

WASTEWATER STREAM CHARACTERIZATION FOR TA-2

at
Los Alamos National Laboratory

ENVIRONMENTAL STUDY

CHARACTERIZATION REPORT # 63

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ENVIRONMENTAL MANAGEMENT DIVISION
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

WASTEWATER STREAM
CHARACTERIZATION FOR
TA-2-1, 4, 21, 27, 36, 44, 46, 49,
50, 51, 57, 63, 69 AND 70

ENVIRONMENTAL STUDY

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

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EXECUTIVE SUMMARY

Buildings 1, 4, 21, 27, 36, 44, 46, 49, 50, 51, 57, 63, 69 and 70 in TA-2 were visited to document all drain piping and building outflows and to make permitting recommendations. The pipes exiting the building are as follows:

1. from building 2-1: one sanitary sewer connection, one radioactive liquid waste drain, seven fire line drains, seven storm drains, one sanitary sewer vent and two equipment exhaust vents,
2. buildings 2-4, 21, 50, 51, 69 and 70: no water supplies and no drains,
3. building 2-27: one storm drain,
4. from building 2-36: one storm drain,
5. from building 2-44: one radioactive liquid waste drain, one permitted outfall (03A-020) and one water heater pressure relief valve drain,
6. from structure 2-46: one dry well,
7. from building 2-49: one permitted outfall (03A-020),
8. from building 2-57: one fire line drain,
9. from building 2-63: one sanitary sewer connection and two air compressor exhaust vents,

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

A Waste Stream Database has been prepared listing the waste water and flow rate for each outfall.

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1.0 INTRODUCTION

During January, 1993, Mark E. Wendt of Santa Fe Engineering (SFE) toured buildings 1, 4, 21, 27, 36, 44, 46, 49, 50, 51, 57, 63, 69 and 70 in TA-2. 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 operations. The Waste Stream Characterization Policy of September 10, 1992 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 the 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 by verifying drain schematic drawings prepared by SFE for the appropriate buildings (Figures 1 through 10) from drawings provided by Los Alamos National Laboratory (LANL) Facilities Engineering Division. The other buildings were visited to insure that no drains exist for the buildings. The following process was used to define drain piping and characterize the wastewater streams:

1. Laboratory engineering drawings were used to prepare 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 Energy (DOE) and the Environmental Protection Agency (EPA) and the Administrative Order (AO) Docket Number VI-92-1306 issued by EPA to the University of California were used for reference;
2. A site visit was performed to verify the SFE drain schematics and to identify potential outfall pipes exiting the building. The visit entailed a room by room inspection of wastewater sources and drains. Interviews with site personnel were conducted to assist in wastestream characterization and
3. SFE verified drain piping by dye checking.

2.0 FIELD INVESTIGATION

The pipes exiting the building 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 piping 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 10). 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 exiting from buildings are listed in Appendix 1, Tables 1 through 8, with non-drain recommendations in Table 9 and an abbreviations list in Table 10. Appendix 2 contains the wastestream characterization database output, listing wastewater source, flow rates and periodicity information for each outfall drain. Completed EPA forms are in Appendix 3 for appropriate outfalls. Appendix 4 provides information about the dye study of building drains. Flow schematics of the drains from each building are attached in Appendix 5 as Figures 2 through 10. A Site Plan is included in Appendix 5 as Figure 1 illustrating the locations of buildings included in this report.

3.0 RECOMMENDATIONS FOR BUILDING 2-1

Table 1 is a list of the drains to the building outfalls and Figures 2, 3 and 4 are schematics of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. The discussion below gives the reasoning for the recommendations. This building houses the Omega West Reactor, associated Medical Radioisotopes and Reactor Applications Group (INC-15) offices and support facilities. Room 101C located on the northwest side of this building and accessed from outside the building has both solid and liquid radioactive hazardous materials stored within. Providing secondary containment for the contents in this room is highly recommended.

Room 122 located in the northeast portion of the building and currently being used as an exercise and weight room, once housed a reactor unit which has since been dismantled and removed from the site. However, according to Jerry Ramsey, operations supervisor for TA-2, there are various pipes which have been plugged and abandoned-in-place below the slab in this room. These pipes have the potential to be radioactively contaminated.

All sinks and water fountains which drain to the sanitary sewage system should be provided with signs stating "THIS SINK (WATER FOUNTAIN) DRAINS TO SANITARY SEWER. NO CHEMICALS ALLOWED DOWN THIS DRAIN". This sign must be posted in clear view at every applicable fixture.

The elevator equipment room, which is accessed through a door at the bottom of the stairwell in corridor 100A, has a floor drain, BFD2, which has been temporarily plugged. It is recommended this drain be permanently plugged.

3.1 Outfall 2-1-OPN-1

This outfall receives potentially radioactive liquid waste (RLW) flow from drains located in the Omega West Reactor room 101 and a sink drain located in the adjacent control room area 102. It also receives flow from a non-contaminated cup drain located in utility room 102A and flows into a 175 gallon underground storage tank with a secondary containment vault located below the parking lot just south of room 102. The effluent from this tank is pumped periodically by garden hose to the three 1,200 gallon underground storage tanks located just west of cooling tower TA-2-49. From there it is discharged by pipeline to the TA-50 Radioactive Treatment Facility via the underground pumping station located next to the three 1,200 gallon underground storage tanks. It is recommended that a safer method of discharging effluent from the 175 gallon storage tank to the three underground storage tanks be investigated by the user group. It is also recommended the 175 gallon underground storage tank be inspected on a periodic basis for structural integrity.

Some of the drains in reactor room 101 have removable drain plugs. These drains may need to be used for future work. Therefore, it is recommended the removable drain plugs remain and a SOP be developed for the administrative removal of these plugs when the use of the drain is required. These drains should also be labeled as RLW drains. No permitting is needed for this outfall and no EPA forms have been prepared.

3.2 Outfalls 2-1-OPN-2, 2-1-OPN-10, 2-1-OPN-14, 2-1-OPN-17, 2-1-OPN-18 and 2-1-OPN-19

These outfalls are from roof storm water drainage which flows to a downspout. This downspout runs down along the

wall and discharges to daylight next to the building. No permitting is needed for these outfalls and no EPA forms were prepared.

3.3 Outfall 2-1-OPN-3

This outfall is a sanitary sewer vent pipe which discharges to the atmosphere next to the building. No permitting or piping changes are required for this outfall and no EPA forms were prepared.

3.4 Outfall 2-1-OPN-4

This outfall is from sanitary facilities and flows to a lift station which pumps the sewage up to the TA-3 sanitary waste treatment collection system. The four laboratory sinks 1SD7, 1SD8, 1SD9 and 1SD10 located in room 115 and flowing to sanitary sewer have the potential for chemical contamination. It is recommended these four sinks be re-piped to the RLW system.

Trench drains 1TD1, 1TD2 and 1TD3 located below the floor in room 124 were found to have temporary drain plugs. Providing these trench drains with permanent plugs is recommended. There are a number of additional drains in this same trench system which were not verified because they were inaccessible. It is recommended these drains, whenever they are uncovered, should be permanently plugged by the user group. No permitting is required for this outfall and no EPA forms were prepared.

3.5 Outfalls 2-1-OPN-5

This outfall receives storm water flow from one roof drain and from ground water seepage coming up through two weep holes in the basement floor. The roof drain flows directly

to the outfall while the water seeping through the floor drains via PVC piping to a sump pump pit located in the southeast corner of the basement where it is pumped up to the outfall pipe. From there it is discharged into the creek bed just west of the east side bridge. Floor drain BFD1 is also located in the basement and receives flow from a water backflow preventer (BFP) drain and a water pressure tank drain. According to Jerry Ramsey, Operations Supervisor for TA-2, it drains to the sump pump pit. This was not verified by dye testing because of the high water level in the basement. It is recommended the BFP drain and the water pressure tank drain currently draining to floor drain BFD1 be re-piped to sanitary sewer.

A determination of the specific source of the water seeping through the basement floor by the user group and the testing of this water for contamination on a regular basis is recommended.

It is also recommended that the roof drain be separated from the existing combined discharge in accordance with Laboratory policy. The remaining sump pump discharge should be included in the general Laboratory Notice of Intent (NOI) to Discharge to be submitted to the New Mexico Environment Department (NMED) under the New Mexico Water Quality Control Commission Regulations. No NPDES permitting is required for this outfall if no pollutants are discharged. An EPA Form 2D has been prepared in the event that pollutants are discovered discharging from this outfall.

3.6 Outfalls 2-1-OPN-6, 2-1-OPN-7, 2-1-OPN-8, 2-1-OPN-9, 2-1-OPN-11, 2-1-OPN-12 and 2-1-OPN-15

These outfalls are fire water system drains which discharge to daylight next to the building. These outfalls should be covered by an NOI. No piping changes are recommended. No EPA forms were completed.

3.7 Outfall 2-1-OPN-13

This outfall is an emergency generator exhaust pipe which discharges to the atmosphere next to the building. No piping changes are recommended and no EPA forms were completed.

3.8 Outfall 2-1-OPN-16

This outfall is a vacuum pump air exhaust which discharges to the atmosphere next to the building. No piping changes are recommended. No EPA forms were completed.

4.0 RECOMMENDATIONS FOR BUILDING 2-4

This building and the underground storage bunker adjacent to this building are currently used as a storage facility for radioactive contaminated equipment. There are no drains or fixtures present in this building or the underground bunker. A record of the contents is currently posted on the entrance to this building. No permitting is recommended and no EPA forms were prepared.

5.0 RECOMMENDATIONS FOR BUILDINGS 2-21, 50 AND 69

Structures 2-21, 50 and 69 have been investigated and it was discovered they do not have any drains or any source of water.

6.0 RECOMMENDATIONS FOR BUILDING 2-27

Table 2 is a list of the drains to the building outfall and Figure 5 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This building is a storm water drop inlet enclosure with four

walls and a roof. The outfall receives storm water runoff from the canyon wall to the north. The discharge flows to the south and drains into the creek bed. No permitting is needed for this outfall and no EPA forms have been prepared

7.0 RECOMMENDATIONS FOR BUILDING 2-36

Table 3 is a list of the drains to the building outfall and Figure 5 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This building is a storm water drop inlet enclosure with four walls and a roof. The outfall receives storm water runoff from the canyon wall to the north. The discharge flows to the south and drains into the creek bed. No permitting is needed for this outfall and no EPA forms have been prepared.

8.0 RECOMMENDATIONS FOR BUILDING 2-44

Table 4 is a list of the drains to the building outfall and Figure 6 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. The discussion below gives the reasoning for the recommendations.

8.1 Outfall 2-44-OPN-1

This outfall is a water heater pressure relief valve drain which discharges to daylight next to the building. This outfall should be covered by an NOI. No piping changes are recommended. No EPA forms were completed.

8.2 Outfall 2-44-OPN-2

This outfall is from a cooler unit blowdown which discharges treated cooling water to Los Alamos Canyon, along with cooling tower outfall 2-49-OPN-1, as permitted outfall 03A-020. This cooler unit discharges an average of 272 GPD five days per week for 8 months of the year. No piping changes are recommended for this outfall. See Section 10.0 for additional flow data for the permitted outfall. An updated EPA Form 2C has been provided for this outfall in Appendix 3.

8.3 Outfall 2-44-OPN-3

This outfall receives flow from three floor drains and one sink drain and drains below grade to three 1,200 gallon underground storage tanks located approximately 60 feet southwest of this building. The tanks are periodically pumped via an underground pipeline to the TA-50 Treatment Facility. These drains receive some radioactively contaminated waste water from the Omega Reactor cooling equipment located in this building as indicated from the 'radioactively contaminated' warning sign located at floor drain 1CFD2. Floor drain 1CFD3 was not located and is believed to be under some equipment. None of the drains were dye tested at the time of the site visit. It is recommended the location of floor drain 1CFD3 be verified and all three floor drains and the sink drain be verified as to their destinations by the user group.

