START

0032645

14

Mr. John Grantham
State of Washington
Department of Ecology
Nuclear & Mixed Waste Program
P.O. Box 47600
Olympia, WA 98504-8711

FLUOR DANIEL, INC.

Date: April 28, 1993

Reference: Hanford Waste Vitrification Plant
DOE Contract DE-AC06-86RL10838
Fluor Contract 8457

Transmittal No.: WDOE-409

Dear Mr. Grantham:

TRANSMITTAL

We enclose 2 copies of the items listed below. These are issued per US-DOE request.

Response due to Fluor: N/A
Responds to: N/A

NUMBER	REV	DATE	TITLE
SEE TRANSMTITTAL ATTACHMENT	----	----	PIPING AND INSTRUMENTATION DIAGRAMS AND TABLE OF CONTENTS
CONTROLLED COPIES: 25 & 26			PLEASE REMOVE OLD REVISIONS AND TABLE OF CONTENTS FROM YOUR P&ID MANUAL AND REPLACE WITH THE ATTACHED REVISIONS.
			TO ACKNOWLEDGE RECEIPT OF THE DOCUMENTS LISTED ABOVE, PLEASE SIGN AND DATE A COPY OF THIS TRANSMITTAL FORM AND MAIL TO: FLUOR DANIEL, HWVP - EDC - 513J, 3333 MICHELSON DRIVE, IRVINE, CA 92730

Distribution:
Reference: FRP- 904, FUP-444
R. L. Long: DOE-RL W/0
TWP/AME Corresp Cntrl Cntr, MSIN A5-10
(SYSTEM 63,w/0
Environmental Data Management Center
(MSIN H4-22)w/1 #31
D. Duncan, US EPA, Region X w/0

Very truly yours,

Rosalie Cadenas for

R. S. Poulter
Project Director

QBN
RSP:QBN:mjc

DEC 1993
RECEIVED
EDMC

TRANSMITTAL ATTACHMENT

DRAWING NUMBER	SHT NO.	REV	DATE	DRAWING TITLE
H-2-123170	07	5	04/26/93	SYSTEM 63 MOG HEPA FILTER OUTLET GAS SAMPLER
H-2-123170	08	5	04/26/93	SYSTEM 63 PVV HEPA FILTER OUTLET GAS SAMPLER
H-2-123170	14	1	04/26/93	P&ID SYSTEM 63 SEC PVV HEMF FILTER OUTLET GAS SAMPLER

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
** VOLUME NUMBER: 1B					
	H-2-123161	01	4	SYSTEM 23 SMEAR TEST STATION	3220
	H-2-123161	02	4	SYSTEM 23 EMPTY CANISTER ENTRY TUNNEL TRANSFER CAR	3220
	H-2-123161	03	4	SYSTEM 23 MC/CDC TUNNEL CANISTER TRANSFER CAR	3220
	H-2-123161	04	5	SYSTEM 23 CANISTER INSPECTION EQUIPMENT	3220
	H-2-123166	01	0	SYSTEM 36 EMERGENCY DIESEL FUEL STORAGE TANKS	6370
	H-2-123166	02	0	SYSTEM 36 EMERGENCY DIESEL GENERATOR	6370
	H-2-123166	03	0	SYSTEM 36 EMERGENCY DIESEL GENERATOR	6370
	H-2-123170	01	3	SYSTEM 63 LIQUID SAMPLING SYSTEM	3218
	H-2-123170	02	3	SYSTEM 63 LIQUID SAMPLING FLUSH WATER AND PLANT AIR HEADERS	3218
	H-2-123170	03	3	SYSTEM 63 SAMPLE & ANALYTICAL CELLS DECONTAMINATION SYSTEM	3218
	H-2-123170	04	3	SYSTEM 63 SAMPLE CELL DRAIN SYSTEM	3218
	H-2-123170	05	3	SYSTEM 63 MOG/PVV SBS OUTLET GAS SAMPLERS	3218
	H-2-123170	06	3	SYSTEM 63 HEME OUTLET AND BACKUP HEME OUTLET GAS SAMPLERS	3218
*	H-2-123170	07	5	SYSTEM 63 MOG HEPA FILTER OUTLET GAS SAMPLER	3218
*	H-2-123170	08	5	SYSTEM 63 PVV HEPA FILTER OUTLET GAS SAMPLER	3218
	H-2-123170	09	3	SYSTEM 63 RPVV HEPA FILTER OUTLET GAS SAMPLER - VOIDED PER CR-058	3218
	H-2-123170	10		NOT USED - VOIDED PRIOR TO BEING UNDER CONFIGURATION MANAGEMENT	
	H-2-123170	11	4	SYSTEM 63 GLASS SAMPLE RABBIT SYSTEM	3218
	H-2-123170	12	3	SYSTEM 63 ANALYTICAL FACILITY SAMPLE RABBIT SYSTEM	3218
	H-2-123170	13	3	SYSTEM 63 SAMPLE CELL RABBIT SYSTEM	3218
*	H-2-123170	14	1	P&ID SYSTEM 63 SEC PVV HEMF FILTER OUTLET GAS SAMPLER	6370
	H-2-123170	15	0	P&ID SYSTEM 63 WPVV PRIMARY HEPA FILTER OUTLET GAS SAMPLER	6370
	H-2-123170	16	0	P & ID SYSTEM 63 SRAT VENT GAS SAMPLE METAL FILTER	6370

