WASTEWATER STREAM CHARACTERIZATION FOR TA 16-430

at

Los Alamos National Laboratory

ENVIRONMENTAL STUDY

CHARACTERIZATION REPORT # 3

15190

ENVIRONMENTAL MANAGEMENT DIVISION

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

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WASTEWATER STREAM CHARACTERIZATION FOR TA 16-430

ENVIRONMENTAL STUDY

prepared for:
THE LOS ALAMOS NATIONAL LABORATORY
Los Alamos, New Mexico

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EXECUTIVE SUMMARY

Building 16-430 was visited to document all drain piping and to make permitting recommendations. Forty pipes were found exiting the building, as follows: fifteen vapor vents, five fire water drains, three combined storm water and floor drain discharges, four floor drain discharges, three High Explosives (HE) sump drain pipes, one steam condensate discharge, one French drain, seven pipes not connected inside the building and one discharge to the TA-16 sanitary treatment plant (03S).

A revised EPA Form 2C is included for one HE outfall. Flows shown on the forms are estimated from site observations and discussions with users and analytical data are defined from information obtained from previously sampled outfalls.

Recommendations for repiping are provided to permit outfall consolidation to minimize permit maintenance requirements and to bring the facility into compliance with the Laboratory's NPDES Permit. Floor drain plugging and spill containment are recommended where the potential for discharge of pollutants exists.

A waste stream database has been prepared listing wastewater type and flow rate for each outfall.

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1. TA 16-430 BUILDING DRAIN SCHEMATIC

1.0 INTRODUCTION

On December 14, 1990, Scott Carson and Patrick Binkley of Santa Fe Engineering (SFE) toured building 430 in TA-16 with Loren Abercrombie of Engineering and Information Resources (WX-12). The purpose of this study is to identify building drain piping, locate outfalls which discharge into the environment and to characterize the wastewater flows and sources existing at the time of the visit. This report will not reflect any subsequent changes in piping or operation. The Waste Stream Characterization Policy was followed for this study. The following tasks were performed for this purpose:

1. Building drains and all piping exiting the building were identified and laid out in schematic form;

2. Wastewater sources were identified at each drain and the wastewater was characterized according to flow rate and quality. The location of outfalls and their potential sources of discharges were determined. Potential pollutants were also noted;

3. Permit applications for discharges of clean water were not prepared since these discharges do not require permitting at this time and

4. Potential problems were identified and recommendations were made for repiping, floor drain plugging and spill containment where deemed appropriate.

The field investigation proceeded using the WX-12 drawings during a site visit to verify the SFE schematics and to insure that all pipes exiting the building were documented. The following information was used to define drain piping and characterize the wastewater streams:

1. Laboratory engineering drawings were used to prepare both WX-12 drawings and the SFE drain piping schematic. The Solid Waste Stream Characterization conducted by IT Corporation was reviewed. The National Pollutant Discharge Elimination System (NPDES) Permit, the 1990 NPDES Permit Application submitted by Los Alamos National Laboratory (LANL) in September, 1990, the latest Federal Facilities Compliance Agreement (FFCA) between the Department of Engery (DOE) and the Environmental Protection Agency (EPA) and the Administrative Order (AO) Docket Number VI-91-1329 were used for reference;

2. WX-12 verified drain piping by dye checking and

3. A site visit was performed to verify both WX-12 drawings and the SFE drain schematic and to identify potential outfall pipes exiting the building. The visit entailed a room by room inspection of wastewater sources and drains and interviews with site personnel to assist in wastestream characterization.

2.0 FIELD INVESTIGATION

The pipes exiting the buildings have been assigned an Outlet Piping Number. The four part number, sequentially, identifies the Technical Area where the pipe is located, the building from which the pipe discharges, the letters OPN to indicate that it is an outlet pipe number and the unique number for the pipe. The piping exiting the building will be labeled for easy identification in the future.

Each drain has a unique identification number. Each number consists of three parts. The first part is the floor the drain is on. The second part has letters that indicate the drain type (abbreviations used are summarized in Table 2). The final part is a unique number for each drain. For example, the floor drain numbering on the first floor would start with 1FD1. The roof drains do not have the number identifying the floor such as RD1 for Roof Drain 1.

The function of each pipe is listed in Appendix 1 in Table 1 with an abbreviations list in Table 2. Appendix 2 contains the waste stream characterization database output, listing wastewater sources, flow rates and periodicity information for each outfall drain. Completed EPA Forms are in Appendix 3 for the appropriate outfalls. Appendix 4 contains a set of the WX-12 drawings and a table of the drains dye studied by WX-12. A flow schematic of the drains is attached in Appendix 5 as Figure 1.

3.0 RECOMMENDATIONS

Table 1 is a list of the drains to the building outfalls. The table lists the drains that connect to each outfall pipe and includes recommendations for changes to the drain piping. The discussion below gives the reasoning for the recommendations.

3.1 Outfall 16-430-OPN-1

This outfall is permitted as 03A060 and flows to daylight. Repiping of drains 1EWD1, 1FD2, 1FD3 and 1FD5 to the sanitary sewer is recommended. Drain 1FD1 is in the battery room. To eliminate the chance of battery acid accidently being discharged through this outfall, plugging of this drain is recommended. Drain 1FD4 is in a rest room and should be plugged to eliminate the chance of sanitary waste being discharged without treatment. Only storm water will flow out the outfall after piping changes are made. No permitting is recommended and no EPA forms were prepared.

3.2 Outfall 16-430-OPN-2

This outfall goes to the TA-16 sanitary treatment plant, which discharges as 03S. All of the listed drains are correct for this outfall and no changes are recommended. No EPA forms were prepared for this outfall as it does not discharge directly to the environment.

3.3 Outfall 16-430-OPN-3

This daylight outfall is made up of roof drains and equipment room floor drains. Plugging of 2FD3 and 2FD4 will make this a storm water outfall. No permitting is recommended and no EPA forms were completed.

3.4 Outfall 16-430-OPN-4

This unpermitted outfall flows to daylight and is primarily made up of floor washings from around the high explosives (HE) press in Bay 5 via Sump 3. This outfall should be combined with outfalls OPN-5 and OPN-11. An EPA Form 2C is attached for the combined outfall as 05A071.

3.5 Outfall 16-430-OPN-5

This outfall daylights and receives floor washings from around the HE presses in Bays 2, 3 and 4 via Sump 2. This outfall is appropriately permitted as 05A071. This outfall should be combined with OPN-4 and OPN-11. In Appendix 2, hydraulic oil is listed as being drained to the outfall only for Bay 3. In this bay, the presses are not in a pit as in the other four bays. Secondary containment is needed around these presses. The oil potential for the other four bays is in the pits not from the floor washings. An EPA Form 2C is attached for the combined outfall as 05A071.

3.6 Outfall 16-430-OPN-6

This outfall daylights and receives drainage from around the bottom of the HE presses through drains 1PD5, 1PD6 and 1PD7 in Bays 5, 4 and 2, respectively. The hydraulic systems for each HE press are near these three drains and each presents a chance for oil to discharge through this outfall. All of the drains to this outfall should be plugged to eliminate the chance of oil discharging to the environment. No permitting is recommended and no EPA forms were prepared.

3.7 Outfall 16-430-OPN-7

This outfall flows to daylight. The drains in this outfall could all possibly receive HE. All drains to this outfall should be plugged. No permitting is recommended and no EPA forms were completed.

3.8 Outfall 16-430-OPN-8

A French drain system is installed around the Bay 1 pit and sump. The system discharges to daylight through 16-430-OPN-8. The water leaving it should be uncontaminated ground water. Sampling of the water for contamination is recommended. Permitting is not recommended and no EPA forms were prepared.

3.9 Outfall 16-430-OPN-9

This outfall drains oil and possibly HE from around the press in Bay 1 to daylight. This drain should be plugged and an alarm installed to indicate an oil spill. No permitting is recommended and no EPA forms were prepared.

3.10 Outfalls 16-430-OPN-10, 16-430-OPN-20, 16-430-OPN-21, 16-430-OPN-24, 16-430-OPN-26, 16-430-OPN-36 and 16-430-OPN-37

These seven pipes are either not connected or are blinded. Plugging, capping or removal of these pipes is recommended to insure no discharge. No permitting is needed and no EPA forms were prepared.

3.11 Outfall 16-430-OPN-11

This outfall is from HE Sump 1 and flows to daylight. HE washed off the floor in Bay 1 goes to this sump. This outfall should be combined with OPN-4 and OPN-5. An EPA Form 2C is attached for the combined as 05A071.

3.12 Outfall 16-430-OPN-12

Steam condensate from the Bay 1 pit is discharged to daylight at 16-430-OPN-12. This outfall should be included under a Notice of Intent to Discharge (NOI). No EPA forms were prepared.

3.13 Outfall 16-430-OPN-13

This outfall to daylight receives water from three roof drains (RD3, RD4 and RD5) and from two floor drains (2FD5 and 2FD6). It is recommended that the two floor drains be repiped to sanitary sewer or plugged making 16-430-OPN-13 all storm water. No EPA forms were prepared.

3.14 Outfall 16-430-OPN-14

This outfall to daylight receives water from a steam pit (1PD1), a floor drain (2FD2) and a roof drain (RD2). The first two sources should be routed to the sanitary sewer. The only flow to the outfall will be storm water and will not need permitting. No EPA forms were prepared.

3.15 Outfalls 16-430-OPN-15, 16-430-OPN-16, 16-430-OPN-17, 16-430-OPN-18 and 16-430-OPN-27

These five outfalls are drains to daylight from the fire water system. These outfalls will be covered by an NOI. No piping changes are recommended and no EPA forms were prepared.

3.16 Outfalls 16-430-OPN-19, 16-430-OPN-22, 16-430-OPN-23, 16-430-OPN-25, 16-430-OPN-28, 16-430-OPN-29, 16-430-OPN-30, 16-430-OPN-31, 16-430-OPN-32, 16-430-OPN-33, 16-430-OPN-34, 16-430-OPN-35, 16-430-OPN-38, 16-430-OPN-39 and 16-430-OPN-40

These fifteen outfalls are vapor vents to atmosphere from equipment and should not produce any liquid discharge. No permitting is needed under NPDES and no EPA forms were prepared.

