



INTERNATIONAL SOLVENT RECOVERY INC.

March 18, 1983

Mr. James H. Scarbrough
Chief, Residuals Management Branch
US Environmental Protection Agency
345 Courtland Street
Atlanta, GA 30365

RECEIVED

MAR 24 1983

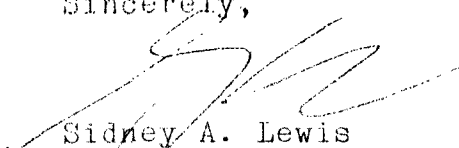
Re: Part B RCRA Hazardous Waste Permit
International Solvent Recovery, Inc.
E.P.A. I.D.# FLD980729610

Hazardous Waste

Dear Mr. Scarbrough:

Please find enclosed the clarifications your office has requested. If there are any further questions regarding these changes please contact Mark Worley.

Sincerely,


Sidney A. Lewis
President

Enclosures

CC: Dick Powell
Florida Department of Environmental Regulation

Craig Diltz
Florida Department of Environmental Regulation

PROPOSED PERMIT CONDITIONS CLARIFICATIONS
INTERNATIONAL SOLVENT RECOVERY, INC.
FLD980729610

- A-17 All waste streams and handling codes now have a 1 to 1 correspondence. In addition, since all tanks are capable of handling any solvent which ISR is permitted to accept all tank designations for specific solvents have been eliminated. The records for specific solvents handled in each tank will be maintained in our office on site. See revised pages.
- C-2e As we discussed in our previous meeting the tests for color, odor and physical state are completed while the truck which has delivered the waste material is present. We cannot expect a truck to remain all day while we complete an elaborate set of tests on the materials delivered. At some point all drums will be tested, but we feel it is unreasonable to complete the tests before the commercial carrier is permitted to leave our facility.
- F-2a Completed - See revised pages.
F-2a(1) Included
F-2a(2) Included
F-2b Completed
F-2b(1) Included in schedule.
F-2b(2) Tests will be completed by an independent testing laboratory using equipment specifically in Article 5.
- F-2c Table 6.5 describes the remedial actions taken.
F-2d Included on 6.5
F-5c The inside building dimensions have not changed, a drainage system has been added which will not affect the location of any containers within the building. They have remained in the same spot as previously described.

PROPOSED PERMIT CONDITIONS

- B-2 Acceptable
- C-1 We feel this is unrealistic. We will submit the documentation but to require us to submit this information prior to accepting the solvents on site puts us at a disadvantage in trying to obtain contracts with generators. We have no problems with the concept of submitting the results but would prefer to see a time frame which is realistic - Perhaps quarterly submittals of new accounts.

D-1a Why - All wastes are compatible. All tanks can contain each waste and no reactive or incompatible wastes are accepted. To write this condition into the permit would reduce the necessary flexibility which we must be accorded to effectively operate a solvent reclamation facility.

D-1a(3) You have received drawings for the secondary containment structures, curbs, dikes and ramps. A sealed draining of the building will be submitted after purchase.

D-1a- Testing will be completed and data submitted.
(3)(d)

D-2a Engineering drawings and specifications for all tanks purchased will be submitted indication that all tanks meet the U.L. specifications and API standards.

D-2c Piping specifications for the specific tanks used will be included.

Part G - Will be accordingly amended.

G-4h We do not feel that this is required. A description of the items to be covered is included on page 60. The inspection checklist is incident specific and no representative format could be developed.

Part H-1 Acceptable

H-1a Will be included

H-1d Will be included

H-1e Documentation will be maintained on site.

ADDITION CLARIFICATION

The gas chromatograph to be used will be equipped with a TCD rather than an FID. In addition, the IR analysis has been eliminated because of redundancy.

All tanks are capable of handling any solvent accepted by ISR, therefore, specific tank designations have been eliminated.

Rainwater collected in containment areas will be analyzed to determine the proper disposal method. If not contaminated, the water will be pumped into the sewer system, or used as makeup water in our cooling tower. If contaminated, the water will be placed into 55 gallon drums or bulk storage for treatment.