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123170	17	0	P & ID SYSTEM 63 SRAT VENT GAS SAMPLE COOLER	6370
	H-2-123170	18	0	P & ID SYSTEM 63 GAS SAMPLING MODULE SRAT CONDENSER OUTLET	6370
	H-2-123170	19	0	P & ID SYSTEM 63 SME VENT GAS SAMPLE METAL FILTER	6370
	H-2-123170	20	0	P & ID SYSTEM 63 SME VENT GAS SAMPLE COOLER	6370
	H-2-123170	21	0	P & ID SYSTEM 63 GAS SAMPLING MODULE SME CONDENSER OUTLET	6370
	H-2-123170	22	0	P & ID SYSTEM 63 VENT GAS SAMPLE CHILLER AND UTILITIES	6370
	H-2-123171	01	3	SYSTEM 64 ANALYTICAL CELL A	3218
	H-2-123171	02	3	SYSTEM 64 ANALYTICAL CELL B	3218
	H-2-123171	03	3	SYSTEM 64 ANALYTICAL CELL C	3218
	H-2-123171	04	3	SYSTEM 64 ANALYTICAL CELL D	3218
	H-2-123171	05	3	SYSTEM 64 ANALYTICAL CELL E	3218
	H-2-123171	06	3	SYSTEM 64 ANALYTICAL CELL F	3218
	H-2-123171	07	3	SYSTEM 64 ANALYTICAL CELL G	3218
	H-2-123171	08	3	SYSTEM 64 ANALYTICAL CELL H	3218
	H-2-123171	09	3	SYSTEM 64 LABORATORY HOODS	3218
	H-2-123171	10	3	SYSTEM 64 AT FLAME HOOD AND ICP & AA HOOD	3218
	H-2-123171	11	3	SYSTEM 64 DECONTAMINATION HOOD SAMPLE RECEIVING GLOVE BOX AND LABORATORY SINKS	3218
	H-2-123171	12	3	SYSTEM 64 HOT ICP GLOVE BOX	3218
	H-2-123171	13	3	SYSTEM 64 SERVICE ROOMS HOODS	3218
	H-2-123171	14	3	SYSTEM 64 PROCESS WATER ANALYTICAL AREA DISTRIBUTION	3218
	H-2-123171	15	3	SYSTEM 64 HOT WATER ANALYTICAL AREA DISTRIBUTION	3218
	H-2-123171	16	3	SYSTEM 64 TEMPERED WATER ANALYTICAL AREA DISTRIBUTION	3218
	H-2-123171	17	3	SYSTEM 64 DEIONIZED WATER ANALYTICAL AREA DISTRIBUTION	3218
	H-2-123171	18	3	SYSTEM 64 PLANT AIR AND INSTRUMENT AIR ANALYTICAL AREA DISTRIBUTION	3218
	H-2-123171	19	3	SYSTEM 64 GAS CYLINDERS ANALYTICAL AREA DISTRIBUTION	3218

94130920310

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123171	20	3	SYSTEM 64 GAS CYLINDERS & LIQUID NITROGEN ANALYTICAL AREA DISTRIBUTION	3218
	H-2-123171	21	3	SYSTEM 64 HOODS AND GLOVE BOXES DRAIN SYSTEM	3218
	H-2-123171	22	3	SYSTEM 64 COLD CHEMICAL LABORATORY HOODS AND SINK	3218
	H-2-123250	01	5	SYSTEM 14A FILM COOLER	3215
	H-2-123250	02	4	SYSTEM 14A MOG SUBMERGED BED SCRUBBER	3215
	H-2-123250	03	4	SYSTEM 14A MOG SUBMERGED BED SCRUBBER	3215
	H-2-123250	04	4	SYSTEM 14A MOG SUBMERGED BED SCRUBBER	3215
	H-2-123250	05	4	SYSTEM 14A PIPING	3215
	H-2-123250	06	4	SYSTEM 14A HIGH EFFICIENCY MIST ELIMINATOR	3215
	H-2-123250	07	4	SYSTEM 14A MOG HEMF FILTER	3215
	H-2-123250	08	4	SYSTEM 14B HIGH EFFICIENCY MIST ELIMINATOR	3215
	H-2-123250	09	4	SYSTEM 14B MOG HEMF FILTER	3215
	H-2-123250	10	4	SYSTEM 14A MOG CONTACT HEPA FILTER	3215
	H-2-123250	11	5	SYSTEM 14A FUTURE IODINE ADSORBER	3215
	H-2-123250	12	4	SYSTEM 14A MOG EXHAUSTERS	3215
	H-2-123250	13	5	SYSTEM 14A BACK-UP FILM COOLER	3215
	H-2-123250	14	5	SYSTEM 14A FUTURE NOX REDUCER	3215
	H-2-123250	15	5	SYSTEM 14A MOG/PVV EXHAUSTER AFTERCOOLER	3215
	H-2-123250	16	0	P&ID SYSTEM 14A HEMF AIR RECEIVER	6470
	H-2-123251	01	4	SYSTEM 15A PVV HEADER	3216
	H-2-123251	02	4	SYSTEM 15A PVV SUBMERGED BED SCRUBBER	3216
	H-2-123251	03	4	SYSTEM 15A PVV SUBMERGED BED SCRUBBER	3216
	H-2-123251	04	4	SYSTEM 15A PVV SUBMERGED BED SCRUBBER	3216
	H-2-123251	05	4	SYSTEM 15A/B PVV REMOTE FILTER PREHEATERS	3216
	H-2-123251	06	4	SYSTEM 15A&B PVV REMOTE FILTERS	3216

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123251	07	4	SYSTEM 15A PVV CONTACT PREHEATER AND HEPA FILTER	3216
	H-2-123251	08	4	SYSTEM 15A PVV EXHAUSTERS	3216
	H-2-123251	09	3	SYSTEM 15C RPVV REMOTE FILTER PREHEATER - VOID PER CR-0584	3216
	H-2-123251	10	3	SYSTEM 15C&D RPVV REMOTE FILTERS - VOID PER CR-0584	3216
	H-2-123251	11	3	SYSTEM 15C RPVV CONTACT PREHEATER AND HEPA FILTER - VOID PER CR-0584	3216
	H-2-123251	12	3	SYSTEM 15C RPVV EXHAUSTERS - VOID PER CR-0584	3216
	H-2-123251	13	0	P&ID SYSTEM 15E WHT AND WHT ANNULUS VENT	6370
	H-2-123251	14	0	P&ID SYSTEM 15E WPVV ANNULUS HEPA FILTER	6370
	H-2-123251	15	0	P&ID SYSTEM 15E & F WPVV PRIMARY HEPA FILTERS	6370
	H-2-123251	16	0	P&ID SYSTEM 15E WPVV EXHAUSTERS	
	H-2-123251	17	0	P&ID SYSTEM 15G SECONDARY PVV HEADER	6370
	H-2-123251	18	0	SYSTEM 15G SECONDARY PVV HEMF FILTER	6370
	H-2-123251	19	0	P&ID SYSTEM 15G SECONDARY PVV CONTACT HEPA FILTER	6370
	H-2-123251	20	0	P&ID SYSTEM 15G SECONDARY PVV EXHAUSTERS	6370
	H-2-123350	01	5	SYSTEM 41 INSTRUMENT/PLANT AIR COMPRESSORS	3223
	H-2-123350	02	4	SYSTEM 41 INSTRUMENT AIR DRYERS	3223
	H-2-123350	03	5	SYSTEM 41 PLANT AND INSTRUMENT AIR RECEIVERS	3223
	H-2-123350	04	5	SYSTEM 41 PLANT AIR DISTRIBUTION VIT., MECH./ELECT. SERV., FRIT STORAGE/COLD CHEM., MANIP. REPAIR & SAND FILTER BUILDINGS	3223
	H-2-123350	05	5	SYSTEM 41 PLANT AIR DISTRIBUTION VITRIFICATION BUILDING 3RD FLOOR	3223
	H-2-123350	06	5	SYSTEM 41 BREATHING AIR SYSTEM	3223
	H-2-123350	07	7	SYSTEM 41 INSTRUMENT AIR DISTRIBUTION	3223
	H-2-123350	08	4	SYSTEM 41 INSTRUMENT/PLANT AIR COMPRESSORS	3223

