	HCV P-1-2 supply
1522	3/8" T 0.035W	Instr.Air	HCV P-1-2	1504	HCV P-1-2 vent
1523	3/8" T 0.035W	Instr.Air	HCV T-2-1	1504	HCV T-2-1 vent
1524	3/8" T 0.035W	Instr.Air	1500	HCV T-2-1	HCV T-2-1 supply
1525	3/8" T 0.035W	Instr.Air	HCV T-2-1	HCV T-2-2	HCV T-2-2 supply
1526	3/8" T 0.035W	Instr.Air	HCV T-2-2	1504	HCV T-2-2 vent

PIPE LINE DESIGNATION TABLE

(Instrument Air Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1527	3/8" T 0.035W	Instr. Air	1500	HCV D-3-3	HCV D-3-3 supply
1528	3/8" T 0.035W	Instr. Air	HCV D-3-3	1504	HCV D-3-3 vent
1529	3/8" T 0.035W	Instr. Air	HCV D-3-3	HCV D-3-4	HCV D-3-4 supply
1530					
1531	3/8" T 0.035W	Instr. Air	1500	HCV T-11-1	HCV T-11-1 supply
1532	3/8" T 0.035W	Instr. Air	HCV T-11-1	1504	HCV T-11-1 vent
1533	3/8" T 0.035W	Instr. Air	HCV T-11-1	HCV T-11-2	HCV T-11-2 supply
1534	3/8" T 0.035W	Instr. Air	HCV T-11-2	1504	HCV T-11-2 vent
1535	3/8" T 0.035W	Instr. Air	HCV T-11-3	HCV T-11-4	HCV T-11-4 supply
1536	3/8" T 0.35W	Instr. Air	HCV T-11-4	1504	HCV T-11-4 vent
1537	3/8" T 0.035W	Instr. Air	1500	HCV T-11-3	HCV T-11-3 supply
1538	3/8" T 0.035W	Instr. Air	HCV T-11-3	1504	HCV T-11-3 vent
1539					
1540	3/8" T 0.035W	Instr. Air	HCV D-3-1	HCV D-3-2	HCV D-3-2 supply

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PIPE LINE DESIGNATION TABLE

(Instrument Air Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

Line No.	Size	Flowing Medium	From	To	Remarks
1541	3/8" T 0.035W	Instr. Air	1500	HCV D-3-1	HCV D-3-1 supply
1542	3/8" T 0.035W	Instr. Air	HCV D-3-1	1504	HCV D-3-1 vent
1543					
1544	3/8" T 0.035W	Instr. Air	HCV T-23-1	HCV T-23-2	HCV T-23-2 supply
1545	3/8" T 0.035 W	Instr. Air	1500	HCV T-23-1	HCV T-23-1 supply
1546	3/8" T 0.035W	Instr. Air	HCV T-23-1	1504	HCV T-23-1 vent
1547	3/8" T 0.035W	Instr. Air	HCV T-3-2	1504	HCV T-3-2 vent
1548	3/8" T 0.035W	Instr. Air	HCV T-3-1	HCV T-3-2	HCV T-3-2 supply
1549	3/8" T 0.035W	Instr. Air	1500	HCV T-3-1	HCV T-3-1 supply
1550	3/8" T 0.035W	Instr. Air	HCV T-3-1	1504	HCV T-3-1 vent
1551	3/8" T 0.035W	Instr. Air	HCV 162-2	1504	HCV 162-2 vent
1552	3/8" T 0.035W	Instr. Air	HCV 162-1	HCV 162-2	HCV 162-2 supply
1553	3/8" T 0.035W	Instr. Air	HCV 162-1	1504	HCV 162-1 vent
1554	3/8" T 0.035W	Instr. Air	1500	HCV 162-1	HCV 162-1 supply