4.0 CONCLUSION

This document provides the information to characterize building TA 16-430. NPDES permit application forms have been completed for the following outfalls (Appendix 3):

Forms 2C:

1. 16-430-OPN-4 (05A071)
2. 16-430-OPN-5 (05A071)
3. 16-430-OPN-11 (05A071)

Permitting is not recommended for the remaining outfalls, as itemized below:

Vapor vents:

1. 16-430-OPN-19
2. 16-430-OPN-22
3. 16-430-OPN-23
4. 16-430-OPN-25
5. 16-430-OPN-28
6. 16-430-OPN-29
7. 16-430-OPN-30
8. 16-430-OPN-31
9. 16-430-OPN-32
10. 16-430-OPN-33
11. 16-430-OPN-34
12. 16-430-OPN-35
13. 16-430-OPN-38
14. 16-430-OPN-39
15. 16-430-OPN-40

Disconnected pipes:

1. 16-430-OPN-10
2. 16-430-OPN-20
3. 16-430-OPN-21
4. 16-430-OPN-24
5. 16-430-OPN-26
6. 16-430-OPN-36
7. 16-430-OPN-37

Discharges of fire water:

1. 16-430-OPN-15
2. 16-430-OPN-16
3. 16-430-OPN-17
4. 16-430-OPN-18
5. 16-430-OPN-27

Discharge to the sanitary treatment plant:

1. 16-430-OPN-2

Discharge from a French drain:

1. 16-430-OPN-8

Discharge of steam condensate:

1. 16-430-OPN-12

Outfalls to be eliminated:

1. 16-430-OPN-6
2. 16-430-OPN-7
3. 16-430-OPN-9

Discharges with storm water sources:

1. 16-430-OPN-1
2. 16-430-OPN-3
3. 16-430-OPN-13
4. 16-430-OPN-14

Recommended permitting and corrective actions are outlined in Table 1. Corrective actions should be performed as soon as practicable to minimize the chance of unpermitted discharge of pollutants.

TABLE 1: TA 16-430 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
16-430-OPN-1 03A060	1EWD1	Hallway	Move to OPN-2	No
	1FD1	Battery Room	Plug	
	1FD2	Utility Room	Move to OPN-2	
	1FD3	Utility Room	Move to OPN-2	
	1FD4	Women's Rest Room	Plug	
	1FD5	Men's Rest Room	Move to OPN-2	
	RD1	Roof	No change	
	RD9	Roof	No change	
	RD10	Roof	No change	
16-430-OPN-2 Sanitary Sewer	1LV1	Men's Rest Room	No change	No
	1LV2	Women's Rest Room	No change	
	1SD1	Men's Rest Room	No change	
	1T1	Men's Rest Room	No change	
	1T2	Women's Rest Room	No change	
	1UR1	Men's Rest Room	No change	
	1WF1	Hallway	No change	
	2FD1	Equipment Room	No change	
16-430-OPN-3	RD6	Roof	No Change	No
	RD7	Roof	No Change	
	RD8	Roof	No Change	
	2FD3	Equipment Room	Plug	
	2FD4	Equipment Room	Plug	
16-430-OPN-4	SPD3	Process Bay	Move to OPN-5	Yes
16-430-OPN-5	SPD2	Process Bay	No change	Yes
16-430-OPN-6	1PD2	Pipe Alley	Plug	No
	1PD3	Pipe Alley	Plug	
	1PD4	Pipe Alley	Plug	
	1PD5	Press Equip Area	Plug	
	1PD6	Press Equip Area	Plug	
	1PD7	Press Equip Area	Plug	
16-430-OPN-7	1FD6	Storage	Plug	No
	1FD7	Hallway	Plug	
	1FD8	Hallway	Plug	
	1FD9	Hallway	Plug	

RECOMMENDATIONS WERE REVIEWED WITH PERSONNEL FROM WX-12, EM-8 & ENG-6.

TABLE 1: TA 16-430 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
16-430-OPN-8		French Drain	No change	No
16-430-OPN-9	1PD8	HE Press Area	Plug and alarm	No
16-430-OPN-10		Not Connected	Plug or remove	No
16-430-OPN-11	SPD1	Process Bay	Move to OPN-5	Yes
16-430-OPN-12		Condensate	No Change	No
16-430-OPN-13	RD3	Roof	No Change	No
	RD4	Roof	No Change	
	RD5	Roof	No Change	
	2FD5	Equipment Room	Plug	
	2FD6	Equipment Room	Plug	
16-430-OPN-14	1PD1	Equipment Room	Move to OPN-2	No
	2FD2	Equipment Room	Move to OPN-2	
	RD2	Roof	No change	
16-430-OPN-15		Fire Water Drain	No Change	No
16-430-OPN-16		Fire Water Drain	No Change	No
16-430-OPN-17		Fire Water Drain	No Change	No
16-430-OPN-18		Fire Water Drain	No Change	No
16-430-OPN-19		Vacuum Pump Vent	No Change	No
16-430-OPN-20		Not Connected	Cap or remove	No
16-430-OPN-21		Not Connected	Cap or remove	No
16-430-OPN-22		Steam PRV	No Change	No
16-430-OPN-23		Steam PRV	No Change	No
16-430-OPN-24		Not Connected	Cap or remove	No
16-430-OPN-25		Hot Water Vent	No Change	No
16-430-OPN-26		Not Connected	Cap or remove	No
16-430-OPN-27		Fire Water Drain	No Change	No
16-430-OPN-28		Vacuum Pump Vent	No Change	No
16-430-OPN-29		Tempered Water Vent	No Change	No
16-430-OPN-30		Scrubber Vent	No Change	No
16-430-OPN-31		Tempered Water Vent	No Change	No
16-430-OPN-32		Vacuum Vent	No Change	No
16-430-OPN-33		Scrubber Vent	No Change	No
16-430-OPN-34		Tempered Water Vent	No Change	No
16-430-OPN-35		Vacuum Vent	No Change	No

RECOMMENDATIONS WERE REVIEWED WITH PERSONNEL FROM WX-12, EM-8 & ENG-6.

TABLE 1: TA 16-430 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
16-430-OPN-36		Not Connected	Cap or remove	No
16-430-OPN-37		Blinded	Cap or remove	No
16-430-OPN-38		HE Vent	No Change	No
16-430-OPN-39		Vacuum Vent	No Change	No
16-430-OPN-40		Scrubber Vent	No Change	No

RECOMMENDATIONS WERE REVIEWED WITH PERSONNEL FROM WX-12, EM-8 & ENG-6.

TABLE 2
SUMMARY OF ABBREVIATIONS

ABBREVIATION	MEANING
EWD	Eye Wash Drain
FD	Floor Drain
LV	Lavatory
PD	Pit Drain
RD	Roof Drain
SD	Sink Drain
SPD	Sump Drain
T	Toilet
UR	Urinal
WF	Water Fountain

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TA	BLDG	OUTLET PIPING NUMBER	EPA OUTFALL #	DRAIN #	ROOM DESCRIPTION	FLOW	RATE	PERIODICITY	SEASONAL	ROOM #	SOURCE TYPES
16	430	16-430-OPN-01	03A060	1EWD1	HALLWAY			FLOW IS NIL	no	FFC	WATER FOUNTAIN
16	430	16-430-OPN-01	03A060	1FD1	BATTERY ROOM			FLOW IS NIL	no	110A	BATTERY ACID
16	430	16-430-OPN-01	03A060	1FD2	UTILITY ROOM	5	GPY	4 DAYS PER WEEK	no	110	AIR COMPRESSOR DRAIN
16	430	16-430-OPN-01	03A060	1FD2	UTILITY ROOM			FLOW IS NIL	no	110	CHILLER DRAIN
16	430	16-430-OPN-01	03A060	1FD2	UTILITY ROOM			FLOW IS NIL	no	110	BACK FLOW PREVENTER
16	430	16-430-OPN-01	03A060	1FD2	UTILITY ROOM			FLOW IS NIL	no	110	CONDENSATE PUMP SEAL
16	430	16-430-OPN-01	03A060	1FD3	UTILITY ROOM	5	GPY	DAYS PER WEEK	no	110	AIR COMPRESSOR
16	430	16-430-OPN-01	03A060	1FD3	UTILITY ROOM	13000	GPD	4 DAYS PER WEEK	no	110	VACUUM PUMP COOLING WATER
16	430	16-430-OPN-01	03A060	1FD3	UTILITY ROOM			FLOW IS NIL	no	110	BACK FLOW PREVENTER
16	430	16-430-OPN-01	03A060	1FD4	BATHROOM	50	GPY	4 DAYS PER WEEK	no	107A	FLOOR WASHINGS
16	430	16-430-OPN-01	03A060	1FD5	BATHROOM	50	GPY	4 DAYS PER WEEK	no	108	FLOOR WASHINGS
16	430	16-430-OPN-01	03A060	RD1	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-01	03A060	RD10	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-01	03A060	RD9	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-02	03S	1LV1	BATHROOM	100	GPD	4 DAYS PER WEEK	no	108	HAND WASHING
16	430	16-430-OPN-02	03S	1LV2	BATHROOM	100	GPD	4 DAYS PER WEEK	no	107A	HAND WASHING
16	430	16-430-OPN-02	03S	1SD1	BATH ROOM	20	GPD	4 DAYS PER WEEK	no	108	HAND WASHING
16	430	16-430-OPN-02	03S	1T1	BATH ROOM	50	GPD	4 DAYS PER WEEK	no	108	SANITARY WASTE
16	430	16-430-OPN-02	03S	1T2	BATH ROOM	50	GPD	4 DAYS PER WEEK	no	107A	SANITARY WASTE
16	430	16-430-OPN-02	03S	1UR1	BATH ROOM	50	GPD	4 DAYS PER WEEK	no	108	SANITARY WASTE
16	430	16-430-OPN-02	03S	1WF1	HALLWAY	20	GPD	HIGHER FLOW IN SUMMER	no	FFC	DRINKING WATER
16	430	16-430-OPN-02	03S	2FD1	EQUIPMENT ROOM			FLOW IS NIL	no	201	CHILLER OVERFLOW
16	430	16-430-OPN-02	03S	2FD1	EQUIPMENT ROOM	10	GPY	4 DAYS PER WEEK	no	201	HOT WATER TANK
16	430	16-430-OPN-02	03S	2FD1	EQUIPMENT ROOM			FLOW IS NIL	no	201	CHILLER WATER PUMP LEAKAGE
16	430	16-430-OPN-02	03S	RD6	ROOOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-03		2FD3	EQUIPMENT ROOM			FLOW IS NIL	no	201EC	TEMPERED WATE LEAKAGE
16	430	16-430-OPN-03		2FD3	EQUIPMENT ROOM			FLOW IS NIL	no	201EC	UTILITY WATER LEAKAGE
16	430	16-430-OPN-03		2FD4	EQUIPMENT ROOM			FLOW IS NIL	no	201EC	TEMPERED WATER LEAKAGE
16	430	16-430-OPN-03		RD7	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-03		RD8	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-04		SPD3	PROCESS BAY	100	GPY	4 DAYS PER WEEK	no	SUMP3	WET DUST COLLECTOR
16	430	16-430-OPN-04		SPD3	PROCESS BAY			SEE ABOVE	no	SUMP3	HEATER DRAIN
16	430	16-430-OPN-04		SPD3	PROCESS BAY			SEE ABOVE	no	SUMP3	HE FLOOR WASHINGS
16	430	16-430-OPN-05	05A071	SPD2	PROCESS BAY	100	GPY	4 DAYS PER WEEK	no	SUMP2	HEATER DRAIN
16	430	16-430-OPN-05	05A071	SPD2	PROCESS BAY			SEE ABOVE	no	SUMP2	HE FLOOR WASHING
16	430	16-430-OPN-05	05A071	SPD2	PROCESS BAY			SEE ABOVE	no	SUMP2	WET DUST COLLECTOR
16	430	16-430-OPN-06		1PD2	PROCESS BAY			FLOW IS NIL	no	5A	POTABLE & TEMPERED WATER
16	430	16-430-OPN-06		1PD3	PROCESS BAY			FLOW IS NIL	no	4A	POTABLE & TEMPERED WATER