9413092.0312

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123350	09	1	SYSYEM 41 PLANT AIR DIST - VIT BLDG 2ND & 4TH FLOORS	6320
	H-2-123350	10	1	SYSTEM 41 HYDROGEN MITIGATION AIR SYSTEM	6370
	H-2-123351	01	7	SYSTEM 42 MED PRESS STEAM DISTRIBUTION VIT BLDG, SERVICE BLDG, AND MANIPULATOR REPAIR BUILDING	3221
	H-2-123351	02	0	SYSTEM 42 MEDIUM PRESSURE CONDENSATE COLLECTION	6320
	H-2-123352	01	4	SYSTEM 43 PROCESS STEAM GENERATOR AND PROCESS STEAM DISTRIBUTION	3221
	H-2-123352	02	5	SYSTEM 43 PROCESS STEAM CONDENSATE SYSTEM	3221
	H-2-123353	01	4	SYSTEM 44 COOLING TOWER	3222
	H-2-123353	02	4	SYSTEM 44 COOLING TOWER WATER CONTROL, MAKE-UP, AND BLOWDOWN	3222
	H-2-123353	03	4	SYSTEM 44 COOLING TOWER WATER DISTRIBUTION MECH/ELECT. SERVICES BLDG, AND VIT. BLDG.	3222
	H-2-123354	01	4	SYSTEM 45 PROCESS COOLING WATER SYSTEM	3222
	H-2-123354	02	4	SYSTEM 45 PROCESS COOLING WATER DISTRIBUTION VITRIFICATION BUILDING	3222
	H-2-123355	01	4	SYSTEM 46 MELTER COOLING WATER SYSTEM VITRIFICATION BUILDING	3222
	H-2-123355	02	5	SYSTEM 46 MELTER COOLING WATER DISTRIBUTION VITRIFICATION BUILDING	3222
	H-2-123357	01	4	SYSTEM 48 PROCESS WATER TANK VITRIFICATION BUILDING 3RD FLOOR	3224
	H-2-123357	02	5	SYSTEM 48 PROCESS WTR DIST, VIT BLDG, MECH/ELEC. SERV. BLDG, FRIT STRGE/COLD CHEM & SAND FLTR BLDG	3224
	H-2-123357	03	4	SYSTEM 48 PROCESS WATER DIST VITRIFICATION BUILDING -- 3RD FLOOR	3224
	H-2-123357	04	2	SYSTEM 48 ZONE 1 EXHAUST STACK FLUSH SYSTEM	6380
	H-2-123358	01	8	SYSTEM 50 RAW WATER AND FIRE WATER SYSTEMS	3224
	H-2-123358	02	7	SYSTEM 50 FIRE AND PROCESS WATER STORAGE	3224

9413092.0313

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123358	03	1	SYSTEM 50 RAW WATER AND FIRE WATER SYSTEMS	3224
	H-2-123359	01	6	SYSTEM 49 SANITARY WATER SYSTEM	3224
	H-2-123359	02	1	SYSTEM 49 SAN WATER DIST - VIT BLDG 1ST & 2ND FLOOR	3219
	H-2-123359	03	1	SYSTEM 49 SAN WATER - VIT BLDG 3RD & 4TH FLOORS	6320
	H-2-123360	01	5	SYSTEM 52 ACID DRAIN CATCH TANK	3225
	H-2-123360	02	5	SYSTEM 52 ORGANIC ACID DRAIN CATCH TANK	3225
	H-2-123360	03	4	SYSTEM 52 FLOOR DRAIN CATCH TANK	3225
	H-2-123360	04	4	SYSTEM 52 FLOOR DRAIN SAMPLING TANK	3225
	H-2-123360	05	5	SYSTEM 52 REGULATED DRAINS CATCH TANK	3225
	H-2-123360	06	6	SYSTEM 52 LIQUID WASTE COLLECTION VITRIFICATION BUILDING	3225
	H-2-123360	07	5	SYSTEM 52 LIQUID WASTE COLLECTION VIT BLDG, REB AND MANIPULATOR REPAIR BLDG.	3225
	H-2-123360	08	1	SYSTEM 52 LIQUID WASTE COLLECTION VIT BLDG 1ST & MEZZ	3225
	H-2-123360	09	0	SYSTEM 52 LIQUID WASTE COLLECTION VIT BLDG SECOND FLOOR	3225
	H-2-123360	10	0	SYSTEM 52 LIQUID WASTE COLLECTION VIT BLDG THIRD FLOOR	3225
	H-2-123361	01	4	SYSTEM 53 ACID WASTE HOLD TANK	3225
	H-2-123361	02	4	SYSTEM 53 ORGANIC ACID WASTE HOLD TANK	3225
	H-2-123361	03	4	SYSTEM 53 ORGANIC ACID WASTE NEUTRALIZATION TANK	3225
	H-2-123361	04	4	SYSTEM 53 CAUSTIC WASTE HOLD TANK	3225
	H-2-123361	05	4	SYSTEM 53 CAUSTIC WASTE NEUTRALIZATION TANK	3225
	H-2-123361	06	4	SYSTEM 53 SOLAR EVAPORATION TANK	3225
	H-2-123361	07	7	SYSTEM 53 NONHAZARDOUS WASTE WATER DISPOSAL	3225
	H-2-123361	08		NOT USED	
	H-2-123361	09	4	SYSTEM 53 MECHANICAL/ELECTRICAL SERVICES BUILDING SUMP	3225