There are three (3) 1,200 gallon underground storage tanks that hold radioactively contaminated cooling waters from the Omega West Reactor, located to the west of cooling tower 49 and approximately 15-20 feet north of the creek embankment and are approximately 4 feet below grade. These tanks are approximately 30 years old and have not been evaluated for

structural integrity in that time (based on the Environmental Compliance Audit of TA-2 dated September 26, 1992). The effluents from these tanks are discharged periodically by pipeline to the TA-50 Radioactive Treatment Facility. Immediate inspection of these tanks for structural integrity and correct operation by the user group is highly recommended. It is also recommended that replacement with new double-containment tanks be investigated.

Under existing conditions, the three floor drains present in this building could not handle the total flow if there was a complete cooling system failure and the water drained onto the floor of the building. It is recommended that the total reactor cooling system water volume that could be discharged into this building be determined by the user group. The proper storage capacity for this volume of the reactor cooling system water should be investigated and the installation of adequate secondary containment to handle this volume of water is recommended.

This building contains the closed-loop reactor cooling system make-up water meter. It is recommended a Standard Operating Procedure (SOP) be developed by the user group to utilize this meter along with the discharge water meter as a monitoring device for detecting cooling system leaks both for when the reactor is up and running and when it is shut down.

This building has an air compressor unit with a blow-off line discharging to the floor. Containing the liquid from the air compressor unit is recommended. No permitting is required for this outfall and no EPA forms have been prepared.

9.0 RECOMMENDATIONS FOR BUILDING 2-46

Table 5 is a list of the drains to the building outfall and figure 7 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This outfall receives flow from the reactor cooling system surge tank and drains to a dry well located below the tank. It is recommended the soil around the dry well be tested by the user group for any radioactive or other hazardous materials contamination. This outfall should be covered by an NOI. Until soil testing can be performed, no piping changes are recommended for this outfall and no EPA forms have been completed.

10.0 RECOMMENDATIONS FOR BUILDING 2-49

Table 6 is a list of the drains to the building outfall and Figure 8 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This outfall is from a cooling tower blowdown which discharges treated cooling water to Los Alamos Canyon as permitted outfall 03A-020. This cooling tower discharges an average of 6,126 GPD five days per week for 8 months of the year. No piping changes are recommended for this outfall. An updated EPA Form 2C has been provided for this outfall in Appendix 3.

11.0 RECOMMENDATIONS FOR BUILDING 2-51

This structure is a pad-mounted, oil-filled electrical transformer which contains PCB's. This transformer is currently provided with a metal secondary containment berm which upon inspection appears to be too small to handle an oil spill and the potential for storm water accumulation.

It is recommended additional secondary containment be provided, by the responsible party, with the capacity to contain a transformer oil spill and storm water accumulation for a time until which the oil could be pumped out and disposed of properly.

12.0 RECOMMENDATIONS FOR BUILDING 2-57

Table 7 is a list of the drains to the building outfall and Figure 9 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. The one outfall is from a fire water system drain which discharges to daylight next to the building. This outfall should be covered by an NOI. No piping changes are recommended. No EPA forms were completed.

13.0 RECOMMENDATIONS FOR BUILDING 2-63

Table 8 is a list of the drains to the building outfall and Figure 10 is a schematic of the piping. The table lists the drains that connect to the outfall pipe and includes recommendations for changes to the drain piping. This building has two air compressor units, a compressed air holding tank and an air dryer unit. Each of these units has a drain line which discharges to the floor. Containing the liquid from these units is recommended.

13.1 Outfall 46-63-OPN-1

This outfall receives flow from four equipment drains and drains to the sanitary sewage lift station located in the basement of building TA-2-1. From there it is pumped up to the TA-3 sanitary sewage treatment collection system. No permitting or piping changes are recommended for this outfall and no EPA forms have been prepared.

13.2 Outfalls 46-63-OPN-2 and 46-63-OPN-3

These outfalls are air compressor exhaust vents which discharge to the atmosphere next to the building. No permitting is required for these outfalls and no EPA forms have been prepared.

14.0 RECOMMENDATIONS FOR BUILDING 2-70

This structure is a water storage tank located above grade. It is recommended this tank be provided with a sign indicating it's contents. No piping changes are recommended and no EPA forms were prepared.

15.0 CONCLUSION

This document provides the information to characterize buildings 1, 4, 21, 27, 36, 44, 46, 49, 50, 51, 57, 63, 69 and 70 of TA-2.

Form 2C:

1. 2-44-OPN-2 (03A-020)
2. 2-49-OPN-1 (03A-020)

Form 2D:

1. 2-1-OPN-5

Permitting is not recommended for the following outfalls, as itemized below.

Discharges to radioactive waste water underground storage tanks:

1. 2-1-OPN-1
2. 2-44-OPN-3

Discharges to TA-3 Sewage Collector:

1. 2-1-OPN-4
2. 2-63-OPN-1

Discharge from the fire system:

1. 2-1-OPN-6
2. 2-1-OPN-7
3. 2-1-OPN-8
4. 2-1-OPN-9
5. 2-1-OPN-11
6. 2-1-OPN-12
7. 2-1-OPN-15
8. 2-57-OPN-1

Discharges of storm water:

1. 2-1-OPN-2
2. 2-1-OPN-5
3. 2-1-OPN-10
4. 2-1-OPN-14
5. 2-1-OPN-17
6. 2-1-OPN-18
7. 2-1-OPN-19
8. 2-27-OPN-1
9. 2-36-OPN-1

Discharges from a water heater pressure relief valve:

1. 2-44-OPN-1

Miscellaneous discharges:

1. 2-1-OPN-3
2. 2-1-OPN-13
3. 2-1-OPN-16
4. 2-46-OPN-1
5. 2-63-OPN-2
6. 2-63-OPN-3

Buildings with no drains:

1. TA-2-21
2. TA-2-50
3. TA-2-69

Oil-filled electric transformer:

1. TA-2-51

Water Storage Tank:

1. TA-2-70

Recommended corrective actions are outlined in Tables 1 through 8 as well as in the above text. Corrective action should be performed as soon as practicable to minimize the chance of unpermitted discharge of pollutants.

TABLE 1: TA 2-1 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-1-OPN-1 RLW 051	1CCD1	OMEGA REACTOR RM.	101	MODIFY	NO
	1CCD2	OMEGA REACTOR RM.	101	MODIFY	
	1CD1	UTILITY CLOSET	102A	NO CHANGE	
	1CED1	OMEGA REACTOR RM.	101	NO CHANGE	
	1CED2	OMEGA REACTOR RM.	101	NO CHANGE	
	1CED3	OMEGA REACTOR RM.	101	NO CHANGE	
	1CFD1	OMEGA REACTOR RM.	101	NO CHANGE	
	1CFD2	OMEGA REACTOR RM.	101	NO CHANGE	
	1CFD3	OMEGA REACTOR RM.	101	NO CHANGE	
	1CFD4	OMEGA REACTOR RM.	101	NO CHANGE	
	1CFD5	OMEGA REACTOR RM.	101	NO CHANGE	
	1CFD6	OMEGA REACTOR RM.	101	NO CHANGE	
	1CFD7	OMEGA REACTOR RM.	101	NO CHANGE	
	1CSD1	CONROL RM. CORR.	102	NO CHANGE	
	1CTD1	OMEGA REACTOR RM.	101	NO CHANGE	
2-1-OPN-2	N/A	ROOF	N/A	NO CHANGE	NO
2-1-OPN-3	N/A	SAN. SEWER VENT	001	NO CHANGE	NO
2-1-OPN-4 SANITARY 01S	BFD2	ELEV. EQUIP. RM.	N/A	PLUG	NO
	BLS1	BASEMENT	001	NO CHANGE	
	1FD1	BATHROOM	109	NO CHANGE	
	1FD2	GENERATOR ROOM	116A	NO CHANGE	
	1FD3	METAL SHOP	117	NO CHANGE	
	1LV1	RESTROOM	111	NO CHANGE	
	1LV2	BATHROOM	109	NO CHANGE	
	1LV3	PARTS STORAGE RM.	118	REMOVED	
	1SD1	JANITOR'S CLOSET	107	NO CHANGE	
	1SD2	OFFICE	110	NO CHANGE	
	1SD3	OFFICE	112	NO CHANGE	
	1SD4	OFFICE	113	NO CHANGE	
	1SD5	REACTOR CNTRL RM	102	NO CHANGE	
	1SD6	BREAK ROOM	116	NO CHANGE	
	1SD7	CHEMISTRY LAB	115	RE-PIPE	
	1SD8	CHEMISTRY LAB	115	RE-PIPE	
	1SD9	CHEMISTRY LAB	115	RE-PIPE	
	1SD10	CHEMISTRY LAB	115	RE-PIPE	
1SD11	METAL SHOP	117	NO CHANGE		
1SD12	METAL SHOP	117	NO CHANGE		
1SD13	WAREHOUSE AREA	124	NO CHANGE		
1SD14	LABORATORY	125	NO CHANGE		
1SD15	LABORATORY	125	NO CHANGE		
1SD16	LABORATORY	125	NO CHANGE		

TABLE 1: TA 2-1 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-1-OPN-4 SANITARY CONT.	1SD17	LABORATORY	125	NO CHANGE	NO
	1SD18	LABORATORY	125	NO CHANGE	
	1SD19	METAL SHOP	117	REMOVED	
	1SH1	BATHROOM	109	NO CHANGE	
	1TD1	WAREHOUSE AREA	124	PLUG	
	1TD2	WAREHOUSE AREA	124	PLUG	
	1TD3	WAREHOUSE AREA	124	PLUG	
	1TL1	RESTROOM	111	NO CHANGE	
	1TL2	BATHROOM	109	NO CHANGE	
	1TL3	BATHROOM	109	NO CHANGE	
	1TL4	PARTS STORAGE RM.	118	REMOVED	
	1UR1	BATHROOM	109	NO CHANGE	
	1UR2	PARTS STORAGE RM.	118	REMOVED	
	1WF1	CORRIDOR	100	NO CHANGE	
	1WF2	REACTOR CNTRL RM	102	NO CHANGE	
	1WF3	METAL SHOP	117	NO CHANGE	
2WF1	CORRIDOR	200A	NO CHANGE		
2-1-OPN-5	BFD1	BASEMENT	001	MODIFY	YES
	BSP1	BASEMENT	001	NOI OR PERMIT	
	BSP2	BASEMENT	001	NOI OR PERMIT	
	RD1	ROOF	N/A	MODIFY	
2-1-OPN-6	N/A	FIRE LINE DRAIN	126	NOI	NO
2-1-OPN-7	N/A	FIRE LINE DRAIN	126	NOI	NO
2-1-OPN-8	N/A	FIRE LINE DRAIN	126	NOI	NO
2-1-OPN-9	N/A	FIRE LINE DRAIN	126	NOI	NO
2-1-OPN-10	N/A	ROOF	N/A	NO CHANGE	NO
2-1-OPN-11	N/A	FIRE LINE DRAIN	122	NOI	NO
2-1-OPN-12	N/A	FIRE LINE DRAIN	122	NOI	NO
2-1-OPN-13	N/A	GENERATOR EXH.	116A	NO CHANGE	NO
2-1-OPN-14	N/A	ROOF	N/A	NO CHANGE	NO
2-1-OPN-15	N/A	FIRE LINE DRAIN	116A	NOI	NO
2-1-OPN-16	N/A	VAC. PUMP EXHAUST	106	NO CHANGE	NO
2-1-OPN-17	N/A	ROOF	N/A	NO CHANGE	NO
2-1-OPN-18	N/A	ROOF	N/A	NO CHANGE	NO
2-1-OPN-19	N/A	ROOF	N/A	NO CHANGE	NO