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PIPE LINE DESIGNATION TABLE

(Instrument Air Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1555	3/8" T 0.035W	Instr. Air	PdC S-1	PdCV S-1	Air to control motor generator
1556					
1557	1/4" 40 1/4" C-40	Instr. Air	Sampler	1504	Sampler air cylinder vent; SS 347 inside cell; carbon steel outside
1558	1/4" 40 1/4" C-40	Instr. Air	1500	Sampler	Sampler air cylinder supply; SS 347 inside cell; carbon steel outside
1559					
1560	1/2" C-40	Instr. Air	Building supply	Dead end	Instrument air supply header; 55 psig
1561					
1562	3/8" T 0.035W	Instr. Air	HCV D-3-5	HCV D-3-6	HCV D-3-6 supply
1563	3/8" T 0.035W	Instr. Air	Line 1500	HCV D-3-5	HCV D-3-5 supply
1564	3/8" T 0.035W	Instr. Air	HCV D-3-5	Line 1504	HCV D-3-5 vent
1565					
1566	3/8" T 0.035W	Instr. Air	HCV D-3-7	HCV D-3-8	HCV D-3-8 supply
1567	3/8" T 0.035W	Instr. Air	Line 1500	HCV D-3-7	HCV D-3-7 supply
1568	3/8" T 0.035W	Instr. Air	HCV D-3-7	Line 1504	HCV D-3-7 vent
1569					

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PIPE LINE DESIGNATION TABLE
(Instrument Air Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1570	3/8" T 0.035W	Instr. Air	HCV T-21-1	HCV T-21-2	HCV T-21-2 supply
1571	3/8" T 0.035W	Instr. Air	Line 1500	HCV T-21-1	HCV T-21-1 supply
1572	3/8" T 0.035W	Instr. Air	HCV T-21-1	Line 1504	HCV T-21-1 vent
1573					
1574	1/2" C-40	Instr. Air	PCV Cell 2-1	Dead end	Manifold to shut off inst. air safety valves
1575	3/8" T 0.035W	Instr. Air	1560	HCV P-1-3	HCV P-1-3 supply
1576	3/8" T 0.035W	Instr. Air	HCV P-1-3	HCV P-1-4	HCV P-1-4 supply
1577	3/8" T 0.035W	Instr. Air	HCV P-1-4	1522	HCV P-1-4 vent
1578	3/8" T 0.035W	Instr. Air	HCV P-1-3	1504	HCV P-1-3 vent
1579	1" 40	Cell Air	Cell C	Cell air monitor	Air monitor inlet
1580	1" 40	Cell Air	Cell air monitor	Cell C	Air monitor exhaust
1581	3/8" T 0.035W	Instr. Air	HCV T-22-1	HCV T-22-2	HCV T-22-2 supply
1582	3/8" T 0.035W	Instr. Air	Line 1500	HCV T-22-1	HCV T-22-1 supply
1583	3/8" T 0.035W	Instr. Air	HCV T-22-1	Line 1504	HCV T-22-1 vent

PIPE LINE DESIGNATION TABLE

(Instrument Air Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1584	3/8" T 0.035W	Instr. Air	HCV T-21-3	HCV T-21-4	HCV T-21-4 supply
1585	3/8" T 0.035W	Instr. Air	Line 1500	HCV T-21-3	HCV T-21-3 supply
1586	3/8" T 0.035W	Instr. Air	HCV T-21-3	Line 1504	HCV T-21-3 vent
1587	3/8" T 0.035W	Instr. Air	HCV T-26-1	HCV T-26-2	HCV T-26-2 supply
1588	3/8" T 0.035W	Instr. Air	Line 1500	HCV T-26-1	HCV T-26-1 supply
1589	3/8" T 0.035W	Instr. Air	HCV T-26-1	Line 1504	HCV T-26-1 vent
1590	3/8" T 0.035W	Instr. Air	HCV T-27-1	HCV T-27-2	HCV T-27-2 supply
1591	3/8" T 0.035W	Instr. Air	Line 1500	HCV T-27-1	HCV T-27-1 supply
1592	3/8" T 0.035W	Instr. Air	HCV T-27-1	Line 1504	HCV T-27-1 vent
1593	3/4" Cu	Instr. Air	Line 1500	Panel Board	New Panel at EL 813'0