9413092.0314

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123362	01	4	SYSTEM 54 DECON SOLUTION MAKE-UP TANK	3226
	H-2-123362	02	5	SYSTEM 54 OXALIC ACID DECON FEED SYSTEM	3226
	H-2-123362	03	5	SYSTEM 54 POTASSIUM PERMANGANATE FEED SYSTEM	3226
	H-2-123362	03	5	SYSTEM 54 POTASSIUM PERMANGANATE FEED SYSTEM	3226
	H-2-123362	04	5	SYSTEM 54 SODIUM NITRITE FEED SYSTEM	3226
	H-2-123362	05	4	SYSTEM 54 50% CAUSTIC STORAGE TANK	3226
	H-2-123362	06		NOT USED	
	H-2-123362	07	5	SYSTEM 54 50% CAUSTIC FEED TANK	3226
	H-2-123362	08	5	SYSTEM 54 SUGAR SOLUTION FEED SYSTEM	3226
	H-2-123362	09	5	SYSTEM 54 OFF-GAS TREATMENT CHEMICAL FEED SYSTEM	3226
	H-2-123362	10	5	SYSTEM 54 KOH/FRIT MODIFIER FEED SYSTEM	3226
	H-2-123362	11	5	SYSTEM 54 DILUTE SODIUM HYDROXIDE FEED SYSTEM	3226
	H-2-123362	12	5	SYSTEM 54 FORMIC ACID STORAGE TANK	3226
	H-2-123362	13		NOT USED	
	H-2-123362	14	4	SYSTEM 54 FORMIC ACID FEED TANK	3226
	H-2-123362	15	4	SYSTEM 54 DILUTE FORMIC ACID FEED SYSTEM	3226
	H-2-123362	16	4	SYSTEM 54 50% NITRIC ACID STORAGE TANK	3226
	H-2-123362	17		NOT USED	
	H-2-123362	18	4	SYSTEM 54 50% NITRIC ACID FEED TANK	3226
	H-2-123362	19	5	SYSTEM 54 NITRIC ACID DECON FEED SYSTEM	3226
	H-2-123362	20	2	SYSTEM 54 ANTIFOAM FEED TANK	6370
	H-2-123362	21	5	SYSTEM 54 DIATOMACEOUS EARTH SLURRY FEED TANK	3226
	H-2-123362	22	5	SYSTEM 54 ZEOLITE SLURRY FEED TANK	3226
	H-2-123362	23	5	SYSTEM 54 FLUSH WATER FEED TANK	3226
	H-2-123363	01	4	SYSTEM 55 FRIT STORAGE/COLD CHEMICAL BLDG VENT SYSTEM	3227
	H-2-123364	01	4	SYSTEM 56 COLD FEED VITRIFICATION BUILDING VENT SYSTEM	3227

9413092.0315

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

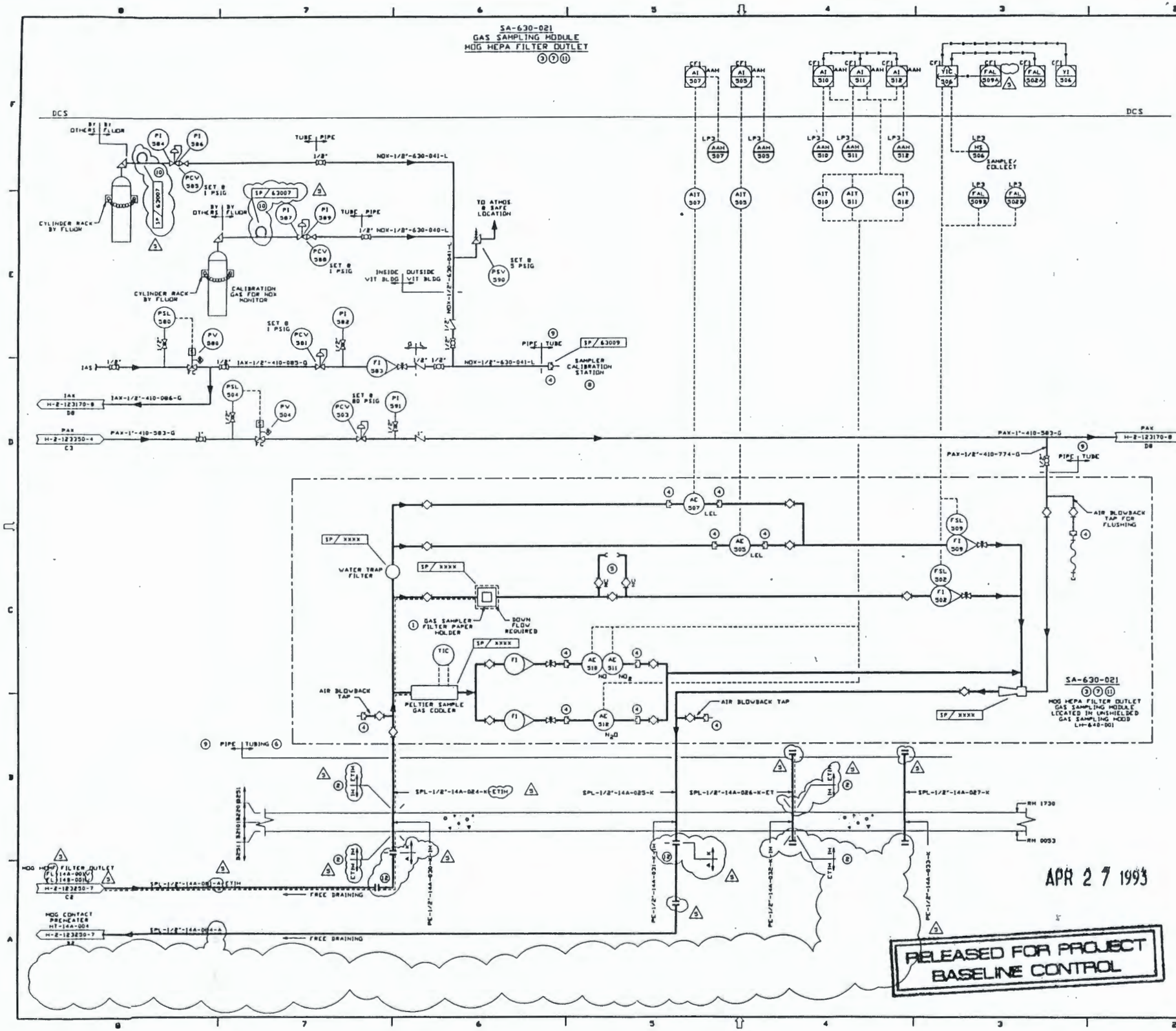
NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123364	02	3	SYSTEM 56 VITRIFICATION BUILDING SOLENOID VALVE AIR VENT	3227
	H-2-123365	01	03	SYSTEM 51 SANITARY SEWER *****DELETED DRAWING*****	6320
	H-2-123365	01	1	SYSTEM 51 SANITARY SEWER	6320
	H-2-123370	01	4	SYSTEM 62 HPS VACUUM BLOWERS VITRIFICATION, MRB, OC/REB FRIT ST/COLD CHEM BLDGS.	3227
	H-2-123370	02	5	SYSTEM 62 HPS VACUUM COLLECTION VIT BLDG, TUNNEL & MEZZ LEVELS FIRST AND SECOND FLOORS	3227
	H-2-123370	03	4	SYSTEM 62 HPS VACUUM COLLECTION VITRIFICATION BUILDING THIRD & FOURTH FLOORS	3227
	H-2-123370	04	4	SYSTEM 62 HPS VACUUM COLLECTION MRB, FRIT ST/COLD CHEM, CMR, OC/REB & SHIPPING/RECEIVING BUILDINGS	3227
	H-2-123370	05	4	SYSTEM 62 HPS VACUUM SYSTEM CANISTER STORAGE BUILDING	3227
	H-2-123370	06	4	SYSTEM 62 HPS VACUUM SYSTEM FAN HOUSE	3227
	H-2-123370	07	4	SYSTEM 62 HPS VACUUM SYSTEM WHT BUILDING	3227
	H-2-123370	08	2	SYSTEM 62 DECON HOOD, SAMPLE PREPARATION HOOD AND SINK	3227
	H-2-123370	09	0	SYSTEM 62 HEALTH PROTECTION SYSTEM EMBEDS	6320
	H-2-123380	01	0	P&ID SYSTEM 71 IN-CELL LIGHTING	6320
	H-2-123380	02	0	P&ID SYSTEM 71 CANYON BRIDGE CRANE	6320
	H-2-123380	03	0	P&ID SYSTEM 71 CANYON BRIDGE CRANE	6320
	H-2-123380	04	0	P&ID SYSTEM 71 MELTER CELL CRANE	6320
	H-2-123380	05	0	P&ID SYSTEM 71 CDC CRANE	6320
	H-2-123380	06	0	P&ID SYSTEM 71 ST/ET CRANE	6320
	H-2-123380	07	0	P&ID SYSTEM 71 CDMC CRANE	6320
	H-2-123380	08	0	P&ID SYSTEM 71 CLOSED CIRCUT TELEVISIONS	6320
	H-2-123380	09	0	P&ID SYSTEM 71 CLOSED CIRCUT TELEVISIONS	6320
	H-2-123380	10	0	P&ID SYSTEM 71 MOTORIZED PERSONNEL SHIELD DOORS	6320