TABLE 2: TA 2-27 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-27-OPN-1	N/A	STORM WATER DRAIN	N/A	NO CHANGE	NO

TABLE 3: TA 2-36 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-36-OPN-1	N/A	STORM WATER DRAIN	N/A	NO CHANGE	NO

TABLE 4: TA 2-44 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-44-OPN-1	1WH1	WATER HTR DRAIN	N/A	NOI	NO
2-44-OPN-2 (03A-020)	N/A	COOLING UNIT BLOWDOWN	N/A	PERMITTED OUTFALL	YES
2-44-OPN-3 RAD. WASTE 051	1CFD1	MECHANICAL ROOM	N/A	VERIFY	NO
	1CFD1	AIR COMP. BLOWOFF	N/A	CONTAINERIZE	
	1CFD2	MECHANICAL ROOM	N/A	VERIFY	
	1CFD3	MECHANICAL ROOM	N/A	VERIFY	
	1CSD1	MECHANICAL ROOM	N/A	VERIFY	

TABLE 5: TA 2-46 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-46-OPN-1	N/A	DRY WELL	EXTER	TEST	NO

TABLE 6: TA 2-49 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-49-OPN-1 (03A-020)	N/A	COOLING TOWER BLOWDOWN	N/A	PERMITTED OUTFALL	YES

TABLE 7: TA 2-57 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-57-OPN-1	N/A	FIRE LINE DRAIN	N/A	NOI	NO

TABLE 8: TA 2-63 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
2-63-OPN-1 SANITARY 01S	1ED1	MECHANICAL ROOM	100	NO CHANGE	NO
	1ED2	MECHANICAL ROOM	100	NO CHANGE	
	1ED3	MECHANICAL ROOM	100	NO CHANGE	
	1ED4	MECHANICAL ROOM	100	NO CHANGE	
2-63-OPN-2	N/A	EXHAUST VENT	100	NO CHANGE	NO
2-63-OPN-3	N/A	EXHAUST VENT	100	NO CHANGE	NO

TABLE 9 - NON-DRAIN RECOMMENDATIONS

TA #	BLDG. #	ROOM/AREA	RECOMMENDATION
2	1	101C	SECONDARY CONTAINMENT
2	1	MECH	METER MAKE-UP WATER VOLUME
2	1	ALL LAB. SINKS	NEED SIGNS - "NO CHEMICALS INTO SINKS" ADMINISTRATIVE CONTROLS/POLICIES
2	44	TANKS (3)	CK INTEGRITY/SECOND CONTAIN
2	44	ALL	SECOND CONTAIN FOR COOLING WT
2	44	MECH	CONTAINERIZE COMP AIR BD
2	51	ALL	INCREASE SEC CONTAIN VOLUME
2	63	MECH	CONTAINERIZE COMP AIR BD (3)
2	70	ALL	LABEL WATER TANK

TABLE 10
SUMMARY OF ABBREVIATIONS

ABBREVIATION	MEANING
CCD	Contaminated Cup Drain
CED	Contaminated Equipment Drain
CFD	Contaminated Floor Drain
CSD	Contaminated Sink Drain
CTD	Contaminated Trench Drain
ED	Equipment Drain
FD	Floor Drain
FS	Floor Sink
LV	Lavatory
MH	Manhole
RD	Roof Drain
---RLW---	Radioactive Liquid Waste
--- SD ---	Storm Drain Pipe
SD	Sink
SH	Shower
SLS	Sanitary Sewage Lift Station
SP	Sump Pump
---SS---	Sanitary Sewer Pipe
TD	Trench Drain
TL	Toilet
UR	Urinal
WF	Water Fountain

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES
2	1	2-1-OPN-01	051	1CCD1	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CCD2	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CD1	102A	UTILITY CLOSET	N/A	FLOW IS NIL	No	WATER BACKFLOW PREVENTER
2	1	2-1-OPN-01	051	1CED1	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CED2	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CED3	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CFD1	101	OMEGA REACTOR ROOM	N/A	FLOW IS NIL	No	FLOOR WASHINGS
2	1	2-1-OPN-01	051	1CFD2	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CFD3	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CFD4	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CFD5	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CFD6	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CFD7	101	OMEGA REACTOR ROOM	N/A	NO FLOW	No	NONE
2	1	2-1-OPN-01	051	1CSD1	102	CONTROL ROOM CORRIDOR	N/A	5 DAYS PER WEEK	No	CONTROLLED AREA HAND WASHING
2	1	2-1-OPN-01	051	1CTD1	101	OMEGA REACTOR ROOM	N/A	NO APPARENT FLOW	No	NONE - TRENCH DRAIN
2	1	2-1-OPN-02	N/A	N/A		ROOF	N/A	MOSTLY IN SUMMER	No	STORM WATER
2	1	2-1-OPN-03	N/A	N/A	001	BASEMENT	N/A	NO FLOW	No	SANITARY SEWER VENT
2	1	2-1-OPN-04	01S	1FD1	109	BATHROOM	N/A	FLOW IS NIL	No	FLOOR WASHINGS
2	1	2-1-OPN-04	01S	1FD2	116A	DIESEL GENERATOR ROOM	N/A	NO FLOW	No	NONE (PLUGGED)
2	1	2-1-OPN-04	01S	1FD3	117A	METAL SHOP	N/A	FLOW IS NIL	No	FLOOR WASHINGS
2	1	2-1-OPN-04	01S	1LV1	111	RESTROOM	N/A	5 DAYS PER WEEK	No	LAVATORY
2	1	2-1-OPN-04	01S	1LV2	109	RESTROOM	N/A	5 DAYS PER WEEK	No	LAVATORY
2	1	2-1-OPN-04	N/A	1LV3	118	PARTS STORAGE ROOM	N/A	NO FLOW	No	NONE (REMOVED)
2	1	2-1-OPN-04	01S	1SD01	107	JANITOR'S CLOSET	N/A	5 DAYS PER WEEK	No	SERVICE SINK
2	1	2-1-OPN-04	01S	1SD02	110	OFFICE	N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD03	112	OFFICE	N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD04	113	OFFICE	N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD05	102	REACTOR CONTROL ROOM	N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD06	116	BREAK ROOM	N/A	5 DAYS PER WEEK	No	DISH WASHING
2	1	2-1-OPN-04	01S	1SD07	115	CHEMISTRY LABORATORY	N/A	5 DAYS PER WEEK	No	HAND WASHING/CHEMICAL RINSE
2	1	2-1-OPN-04	01S	1SD08	115	CHEMISTRY LABORATORY	N/A	5 DAYS PER WEEK	No	HAND WASHING/CHEMICAL RINSE
2	1	2-1-OPN-04	01S	1SD09	115	CHEMISTRY LABORATORY	N/A	5 DAYS PER WEEK	No	HAND WASHING/CHEMICAL RINSE
2	1	2-1-OPN-04	01S	1SD10	115	CHEMISTRY LABORATORY	N/A	5 DAYS PER WEEK	No	HAND WASHING/CHEMICAL RINSE

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES	
2	1	2-1-OPN-04	01S	1SD11	117	METAL SHOP		N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD12	117	METAL SHOP		N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	N/A	1SD13	124	WAREHOUSE AREA		N/A	5 DAYS PER WEEK	No	FLOOR WASHINGS
2	1	2-1-OPN-04	01S	1SD14	125	LABORATORY		N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD15	125	LABORATORY		N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD16	125	LABORATORY		N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD17	125	LABORATORY		N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	01S	1SD18	125	LABORATORY		N/A	5 DAYS PER WEEK	No	HAND WASHING
2	1	2-1-OPN-04	N/A	1SD19	117	METAL SHOP		N/A	NO FLOW	No	NONE (REMOVED)
2	1	2-1-OPN-04	01S	1SH1	109	BATHROOM		N/A	5 DAYS PER WEEK	No	SHOWER
2	1	2-1-OPN-04	01S	1TD1	124	WAREHOUSE AREA - TRENCH		N/A	NO FLOW	No	NONE
2	1	2-1-OPN-04	N/A	1TD2	124	WAREHOUSE AREA		N/A	NO FLOW	No	NONE
2	1	2-1-OPN-04	N/A	1TD3	124	WAREHOUSE AREA		N/A	NO FLOW	No	NONE
2	1	2-1-OPN-04	01S	1TL1	111	RESTROOM		N/A	5 DAYS PER WEEK	No	TOILET
2	1	2-1-OPN-04	01S	1TL2	109	BATHROOM		N/A	5 DAYS PER WEEK	No	TOILET
2	1	2-1-OPN-04	01S	1TL3	109	BATHROOM		N/A	5 DAYS PER WEEK	No	TOILET
2	1	2-1-OPN-04	N/A	1TL4	118	PARTS STORAGE ROOM		N/A	NO FLOW	No	NONE (REMOVED)
2	1	2-1-OPN-04	01S	1UR1	109	BATHROOM		N/A	5 DAYS PER WEEK	No	URINAL
2	1	2-1-OPN-04	N/A	1UR2	118	PARTS STORAGE ROOM		N/A	NO FLOW	No	NONE (REMOVED)
2	1	2-1-OPN-04	01S	1WF1	100	CORRIDOR		N/A	5 DAYS PER WEEK	No	WATER FOUNTAIN
2	1	2-1-OPN-04	01S	1WF2	102	REACTOR CONTROL ROOM		N/A	5 DAYS PER WEEK	No	WATER FOUNTAIN
2	1	2-1-OPN-04	01S	1WF3	117	METAL SHOP		N/A	5 DAYS PER WEEK	No	WATER FOUNTAIN
2	1	2-1-OPN-04	01S	2WF1	200A	CORRIDOR		N/A	5 DAYS PER WEEK	No	WATER FOUNTAIN
2	1	2-1-OPN-04	N/A	BFD2		ELEVATOR EQUIPMENT ROOM		N/A	NO FLOW	No	NONE
2	1	2-1-OPN-04	01S	BLS1	001	BASEMENT		N/A	7 DAYS PER WEEK	No	SANITARY SEWAGE
2	1	2-1-OPN-05	N/A	BFD1	001	BASEMENT		N/A	FLOW IS NIL	No	BACKFLOW PREVENTER DRAIN
2	1	2-1-OPN-05	N/A	BSP1	001	BASEMENT	60	GPD	24 HRS/DAY; 7 DAYS/WK	No	GROUND WATER
2	1	2-1-OPN-05	N/A	BSP2	001	BASEMENT	60	GPD	24 HRS/DAY; 7 DAYS/WK	No	GROUND WATER
2	1	2-1-OPN-05	N/A	RD1		ROOF		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	1	2-1-OPN-06	N/A	N/A	126	METAL SHOP		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN
2	1	2-1-OPN-07	N/A	N/A	126	METAL SHOP		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN
2	1	2-1-OPN-08	N/A	N/A	126	METAL SHOP		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN
2	1	2-1-OPN-09	N/A	N/A	126	METAL SHOP		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN