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TA	BLDG	OUTLET PIPING NUMBER	EPA OUTFALL #	DRAIN #	ROOM DESCRIPTION	FLOW	RATE	PERIODICITY	SEASONAL	ROOM #	SOURCE TYPES
16	430	16-430-OPN-06		1PD4	PROCESS BAY			FLOW IS NIL	no	2A	POTABLE & TEMPERED WATER
16	430	16-430-OPN-06		1PD5	PROCESS BAY			FLOW IS NIL	no	PP5	POTABLE & TEMPERED WATER
16	430	16-430-OPN-06		1PD6	PROCESS BAY			FLOW IS NIL	no	PP4	POTABLE & TEMPERED WATER
16	430	16-430-OPN-06		1PD7	PROCESS BAY			FLOW IS NIL	no	PP2	POTABLE & TEMPERED WATER
16	430	16-430-OPN-07		1FD6	HALLWAY	25	GPY	4 DAYS PER WEEK	no	FFC	FLOOR WASHINGS
16	430	16-430-OPN-07		1FD7	HALLWAY	25	GPY	4 DAYS PER WEEK	no	FFC	FLOOR WASHINGS
16	430	16-430-OPN-07		1FD8	HALLWAY	25	GPY	4 DAYS PER WEEK	no	FFC	FLOOR WASHINGS
16	430	16-430-OPN-07		1FD9	HALLWAY	25	GPY	4 DAYS PER WEEK	no	FFC	FLOOR WASHINGS
16	430	16-430-OPN-08			FRENCH DRAIN			FLOW IS NIL	no		RAIN
16	430	16-430-OPN-09		1PD8	HE PRESS AREA	5	GPY	12 MONTHS PER YEAR	no	B-1	STEAM CONDENSATE
16	430	16-430-OPN-09		1PD8	PROCESS BAY			FLOW IS NIL	no	B-1	POTABLE & TEMPERED WATER
16	430	16-430-OPN-10			DISCONNECTED PIPE			NO FLOW	no		NONE
16	430	16-430-OPN-11		SPD1	PROCESS BAY	100	GPY	4 DAYS PER WEEK	no	SUMP1	HE FLOOR WASHINGS
16	430	16-430-OPN-11		SPD1	PROCESS BAY			SEE ABOVE	no	SUMP1	WET DUST COLLECTOR
16	430	16-430-OPN-11		SPD1	PROCESS BAY			SEE ABOVE	no	SUMP1	HEATER DRAIN
16	430	16-430-OPN-12			STEAM TRAP			FLOW IS NIL	no		STEAM CONDENSATE
16	430	16-430-OPN-13		2FD5	EQUIPMENT ROOM			FLOW IS NIL	no	201EC	POTABLE & TEMPERED WATER
16	430	16-430-OPN-13		2FD6	EQUIPMENT ROOM			FLOW IS NIL	no	201EC	POTABLE & TEMPERED WATER
16	430	16-430-OPN-13		2FD6	EQUIPMENT ROOM			FLOW IS NIL	no	201EC	TEMPERED WATER
16	430	16-430-OPN-13		RD3	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-13		RD4	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-13		RD5	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-14		1PD1	EQUPMENT ROOM			FLOW IS NIL	no	110	POTABLE & TEMPERED WATER
16	430	16-430-OPN-14		1PD1	EQUIPMENT ROOM	25	GPD	5 GPM FOR 5 MIN EACH DAY	no	110	STEAM CONDENSATE
16	430	16-430-OPN-14		2FD2	EQUIPMENT ROOM			FLOW IS NIL	no	201	TEMPERED WATER
16	430	16-430-OPN-14		2FD2	EQUIPMENT ROOM			FLOW IS NIL	no	201	HOT WATER
16	430	16-430-OPN-14		2FD2	EQUIPMENT ROOM	144	GPD	1 GAL AT 10 MIN AT 1 GPM	yes	201	CHILLER WATER BLOWDOWN
16	430	16-430-OPN-14		RD2	ROOF	15000	GPY	MAINLY SUMMER	no	ROOF	RAIN
16	430	16-430-OPN-15			FIRE WATER DRAINS			1 OR 2 TIMES PER YEAR	no		FIRE WATER
16	430	16-430-OPN-16			FIRE WATER DRAINS			1 OR 2 TIMES PER YEAR	no		FIRE WATER
16	430	16-430-OPN-17			FIRE WATER DRAINS			1 OR 2 TIMES PER YEAR	no		FIRE WATER
16	430	16-430-OPN-18			FIRE WATER DRAINS			1 OR 2 TIMES PER YEAR	no		FIRE WATER
16	430	16-430-OPN-19			VAPOR VENTS			NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-20			DISCONNECTED PIPE			NO FLOW	no		NO LIQUID
16	430	16-430-OPN-21			DISCONNECTED PIPE			NO FLOW	no		NONE
16	430	16-430-OPN-22			VAPOR VENTS			NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-23			VAPOR VENTS			NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-24			DISCONNECTED PIPE			NO FLOW	no		NONE

REPORT 3

TA	BLDG	OUTLET PIPING NUMBER	EPA OUTFALL #	DRAIN #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	ROOM #	SOURCE TYPES
16	430	16-430-OPN-25			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-26			DISCONNECTED PIPE		NO FLOW	no		NONE
16	430	16-430-OPN-27			FIRE WATER DRAINS		1 OR 2 TIMES PER YEAR	no		FIRE WATER
16	430	16-430-OPN-28			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-29			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-30			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-31			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-32			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-33			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-34			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-35			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-36			DISCONNECTED PIPE		NO FLOW	no		NONE
16	430	16-430-OPN-37			DISCONNECTED PIPE		NO FLOW	no		NONE
16	430	16-430-OPN-38			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-39			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID
16	430	16-430-OPN-40			VAPOR VENTS		NO LIQUID FLOW	no		NO LIQUID

DRAFT

WASTE STREAM CHARACTERIZATION TRACKING
LOS ALAMOS NATIONAL LABORATORY

92 1306

REPORT # 16 NPDES PERMIT # NM0028355 ADMINISTRATIVE ORDER DOCKET # VI-91-1329 REPORT DATE 08/13/92

TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	SOURCES	ROOM DESCRIPTION	ROOM #	PERMIT STATUS	CORRECTIVE ACTION RQD.	TARGET DATE	DATE COMPLETED
16	101	16-101			NONE	GUARD HOUSE		ELIMINATE	yes	08/15/92	08/10/92
16	410	16-410-OPN-1	05A053	1FD1	BATTERY ACID POTENTIAL	FLOOR DRAIN (BATTERY ROOM)	15	O.K.	no		
16	410	16-410-OPN-1	05A053	1FD2	FLOOR WASHINGS	EQUIPMENT ROOM DRAIN	12	NEW	yes	09/01/92	08/31/92
16	410	16-410-OPN-1	05A053	1FD3	FLOOR WASHINGS	EQUIPMENT ROOM DRAIN	12				
16	410	16-410-OPN-1	05A053	1FD4	FLOOR WASHINGS	EQUIPMENT ROOM DRAIN	12				
16	410	16-410-OPN-1	05A053	1FZD1	CONDENSED WATER	FREEZER DRAIN	11A	MODIFY	yes	08/21/92	08/15/92
16	410	16-410-OPN-1	05A053	1TAE1	CONDENSED WATER	HVAC EQUIPMENT DRAIN	4				
16	410	16-410-OPN-1	05A053	1WF1	DRINKING WATER	WATER FOUNTAIN DRAIN	2				
16	410	16-410-OPN-1	05A053	2FD1	HVAC DRAIN	EQUIPMENT ROOM	13				
16	410	16-410-OPN-1	05A053	2FD2	CHILLER WATER	EQUIPMENT ROOM	13				
16	410	16-410-OPN-1	05A053	BFD1	FLOOR WASHINGS	STAIR WELL DRAIN	14				
16	410	16-410-OPN-1	05A053	RD1	RAIN	ROOF	ROOF	N.O.I.	yes		
16	410	16-410-OPN-1	05A053	RD2	RAIN	ROOF	ROOF				
16	410	16-410-OPN-1	05A053	RD3	RAIN	ROOF	ROOF				
16	410	16-410-OPN-1	05A053	RD4	RAIN	ROOF	ROOF				
16	410	16-410-OPN-1	05A053	RD5	RAIN	ROOF	ROOF	PIPE TO S.S.	yes		
16	410	16-410-OPN-1	05A053	RD6	RAIN	ROOF	ROOF	SEPARATE	yes		
16	410	16-410-OPN-1	05A053	RD7	RAIN	ROOF	ROOF				
16	410	16-410-OPN-2		1FD5	FLOOR WASHINGS	BATHROOM	7				
16	410	16-410-OPN-2		1FD6	FLOOR WASHINGS	BATHROOM	8				
16	410	16-410-OPN-2		1LV1	HAND WASHINGS	REST ROOM	7				
16	410	16-410-OPN-2		1LV2	HAND WASHINGS	BATH ROOM	8				
16	410	16-410-OPN-2		1SD1	MOP WATER	JANITOR'S CLOSET	7				
16	410	16-410-OPN-2		1T1	SANITARY WASTE	BATHROOM	7				
16	410	16-410-OPN-2		1T2	SANITARY WASTE	BATHROOM	8				
16	410	16-410-OPN-2		1UR1	SANITARY WASTE	BATHROOM	7				
16	410	16-410-OPN-3			STEAM CONDENSATE	EQUIPMENT ROOM	18				
16	410	16-410-OPN-4			FIRE WATER	EQUIPMENT ROOM	12				
16	410	16-410-OPN-5			FIRE WATER	EQUIPMENT ROOM	12				
16	410	16-410-OPN-6			FIRE WATER	EQUIPMENT ROOM	12				
16	410	16-410-OPN-7			WATER TANK VENT	EQUIPMENT ROOM	12				
16	411	16-411-OPN-1		1EWD1	EYE WASH	REST HOUSE	101				
16	411	16-411-OPN-1		1FD1	FLOOR WASHINGS	EQUIPMENT ROOM DRAIN	102				
16	411	16-411-OPN-1		1SD1	HAND WASHINGS	REST HOUSE	101				
16	411	16-411-OPN-1		RD1	RAIN	ROOF	ROOF				

Please print or type in the unshaded areas only

EPA I.D. NUMBER (copy from Item 1 of Form 1)
NM0890010515

Form Approved
OMB No. 2040-0086
Approval Expires 7-31-88

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE 1. DEG.	2. MIN.	3. SEC.	C. LONGITUDE 1. DEG.	2. MIN.	3. SEC.	D. RECEIVING WATER (name)
05A071	35	50	19	106	20	49	WATER CANYON