9413092.0316

PROCESS PIPING AND INSTRUMENT DIAGRAMS
VOLUME 1B
TABLE OF CONTENTS

NEW ISSUE	DRAWING NO.	SH NO	REV	DRAWING TITLE	CWBS NO
	H-2-123380	11	0	P&ID SYSTEM 71 MOTORIZED PERSONNEL SHIELD DOORS	6320
	H-2-123380	12	0	P&ID SYSTEM 71 PERSONNEL AIR LOCK DOORS	6320

9413092.0317



GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123170-1

NOTES:

1. HEAT TRACING PROVIDED ON THE FILTER HOLDER AND UPSTREAM PIPING
2. THE PORTION OF SAMPLING SUPPLY LINE EMBEDED IN A CONCRETE WALL WILL NOT BE ELECTRIC TRACED, BUT IT WILL BE INSULATED FOR HEAT CONSERVATION
3. THE SAMPLE MODULES WILL BE ASSEMBLED FROM COMPONENTS PROVIDED BY VARIOUS VENDORS
4. A COMPLETE QUICK DISCONNECT IS SHOWN FOR CLARITY PER LEGEND OF SYMBOLOGY. ONLY ONE HOSE WITH CONNECTOR WILL BE USED FOR ALL QUICK DISCONNECT LOCATIONS IN THE GAS SAMPLING HOOD LH-640-001
5. GAS SAMPLING BOTTLE CONNECTION
6. MAKE PROVISION TO CONNECT TUBING TO SPARE SAMPLE SUPPLY AND RETURN LINES IN PLACE OF NORMAL FLOW PATH
7. SAMPLE MODULE COMPONENTS SHALL BE 316L STAINLESS STEEL
8. SAMPLER CALIBRATION STATION IS LOCATED INSIDE THE GAS SAMPLING HOOD LH-640-001
9. PIPE CHANGES TO TUBING INSIDE THE GAS SAMPLING HOOD
10. CYLINDER PIPING SHALL BE PROVIDED WITH A PIG TAIL
11. GAS SAMPLER PHYSICAL CONFIGURATION MUST AVOID LOW POINTS
12. BREAK-AWAY SPOOL PIECE FOR FUTURE CONNECTION TO SPARE SAMPLE EMBEDS.

ASSUMPTION NOTES:

A. SYSTEM WILL REQUIRE RECONFIGURATION TO ALLOW FOR HYDROGEN MONITORING FROM INDIVIDUAL CPC VESSELS (VESSELS TBD) PER ECN # (TBD)

QUALITY LEVEL II
SAFETY CLASS 3

REV.	DATE	REVISED INSULATION SPEC BREAKS. ADDED BREAK-AWAY SPOOL PIECES AND NOTE 12. REVISED DEPICTION OF SPARE SAMPLE LINES. RELOCATED PIG TAILS ON GAS CYLINDERS. AND ADDED QUALITY LEVEL DESIGNATION				
5	4/27/93					
4	9/8/92	CHANGED INTERFACE LOCATION. ADDED INSTRUMENT ROOT VALVES PER CR-0544. RE-ROUTED PIPING. TRANSPOSED PIPING-TO-TUBING BOUNDARY. ADDED CVDS BREAKS FOR B210 CONSTRUCTION PACKAGE	ER	SDS	JJM	VVC
			BGJ	HJM	JGK	RSP
3	3/4/91	PUT NO - NO2 AND N2O ANALYZERS IN PARALLEL. ADDED WATER - REMOVAL FILTER PER CR-0596.	ER	HF	RPD	HF
			ERP	HJM	JGK	RNG
2	3/5/91	CHANGED CYLINDER RACKS TO SCR RELEASED FOR PROJECT BASELINE CONTROL PER CR-0480	BGJ	HF	RGT	BGJ
			ERP	FGB	DPC	RNG
1	2/4/91	*RELEASED FOR PROJECT BASELINE	VP	HF	RGT	VP
		CONTROL* WITHDRAWN PER CR-465	ERP	FGB	DPC	RNG
0	12/5/90	RELEASED FOR PROJECT BASELINE CONTROL PER CR HWVP-0443	BGJ	HF	RGT	BGJ
			ERP	FGB	DPC	RNG