PIPE LINE DESIGNATION TABLE

(Gas and Freon Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1600	Remarks	Gas service	H-11-1	T-1	2½" C40 in Cell D; 1½"-40 in wall and Cell C
1601	1½" 40	Gas service	T-1	Vent to roof	
1602	2½" C40	Gas service	P-12	H-11-2	
1603	1" C 40	Gas service	1602	1606	By-pass around blower P-12
1604	2½" C 40	Gas service	P-15	1602	
1605	¾" 40	Oxygen	Cylinder	A-3	System pressurization
1606	2½" C40	Gas service	Room suction	P-12	
1607	2½" C40	Gas service	1606	P-15	
1608	¾" 40	Oxygen	A-3	Line 1714	
1609	½" T 0.035W	Oxygen	Line 1617	T-21	Specific gravity bubbler; long leg
1610	½" T 0.035W	Oxygen	Line 1617	T-21	Specific gravity bubbler; short leg
1611	¾" 40	Oxygen	Line 1605	T-26	Pressurization of T-26
1612	½" T 0.035W	Oxygen	Line 1617	T-21	Specific gravity bubbler; pressure tap
1613	½" T 0.035W	Oxygen	Line 1617	T-22	Specific gravity bubbler; long leg
1614	½" T 0.035W	Oxygen	Line 1617	T-22	Specific gravity bubbler; short leg
1615	½" T 0.035W	Oxygen	Line 1617	T-22	Specific gravity bubbler; pressure tap
1616	½" T 0.035W	Oxygen	Line 1617	Line 1137	Pressure compensation line
1617	½" T 0.035W	Oxygen	Supply cylinder	Line 1139	Bubbler
1618					

PIPE LINE DESIGNATION TABLE

(Gas and Freon Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1619					
1620					
1621					
1622					
1623					
1624					
1625					
1626					
1627					
1628					
1629					
1630	Remarks	Freon	1640	FP-3	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; let-down freezer
1631	1/2" T 0.035W	Freon	FP-3	1632	
1632	1" 40	Freon	Cell C	F-13 evaporator	Freon return header
1633	Remarks	Freon	1640	FP-4	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; vent freezer
1634	1/2" T 0.035W	Freon	FP-4	1632	
1635	Remarks	Freon	1640	FP-5	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; overflow sampler freezer
1636	3/8" T 0.035W	Freon	FP-5	1632	

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PIPE LINE DESIGNATION TABLE

(Fas and Freon Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1637	Remarks	Freon	1640	FP-6	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; T-1 drain freezer
1638	1/2" T 0.035W	Freon	FP-6	1632	
1639	Remarks	Freon	1640	FP-7	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; T-2 to T-5 freezer
1640	1" T nom Cu	Freon	P-13	Dead end	Pump discharge header
1641	3/8" T 0.035W	Freon	FP-7	1632	
1642	Remarks	Freon	1640	FP-11	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; P-1 drain freezer
1643	1/2" T 0.035W	Freon	FP-11	1632	
1644	Remarks	Freon	1640	FP-12	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; T-1 to P-1 freezer
1645	1/2" T 0.035W	Freon	FP-12	1632	
1646	3/8" T nom Cu	Freon	1640	D-1	By-pass through dryer
1647	3/8" T nom Cu	Freon	D-1	1632	
1648	1" nom Cu	Freon	F-13 evaporator	T-13	
1649	1 1/2" nom Cu	Freon	1650	P-13	P-13 suction
1650	1 1/2" nom Cu	Freon	T-13	P-14	P-14 suction
1651	1" nom Cu	Freon	P-14	1640	P-14 discharge
1652	Remarks	Freon 11	Line 1640	FP-8	3/8" No. Cu in Cell A; 1/2" T 0.035W SS in Cell C; underflow sample line