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW a. OPERATION (list)	b. AVERAGE FLOW (include units)	3. TREATMENT a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1
071	TA 16-430		DISCHARGED TO A MULTI-	1-U
	SUMP 1 (SPD1)	100 GPY	WEIR SUMP. RESIDUE FROM	
	SUMP 2 (SPD2)	320 GPY	SUMP IS COLLECTED AND	
	SUMP 3 (SPD3)	100 GPY	BURNED.	
	TOTAL	520 GPY		

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

[X] YES *(complete the following table)* [ ] NO *(go to Section III)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(s) CONTRIBUTING FLOW *(list)*	3. FREQUENCY a. DAYS PER WEEK *(specify average)*	3. FREQUENCY b. MONTHS PER YEAR *(specify average)*	4. FLOW a. FLOW RATE *(in mgd)* 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE *(in mgd)* 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME *(specify with units)* 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME *(specify with units)* 2. MAXIMUM DAILY	4. FLOW c. DURATION *(in days)*
05A071	FLOOR WASHING-SPD1	1	2	100	100	12.5	12.5	1
	FLOOR WASHING-SPD2	1	2	300	300	37.5	37.5	1
	DUST COLLECTOR-SPD2	1	2	10	10	1.2	1.2	1
	TEMPERED WATER-SPD2	1	2	10	10	1.2	1.2	1
	FLOOR WASHINGS-SPD3	1	2	100	100	12.5	12.5	1
				GPY	GPY	GAL	GAL	DAY

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

[ ] YES *(complete Item III-B)* [X] NO *(to to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

[ ] YES *(complete Item III-C)* [X] NO *(go to Section IV)*

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL ETC. *(specify)*	2. AFFECTED OUTFALLS *(list outfall numbers)*
NA			

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

[ ] YES *(complete the following table)* [X] NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. [ ] MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

 CONTINUE ON PAGE 3

EPA I.D. NUMBER (copy from Item 1 of Form 1)
NM0890010515

Form Approved
OMB No 2040-0086
Approval expires 7-31-88

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
NONE			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES (list all such pollutants below) ☒ NO (go to Item VI-B)

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES *(identify the test(s) and describe their purposes below)* X NO *(go to Section VIII)*

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☐ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* X NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
NA			

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (Principal Executive Officer or Authorized Agent)	B. PHONE NO. (area code & no.)
JERRY L. BELLOWS, DOE AREA MANAGER	505-667-5105
ALLEN J. TIEDMAN, ASSOC. DIRECTOR FOR OPERATIONS	505-667-9390
C. SIGNATURE	D. DATE SIGNED

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NM0890010515

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V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)* [redacted]

OUTFALL NO 05A071

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	3.4	6.7						mg/l	g/y			
b. Chemical Oxygen Demand *(COD)*	32.5	64.0						mg/l	g/y			
c. Total Organic Carbon *(TOC)*	8.8	17.3						mg/l	g/y			
d. Total Suspended Solids *(TSS)*	< 1	< 2.0						mg/l	g/y			
e. Ammonia *(as N)*	.43	846.3						mg/l	mg/y			
f. Flow	VALUE 520		VALUE		VALUE			gal/yr		VALUE		
g. Temperature *(winter)*	VALUE 18.2		VALUE		VALUE			°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 7.16	MAXIMUM 9.0	MINIMUM	MAXIMUM				STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X	< .5	< 984.1						mg/l	mg/y			
b. Chlorine, Total Residual	X		.2	393.6						mg/l	mg/y			
c. Color	X		18							units				
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		.32	629.8						mg/l	mg/y			
f. Nitrate-Nitrite *(as N)*	X		.985	1.9						mg/l	g/y			

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		27.4	53.9						mg/l	g/y			
h. Oil and Grease	X		24	47.2						mg/l	g/y			
i. Phosphorus (as P), Total (7723-14-0)	X		.07	137.8						mg/l	mg/y			
j. Radioactivity														
(1) Alpha, Total	X		5	9.8						pCi/l	nCi/y			
(2) Beta, Total	X		3.8	7.5						pCi/l	nCi/y			
(3) Radium, Total	X													
(4) Radium 226, Total	X		.04	78.7						pCi/l	pCi/y			
k. Sulfate (as SO_4) (14808-79-8)	X		6.02	11.8						mg/l	g/y			
l. Sulfide (as S)		X	< .05	< 98.4						mg/l	mg/y			
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		.36	708.6						mg/l	mg/y			
o. Aluminum, Total (7429-90-5)		X	< .04	< 78.7						mg/l	mg/y			
p. Barium, Total (7440-39-3)	X		.76	1.5						mg/l	g/y			
q. Boron, Total (7440-42-8)	X		.03	59.0						mg/l	mg/y			
r. Cobalt, Total (7440-48-4)		X	< .1	< 196.8						mg/l	mg/y			
s. Iron, Total (7439-89-6)	X		.28	551.1						mg/l	mg/y			
t. Magnesium, Total (7439-95-4)	X		3	5.9						mg/l	g/y			
u. Molybdenum, Total (7439-98-7)	X		.042	82.7						mg/l	mg/y			
v. Manganese, Total (7439-96-5)	X		.007	13.8						mg/l	mg/y			
w. Tin, Total (7440-31-5)		X	< .050	< 98.4						mg/l	mg/y			
x. Titanium, Total (7440-32-6)		X	< .004	< 7.9						mg/l	mg/y			

CONTINUE ON PAGE V-3

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NM0890010515	05A071

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Approval expires 7-31-88

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table *(all 7 pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X	< .050	< 98.4						mg/l	mg/y			
2M. Arsenic, Total (7440-38-2)			X	< .002	< 3.9						mg/l	mg/y			
3M. Beryllium, Total, 7440-41-7)			X	< .001	< 2.0						mg/l	mg/y			
4M. Cadmium, Total (7440-43-9)			X	< .010	< 19.7						mg/l	mg/y			
5M. Chromium, Total (7440-47-3)		X		.071	139.7						mg/l	mg/y			
6M. Copper, Total (7440-50-8)		X		.032	63.0						mg/l	mg/y			
7M. Lead, Total (7439-92-1)			X	< .050	< 98.4						mg/l	mg/y			
8M. Mercury, Total (7439-97-6)		X		.0002	393.6						mg/l	ug/y			
9M. Nickel, Total (7440-02-0)		X		.11	216.5						mg/l	mg/y			
10M. Selenium, Total (7782-49-2)			X	< .001	< 2.0						mg/l	mg/y			
11M. Silver, Total (7440-22-4)			X	< .010	< 19.7						mg/l	mg/y			
12M. Thallium, Total (7440-28-0)			X	< .4	< 787.3						mg/l	mg/y			
13M. Zinc, Total (7440-66-6)		X		.097	190.9						mg/l	mg/y			
14M. Cyanide, Total (57-12-5)		X		.12	236.2						mg/l	mg/y			
15M. Phenols, Total			X	< .01	< 19.7						mg/l	mg/y			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P Dioxin (1764 01-6)			X	DESCRIBE RESULTS											

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X	< .005	< 9.8						mg/l	mg/y			
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X	< .005	< 9.8						mg/l	mg/y			
6V. Carbon Tetrachloride (56-23-5)			X	< .005	< 9.8						mg/l	mg/y			
7V. Chlorobenzene (108-90-7)			X	< .005	< 9.8						mg/l	mg/y			
8V. Chlorodibromomethane (124-48-1)			X	< .005	< 9.8						mg/l	mg/y			
9V. Chloroethane (75-00-3)			X	< .010	< 19.7						mg/l	mg/y			
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X	< .005	< 9.8						mg/l	mg/y			
12V. Dichlorobromomethane (75-27-4)			X	< .005	< 9.8						mg/l	mg/y			
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X	< .005	< 9.8						mg/l	mg/y			
15V. 1,2-Dichloroethane (107-06-2)			X	< .005	< 9.8						mg/l	mg/y			
16V. 1,1-Dichloroethylene (75-35-4)			X	< .005	< 9.8						mg/l	mg/y			
17V. 1,2-Dichloro propane (78-87-5)			X	< .005	< 9.8						mg/l	mg/y			
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X	< .005	< 9.8						mg/l	mg/y			
20V. Methyl Bromide (74-83-9)			X	< .010	< 19.7						mg/l	mg/y			
21V. Methyl Chloride (74-87-3)			X	< .010	< 19.7						mg/l	mg/y			

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NM0890010515	05A071

Form Approved
OMB No. 2040-0086
Approval expires 7-31-88

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X	< .005	< 9.8						mg/l	mg/y			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X	< .005	< 9.8						mg/l	mg/y			
24V. Tetrachloroethylene (127-18-4)			X	< .005	< 9.8						mg/l	mg/y			
25V. Toluene (108-88-3)			X	< .005	< 9.8						mg/l	mg/y			
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X	< .005	< 9.8						mg/l	mg/y			
27V. 1,1,1-Trichloroethane (71-55-6)		X		.006	11.8						mg/l	mg/y			
28V. 1,1,2-Trichloroethane (79-00-5)			X	< .005	< 9.8						mg/l	mg/y			
29V. Trichloroethylene (79-01-6)			X	< .005	< 9.8						mg/l	mg/y			
30V. Trichlorofluoromethane (75-69-4)		X		.0084	16.5						mg/l	mg/y			
31V. Vinyl Chloride (75-01-4)			X	< .010	< 19.7						mg/l	mg/y			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X	< .010	< 19.7						mg/l	mg/y			
2A. 2,4-Dichlorophenol (120-83-2)			X	< .010	< 19.7						mg/l	mg/y			
3A. 2,4-Dimethylphenol (105-67-9)			X	< .010	< 19.7						mg/l	mg/y			
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X	< .010	< 19.7						mg/l	mg/y			
5A. 2,4-Dinitrophenol (51-28-5)			X	< .010	< 19.7						mg/l	mg/y			
6A. 2-Nitrophenol (88-75-5)			X	< .010	< 19.7						mg/l	mg/y			
7A. 4-Nitrophenol (100-02-7)			X	< .010	< 19.7						mg/l	mg/y			
8A. P-Chloro-M-Cresol (59-50-7)			X	< .010	< 19.7						mg/l	mg/y			
9A. Pentachlorophenol (87-86-5)			X	< .010	< 19.7						mg/l	mg/y			
10A. Phenol (108-95-2)			X	< .010	< 19.7						mg/l	mg/y			
11A. 2,4,6-Trichlorophenol (88-06-2)			X	< .010	< 19.7						mg/l	mg/y			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X	< .010	< 19.7						mg/l	mg/y			
2B. Acenaphtylene (208-96-8)			X	< .010	< 19.7						mg/l	mg/y			
3B. Anthracene (120-12-7)			X	< .010	< 19.7						mg/l	mg/y			
4B. Benzidine (92-87-5)			X	< .010	< 19.7						mg/l	mg/y			
5B. Benzo (a) Anthracene (56-55-3)			X	< .010	< 19.7						mg/l	mg/y			
6B. Benzo (a) Pyrene (50-32-8)			X	< .010	< 19.7						mg/l	mg/y			
7B. 3,4-Benzo-fluoranthene (205-99-2)			X	< .010	< 19.7						mg/l	mg/y			
8B. Benzo (ghi) Perylene (191-24-2)			X	< .010	< 19.7						mg/l	mg/y			
9B. Benzo (k) Fluoranthene (207-08-9)			X	< .010	< 19.7						mg/l	mg/y			
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)			X	< .010	< 19.7						mg/l	mg/y			
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)			X	< .010	< 19.7						mg/l	mg/y			
12B. Bis (2-Chloro-isopropyl) Ether (102-80-1)			X	< .010	< 19.7						mg/l	mg/y			
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)			X	< .010	< 19.7						mg/l	mg/y			
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X	< .010	< 19.7						mg/l	mg/y			
15B. Butyl Benzyl Phthalate (85-68-7)			X	< .010	< 19.7						mg/l	mg/y			
16B. 2-Chloro-naphthalene (91-58-7)			X	< .010	< 19.7						mg/l	mg/y			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X	< .010	< 19.7						mg/l	mg/y			
18B. Chrysene (218-01-9)			X	< .010	< 19.7						mg/l	mg/y			
19B. Dibenzo (a,h) Anthracene (53-70-3)			X	< .010	< 19.7						mg/l	mg/y			
20B. 1,2-Dichloro-benzene (95-50-1)			X	< .010	< 19.7						mg/l	mg/y			
21B. 1,3-Dichloro-benzene (541-73-1)			X	< .010	< 19.7						mg/l	mg/y			