ENGINEERING RELEASE
REV. ____ DATE ____
ERD ____

	DATE
R GIBBONS	8/14/90
O CHAVLA	8/13/90
F BROOKS	8/18/90
B J BECKMAN	8/18/90
A RUSSELL	8/9/90
R TAGNET	8/9/90
A AMOLI	8/9/90
A RUSSELL	8/9/90
F HOLLSTEIN	08/03/90

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
DE - AC06-88RL10838

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

PIPING & INSTRUMENT DIAGRAM
SYSTEM 63
HOG HEPA FILTER
OUTLET GAS SAMPLER

HANFORD WASTE VITRIFICATION PLANT

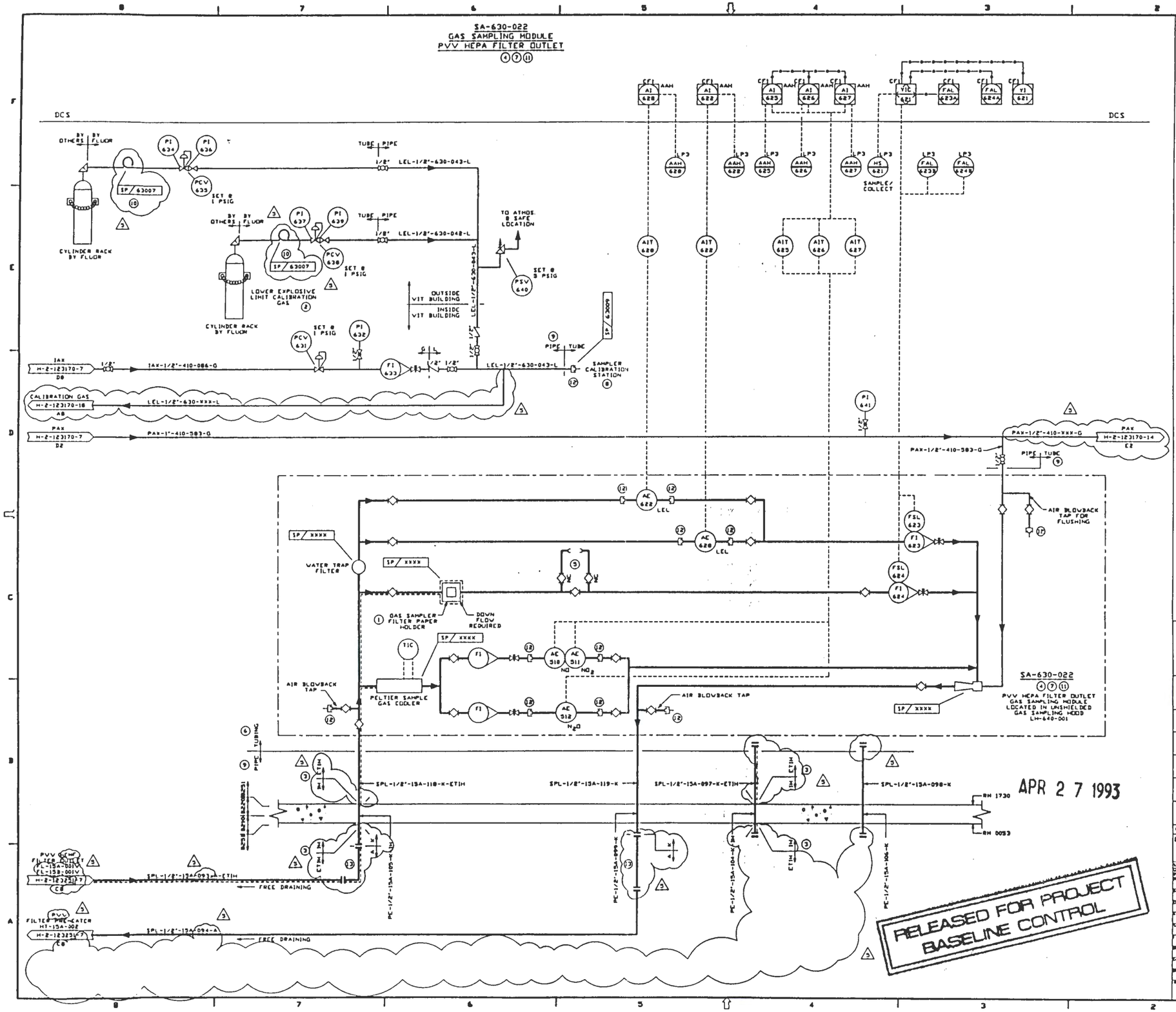
PROJECT	FLUOR DANIEL NO.	DWG NO.
B-595	8457	3218

SCALE: NONE

NONE	NOT REQ'D	H-2-123170	7	22	5

AA7F0038 / ER
15 APRIL 93

9413092.0318



APR 2 7 1993

GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123170-1.