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TA	BLDG	OUTLET PIPING NO	EPA OUTFALL #	DRAIN #	ROOM #	ROOM DESCRIPTION	FLOW RATE	PERIODICITY	SEASONAL	SOURCE TYPES	
2	1	2-1-OPN-10	N/A	N/A		ROOF		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	1	2-1-OPN-11	N/A	N/A	122	WEIGHT ROOM		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN
2	1	2-1-OPN-12	N/A	N/A	122	WEIGHT ROOM		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN
2	1	2-1-OPN-13	N/A	N/A	116A	DIESEL GENERATOR ROOM		N/A	ONLY IN AN EMERGENC	No	EMERGENCY GENERATOR EXHAUST
2	1	2-1-OPN-14	N/A	N/A		ROOF		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	1	2-1-OPN-15	N/A	N/A	106	CONFERENCE ROOM		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN
2	1	2-1-OPN-16	N/A	N/A	106	CONFERENCE ROOM		N/A	NO FLOW	No	VACUUM PUMP EXHAUST
2	1	2-1-OPN-17	N/A	N/A		ROOF		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	1	2-1-OPN-18	N/A	N/A		ROOF		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	1	2-1-OPN-19	N/A	N/A		ROOF		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	4	TA-2-04	N/A	N/A		STORAGE BUILDING		N/A	NO FLOW	No	NONE
2	21	TA-2-21	N/A	N/A		WATER LINE VALVE HOUSE		N/A	NO FLOW	No	NONE
2	27	TA-2-27	N/A	N/A		STORM WATER DRAIN		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	36	TA-2-36	N/A	N/A		STORM WATER DRAIN		N/A	MOSTLY IN SUMMER	No	STORM WATER
2	44	2-44-OPN-1	N/A	1WH1		MECHANICAL ROOM		N/A	FLOW IS NIL	No	WATER HTR. DRAIN
2	44	2-44-OPN-2	03A-020	N/A		MECHANICAL ROOM	272	GPD	8 MONTHS/YR.	Yes	COOLING UNIT BLOWDOWN
2	44	2-44-OPN-3	051	1CFD1		MECHANICAL ROOM		N/A	FLOW IS NIL	No	AIR COMPRES. BLOWOFF/BFP DRAIN
2	44	2-44-OPN-3	051	1CFD2		MECHANICAL ROOM		N/A	NO FLOW	No	NONE
2	44	2-44-OPN-3	051	1CFD3		MECHANICAL ROOM		N/A	UNKNOWN	No	NOT FOUND
2	44	2-44-OPN-3	051	1CSD1		MECHANICAL ROOM		N/A	AS REQUIRED	No	HAND WASHING
2	49	2-49-OPN-1	03A-020	N/A		COOLING TOWER	6126	GPD	8 MONTHS/YR.	Yes	COOLING TOWER BLOWDOWN
2	50	TA-2-50	N/A	N/A		STORAGE BUILDING		N/A	NO FLOW	No	NONE
2	51	2-46-OPN-1	N/A	N/A		COOLING WATER SURGE TANK		N/A	NO FLOW	No	COOLING WATER
2	51	TA-2-51	N/A	N/A		ELECTRICAL SUBSTATION		N/A	NO FLOW	No	NONE
2	57	2-57-OPN-1	N/A	N/A		WATER VALVE HOUSE		N/A	ONCE ANNUALLY	No	FIRE LINE DRAIN
2	63	2-63-OPN-1	01S	1ED1	100	MECHANICAL ROOM		N/A	FLOW IS NIL	No	BFP/VACUUM FILTER DRAINS
2	63	2-63-OPN-1	01S	1ED3	100	MECHANICAL ROOM		N/A	FLOW IS NIL	No	BOILER DRAIN/PRESS. RELIEF VALVE DR
2	63	2-63-OPN-1	01S	1ED3	100	MECHANICAL ROOM		N/A	FLOW IS NIL	No	WATER HTR. PRESS. RELIEF VALVE
2	63	2-63-OPN-1	01S	1ED4	100	MECHANICAL ROOM		N/A	FLOW IS NIL	No	AIR COMPRESSOR BLOWOFFS(2)
2	63	2-63-OPN-2	N/A	1SD4	160	MECHANICAL ROOM		N/A	NO FLOW	No	AIR COMPRESSOR EXHAUST VENT
2	63	2-63-OPN-3	N/A	N/A	100	MECHANICAL ROOM		N/A	NO FLOW	No	AIR COMPRESSOR EXHAUST VENT
2	69	TA-2-69	N/A	N/A		GUARD STATION		N/A	NO FLOW	No	NONE
2	70	TA-2-70	N/A	N/A		WATER STORAGE TANK		N/A	NO FLOW	No	NONE

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?
 YES (complete the following table) NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				C. DUR- ATION (in days)
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	5. FLOW RATE (in mgd)		6. TOTAL VOLUME (specify with units)		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	
020	Cooling Tower Blowdown	5	8	.006	.023	.006 MGD	.023 MGD	1 min per 20 min

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) NO (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) 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			2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	

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 waste-water 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) NO (go to Item IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COM- PLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. RE- QUIRED	b. Pro- jected

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

CONTINUED FROM PAGE 2

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
N/A			

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)

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)

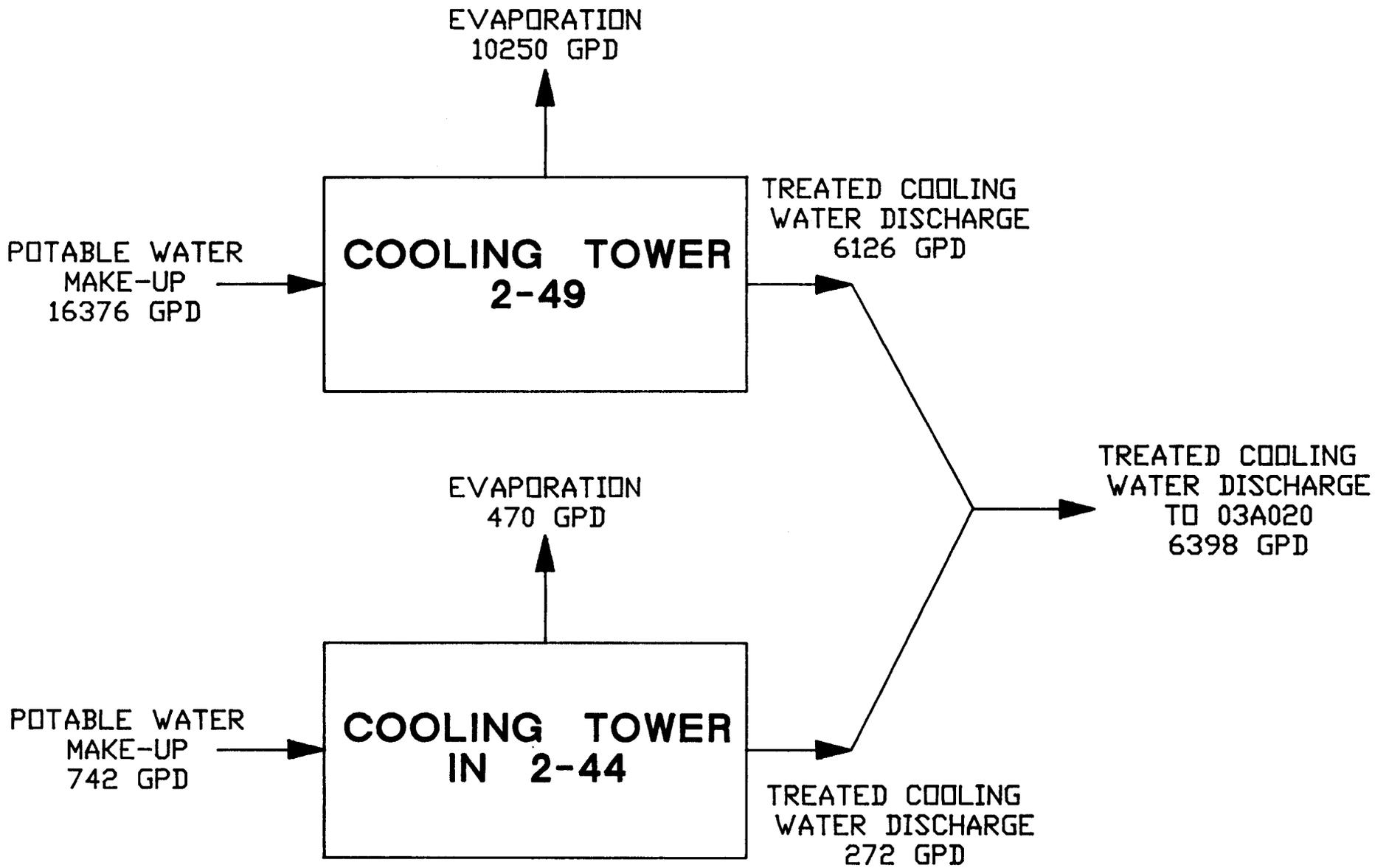
NO (go to Section IX)

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

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 (type or print)	B. PHONE NO. (area code & no.)
JOSEPH VOEZELLA, DOE AREA MANAGER	505-667-5105
ALLEN J. TIEDMAN, ASSOC. DIRECTOR FOR OPERATIONS	505-667-9390
C. SIGNATURE	D. DATE SIGNED



TA-2-49
COOLING TOWER

NTS

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)

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

OUTFALL NO.
03A020

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							3. UNITS (specify if blank)		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	b. LONG TERM AVERAGE VALUE		d. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	2.0	48.4						mg/l	g/d			
b. Chemical Oxygen Demand (COD)	42.0	1.0						mg/l	kg/d			
c. Total Organic Carbon (TOC)	7.4	179.2						mg/l	g/d			
d. Total Suspended Solids (TSS)	10.0	242.2						mg/l	g/d			
e. Ammonia (as N)	< .01	< 0.242						mg/l	g/d			
f. Flow	VALUE 6398		VALUE		VALUE			gal/day		VALUE		
g. Temperature (winter)	VALUE 36.9		VALUE		VALUE			°C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 6.8	MAXIMUM 8.8	MINIMUM 6.0	MAXIMUM 9.0	X			STANDARD UNITS		X		

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'		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 AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	b. LONG TERM AVERAGE VALUE		d. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Bromide (24959-67-9)	X		3.24	78.5						mg/l	g/d			
b. Chlorine, Total Residual		X	0.0	0.0						mg/l	mg/d			
c. Color	X		10							units				
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		2.97	71.9						mg/l	g/d			
f. Nitrate-Nitrite (as N)	X		1.13	27.4						mg/l	g/d			

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	B. SEC. PRESENT	D. SEC. AGENT	C. MAXIMUM DAILY VALUE		D. MAXIMUM 30 DAY VALUE (if available)		E. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	B. CONCENTRATION	D. MASS	F. LONG TERM AVERAGE VALUE		D. 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		2.3	55.7						mg/l	g/d			
h. Oil and Grease		X	< 1.2	< 29.1						mg/l	g/d			
i. Phosphorus (as P), Total (7723-14-0)	X		0.67	16.2						mg/l	g/d			
j. Radioactivity														
(1) Alpha, Total	X		14	339.0						pCi/l	nCi/d			
(2) Beta, Total	X		6.6	159.8						pCi/l	nCi/d			
(3) Radium, Total	X													
(4) Radium 226, Total	X		0.07	1.7						pCi/l	nCi/d			
k. Sulfate (as SO ₄) (14808-79-8)	X		143	3.5						mg/l	kg/d			
l. Sulfide (as S)	X		0.16	3.9						mg/l	g/d			
m. Sulfite (as SO ₃) (14266-45-3)	X		18.8	455.3						mg/l	g/d			
n. Surfactants	X		0.11	2.7						mg/l	g/d			
o. Aluminum, Total (7429-90-6)	X		0.06	1.5						mg/l	g/d			
p. Barium, Total (7440-39-3)	X		0.11	2.7						mg/l	g/d			
q. Boron, Total (7440-42-8)	X		0.33	8.0						mg/l	g/d			
r. Cobalt, Total (7440-48-4)		X	< 0.1	< 2.4						mg/l	g/d			
s. Iron, Total (7439-89-6)	X		1.1	26.6						mg/l	g/d			
t. Magnesium, Total (7439-98-4)	X		5.8	140.5						mg/l	g/d			
u. Molybdenum, Total (7439-98-7)	X		1.7	41.2						mg/l	g/d			
v. Manganese, Total (7439-96-5)	X		0.05	1.2						mg/l	g/d			
w. Tin, Total (7440-31-5)		X	< 0.050	< 1.2						mg/l	g/d			
x. Titanium, Total (7440-32-8)		X	< 0.004	< 96.9						mg/l	mg/d			