PIPE LINE DESIGNATION TABLE

(Gas and Freon Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1653	1/2" T 0.035W	Freon 11	FP-8	Line 1632	Underflow sample line
1654	Remarks	Freon 11	Line 1640	FP-9	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; hydroclone feed line
1655	1/2" T 0.035W	Freon 11	FP-9	Line 1632	Hydroclone feed line
1656	1" 40	Freon 11	Cell B return header	Line 1632	Junction with line 1632 in Cell C
1657	Remarks	Freon 11	Line 1640	FP-10	Vent from rear of pump (line 1705)
1658	1/2" T 0.035W	Freon 11	FP-10	Line 1632	Vent from rear of pump (line 1705)
1659	1/2" T 0.035W	Freon 11	1640	FP-1	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; back-up to valve D-3-6
1660	3/8" T 0.035W	Freon	FP-1	Line 1632	
1661	1/2" T 0.035W	Freon	1640	FP-2	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; back-up to valve D-3-4
1662	3/8" T 0.035W	Freon	FP-2	1632	
1663	1/2" T 0.035W	Freon	1640	FP-13	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; back-up to valve D-3-8
1664	3/8" T 0.035W	Freon	FP-13	Line 1632	
1665	1/2" T 0.035W	Freon	1640	FP-14	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; back-up to valve D-3-2
1666	3/8" T 0.035	Freon	FP-14	1632	
1667	1/2" T 0.035W	Freon	1640	FP-15	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; line 1139 to 1137 freezer

PIPE LINE DESIGNATION TABLE

(Gas and Freon Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1668	3/8" T 0.035W	Freon	FP-15	Line 1632	
1669	1/2" T 0.035W	Freon	1640	FP-16	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; T-2 to T-24 freezer
1670	3/8" T 0.035W	Freon	FP-16	Line 1632	
1671	1/2" T 0.035W	Freon	1640	FP-17	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; T-24 to line 1118
1672	3/8" T 0.035W	Freon	FP-17	Line 1632	
1673	1/2" T 0.035W	Freon	1640	FP-18	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; T-24 to line 1112
1674	3/8" T 0.035W	Freon	FP-18	Line 1632	
1675	1/2" T 0.035W	Freon	1640	FP-19	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; H-23 to S-3 freezer
1676	3/8" T 0.035W	Freon	FP-19	Line 1632	
1677	1/2" T 0.035W	Freon	1640	FP-20	3/8" nom Cu in Cell A; 1/2" T 0.035W SS in Cell C; H-24 to S-3 freezer
1678	3/8" T 0.035W	Freon	FP-20	Line 1632	
1679	1" 40	Freon	Cell C	F-13 Evaporation	Freon return header

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PIPE LINE DESIGNATION TABLE

(Process Vent Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

Line No.	Size	Flowing Medium	From	To	Remarks
1700	1/4" 80	Vapor vent	Line 1102	1122	High pressure system vent
1701	3/4" 40	Vapor vent	T-2	H-4	
1702					
1703	3/4" 40	Vapor vent	T-5	1701	
1704					
1705	1/4" 80	Vapor vent	P-1	1700	Vent on pump P-1
1706					
1707	3/4" 40	Vapor vent			
1708	3/4" 40	Vapor vent	Sampler housing	1709	
1709	3/4" 40	Vapor vent	H-1	1701	
1710	1/2" T 0.065W	Off-gas	Line 247	Gas sample (these lines appear on Waste and Vent System Flowsheet D-18309 and E-27409)	Cell C off-gas sample before adsorber
1711	1/2" T 0.065W	Off-gas	Line 622	Gas sample (these lines appear on Waste and Vent System Flowsheet D-18309 and E-27409)	Cell B off-gas sample before adsorber
1712	1/2" T 0.065W	Off-gas	Line 248	Atmosphere	Off-gas sample after adsorber
1713	3/4" 40	Off-gas	T-23	Line 1714	Vent on sampler hold tank
1714	3/4" 40	Off-gas	H-2	H-18	
1715	3/4" 40	Vapor vent	T-24	Line 1701	

PIPE LINE DESIGNATION TABLE

(Process Vent Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409 and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1716	3/4" 40	Vent	T-25	Line 1714	
1717	1/2" 40	Off-gas	H-18	Line 247	
1718	3/4" 40	Vent	Sampler	Line 1714	