NOTES:

1. HEAT TRACING PROVIDED ON THE FILTER HOLDER AND UPSTREAM PIPING TO TUBING ADAPTER
2. ONE CALIBRATION GAS ASSEMBLY TO SERVE SA-630-021 AND SA-630-022. THE GAS CYLINDERS ARE CONNECTED TO THE AC BY FLEXIBLE HOSE
3. THE PORTION OF SAMPLING SUPPLY LINE EMBEDED IN A CONCRETE WALL WILL NOT BE ELECTRIC TRACED, BUT IT WILL BE INSULATED FOR HEAT CONSERVATION
4. THE SAMPLE MODULES WILL BE ASSEMBLED FROM COMPONENTS PROVIDED BY VARIOUS VENDORS
5. GAS SAMPLING BOTTLE CONNECTION
6. MAKE PROVISION TO CONNECT TUBING TO SPARE SAMPLE SUPPLY AND RETURN LINES IN PLACE OF NORMAL FLOW PATH
7. SAMPLE MODULE COMPONENTS SHALL BE 316L STAINLESS STEEL
8. SAMPLER CALIBRATION STATION IS LOCATED INSIDE THE GAS SAMPLING HOOD LH-640-001
9. PIPE CHANGES TO TUBING INSIDE THE GAS SAMPLING HOOD
10. CYLINDER PIPING SHALL BE PROVIDED WITH A PIG TAIL
11. GAS SAMPLER PHYSICAL CONFIGURATION MUST AVOID LOW POINTS
12. A COMPLETE QUICK DISCONNECT IS SHOWN FOR CLARITY PER LEGEND OF SYMBOLOGY. ONLY ONE HOSE WITH CONNECTOR WILL BE USED FOR ALL QUICK DISCONNECT LOCATIONS IN THE GAS SAMPLING HOOD LH-640-001
13. BREAK-AWAY SPOOL PIECE FOR FUTURE CONNECTION TO SPARE SAMPLE EMBEDS

ASSUMPTION NOTES:

4. SYSTEM WILL REQUIRE RECONFIGURATION TO ALLOW FOR HYDROGEN MONITORING FROM INDIVIDUAL CPC VESSELS (VESSELS TBD) PER ECN # (TBD)

QUALITY LEVEL II
SAFETY CLASS 3

REV NO	DATE	REVISED DESCRIPTION				APPROVAL DETAILS
5	4/4/93	REVISED INSULATION SPEC BREAKS. ADDED BREAK-AWAY SPOOL PIECES AND NOTE 13. REVISED DEPICTION OF SPARE SAMPLE LINES. RELOCATED PIG TAILS ON GAS CYLINDERS. ADDED CALIBRATION GAS TO SRAT AND SMC GAS SAMPLERS. PAX TO SEC PVV GAS SAMPLER AND QUALITY LEVEL DESIGNATION	CP / BH	SDS / BH	JRV / JK	WWC / LLP
4	09/29/92	ADDED INSTRUMENT ROOT VALVES PER CR-0544. RE-ROUTED PIPING TRANSPOSED PIPING-TO-TUBING BOUNDARY. ADDED CWBS BREAKS FOR B210 CONSTRUCTION PACKAGE	ER / BGJ	SDS / MJM	JRV / JGK	WWC / RSP
3	12/04/91	PUT NO - NO_2 AND N_2O ANALYZERS IN PARALLEL. ADDED WATER - REMOVAL FILTER PER CR-0396	ER / ERP	MF / MJM	RPD / JGK	MF / BJ / RNG
2	5/30/91	CHANGED CYLINDER RACKS TO SCR RELEASED FOR PROJECT BASELINE CONTROL PER CR-0480	BGJ / ERP	MF / FGB	RGT / DPC	BGJ / RNG
1	03/21/91	"RELEASED FOR PROJECT BASELINE CONTROL" WITHDRAWN PER CR-463	VP / ERP	MF / FGB	RGT / DPC	VP / RNG
0	10/31/90	RELEASED FOR PROJECT BASELINE CONTROL PER CR HUVP-0442	BGJ / ERP	MF / FGB	RGT / DPC	BGJ / RNG
00	09/14/90	RELEASED FOR DETAILED DESIGN	AA / FB	AR / FGB	RGT / DMPC	AR / RNG

ENGINEERING RELEASE
REV. ____ DATE ____
ERO ____

		DATE
DESIGNED BY	R GIBBONS	8/14/90
CHECKED BY	D CHAVLA	8/13/90
DRAFTED BY	F BROOKS	8/10/90
SYSTEM BY	B JRECKMAN	8/10/90
LEAD ENGR	A RUSSELL	8/9/90
FIT LEAD ENGR	R TAGNEY	8/9/90
PROJ ENGR	A AMOLI	8/9/90
CONST	A RUSSELL	8/9/90
QA	F HOLLSTEIN	08/08/90
SAFETY	NONE	
NONE	NOT REQ'D	