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NM0890010515	05A071

Form Approved.
OMB No. 2040-0086
Approval expires 7-31-88

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X	< .010	< 19.7						mg/l	mg/y			
23B. 3,3'-Dichlorobenzidine (91-94-1)			X	< .010	< 19.7						mg/l	mg/y			
24B. Diethyl Phthalate (84-66-2)			X	< .010	< 19.7						mg/l	mg/y			
25B. Dimethyl Phthalate (131-11-3)			X	< .010	< 19.7						mg/l	mg/y			
26B. Di-N-Butyl Phthalate (84-74-2)			X	< .010	< 19.7						mg/l	mg/y			
27B. 2,4-Dinitrotoluene (121-14-2)			X	< .010	< 19.7						mg/l	mg/y			
28B. 2,6-Dinitrotoluene (606-20-2)			X	< .010	< 19.7						mg/l	mg/y			
29B. Di-N-Octyl Phthalate (117-84-0)			X	< .010	< 19.7						mg/l	mg/y			
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X	< .010	< 19.7						mg/l	mg/y			
31B. Fluoranthene (206-44-0)			X	< .010	< 19.7						mg/l	mg/y			
32B. Fluorene (86-73-7)			X	< .010	< 19.7						mg/l	mg/y			
33B. Hexachlorobenzene (118-74-1)			X	< .010	< 19.7						mg/l	mg/y			
34B. Hexachlorobutadiene (87-68-3)			X	< .010	< 19.7						mg/l	mg/y			
35B. Hexachlorocyclopentadiene (77-47-4)			X	< .010	< 19.7						mg/l	mg/y			
36B. Hexachloroethane (67-72-1)			X	< .010	< 19.7						mg/l	mg/y			
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X	< .010	< 19.7						mg/l	mg/y			
38B. Isophorone (78-59-1)			X	< .010	< 19.7						mg/l	mg/y			
39B. Naphthalene (91-20-3)			X	< .010	< 19.7						mg/l	mg/y			
40B. Nitrobenzene (98-95-3)			X	< .010	< 19.7						mg/l	mg/y			
41B. N-Nitrosodimethylamine (62-75-9)			X	< .010	< 19.7						mg/l	mg/y			
42B. N-Nitrosodi-N-Propylamine			X	< .010	< 19.7						mg/l	mg/y			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X	< .010	< 19.7						mg/l	mg/y			
44B. Phenanthrene (85-01-8)			X	< .010	< 19.7						mg/l	mg/y			
45B. Pyrene (129-00-0)			X	< .010	< 19.7						mg/l	mg/y			
46B. 1,2,4-Trichlorobenzene (120-82-1)			X	< .010	< 19.7						mg/l	mg/y			
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X	< .06	< 118.1						ug/l	ug/y			
2P. α-BHC (319-84-6)			X	< 1.0	< 2.0						ug/l	mg/y			
3P. β-BHC (319-85-7)			X	< .4	< 787.3						ug/l	ug/y			
4P. γ-BHC (58-89-9)			X	< .12	< 236.2						ug/l	ug/y			
5P. δ-BHC (319-86-8)			X	< .24	< 472.4						ug/l	ug/y			
6P. Chlordane (57-74-9)			X	< .25	< 492.1						ug/l	ug/y			
7P. 4,4'-DDT (50-29-3)			X	< .06	< 118.1						ug/l	ug/y			
8P. 4,4'-DDE (72-55-9)			X	< .08	< 157.5						ug/l	ug/y			
9P. 4,4'-DDD (72-54-8)			X	< .08	< 157.5						ug/l	ug/y			
10P. Dieldrin (60-57-1)			X	< .08	< 157.5						ug/l	ug/y			
11P. α-Endosulfan (115-29-7)			X	< .05	< 98.4						ug/l	ug/y			
12P. β-Endosulfan (115-29-7)			X	< .08	< 157.5						ug/l	ug/y			
13P. Endosulfan Sulfate (1031-07-8)			X	< .09	< 177.1						ug/l	ug/y			
14P. Endrin (72-20-8)			X	< .06	< 118.1						ug/l	ug/y			
15P. Endrin Aldehyde (7421-93-4)			X	< .31	< 610.1						ug/l	ug/y			
16P. Heptachlor (76-44-8)			X	< .15	< 295.2						ug/l	ug/y			

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CONTINUED FROM PAGE V-8

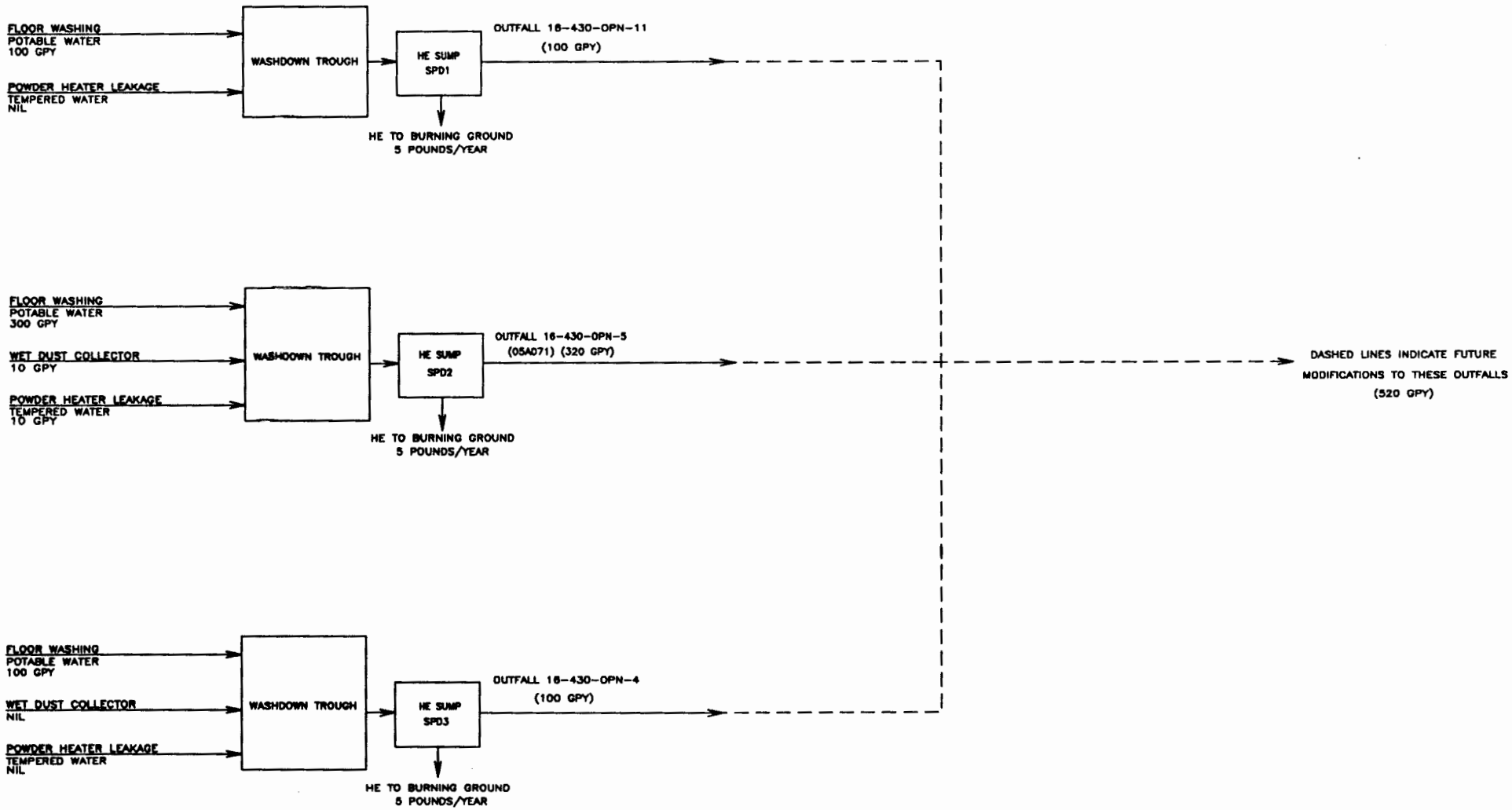
EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NM0890010515	05A071