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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		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. 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	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-38-0)			X	< 0.050	< 1.2						mg/l	g/d			
2M. Arsenic, Total (7440-38-2)		X		0.04	1.0						mg/l	g/d			
3M. Beryllium, Total, 7440-41-7)			X	< 0.1	< 2.4						mg/l	g/d			
4M. Cadmium, Total (7440-43-9)		X		.004	96.9						mg/l	mg/d			
5M. Chromium, Total (7440-47-3)		X		.260	6.3						mg/l	g/d			
6M. Copper, Total (7440-50-8)		X		0.1	2.4						mg/l	g/d			
7M. Lead, Total (7439-92-1)		X		.050	1.2						mg/l	g/d			
8M. Mercury, Total (7439-97-6)			X	< .0002	< 4.8						mg/l	mg/d			
9M. Nickel, Total (7440-02-0)		X		.28	6.8						mg/l	g/d			
10M. Selenium, Total (7782-49-2)			X	< .001	< 24.2						mg/l	mg/d			
11M. Silver, Total (7440-22-4)			X	< 0.01	< 0.2						mg/l	g/d			
12M. Thallium, Total (7440-28-0)		X		0.51	12.4						mg/l	g/d			
13M. Zinc, Total (7440-66-6)		X		.071	1.7						mg/l	g/d			
14M. Cyanide, Total (57-12-8)		X		.013	0.3						mg/l	g/d			
15M. Phenols, Total		X		.017	0.4						mg/l	g/d			
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. TEST-ING RE-QUIR-ED	B. DE-LIVER-ED PER-SENT	C. BE-LIEVED BY-SENT	A. MAXIMUM DAILY VALUE		D. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANAL-YSES	B. CONCENT-RATION	D. MASS	B. LONG TERM AVERAGE VALUE		D. NO. OF ANAL-YSES
				(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	< 0.005	< 0.1						mg/l	g/d			
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)		X		0.006	0.1						mg/l	g/d			
6V. Carbon Tetrachloride (56-23-5)			X	< 0.005	< 0.1						mg/l	g/d			
7V. Chlorobenzene (108-90-7)			X	< 0.005	< 0.1						mg/l	g/d			
8V. Chlorodibromomethane (124-48-1)			X	< 0.005	< 0.1						mg/l	g/d			
9V. Chloroethane (75-00-3)			X	< 0.010	< 0.2						mg/l	g/d			
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X	< 0.005	< 0.1						mg/l	g/d			
12V. Dichlorobromomethane (75-27-4)			X	< 0.005	< 0.1						mg/l	g/d			
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethene (75-34-3)			X	< 0.005	< 0.1						mg/l	g/d			
15V. 1,2-Dichloroethene (107-06-2)			X	< 0.005	< 0.1						mg/l	g/d			
16V. 1,1-Dichloroethylene (75-35-4)			X	< 0.005	< 0.1						mg/l	g/d			
17V. 1,2-Dichloropropane (78-87-5)			X	< 0.005	< 0.1						mg/l	kg/d			
18V. 1,3-Dichloropropane (542-75-8)			X	< 0.005	< 0.1						mg/l	g/d			
19V. Ethylbenzene (100-41-4)			X	< 0.005	< 0.1						mg/l	g/d			
20V. Methyl Bromide (74-83-9)			X	< 0.010	< 0.2						mg/l	g/d			
21V. Methyl Chloride (74-87-3)			X	< 0.010	< 0.2						mg/l	g/d			

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BE-HEAVY PRESENT	c. BE-LIGHT PRESENT	b. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	b. LONG TERM AVERAGE VALUE		d. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION -- VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride (75-09-2)			X	< 0.005	< 30.3						mg/l	mg/d			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X	< 0.005	< 30.3						mg/l	mg/d			
24V. Tetrachloroethylene (127-18-4)			X	< 0.005	< 30.3						mg/l	mg/d			
25V. Toluene (108-88-3)			X	< 0.005	< 30.3						mg/l	mg/d			
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X	< 0.005	< 30.3						mg/l	mg/d			
27V. 1,1,1-Trichloroethane (71-55-6)			X	< 0.005	< 30.3						mg/l	mg/d			
28V. 1,1,2-Trichloroethane (79-00-5)			X	< 0.005	< 30.3						mg/l	mg/d			
29V. Trichloroethylene (79-01-6)			X	< 0.005	< 30.3						mg/l	mg/d			
30V. Trichlorofluoromethane (75-69-4)			X	< 0.005	< 30.3						mg/l	mg/d			
31V. Vinyl Chloride (75-01-4)			X	< 0.010	< 60.6						mg/l	mg/d			
GC/MS FRACTION -- ACID COMPOUNDS															
1A. 2-Chlorophenol (98-57-8)			X	< 0.010	< 60.6						mg/l	mg/d			
2A. 2,4-Dichlorophenol (120-83-2)			X	< 0.010	< 60.6						mg/l	mg/d			
3A. 2,4-Dimethylphenol (105-67-9)			X	< 0.010	< 60.6						mg/l	mg/d			
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X	< 0.010	< 60.6						mg/l	mg/d			
5A. 2,4-Dinitrophenol (51-28-5)			X	< 0.010	< 60.6						mg/l	mg/d			
6A. 2-Nitrophenol (88-75-5)			X	< 0.010	< 60.6						mg/l	mg/d			
7A. 4-Nitrophenol (100-02-7)			X	< 0.010	< 60.6						mg/l	mg/d			
8A. P-Chloro-M-Cresol (59-50-7)			X	< 0.010	< 60.6						mg/l	mg/d			
9A. Pentachlorophenol (87-86-5)			X	< 0.010	< 60.6						mg/l	mg/d			
10A. Phenol (108-95-2)			X	< 0.010	< 60.6						mg/l	mg/d			
11A. 2,4,6-Trichlorophenol (88-06-2)			X	< 0.010	< 60.6						mg/l	mg/d			

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	8. MAXIMUM DAILY VALUE		d. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	b. CONCENTRATION	b. MASS	8. 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	< 0.010	< 0.3						mg/l	g/d			
2B. Acenaphthylene (208-96-8)			X	< 0.010	< 0.3						mg/l	g/d			
3B. Anthracene (120-12-7)			X	< 0.010	< 0.3						mg/l	g/d			
4B. Benzidine (92-87-5)			X	< 0.010	< 0.3						mg/l	g/d			
5B. Benzo (a) Anthracene (56-55-3)			X	< 0.010	< 0.3						mg/l	g/d			
6B. Benzo (a) Pyrene (50-32-8)			X	< 0.010	< 0.3						mg/l	g/d			
7B. 3,4-Benzo-fluoranthene (205-99-2)			X	< 0.010	< 0.3						mg/l	g/d			
8B. Benzo (ghi) Perylene (191-24-2)			X	< 0.010	< 0.3						mg/l	g/d			
9B. Benzo (k) Fluoranthene (207-08-9)			X	< 0.010	< 0.3						mg/l	g/d			
10B. Bis (2-Chloroethoxy) Methane (111-91-1)			X	< 0.010	< 0.3						mg/l	g/d			
11B. Bis (2-Chloroethyl) Ether (111-44-4)			X	< 0.010	< 0.3						mg/l	g/d			
12B. Bis (2-Chloropropyl) Ether (102-60-1)			X	< 0.010	< 0.3						mg/l	g/d			
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)			X	< 0.010	< 0.3						mg/l	g/d			
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			X	< 0.010	< 0.3						mg/l	g/d			
15B. Butyl Benzyl Phthalate (85-68-7)			X	< 0.010	< 0.3						mg/l	g/d			
16B. 2-Chloronaphthalene (91-58-7)			X	< 0.010	< 0.3						mg/l	g/d			
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)			X	< 0.010	< 0.3						mg/l	g/d			
18B. Chrysene (218-01-9)			X	< 0.010	< 0.3						mg/l	g/d			
19B. Dibenzo (a,h) Anthracene (53-70-3)			X	< 0.010	< 0.3						mg/l	g/d			
20B. 1,2-Dichlorobenzene (95-50-1)			X	< 0.010	< 0.3						mg/l	g/d			
21B. 1,3-Dichlorobenzene (541-73-1)			X	< 0.010	< 0.3						mg/l	g/d			

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. TREATING RECEIVING EQUIPMENT	B. BELIEVED PRESENT	C. BELIEVED ABSENT	B. MAXIMUM DAILY VALUE		D. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	B. CONCENTRATION	b. MASS	B. 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 (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)			X	< 0.010	< 0.3						mg/l	g/d			
23B. 3,3'-Dichlorobenzidine (91-94-1)			X	< 0.010	< 0.3						mg/l	g/d			
24B. Diethyl Phthalate (84-86-2)			X	< 0.010	< 0.3						mg/l	g/d			
25B. Dimethyl Phthalate (131-11-3)			X	< 0.010	< 0.0						mg/l	g/d			
26B. Di-N-Butyl Phthalate (84-74-2)			X	< 0.010	< 0.3						mg/l	g/d			
27B. 2,4-Dinitrotoluene (121-14-2)			X	< 0.010	< 0.3						mg/l	g/d			
28B. 2,6-Dinitrotoluene (606-20-2)			X	< 0.010	< 0.3						mg/l	g/d			
29B. Di-N-Octyl Phthalate (117-84-0)			X	< 0.010	< 0.3						mg/l	g/d			
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X	< 0.010	< 0.3						mg/l	g/d			
31B. Fluoranthene (206-44-0)			X	< 0.010	< 0.3						mg/l	g/d			
32B. Fluorene (86-73-7)			X	< 0.010	< 0.3						mg/l	g/d			
33B. Hexachlorobenzene (118-74-1)			X	< 0.010	< 0.3						mg/l	g/d			
34B. Hexachlorobutadiene (87-68-3)			X	< 0.010	< 0.3						mg/l	g/d			
35B. Hexachlorocyclopentadiene (77-47-4)			X	< 0.010	< 0.3						mg/l	g/d			
36B. Hexachloroethane (67-72-1)			X	< 0.010	< 0.3						mg/l	g/d			
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X	< 0.010	< 0.3						mg/l	g/d			
38B. Isophorone (78-69-1)			X	< 0.010	< 0.3						mg/l	g/d			
39B. Naphthalene (91-20-3)			X	< 0.010	< 0.3						mg/l	g/d			
40B. Nitrobenzene (98-95-3)			X	< 0.010	< 0.3						mg/l	g/d			
41B. N-Nitrosodimethylamine (62-75-9)			X	< 0.010	< 0.3						mg/l	g/d			
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X	< 0.010	< 0.3						mg/l	g/d			

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 AVG. 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 (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)			X	< 0.010	< 0.2						mg/l	g/d			
44B. Phenanthrene (85-01-8)			X	< 0.010	< 0.2						mg/l	g/d			
45B. Pyrene (129-00-0)			X	< 0.010	< 0.2						mg/l	g/d			
46B. 1,2,4-Trichlorobenzene (120-82-1)			X	< 0.010	< 0.2						mg/l	g/d			
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X	< 0.06	< 1.5						ug/l	mg/d			
2P. α -BHC (319-84-6)			X	< 0.02	< 0.5						ug/l	mg/d			
3P. β -BHC (319-85-7)			X	< 0.1	< 2.4						ug/l	mg/d			
4P. γ -BHC (68-89-9)			X	< 0.03	< 0.7						ug/l	mg/d			
5P. δ -BHC (319-86-8)			X	< 0.12	< 2.9						ug/l	mg/d			
6P. Chlordane (57-74-9)			X	< 0.25	< 6.1						ug/l	mg/d			
7P. 4,4'-DDT (50-29-3)			X	< 0.06	< 1.5						ug/l	mg/d			
8P. 4,4'-DDE (72-55-9)			X	< 0.08	< 1.9						ug/l	mg/d			
9P. 4,4'-DDD (72-54-8)			X	< 0.08	< 1.9						ug/l	mg/d			
10P. Dieldrin (60-57-1)			X	< 0.08	< 1.9						ug/l	mg/d			
11P. α -Endosulfan (115-29-7)			X	< 0.05	< 1.2						ug/l	mg/d			
12P. β -Endosulfan (115-29-7)			X	< 0.08	< 1.9						ug/l	mg/d			
13P. Endosulfan Sulfate (1031-07-8)			X	< 0.09	< 2.2						ug/l	mg/d			
14P. Endrin (72-20-8)			X	< 0.06	< 1.5						ug/l	mg/d			
15P. Endrin Aldehyde (7421-93-4)			X	< 0.62	< 15.0						ug/l	mg/d			
16P. Heptachlor (78-44-8)			X	< 0.03	< 0.7						ug/l	mg/d			