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
DE - AC06-86RL10838

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

PIPING & INSTRUMENT DIAGRAM
SYSTEM 63
PVV HEPA FILTER
OUTLET GAS SAMPLER

PROJECT TITLE: HANFORD WASTE VITRIFICATION PLANT

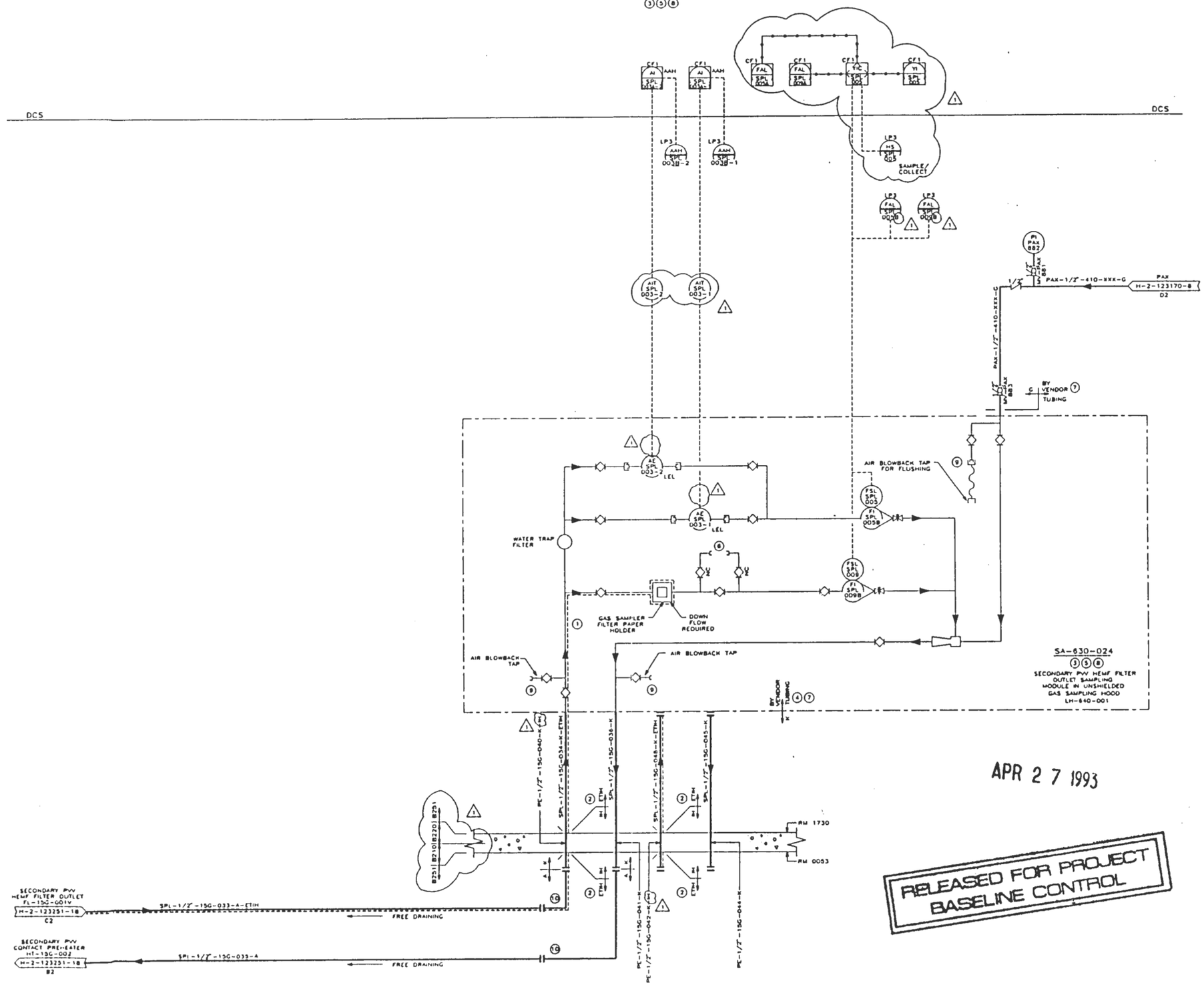
PROJECT	PLANT DIRECT NO	DWG NO
B-595	8457	3218

SCALE	SCALE NO	SHEET NO
NONE		

DRAWING NUMBER: H-2-123170 — SHEET 8 OF 22 — REV 5

AA7F0059 / ER
20 APRIL 993

SA-630-024
GAS SAMPLING MODULE
SECONDARY PVV HEMF FILTER OUTLET
③⑤⑧



APR 27 1993

RELEASED FOR PROJECT BASELINE CONTROL

GENERAL NOTES:

A. FOR GENERAL NOTES REFER TO DRAWING H-2-123170-1.

NOTES:

1. HEAT TRACING PROVIDED ON THE FILTER HOLDER AND UPSTREAM PIPING TO TUBING ADAPTOR.
2. THE PORTION OF THE SAMPLE SUPPLY LINE EMBEDED IN A CONCRETE WALL WILL NOT BE ELECTRIC TRACED, BUT IT WILL BE INSULATED FOR HEAT CONSERVATION.
3. THE SAMPLE MODULES WILL BE ASSEMBLED FROM COMPONENTS PROVIDED BY VARIOUS VENDORS
4. MAKE PROVISION TO CONNECT TUBING TO SPARE SAMPLE SUPPLY AND RETURN LINES IN PLACE OF NORMAL FLOW PATH.
5. THE MATERIAL OF SAMPLE MODULE COMPONENTS AND TUBING SHALL BE 316L STAINLESS STEEL
6. GAS SAMPLING BOTTLE CONNECTION
7. PIPE CHANGES TO TUBING INSIDE THE GAS SAMPLING HOOD.
8. GAS SAMPLER PHYSICAL CONFIGURATION MUST AVOID LOW POINTS
9. A COMPLETE QUICK DISCONNECT IS SHOWN FOR CLARITY PER LEGEND OF SYMBOLOGY. ONLY ONE HOSE WITH CONNECTOR WILL BE USED FOR AIR BLOW BACK OF ALL QUICK DISCONNECT LOCATIONS IN THE GAS SAMPLING HOOD LH-640-001.
10. BREAK-AWAY SPOOL PIECE FOR FUTURE CONNECTION TO SPARE SAMPLE EMBEDS.

QUALITY LEVEL II
SAFETY CLASS 3

REV NO.	DATE	REVISION DESCRIPTION	ENGINEERING			
1	4/14/93	ADDED PACKAGE BREAKS, INSULATION TO EMBEDS, AND QUALITY LEVEL DESIGNATION REVISED DEPICTION OF LEL ANALYZER TRANSMITTER, AND ADDED LOGIC CONTROLLER AND HANDSWITCH FOR SAMPLING AND COLLECTION OF VENT GAS	GR	SDS	JRW	JJP
			BGJ	JHM	X	JLP
0	12/01/92	RELEASED FOR PROJECT BASELINE CONTROL	ER	SDS	JRW	JJP
			BGJ	JHM	JSK	RSP
00	11/03/92	RELEASED FOR FLUOR DANIEL CONFIGURATION CONTROL	ER	SDS	JRW	VWG
			BGJ			

LAYOUT	B123170P	LAYOUT	28 IBM ACD2:12 C1.55

ENGINEERING RELEASE
REV _____ DATE _____
ERD _____

U.S. DEPARTMENT OF ENERGY
Richland Field Office
DE - AC06-89RL10830

DESIGNED BY	R.S. POULTER	11/25/92
CHECKED BY	J. KELLY	11/25/92
PROFESSIONAL ENGINEER	A. YEE	11/25/92
DESIGN LEAD	B.G. JOHNSON	11/25/92
PROJECT ENGINEER	V. GRANGER	11/25/92
DESIGN MANAGER	J.R. WRIGHT	11/24/92
APPROVED	S.D. SHARP	11/24/92
APPROVED	E. ROBLES	11/24/92

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

P & I D
SYSTEM 63
SEC PVV HEMF FILTER
OUTLET GAS SAMPLER

PROJECT TITLE: HANFORD WASTE VITRIFICATION PLANT
PROJECT: B-595 | FLUOR DANIEL JOB NO.: 8457 | DWG. NO.: 6370
SCALE: NONE | SCHE. NO.: | SHEET NO.: 1

CONTRACTOR	BY	SUBCONTRACTOR	BY	SHEET	OF	REV
NONE	NOT REQ'D	H-2-123170		14	22	1

DISTRIBUTION CODE: ACAD

INITIALS ER
DATE 14 APRIL 93