PIPE LINE DESIGNATION TABLE
(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1800	$\frac{1}{2}$ " T 0.035W	L.P.S. and water	Line 1487	T-21	SS in Cell C, carbon steel in Cell A
1801	$\frac{1}{2}$ " T 0.035W	L.P.S. and water	T-21	Line 1444	SS in Cell C, carbon steel in Cell A
1802	$\frac{1}{2}$ " T 0.035W	L.P.S. and water	Line 1487	T-22	SS in Cell C, carbon steel in Cell A
1803	$\frac{1}{2}$ " T 0.035W	L.P.S. and water	T-22	Line 1444	SS in Cell C, carbon steel in Cell A
1804	$\frac{3}{4}$ " 40	L.P.S.	Line 1800	Line 1415	Steam cond. from T-21
1805	$\frac{1}{2}$ " 40	L.P.S.	Line 1418	Line 1801	Steam to T-21
1806	$\frac{3}{4}$ " 40	L.P.S.	Line 1802	Line 1415	Steam cond. from T-22
1807	$\frac{3}{4}$ " 40	L.P.S.	Line 1418	Line 1803	Steam to T-22
1808	$\frac{1}{2}$ " T 0.035W	L.P.S. and water	Line 1487	H-21	
1809	$\frac{1}{2}$ " T 0.035W	L.P.S. and water	H-21	Line 1444	
1810	$\frac{1}{2}$ " 40	L.P.S.	Line 1808	Line 1415	Steam cond. from H-21
1811	$\frac{1}{2}$ " 40	L.P.S.	Line 1418	Line 1809	Steam to H-21
1812	$\frac{3}{4}$ "-40	Water	Line 1487	H-23	
1813	$\frac{3}{4}$ "-40	Water	H-23	Line 1454	
1814	$\frac{1}{2}$ " T 0.035W	Water	Line 1455	A-4	
1815	$\frac{1}{2}$ " T 0.035W	Water	A-4	Line 1454	
1816	$\frac{1}{2}$ " T 0.035W	Water	Line 1814	A-5	

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PIPE LINE DESIGNATION TABLE
(Cooling Water and Steam Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1817	½" T 0.035W	Water	A-5	Line 1454	
1818	½" T 0.035W	H.P.S.	Line 1419	R-2	Steam to R-2
1819	½" T 0.035W	H.P.S.	R-2	Line 1415	Steam cond. from R-2
1820	¾" 40	Water	Line 1487	H-24	
1821	¾" 40	Water	H-24	Line 1454	
1822					
1823					
1824	½" T 0.035W	Cold water	Line 1465	H-18	Chilled H ₂ O for cold trap
1825	½" T 0.035W	Cold water	H-18	Line 1454	
1826	½" T 0.035W	L.P.S.	Line 1418	Jet on T-25	
1827	½" T 0.035W	Water	H-16	Line 1494	
1828	½" T 0.035W	L.P.S.	Line 1418	T-27	Steam to T-27
1829	½" T 0.035W	L.P.S.	T-27	Line 1415	

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PIPE LINE DESIGNATION TABLE

(Leak Detection Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

Line No.	Size	Flowing Medium	From	To	Remarks
1900	$\frac{1}{4}$ "T 0.065W	Water	LKD-1	Flg. at P-1	P-1 suction
1901	$\frac{1}{4}$ "T 0.065W	Water	LKD-2	Flg. at P-1	P-1 discharge
1902	$\frac{1}{4}$ "T 0.065W	Water	LKD-3	Flg. at P-1	P-1 drain
1903	$\frac{1}{4}$ "T 0.065W	Water	LKD-4	Flg. at H-3	Upstream side of H-3
1904	$\frac{1}{4}$ "T 0.065W	Water	LKD-5	Flg. at H-3	Downstream side of H-3
1905	$\frac{1}{4}$ "T 0.065W	Water	LKD-6	Flg. at F-1	Upstream side of F-1
1906	$\frac{1}{4}$ "T 0.065W	Water	LKD-7	Flg. at F-1	Drain line from T-1
1907	$\frac{1}{4}$ "T 0.065W	Water	LKD-8	Flg. at F-1	F-1 exit
1908	$\frac{1}{4}$ "T 0.065W	Water	LKD-9	Flg. at S-1	Top of hydroclone
1909	$\frac{1}{4}$ "T 0.065W	Water	LKD-10	Flg. at HCV T-1-4	Inlet of vent valve
1910	$\frac{1}{4}$ "T 0.065W	Water	LKD-11	Flg. at HCV H-5-2	Inlet of overflow sampler valve
1911	$\frac{1}{4}$ "T 0.065W	Water	LKD-12	Flg. at HCV T-1-2	Inlet of letdown valve
1912	$\frac{1}{4}$ "T 0.065W	Water	LKD-13	Flg. on P-1 vent	Upstream side of underflow sample valve
1913	$\frac{1}{4}$ "T 0.065W	Water	LKD-14	Flg. at HCV P-1-2	
1914	$\frac{1}{4}$ "T 0.065W	Water	LKD-15	Flg. at HCV P-1-4	Upstream flange
1915	$\frac{1}{4}$ "T 0.065W	Water	LKD-16	Flg. at HCV P-1-4	Downstream flange
1916	$\frac{1}{4}$ "T 0.065W	Water	LKD-17		Spare
1917	$\frac{1}{4}$ "T 0.065W	Water	LKD-18		Spare
1918	$\frac{1}{4}$ "T 0.065W	Water	LKD-19		Spare