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 AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	5. 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 - PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X	< 0.08	< 1.9						ug/l	mg/d			
18P. PCB-1242 (53469-21-9)			X	< 0.71	< 17.2						ug/l	mg/d			
19P. PCB-1254 (11097-89-1)			X	< 0.71	< 17.2						ug/l	mg/d			
20P. PCB-1221 (11104-28-2)			X	N.D.											
21P. PCB-1232 (11141-16-5)			X	N.D.											
22P. PCB-1248 (12672-29-6)			X	N.D.											
23P. PCB-1260 (11098-82-5)			X	< 0.71	< 17.2						ug/l	mg/d			
24P. PCB-1016 (12674-11-2)			X	N.D.											
25P. Toxaphene (8001-35-2)			X	< 2.5	< 60.5						ug/l	mg/d			

C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge

VI. Engineering Report on Wastewater Treatment

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.
 Report Available No Report

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge, resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name	Location
N/A	

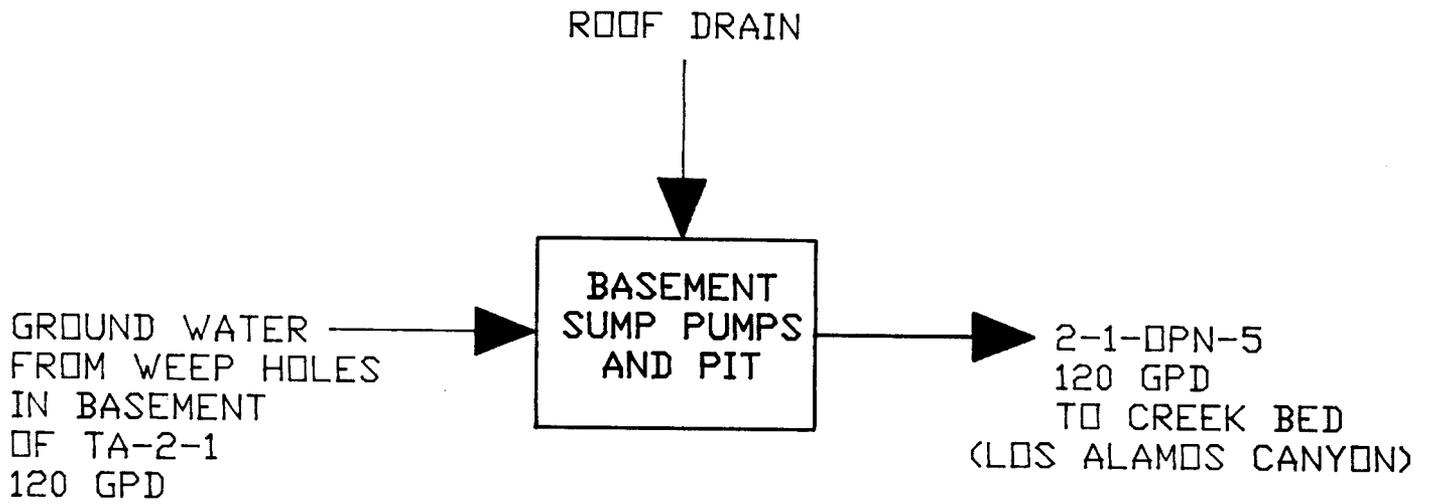
VII. Other Information (Optional)

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

VIII. 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.

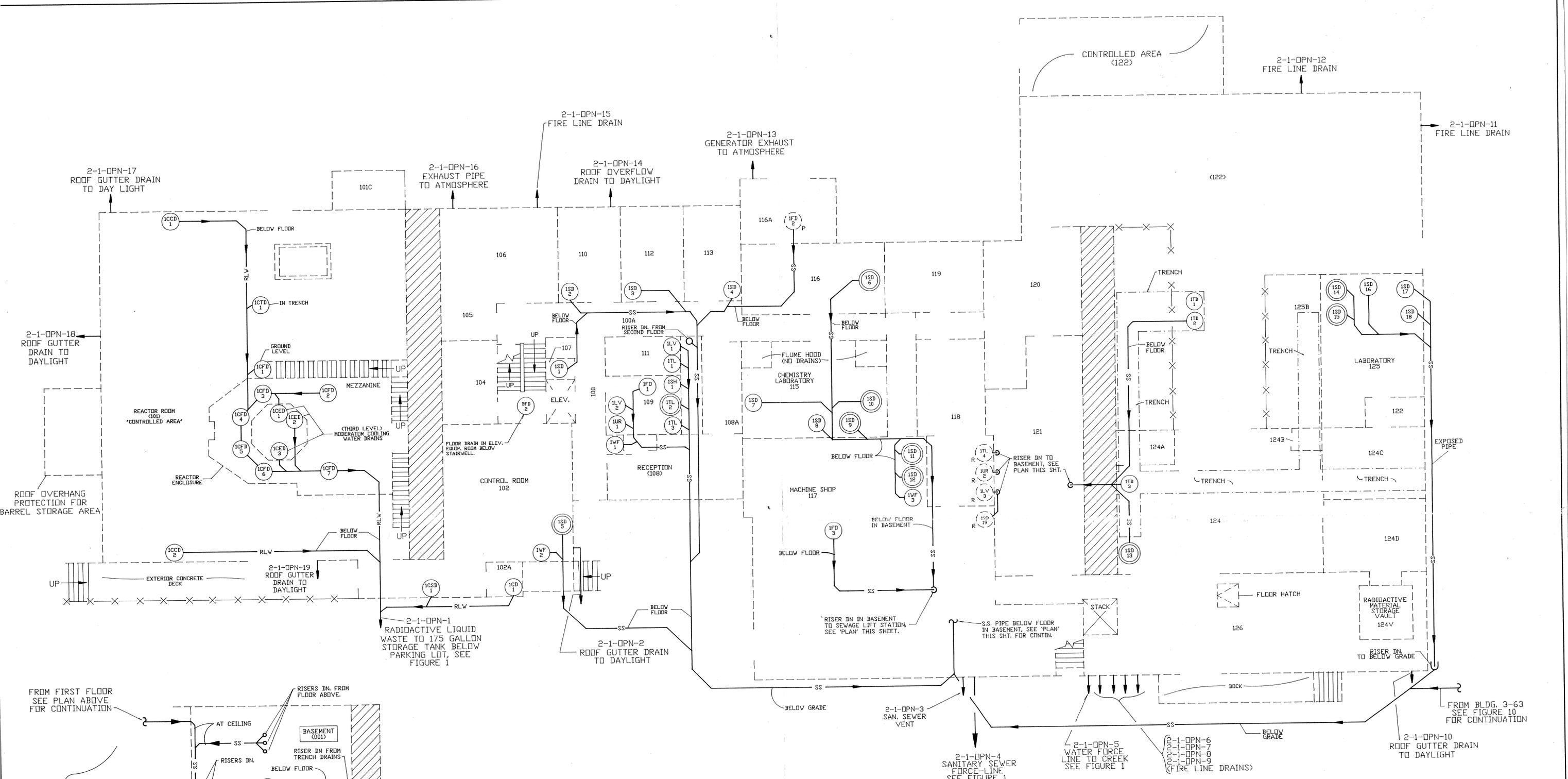
A. Name and Official Title (type or print) JOSEPH VOEZELLA, DOE AREA MANAGER ALLEN J. TIEDMAN, ASSOC. DIRECTOR FOR OPERATIONS	B. Phone No. 505-667-5105 505-667-9390
C. Signature	D. Date Signed



BUILDING TA-2
OUTFALL 2-1-OPN-5

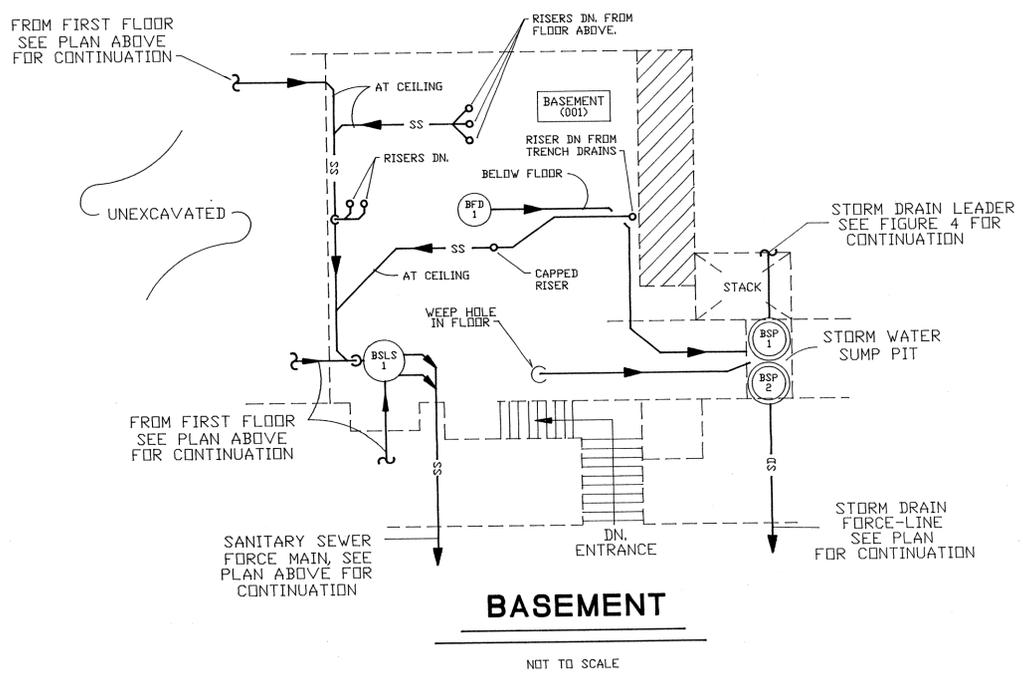
DYE STUDY INFORMATION

BUILDIN NUMBER	DRAIN NUMBER	DID DYE REACH EXPECTED DESTINATION?	COMMENTS
2-1	BSP1	YES	NONE
2-1	BSP2	YES	NONE
2-1	1SD5	YES	NONE
2-1	1SD6	YES	NONE
2-1	1SD9	YES	NONE
2-1	1SD10	YES	NONE
2-1	1SD11	YES	NONE
2-1	1SD12	YES	NONE
2-1	1SD13	YES	NONE
2-1	1SD14	YES	NONE
2-1	1TL2	YES	NONE
2-63	1FD3	YES	NONE



FIRST FLOOR

NOT TO SCALE



BASEMENT

NOT TO SCALE

SYMBOL LEGEND	
CCD	CONTAMINATED CUP DRAIN
CED	CONTAMINATED EQUIPMENT DRAIN
CFD	CONTAMINATED FLOOR DRAIN
CSD	CONTAMINATED SINK DRAIN
CTD	CONTAMINATED TRENCH DRAIN
FD	FLOOR DRAIN
LV	LAVATORY
RLW	RADIOACTIVE LIQUID WASTE
SD	SINK DRAIN
SD	STORM DRAIN PIPE
SH	SHOWER
SLS	SEWAGE LIFT STATION
SP	SUMP PIT W/PUMP
SS	SANITARY SEWER PIPE
TD	TRENCH DRAIN
TL	TOILET
UR	URINAL
WF	WATER FOUNTAIN

- DYE TESTED DRAIN
- _R DRAIN HAS BEEN REMOVED
- _P DRAIN HAS BEEN PLUGGED

NOTES:
 1. THIS DRAIN SCHEMATIC WAS DERIVED FROM LANL DRAWINGS C-1750, C-7151, C-1752, C-14953, C-43421, C-45491, C-45732, PL-3727, R-3333, R-3334, R-3665 AND SITE VISITS.

15312-B

SANTA FE ENGINEERING, LTD.