Form Approved
OMB No. 2040-0086
Approval expires 7-31-88

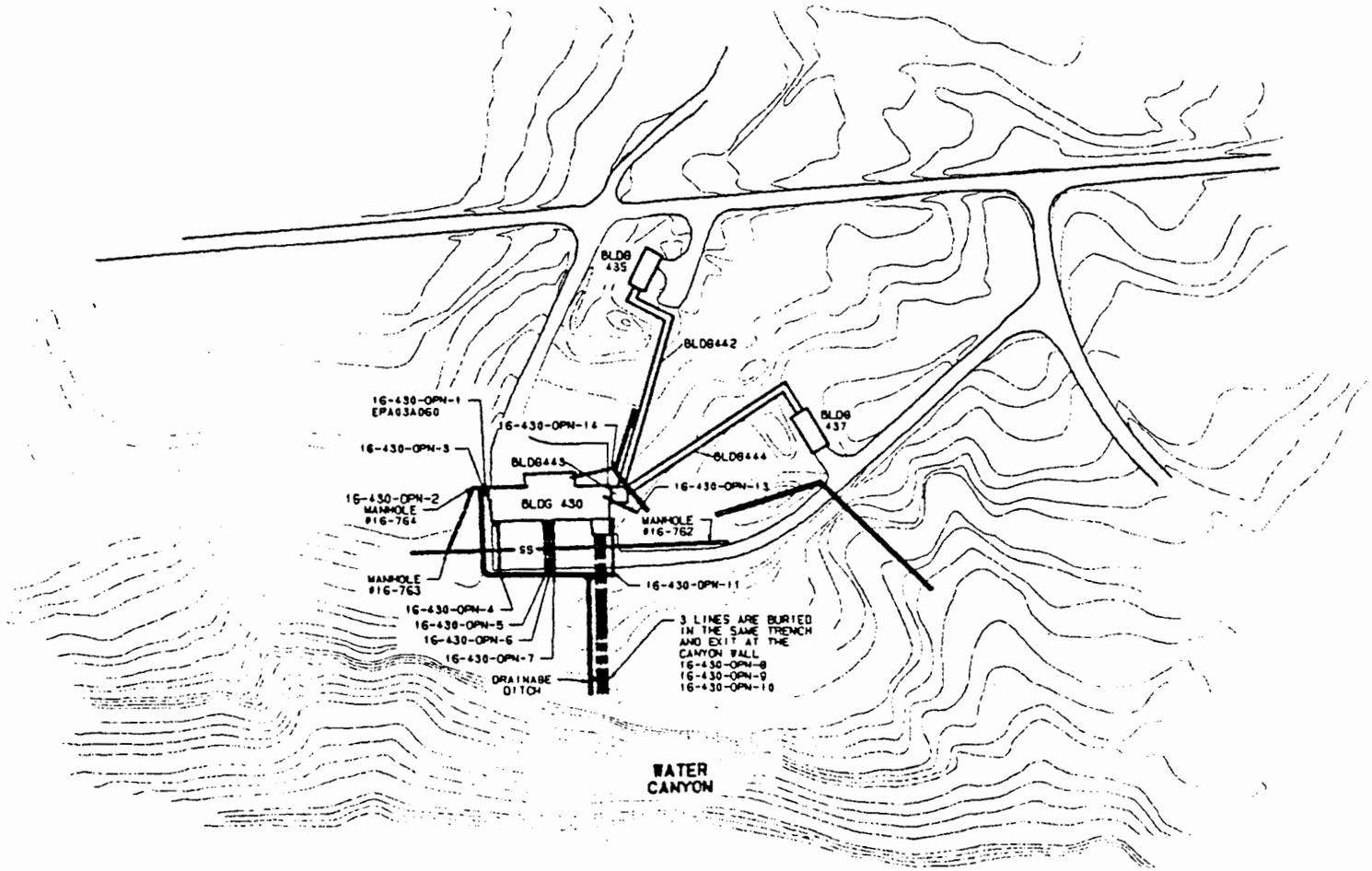
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION -- PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X	< .08	< 157.5						ug/l	ug/y			
18P. PCB-1242 (53469-21-9)			X	< 2.0	< 3.9						ug/l	mg/y			
19P. PCB-1254 (11097-69-1)			X	< 2.0	< 3.9						ug/l	mg/y			
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X	< 2.0	< 3.9						ug/l	mg/y			
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X	< 2.5	< 4.9						ug/l	mg/y			

SCHEMATIC OF WATER FLOW

OUTFALL 05A071



PART OR CONTROL NUMBER	REVISIONS		
	ISS	CLASS REVIEW	DESCRIPTION
N/A	A	LS	DRAWN BY - GARCIA 6-17-91 CHECKER - ABERCROMBIE ENGINEER - PALMER 6-17-91 APPROVED - BARR 6-17-91



LEGEND

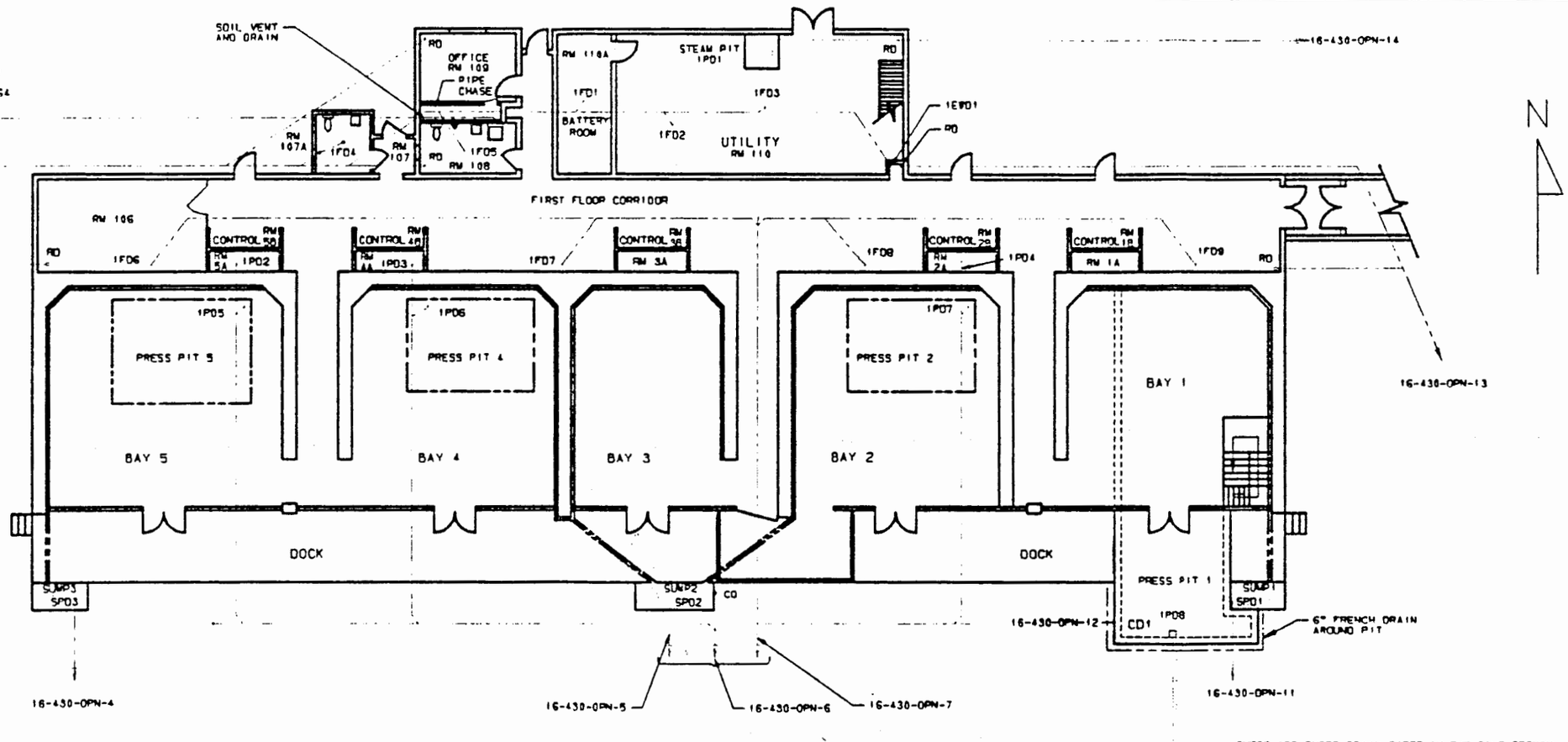
DRAIN LINE

DITCH LINE

SEWER LINE

PART CODE	LOS ALAMOS NATIONAL LABORATORY	
SHEET 1 / ISSUE A	TITLE (U) TITLE CLASSIFICATION DRAINAGE PLAN TA-16-430	
PART CLASSIFICATION UNCLASSIFIED		
ENGLISH (FT/IN)	DRAWING CLASSIFICATION UNCLASSIFIED	SIZE 0 / DRAWING NUMBER 13Y-192071
THIRD ANGLE PROJECTION	08-28-91 07:49	FSCM 88516 / SCALE -- / SHEET 1 OF -
	STATUS	ORIGIN LA-ICEMPLUS-V2.03

PART OR CONTROL NUMBER	REVISIONS ISS	CLASS REVIEW	DESCRIPTION		
N/A	A	LS	DRAWN BY	- GARCIA	6-17-91
			CHECKER	- ABERCROMBIE	
			ENGINEER	- PALMER	6-17-91
			APPROVED	- BARR	6-17-91



THERE ARE THREE DRAIN PIPES IN THE SAME TRENCH
16-430-OPN-8 IS A 6" CLAY PIPE-FRENCH DRAIN
16-430-OPN-9 IS A 4" STEEL PIPE-1PD8 DRAIN
16-430-OPN-10 IS A 2" STEEL PIPE - STEAM CONDENSATE PIPE (DISCONNECTED)

TO CANYON

FIRST FLOOR PLAN

SCALE: 1/8"=1'

LEGEND

1FD#----------FIRST FLOOR DRAIN
1PD#----------PIT DRAIN
SPD#----------SUMP DRAIN
1EWD1----------FIRST FLOOR EYE WASH DRAIN
RD----------ROOF DRAIN
CD----------CONDENSATE DRAIN
OPN----------OUTFALL PIPE #

ENGLISH (FT/IN)

THIRD ANGLE PROJECTION

PART CODE: LOS ALAMOS NATIONAL LABORATORY

SHEET 2 ISSUE A

PART CLASSIFICATION: UNCLASSIFIED

TITLE: (U) TITLE CLASSIFICATION
FIRST FLOOR PLUMBING AND DRAIN PLAN TA-16-430

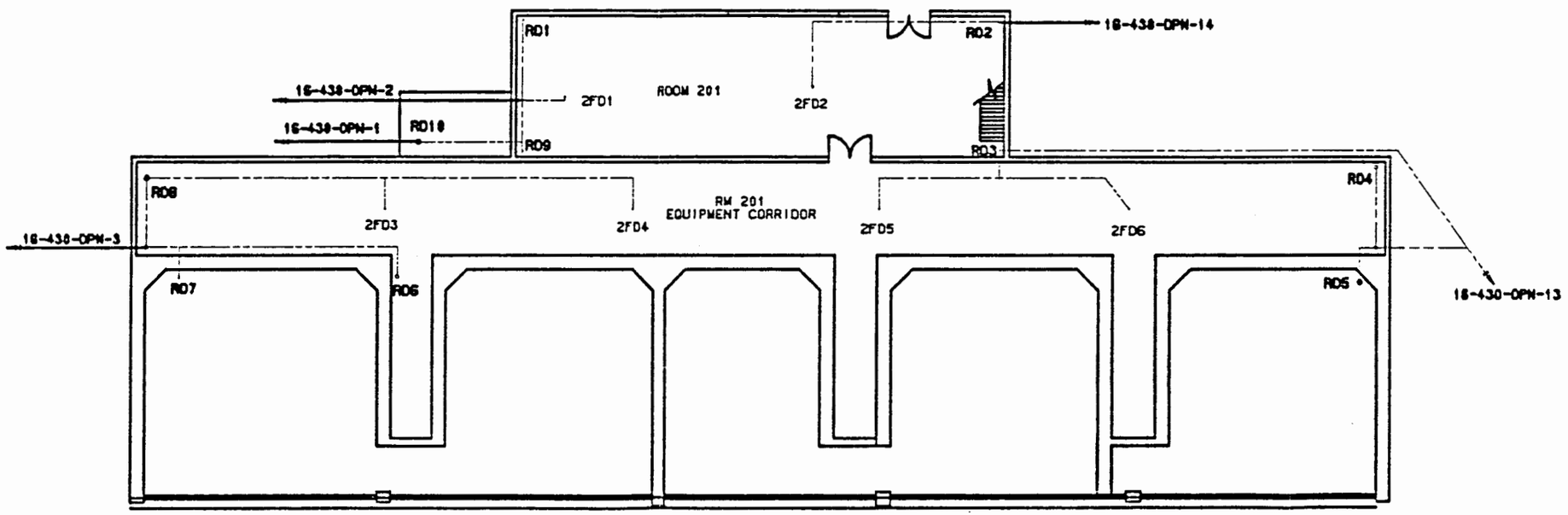
DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE D DRAWING NUMBER 13Y-192071