PIPE LINE DESIGNATION TABLE

(Leak Detection Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1919	$\frac{1}{4}$ "T 0.065W	Water	LKD-20		Spare
1920	$\frac{1}{4}$ "T 0.065W	Water	LKD-21		Spare
1921	$\frac{1}{4}$ "T 0.065W	Water	LKD-22		Spare
1922			LKD-23		
1923			LKD-24		
1924			LKD-25		
1925			LKD-26		
1926		Water	LKD-27		
1927			LKD-28		
1928			LKD-29		
1929			LKD-30		
1930			LKD-31		
1931	$\frac{1}{4}$ "T 0.065W	Water	LKD-32	Flg. at HCV T-1-4	Exit of vent valve
1932	$\frac{1}{4}$ "T 0.065W	Water	LKD-33	Flg. at HCV H-5-2	Exit of O.F. sampler valve
1933	$\frac{1}{4}$ "T 0.065W	Water	LKD-34	Flg. at HCV T-1-2	Exit of letdown valve
1934	$\frac{1}{4}$ "T 0.065W	Water	LKD-35	HCV 1112-2	Block valve for fuel supply
1935	$\frac{1}{4}$ "T 0.065W	Water	LKD-36	HCV T-21-4	Drain valve on T-21
1936	$\frac{1}{4}$ "T 0.065W	Water	LKD-37	HCV T-27-2	Vapor valve on T-27
1937	$\frac{1}{4}$ "T 0.065W	Water	LKD-38	HCV T-11-2	Fuel addition line check valve
1938	$\frac{1}{4}$ "T 0.065W	Water	LKD-39	HCV P-1-2	Underflow sample valve

PIPE LINE DESIGNATION TABLE

(Leak Detection Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

Line No.	Size	Flowing Medium	From	To	Remarks
1939	$\frac{1}{4}$ "T 0.065W	Water	LKD-40	HCV 162-2	Valve routing T-1 to dump tank (line 162)
1940	$\frac{1}{4}$ "T 0.065W	Water	LKD-41	Flowmeter Flg. FE-C-1	
1941	$\frac{1}{4}$ "T 0.065W	Water	LKD-42	HCV T-26-2	Valve on acid addition line
1942	$\frac{1}{4}$ "T 0.065W	Water	LKD-43	HCV T-3-2	T-3 drain valve
1943	$\frac{1}{4}$ "T 0.065W	Water	LKD-44		
1944	$\frac{1}{4}$ "T 0.065W	Water	LKD-45	Flange on R-1	Vapor inlet line on R-1
1945	$\frac{1}{4}$ "T 0.065W	Water	LKD-46	Flange on R-1	Vapor outlet line on R-1
1946	$\frac{1}{4}$ "T 0.065W	Water	LKD-47	HCV D-3-4	Inlet to D-3
1947	$\frac{1}{4}$ "T 0.065W	Water	LKD-48	HCV D-3-2	Dip leg on D-3
1948	$\frac{1}{4}$ "T 0.065W	Water	LKD-49	Recombiner before H-1	Flg. upstream of recombiner
1949	$\frac{1}{4}$ "T 0.065W	Water	LKD-50	Recombiner before H-1	Flg. downstream of recombiner
1950	$\frac{1}{4}$ "T 0.065W	Water	LKD-51	HCV T-2-2	Drain valve from T-5
1951	$\frac{1}{4}$ "T 0.065W	Water	LKD-52	Recombiner before H-2	Flange upstream of recombiner
1952	$\frac{1}{4}$ "T 0.065W	Water	LKD-53	Recombiner before H-2	Flange downstream of recombiner
1953	$\frac{1}{4}$ "T 0.065W	Water	LKD-54	HCV T-23-2	T-23 drain valve
1954	$\frac{1}{4}$ "T 0.065W	Water	LKD-55	Flowmeter flange FE C-2	
1955	$\frac{1}{4}$ "T 0.065W	Water	LKD-56	Flange on line 141	Flg. on end of line 141
1956	$\frac{1}{4}$ "T 0.065W	Water	LKD-57	Flg. on line 1132	Flg. on end of line 1132
1957	$\frac{1}{4}$ "T 0.065W	Water	LKD-58	Flg. on R-2	Vapor inlet to R-2