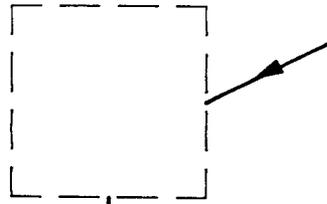
**TA-2-1
FIRST FLOOR
DRAIN SCHEMATIC**

DESIGN	M.E.W.	DRAWN	D.A.H.
CHECKED	P.E.B.	RELEASED	
DATE	5-18-93	SHEET	1 OF 3

Los Alamos National Laboratory
 Los Alamos, New Mexico 87545

CLASSIFICATION	REVIEWER	DATE
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.
REQUESTING GROUP	11056-63	FIGURE 2

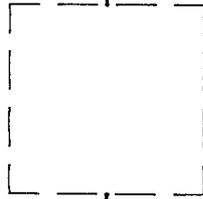
TA-2-36
DROP INLET
BUILDING



2-36-OPN-1
STORM WATER

C.M.P. STORM
DRAIN BELOW
GRADE

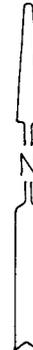
TA-2-27
DROP INLET
BUILDING



2-27-OPN-1
STORM WATER

SD

C.M.P. STORM WATER
DRAIN BELOW GRADE
TO THE CREEK BED,
SEE FIGURE 1 FOR
CONTINUATION.

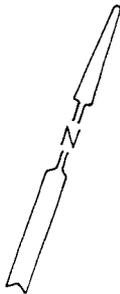
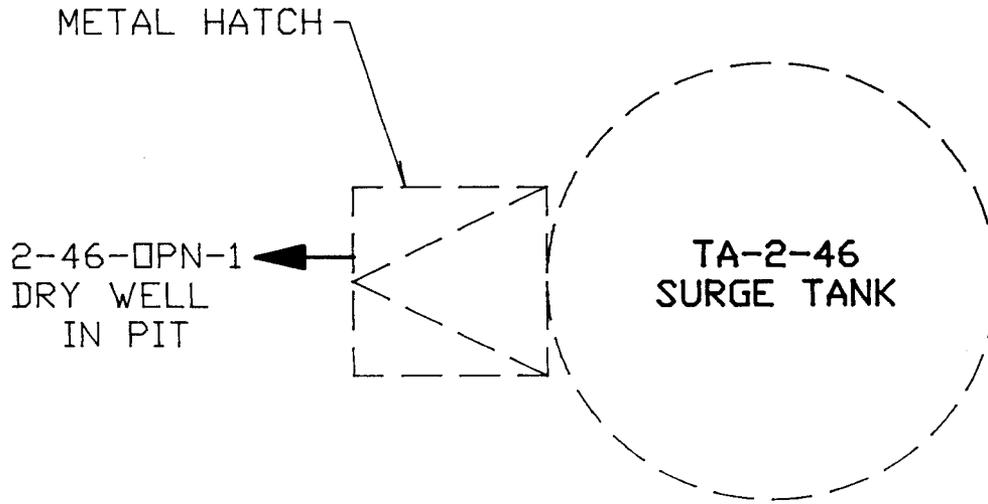


NOTE:

THIS DRAIN SCHEMATIC WAS DERIVED
FROM SITE VISITS.

SYMBOL LEGEND	
— SD —	STORM DRAIN PIPE

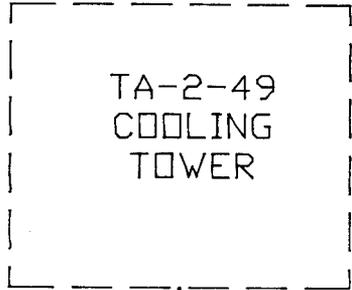
SANTA FE ENGINEERING, LTD.			
TA2-27 and 36 DRAIN SCHEMATIC	DRAWN	M.E.W.	
	DESIGN	M.E.W.	
	CHECKED	P.E.B.	
	DATE	5-18-93	
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
CLASSIFICATION		REVIEWER	DATE
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	SHEET 1 OF 1
REQUESTING GROUP EM-8	11056-63	FIGURE 5	REV.



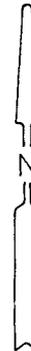
NOTE:

THIS DRAIN SCHEMATIC WAS DERIVED FROM
A SITE VISIT.

SANTA FE ENGINEERING, LTD.			
TA2-46 DRAIN SCHEMATIC		DRAWN	M.E.W.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		DATE	5-18-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos	Los Alamos National Laboratory Los Alamos, New Mexico 87545		SHEET 1 OF 1
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-63	FIGURE 7	



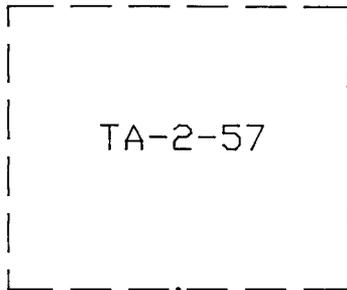
2-49-OPN-1
 TREATED COOLING
 WATER TO PERMITTED
 OUTFALL 03A-020
 SEE FIG. 1 FOR CONTINUATION



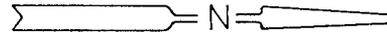
NOTE:

THIS DRAIN SCHEMATIC WAS DERIVED
 FROM SITE VISITS.

SANTA FE ENGINEERING, LTD.			
TA2-49 COOLING TOWER DRAIN SCHEMATIC		DRAWN	M.E.W.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		DATE	3-18-93
SUBMITTED		RECOMMENDED	APPROVED
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	SHEET 1 OF 1
CLASSIFICATION		REVIEWER	DATE
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-63	FIGURE 8	



2-57-OPN-1
FIRE LINE DRAIN

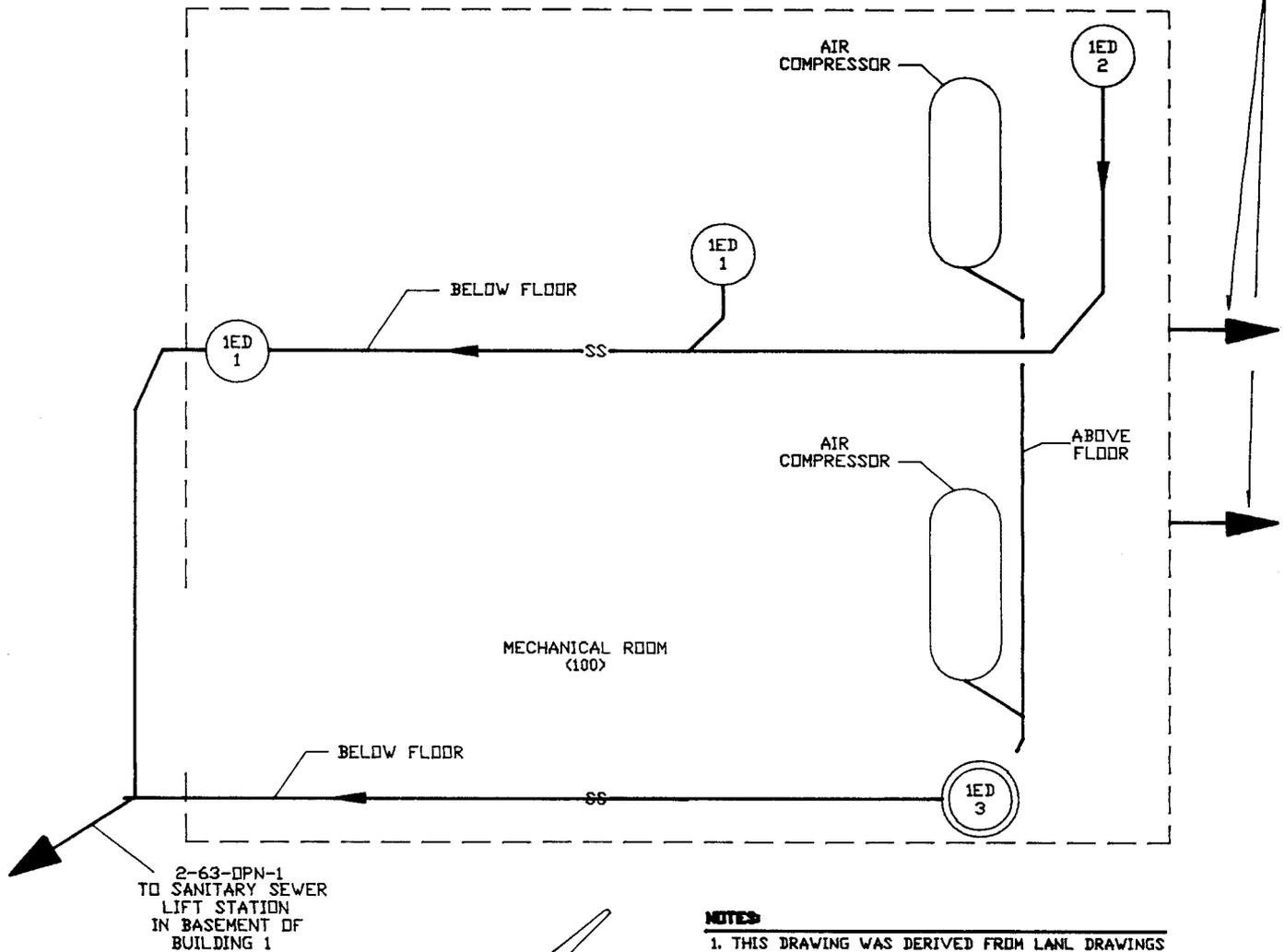


NOTE:

THIS DRAIN SCHEMATIC WAS DERIVED
FROM SITE VISITS.

SANTA FE ENGINEERING, LTD.			
TA2-57 DRAIN SCHEMATIC	DRAWN	M.E.W.	
	DESIGN	M.E.W.	
	CHECKED	P.E.B.	
	DATE	5-18-93	
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos	Los Alamos National Laboratory Los Alamos, New Mexico 87545		SHEET 1 OF 1
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-63	FIGURE 9	

2-63-OPN-2
2-63-OPN-3
AIR COMPRESSOR
EXHAUST VENTS



NOTES

1. THIS DRAWING WAS DERIVED FROM LNL DRAWINGS C-35990, C-41583, C-41584, R-3344, AND SITE VISIT.

SANTA FE ENGINEERING, LTD.