09-26-91 08:04 FSCM 88516 SCALE NOTED SHEET 2 OF -

STATUS ORIGIN LA-ICEMPLUS-V2.03

PART OR CONTROL NUMBER	REVISIONS		
	ISS	CLASS REVIEW	DESCRIPTION
N/A	A	LS	DRAWN BY - GARCIA 6-17-91 CHECKER - ABERCROMBIE ENGINEER - PALMER 6-17-91 APPROVED - BARR 6-17-91



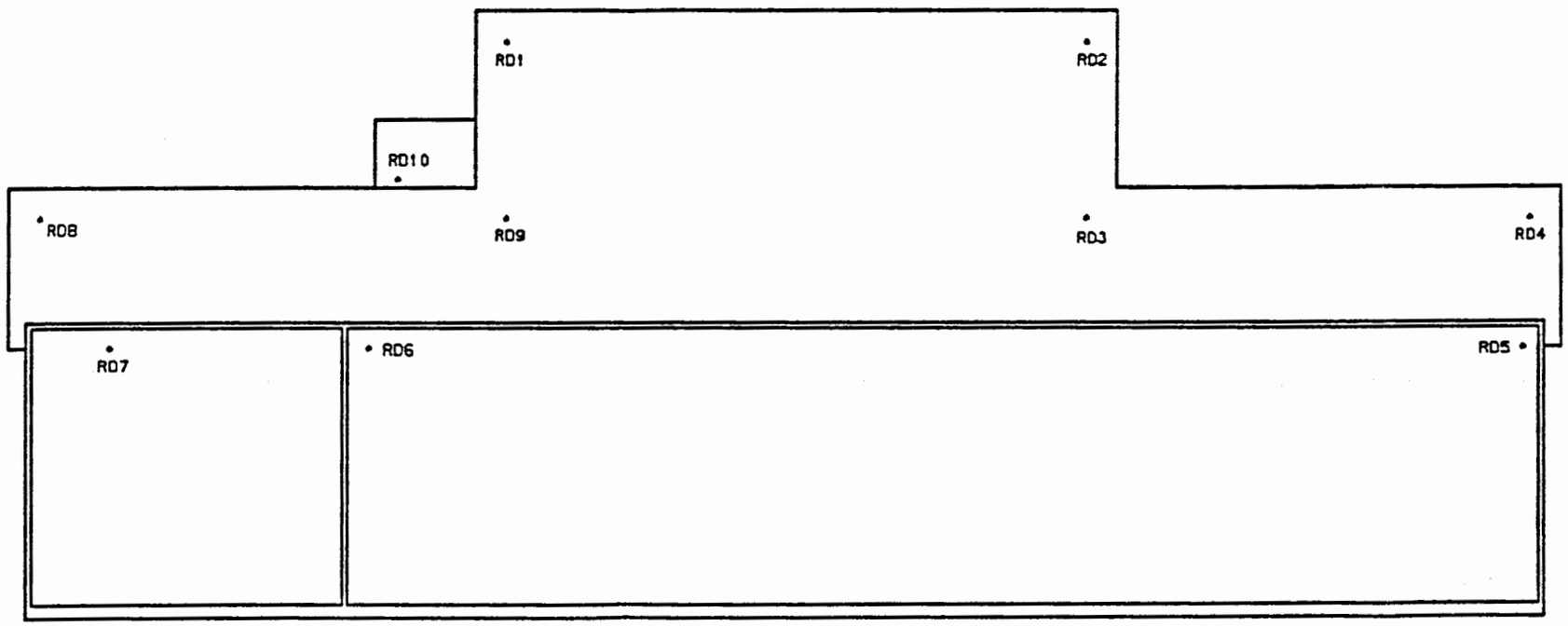
SECOND FLOOR

LEGEND

2FD#------SECOND FLOOR DRAIN
RD-------RAIN DRAIN

PART CODE	LOS ALAMOS NATIONAL LABORATORY	
SHEET 3 / ISSUE A	TITLE (U) TITLE CLASSIFICATION SECOND FLOOR PLUMBING AND DRAIN PLAN TA-16-430	
PART CLASSIFICATION UNCLASSIFIED		
ENGLISH	DRAWING CLASSIFICATION UNCLASSIFIED	SIZE D / DRAWING NUMBER 13Y-192071
THIRD ANGLE PROJECTION	08-28-91 08:16	FSCM 88516 / SCALE / SHEET 3 OF -
STATUS		ORIGIN LA-ICEMPLUS-V2.03

PART OR CONTROL NUMBER	REVISIONS		
	ISS	CLASS REVIEW	DESCRIPTION
N/A	A	LS	DRAWN BY - GARCIA 6-18-91 CHECKER - ABERCROMBIE ENGINEER - PALMER 6-18-91 APPROVED - BARR 6-18-91



ROOF DRAIN PLAN

LEGEND

- RD--------RAIN DRAIN

PART CODE	LOS ALAMOS NATIONAL LABORATORY	
SHEET 4	TITLE (U) TITLE CLASSIFICATION	
ISSUE A	ROOF DRAIN PLAN TA-16-430	
PART CLASSIFICATION UNCLASSIFIED		
ENGLISH (FT/IN)	DRAWING CLASSIFICATION UNCLASSIFIED	SIZE D / DRAWING NUMBER 13Y-192071
THIRD ANGLE PROJECTION	08-26-91 08:34	FSCM 88516 / SCALE / SHEET 4 OF -
	STATUS	ORIGIN LA-ICEMPLUS-V2.03

PART OR CONTROL NUMBER	REVISIONS		
	ISS	CLASS REVIEW	DESCRIPTION
N/A	A	LS	DRAWN BY - GARCIA 6-18-90 CHECKER - ABERCROMBIE ENGINEER - PALMER 6-18-91 APPROVED - BARR 6-18-91

BLDG OUTFALL NO	BLDG ROOM NO	DRAIN NO	POTENTIAL EFFLUENT
16-430-OPN-1	118A	1F01	BATTERY SULFURIC ACID, WASH DOWN WATER
16-430-OPN-1	118	1F02	AIR COMP. DRYER BLOW DOWN-HOIST; PC-1 & PC-2 CONDENSATE PUMP SHAFT SEAL LEAK DRAIN-DRY; TEMPERED WATER; S.W. FLOOR CHILLER WATER OVERFLOW (CHW-11)-WET; SEA BAR WATER BACKFLOW PREVENTER DISPLACE-DRY
16-430-OPN-1	118	1F03	TCA-1 AIR COMPRESSOR TANK BLOWDOWN-HOIST
16-430-OPN-1	107A	1F04	TCS-1 FROM PV1 VACUUM PUMP WATER SEAL DRAIN
16-430-OPN-1	198	1F05	WASH DOWN WATER
16-430-OPN-1	ROOF	R06	WASH DOWN WATER
16-430-OPN-1	ROOF	R010	RAIN WATER
16-430-OPN-1	FFC	1E001	RAIN WATER
16-430-OPN-1	ROOF	R01	INDUSTRIAL WATER
16-430-OPN-2 to 16-18-754	107A	T/S	SANITARY WASTE-TOILET BOWL
16-430-OPN-2 to 16-15-754	198	T/S/U	SANITARY WASTE-TOILETS, SINKS & URINALS
16-430-OPN-2 to 16-16-754	291	2F01	BCW CHILLER WATER OVERFLOW-WET (CHEMICAL FEED, CULLIGAN, DE FOREST 227-11) UNUSED 2" DRAIN LINE-DRY; SMALL CHILLER WATER SHAFT SEAL LEAK DRAIN-DRY
			SE/
16-430-OPN-3	291EC	2F03	TEMPERED WATER AIR BLEED, 2 EA-HOISTS PTF-5 TEMPERED WATER PUMPSHAFT SEAL DRAIN
16-430-OPN-3	291EC	2F04	UTILITY WATER POTENTIAL; BAY 5 FREEZER COMPRESSOR, SMALL
16-430-OPN-3	ROOF	R08	PTF-5 & 6 TEMPERED WATER PUMP SHAFT SEAL DRAIN
16-430-OPN-3	ROOF	R07	BAY 6 REFRIGERATOR COMPRESSOR, SMALL
16-430-OPN-4	SUMP3	SF03	HIGH EXPLOSIVES, NOCK HE
16-430-OPN-5	SUMP2	SF02	HIGH EXPLOSIVES, NOCK HE
16-430-OPN-6	5A	1F02	HTD OIL
16-430-OPN-6	4A	1F03	HTD OIL
16-430-OPN-6	2A	1F04	HTD OIL
16-430-OPN-6	PP5	1F05	HTD OIL
16-430-OPN-6	PP4	1F06	HTD OIL
16-430-OPN-6	PP2	1F07	HTD OIL
16-430-OPN-7	FFC	1F06	WASH DOWN WATER
16-430-OPN-7	FFC	1F07	WASH DOWN WATER
16-430-OPN-7	FFC	1F08	WASH DOWN WATER
16-430-OPN-7	FFC	1F08	WASH DOWN WATER
16-430-OPN-8	B-1	FRENCH DRAIN	GROUND WATER
16-430-OPN-9	B-1	1F09	HYD OIL, CONDENSATE, WASH DOWN WATER
16-430-OPN-10	B-1	1F01	DRAIN LINE HAS BEEN DISCONNECTED
16-430-OPN-11	SUMP1	SF01	HIGH EXPLOSIVES, NOCK HE
16-430-OPN-12	B-1	CD1	CONDENSATED DIOXANE
16-430-OPN-13	291EC	2F05	BAY 2 REFRIGERATOR COMPRESSOR, SMALL UTILITY WATER POTENTIAL
16-430-OPN-13	291CD	2F06	PTF-7 TEMPERED WATER PUMP (TEMPERED WATER MAKEUP TANK-DRY) BAY 2 REFRIGERATOR UNIT & CANOX HYDROANALYZER UTILITY WATER POTENTIAL
16-430-OPN-13	ROOF	R03	RAIN WATER
16-430-OPN-13	ROOF	R04	RAIN WATER
16-430-OPN-13	ROOF	R05	RAIN WATER
16-430-OPN-14	291	2F02	TEMPERED WATER, CHILLER WATER DRAIN-PERMITOGTC-WET (TEMP-1 TEMPERED WATER MAKEUP TANK-DRY); PCW-1 & 2 TEMPERED WATER PUMP SHAFT SEAL LEAK DRAIN-DRY; PTF-6 & 7 TEMPERED WATER PUMP SHAFT SEAL LEAK DRAIN-DRY
16-430-OPN-14	119	1F01	SPRINKLER WATER, PORTABLE WATER, STEAM, CONDENSATE-DRY; STEAM VENT CONDENSATE-DRY
16-430-OPN-14	ROOF	R02	RAIN WATER