Table 1.1 LIST OF EMERGENCY EQUIPMENT

#	TYPE	LOCATION	
		MAINT. BLDG.	DRUM STORAGE BLDG.
13	Hard Hats	"	"
13	Safety Goggles	"	"
13	Chemical Resistant Gloves-Butyl Rybber	"	"
100	Surgical Gloves	"	"
13	Boots-Neoprene-Steel Toe and Shank	"	"
13	Booties-Butyl Rubber	"	"
13	Coveralls-Chemical Resistant	"	"
13	Respirators With Appropriate Cartridges	"	"
5	Chemical Aprons	"	"
2	Shovels	"	"
1	Solvent Pump	"	"
10	55 Gallon Drums	"	"
A Triple F Fire Fighting System		See Figure 1.2	
2 inductors @65 gal./min.			
200 gallons of foam will provide 65 minutes of fire fighting capability			
2 fire hydrants			
2 hand carts with 2 1/2" rubber hose			
9	Portable Fire Extinguishers	See Figure 1.2	
6	Drums of Absorbent	Drum Storage Bldg. - Maintenance Bldg.	
1	Forklift	Mobile	
1	Mobile Storage Tank-5,000 gallon	Mobile	
4	Remote Fire Alarms and Internal Communication Phones	- Figure 10.1	
1	Master Fire Alarm (Office)	Office	
2	Outside Telephone Lines:	1. Office	
		2. Maintenance Building	
1	255 First Aid Kit - O.S.H.A. Approval (will service 25 men)	Laboratory	
1	Portable Steam Cleaning Unit.	Maintenance Bldg.	
1	Fork lift - equipped with 3'x3'x6" ss drip pan	Maintenance Bldg.	

TABLE 1.2
SOLVENTS TO BE STORED IN TANKS

	20°/20°	Flash Pt. OF TCC	EPA ID#	Hazard Code
Acetone	.792	-4	U002,F003	I
n-Butyl Acetate	.882	72-81	D001	I
Benzene	.882	12	U019	I,T
Carbon Tetrachloride	1.596	-	U211,F001	T
Chloroform	1.490	-	U044	T
Cyclohexanone	.948	116	U057,F003	I
Cyclohexane	.781	0	U056	I
Ethyl Acetate	.902	24	U112,F003	I
Ethylene Dichloride	1.260	60	U077	T
Freon	1.629	-	F001	T
Hexane	.683	<0	D001	I
Heptane	.695	<20	D001	I
Isopropyl Acetate	.871	63	D001	I
Isopropanol	.804	57	D001	I
Methyl Ethyl Ketone	.806	0	F005,U159	I,T
Methyl Isobutyl Ketone	.802	60	U161	I
Methyl Acetate	1.006	21	D001	I
Methylene Chloride	1.328	-	F001	T
Pentane	.629	<0	D001	I
Perchloroethylene	1.622	-	F002,U210	T
1,1,1,-Trichloroethane	1.316	-	U226,F002	T
1,1,2,-Trichloroethane	1.316	-	U226,F002	T
Trichloroethylene	1.462	-	U228,F002	T
Trichlorofluoromethane	1.480	-	F001,U121	T
Toluene	.870	42	U220,F005	T
Xylene	.868	82	F003,U238	I
Assorted Non-Listed Wastes	.70-1.65	-4->140	D001	I
Ink Formulation	<1.6	-	K086	T
Solvent Washes				

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F 0 0 1	F 0 0 2	F 0 0 3	F 0 0 5		
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
7	8	9	10	11	12
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

13	14	15	16	17	18
K 0 8 6					
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
19	20	21	22	23	24
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
25	26	27	28	29	30
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

31	32	33	34	35	36
U 0 0 2	U 0 1 9	U 2 1 1	U 0 4 4	U 0 5 6	U 0 5 7
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
37	38	39	40	41	42
U 0 7 8	U 1 1 2	U 1 5 9	U 1 6 1	U 2 1 0	U 2 2 0
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
43	44	45	46	47	48
U 2 2 6	U 2 2 7	U 1 2 1	U 2 3 9		
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

49			50			51			52			53			54		
23	-	26	23	-	26	23	-	26	23	-	26	23	-	26	23	-	26

☒ 1. IGNITABLE
(D001)