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PIPE LINE DESIGNATION TABLE

(Leak Detection Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

Line No.	Size	Flowing Medium	From	To	Remarks
1958	$\frac{1}{4}$ "T	Water	LKD-59	Flg. on R-2	Vapor outlet to R-2
1959	$\frac{1}{4}$ "T 0.065W	Water	LKD-60	Flg. on C-4	Liquid inlet to C-4
1960	$\frac{1}{4}$ "T 0.065W	Water	LKD-61	Flg. on C-4	Vapor outlet to C-4
1961	$\frac{1}{4}$ "T 0.065W	Water	LKD-62		
1962	$\frac{1}{4}$ "T 0.065W	Water	LKD-63	Flg. on valve HCV D-3-6	
1963	$\frac{1}{4}$ "T 0.065W	Water	LKD-64		
1964	$\frac{1}{4}$ "T 0.065W	Water	LKD-65	Flg. on valve HCV D-3-8	
1965	$\frac{1}{4}$ "T 0.065W	Water	LKD-66	HCV T-11-4	Fuel addition line check valve
1966	$\frac{1}{4}$ "T 0.065W	Water	LKD-67	IE T-2-1	Thermal Level Probe (T-2)
1967	$\frac{1}{4}$ "T 0.065W	Water	LKD-68	Flg. on line 1135	
1968	$\frac{1}{4}$ "T 0.065W	Water	LKD-69	Flg. on line 1134	
1969	$\frac{1}{4}$ "T 0.065W	Water	LKD-70	Flg. on line 1138	
1970	$\frac{1}{4}$ "T 0.065W	Water	LKD-71		
1971	$\frac{1}{4}$ "T 0.065W	Water	LKD-72	Flg. on valve T-21-2	
1972	$\frac{1}{4}$ "T 0.065W	Water	LKD-73	Flg. on valve T-22-2	
1973	$\frac{1}{4}$ "T 0.065W	Water	T-20	Dead end	D ₂ O supply to manifolds
1974					
1975	$\frac{1}{2}$ "C40	Air	D-2	P-16	Air compressor suction
1976	$\frac{1}{4}$ "T 0.065W	Water	Line 1973	T-18	Leak detection system
1977	$\frac{1}{4}$ "T 0.065W	Water	Line 1973	T-14	Leak detection system

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PIPE LINE DESIGNATION TABLE

(Leak Detection Lines)

Reference Drawings: E-20246, E-20261, E-27410, E-27409, and E-27432

<u>Line No.</u>	<u>Size</u>	<u>Flowing Medium</u>	<u>From</u>	<u>To</u>	<u>Remarks</u>
1978	1/4" T 0.065W	Water	Line 1973	T-19	Leak detection system
1979	1/4" T 0.065W	Water	Line 1973	T-15	Leak detection system
1980	1/4" T 0.065W	Water	Line 1973	T-17	Leak detection system
1981	1/4" T 0.065W	Air	P-16	T-20	Compressor discharge

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