16-430-OPN-1
EPA03A060

TO SANITARY
SEWER SYSTEM

---LEGEND---

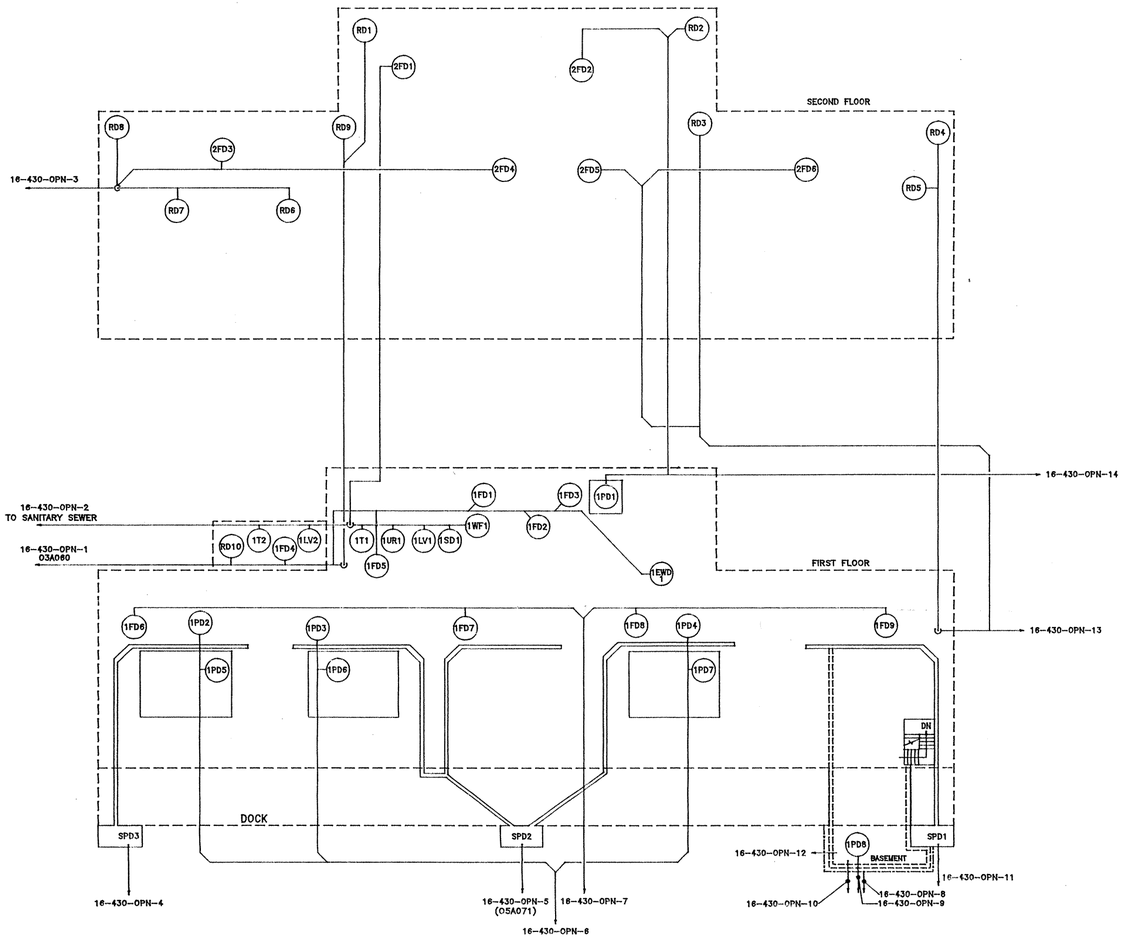
PP#----------PRESS PIT
FFC----------FIRST FLOOR CORRIDOR
EEC----------EQUIPMENT CORRIDOR
1F0#----------FIRST FLOOR DRAIN
2F0#----------SECOND FLOOR DRAIN
R0#----------ROOF DRAIN
1E001----------FIRST FLOOR EYEWASH DRAIN
T/S----------TOILETS & SINKS
T/S/U----------TOILETS & SINKS & URINALS
SD#----------SUMP DRAIN
1P0#----------PIT DRAIN
CD#----------CONDENSATE DRAIN
OPN----------OUTFALL PIPE #

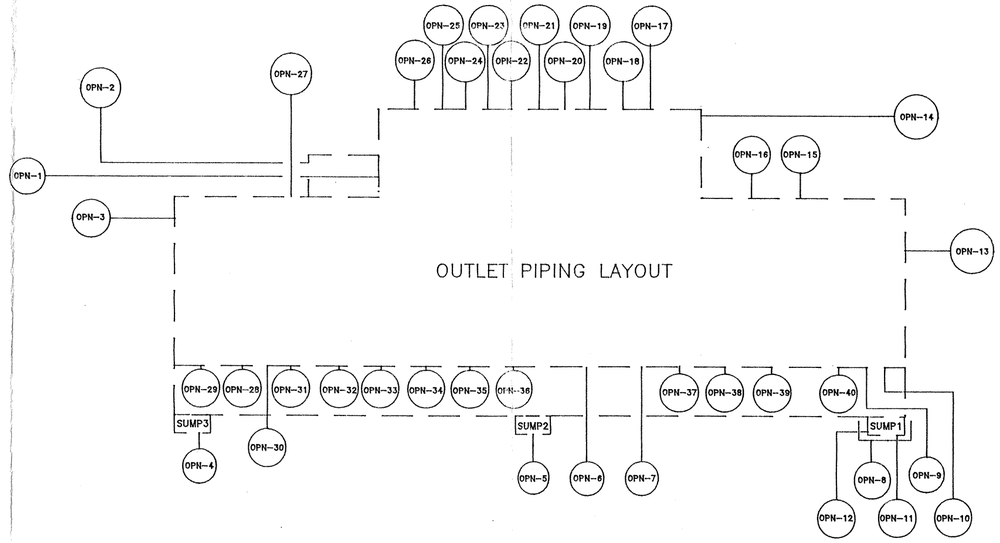
PART CODE	LOS ALAMOS NATIONAL LABORATORY	
SHEET 5 / ISSUE A	TITLE (U) TITLE CLASSIFICATION DRAIN SCHEDULE TA-16-430	
PART CLASSIFICATION UNCLASSIFIED		
ENGLISH (FT/IN)	DRAWING CLASSIFICATION UNCLASSIFIED	SIZE D / DRAWING NUMBER 13Y-192071
THIRD ANGLE PROJECTION	09-26-91 08:23	FSCM 88516 / SCALE 1/1 / SHEET 5 OF -
	STATUS	ORIGIN LA-ICEMPLUS-V2.03

DYE STUDY REPORT FOR BUILDINGS
16-430
COMPILED BY ENGINEERING AND INFORMATION RESOURCES (WX-12)

BUILDING 430--Dye studied from June 25-July 15, 1990

DRAIN No	DRAIN LOCATION	END OF PIPE
1FD1	RM 110A	16-430-OPN-1 EPA outfall 04A060
1FD2	RM 110	16-430-OPN-1 EPA outfall 04A060
1FD3	RM 105	16-430-OPN-1 EPA outfall 04A060
1FD4	RM 107A	16-430-OPN-1 EPA outfall 04A060
1FD5	RM 108	16-430-OPN-1 EPA outfall 04A060
1FD6	First Floor Corr.	16-430-OPN-7
1FD7	First Floor Corr.	16-430-OPN-7
1FD8	First Floor Corr.	16-430-OPN-7
1FD9	First Floor Corr.	16-430-OPN-7
1PD1	RM 110	16-430-OPN-14
1PD2	RM 5A	16-430-OPN-6
1PD3	RM 4A	16-430-OPN-6
1PD4	RM 2A	16-430-OPN-6
1PD5	Bay 5	16-430-OPN-6
1PD6	Bay 4	16-430-OPN-6
1PD7	Bay 2	16-430-OPN-6
1PD8	Bay 1 Basement	16-430-OPN-9
SPD1	Sump #1	16-430-OPN-11
SPD2	Sump #2	16-430-OPN-5
SPD3	Sump #3	16-430-OPN-4
2FD1	RM 201	sanitary sewer
2FD2	RM 201	16-430-OPN-14
2FD3	RM 201 Eq. Cor.	16-430-OPN-3
2FD4	RM 201 Eq. Cor.	16-430-OPN-3
2FD5	RM 201 Eq. Cor.	16-430-OPN-13
2FD6	RM 201 Eq. Cor.	16-430-OPN-13
RD1	Roof Drain	16-430-OPN-1
RD2	Roof Drain	16-430-OPN-14
RD3	Roof Drain	16-430-OPN-13
RD4	Roof Drain	16-430-OPN-13
RD5	Roof Drain	16-430-OPN-13
RD6	Roof Drain	16-430-OPN-3
RD7	Roof Drain	16-430-OPN-3
RD8	Roof Drain	16-430-OPN-3
RD9	Roof Drain	16-430-OPN-1
RD10	Roof Drain	16-430-OPN-1





15190

LEGEND:
EWD – EYE WASH DRAIN
FD – FLOOR DRAIN
LV – LAVATORY
PD – PIT DRAIN
RD – ROOF DRAIN
SD – SINK DRAIN
SPD – SUMP DRAIN
T – TOILET
UR – URINAL
WF – WATER FOUNTAIN

NOTES:
NOTE 1 – PIPING LAYOUT FROM DRAWINGS C–1348, C–1349, C–1350, C–1351, C–8254, C–8281, C–8284 & R–2873
NOTE 2 – DYE STUDY VERIFICATION BY WX–12

N

SANTA FE ENGINEERING, LTD.

TA 16–430
BUILDING DRAIN SCHEMATIC

DRAWN	MSC
DESIGN	MSC
CHECKED	PEB
DATE	3/27/92

SUBMITTED | RECOMMENDED | APPROVED

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET ___ OF ___

CLASSIFICATION | REVIEWER | DATE

REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP	11056–3	FIGURE 1	