☐ 2. CORROSIVE
(0002)

☐ 3. REACTIVE
(DD02)

☒ 4. TOXIC
(0000)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE

NAME & OFFICIAL TITLE (type or print)

DATE SIGNED

Sidney A. Lewis, President

3/15/83

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY										
W F L 0 9 8 0 7 2 9 6 1 0													W DUP										
DESCRIPTION OF HAZARDOUS WASTES (continued)																							
NO.	A. EPA HAZARD. WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES																
	1	2	3	4			1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))												
	1	2	3	4			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	F	0	0	1	1,093,529	P	S	0	1	S	0	2											
2	F	0	0	2	1,951,560	P	S	0	1	S	0	2											
3	F	0	0	3	1,040,832	P	S	0	1	S	0	2											
4	F	0	0	5	442,354	P	S	0	1	S	0	2											
5	K	0	8	6	14,387	P	S	0	1	S	0	2											
6	U	0	0	2	11,394	P	S	0	1	S	0	2											
7	U	0	1	9	11,394	P	S	0	1	S	0	2											
8	U	2	1	1	22,850	P	S	0	1	S	0	2											
9	U	0	4	4	15,220	P	S	0	1	S	0	2											
10	U	0	5	6	11,182	P	S	0	1	S	0	2											
11	U	0	5	7	13,639	P	S	0	1	S	0	2											
	U	0	7	8	18,128	P	S	0	1	S	0	2											
13	U	1	1	2	12,948	P	S	0	1	S	0	2											
14	U	1	5	9	11,596	P	S	0	1	S	0	2											
15	U	1	6	1	11,538	P	S	0	1	S	0	2											
16	U	2	1	0	23,335	P	S	0	1	S	0	2											
17	U	2	2	0	12,517	P	S	0	1	S	0	2											
18	U	2	2	6	18,933	P	S	0	1	S	0	2											
19	U	2	2	7	18,933	P	S	0	1	S	0	2											
20																							
21	U	1	2	1	23,436	P	S	0	1	S	0	2											
22	U	2	3	9	12,488	P	S	0	1	S	0	2											
23	D	0	0	1	884,707	P	S	0	1	S	0	2											
24	D	0	0	0	585,000	P	S	0	1	S	0	2											
25																							
26																							

IX. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1 F 0 0 1 23 - 24	2 F 0 0 2 23 - 24	3 F 0 0 3 23 - 24	4 F 0 0 5 23 - 24	5 23 - 24	6 23 - 24
7 23 - 24	8 23 - 24	9 23 - 24	10 23 - 24	11 23 - 24	12 23 - 24

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13 K 0 8 6 23 - 24	14 23 - 24	15 23 - 24	16 23 - 24	17 23 - 24	18 23 - 24
19 23 - 24	20 23 - 24	21 23 - 24	22 23 - 24	23 23 - 24	24 23 - 24
25 23 - 24	26 23 - 24	27 23 - 24	28 23 - 24	29 23 - 24	30 23 - 24

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31 U 0 0 2 23 - 24	32 U 0 1 9 23 - 24	33 U 2 1 1 23 - 24	34 U 0 4 4 23 - 24	35 U 0 5 6 23 - 24	36 U 0 5 7 23 - 24
37 U 0 7 8 23 - 24	38 U 1 1 2 23 - 24	39 U 1 5 9 23 - 24	40 U 1 6 1 23 - 24	41 U 2 1 0 23 - 24	42 U 2 2 0 23 - 24
43 U 2 2 6 23 - 24	44 U 2 2 7 23 - 24	45 U 1 2 1 23 - 24	46 U 2 3 9 23 - 24	47 23 - 24	48 23 - 24

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49 23 - 24	50 23 - 24	51 23 - 24	52 23 - 24	53 23 - 24	54 23 - 24
-------------------	-------------------	-------------------	-------------------	-------------------	-------------------

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. (See 40 CFR Parts 261.21 - 261.24.)