**TA-2-63
DRAIN SCHEMATIC**

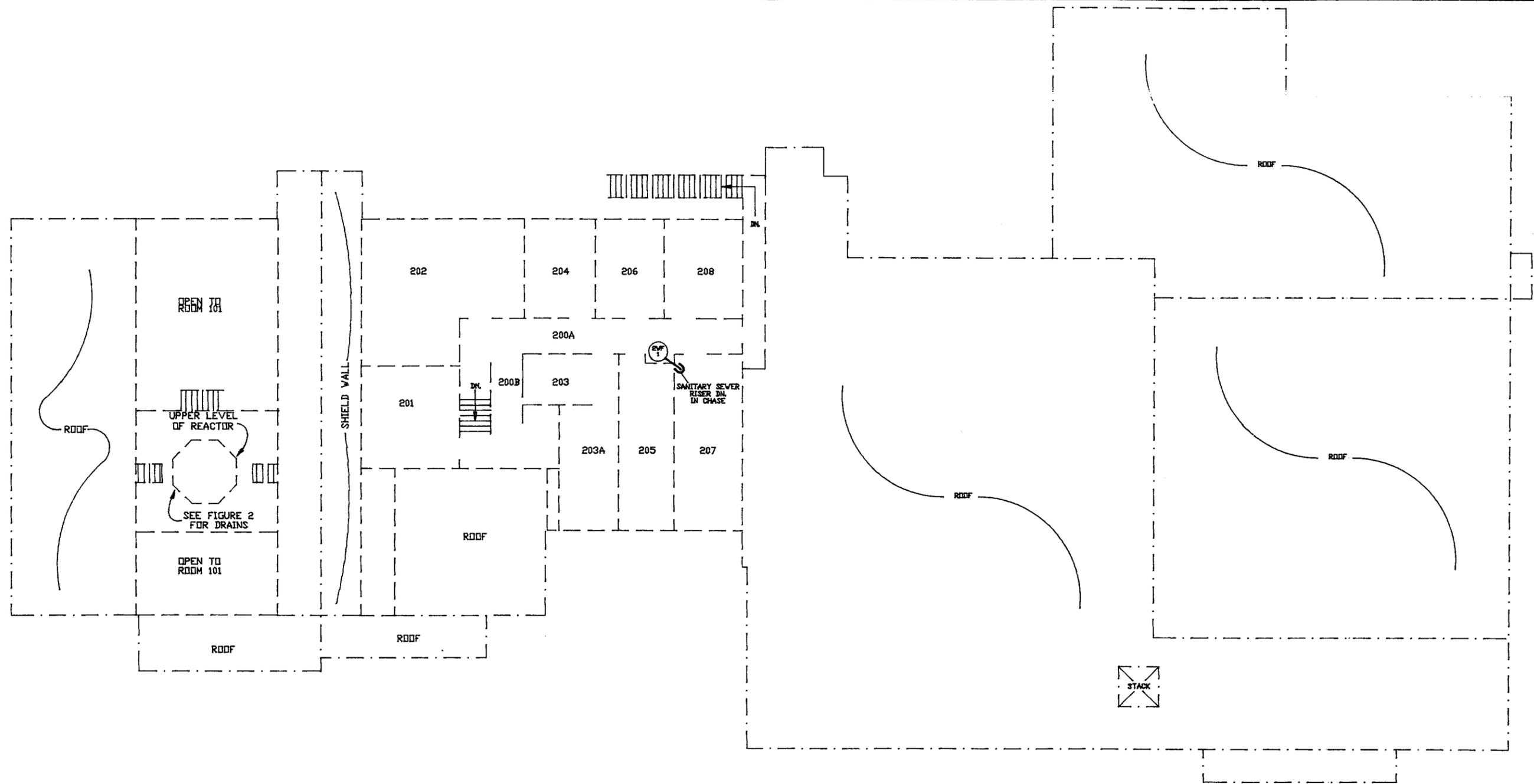
DRAWN	D.A.H.
DESIGN	M.E.W.
CHECKED	P.E.B.
RELEASED	
DATE	5-18-93

SUBMITTED		RECOMMENDED		APPROVED	
Los Alamos				Los Alamos National Laboratory Los Alamos, New Mexico 87545	
CLASSIFICATION				REVIEWER	DATE
REQUESTING DIVISION	LAB JOB NO.		DRAWING NO.		REV.
REQUESTING GROUP EM-8	11056-63		FIGURE 10		

SYMBOL LEGEND

ED	FLOOR DRAIN
SS	SANITARY SEWER





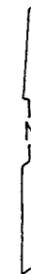
SECOND FLOOR

NOT TO SCALE

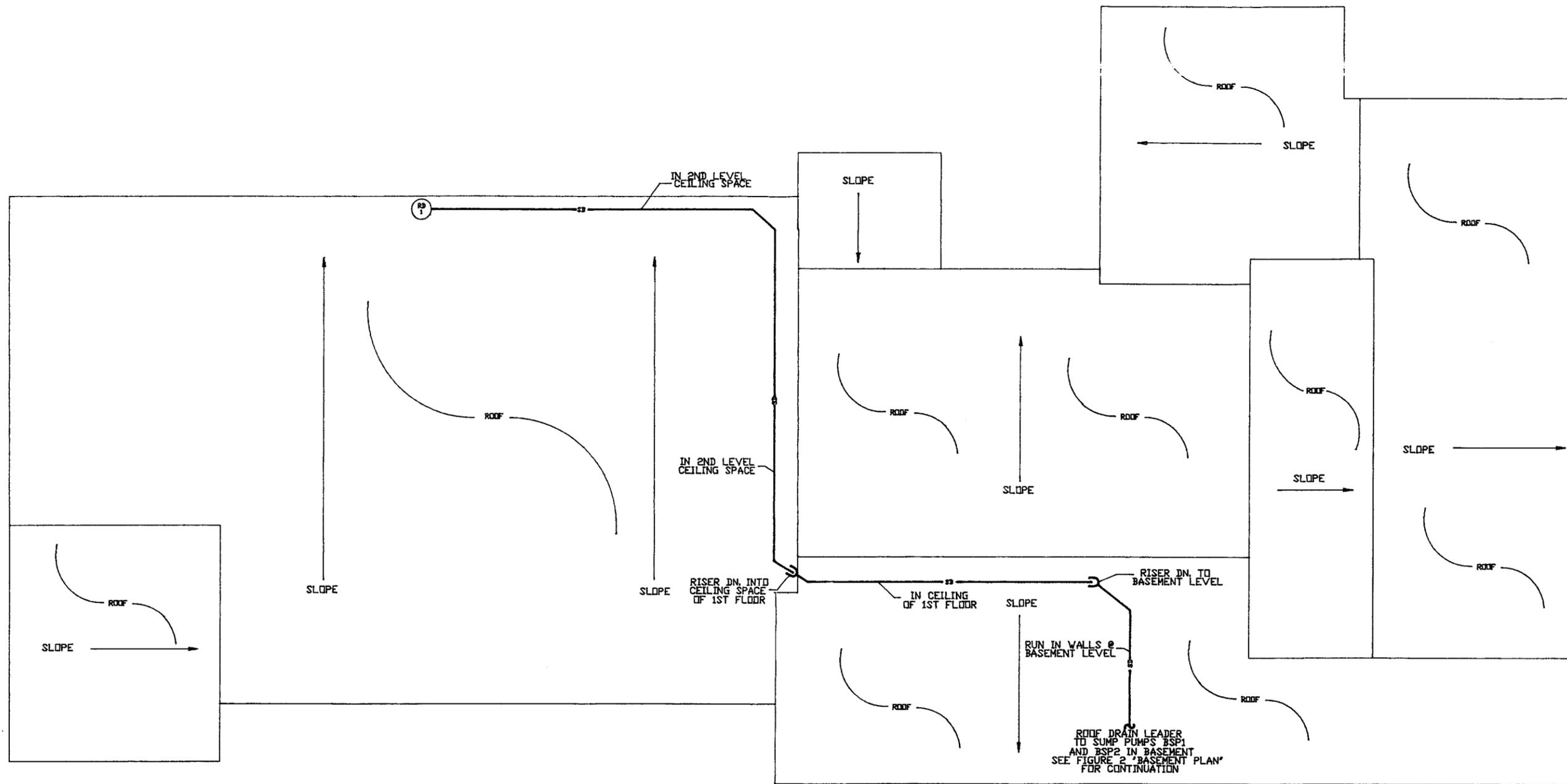
SYMBOL LEGEND	
WF	WATER FOUNTAIN

NOTES

1. THIS DRAWING WAS DERIVED FROM LANL DRAWINGS C-1750, C-1751, C-1752, C-14953, C-43421, C-45732 PL-3727, R-3334, R-3665 AND SITE VISIT.



SANTA FE ENGINEERING, LTD.			
TA-2-1 SECOND FLOOR DRAIN SCHEMATIC		DRAWN	D.A.H.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		RELEASED	
		DATE	5-18-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
CLASSIFICATION		REVIEWER	DATE
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-63	FIGURE 3	
		SHEET	2 OF 3



ROOF PLAN

NOT TO SCALE

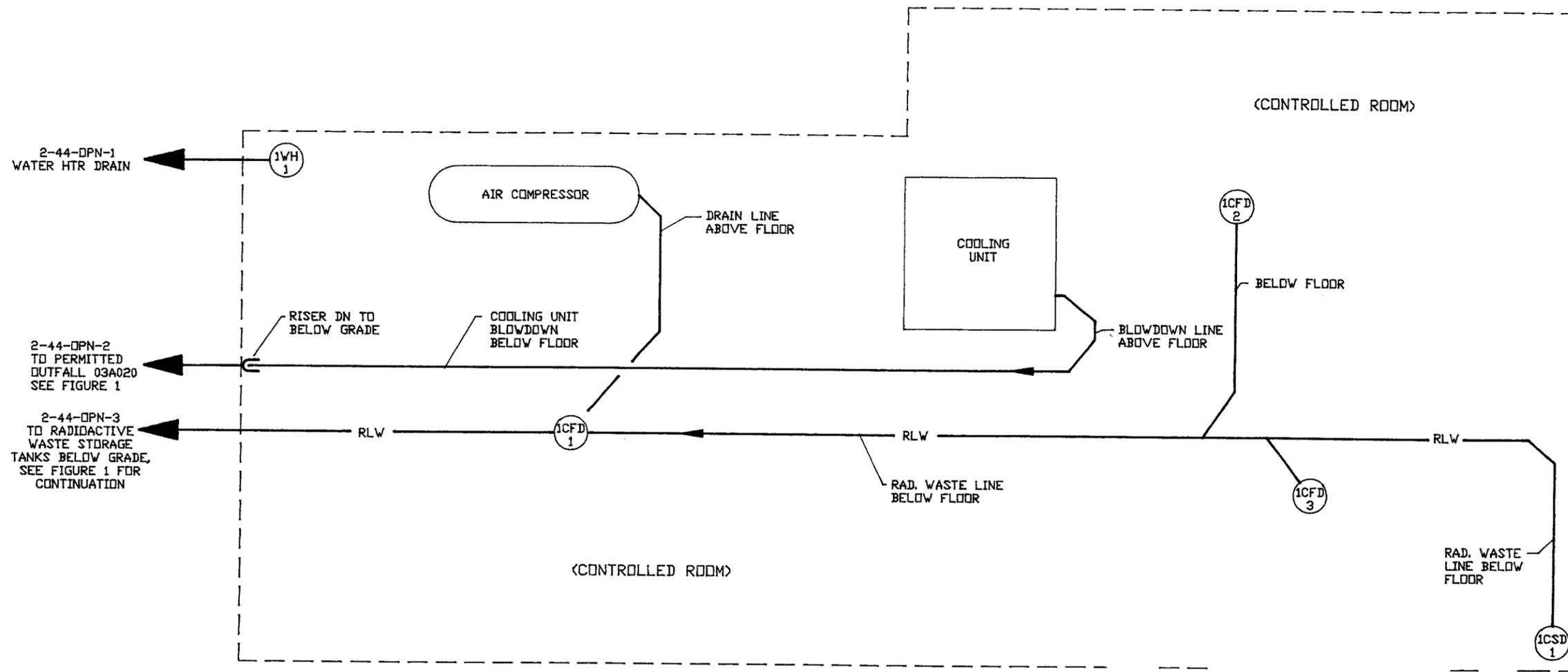
SYMBOL LEGEND	
RD	ROOF DRAIN
SD	STORM DRAIN
SP	SUMP PUMP

NOTES

1. THIS DRAWING WAS DERIVED FROM LANL DRAWINGS C-1750, C-1751, C-1752, C-14953, C-43421, C-45732 PL-3727, R-3334, R-3665 AND SITE VISIT.

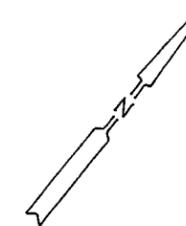


SANTA FE ENGINEERING, LTD.			
TA-2-1 ROOF PLAN DRAIN SCHEMATIC		DRAWN	D.A.H.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		RELEASED	
		DATE	5-18-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545		SHEET	3 / 3
CLASSIFICATION	REVIEWER	DATE	
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP	11056-63	FIGURE 4	



SYMBOL LEGEND	
CFD	CONTAMINATED FLOOR DRAIN
CSD	CONTAMINATED SINK DRAIN
—RLW—	RADIOACTIVE LIQUID WASTE

NOTE:
THIS DRAWING WAS DERIVED FROM SITE VISITS.



SANTA FE ENGINEERING, LTD.			
TA-2-44 MECHANICAL BUILDING DRAIN SCHEMATIC		DRAWN	D.A.H.
		DESIGN	M.E.W.
		CHECKED	P.E.B.
		RELEASED	
		DATE	5-18-93
SUBMITTED	RECOMMENDED	APPROVED	
Los Alamos		Los Alamos National Laboratory Los Alamos, New Mexico 87545	
CLASSIFICATION	REVIEWER	DATE	SHEET 1 OF 1
REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
REQUESTING GROUP EM-8	11056-63	FIGURE 6	