☒ 1. IGNITABLE
(D001)

☐ 2. CORROSIVE
(D002)

☐ 3. REACTIVE
(D003)

☒ 4. TOXIC
(D004)

Table 1.1 - List of Hazardous Wastes Handled by ISR

4. GENERAL WASTE ANALYSIS PLAN

Since ISR is constructing a new facility, no data is presented concerning the description and analyses of wastes handled. At this point, no wastes are generated or exist at our facility. With regard to the similar processes, over 40 facilities are recognized by the National Association of Solvent Recyclers, of which we are a member. Several of these facilities have been inspected by our officers and the design and procedures set forth in this application reflect practices commonly used by many recyclers throughout the country. Table 4.1 lists the membership of the NASR. Once this operation has begun, data from laboratory analyses will be submitted reflecting the wastes handled on site.

A representative sample* of all wastes streams from generators who will ship wastes to ISR will also be analyzed by our in-house laboratory using a gas chromatograph. In some cases, ISR will require the generator to have an analysis completed by an independent laboratory. When necessary, an independent lab will be used by ISR for all work requiring atomic absorption analysis. This will not be frequently conducted by our facility because the heavy metals detectable by this method will be captured in our still bottoms and they will have to be analyzed at that point for proper disposal or for delisting as set forth in 40 CFR 260.21-260.22. In addition, the heavy metal contaminants do not present a problem in addressing our spill control methods or storage requirements. This is not to discount the environmental hazard presented by heavy metals, but in handling the hazardous wastes which we plan to recycle, the metals will not present a severe hazard due to physical contact.

Once the initial "fingerprint" has been established using our GC we will be able to spot check incoming wastes to ensure accuracy with the initial analysis. The frequency of these checks will be kept to a minimum because impurities or changes in the waste streams will be reflected in the performance of the reclaiming equipment. Additionally, all products to be sold or returned to industry will go through a rigid quality control program to assure the chemicals meet the manufacturing specifications required by the generators. Our contractual agreement with the accounts we handle reflects our strong

*The Sampling Methods used by ISR are established in Appendix I of 40 CFR 261. See Appendix E for specific method.

The test for pH is used to determine if we are handling any corrosive wastes which may damage our containment structures. Again, we do not plan to handle these types of wastes (D002) and will return or have disposed any corrosive wastes discovered on our facility in a manner consistent with 40 CFR 260-265.

The flash point and specific gravity tests are used to determine what type of tank the wastes may be placed into. Basically two types of tanks will be used. Those for flammable solvents and those for solvents with a specific gravity greater than 1. For the flammable solvents venting and fire control are a concern, while with the "heavy" solvents tank failure is the concern.

Table 4.3 lists the specific gravities and flash points of solvents to be placed into tanks.

All drums and bulk shipments will be manifested if the wastes are listed wastes, or will have accompanying shipping papers if the wastes are hazardous due to characteristics. However, "characteristics" wastes will be required by ISR to have the hazardous waste label affixed to each drum, with at least the following information: (This also applies to small quantity generators.)

1. Proper DOT shipping name.
2. UN or NA#
3. Generator Name
4. Generator Address, City, State, Zip
5. EPA Waste #
6. Shipping Paper Document #

Each shipment of hazardous waste will be inspected at the unloading and staging area to ensure that:

1. Each drum is properly labeled.
2. The manifest or shipping paper accounts for all material in the shipment.
3. The manifest is properly filled out and signed by appropriate parties.
4. No drums are leaking or bulging.
5. Random samples of drums will be sampled (10% of the total number of drums or each tanker compartment) for color, odor and physical state.

(Please note - This test is conducted in addition to our routine analysis previously described. This test is to be conducted prior to the commercial hauler leaving the facility.)

Table 4.3

Specific Gravities and Flash Points of Wastes to be Placed Into Tanks

	20°/20°	Flash Pt. °F TCC	EPA ID#	Hazard Code
Acetone	.792	-4	U002,F003	I
n-Butyl Acetate	.882	72-81	D001	I
Benzene	.882	12	U019	I,T
Carbon Tetrachloride	1.596	-	U211,F001	T
Chloroform	1.490	-	U044	T
Cyclohexanone	.948	116	U057,F003	I
Cyclohexane	.781	0	U056	I
Ethyl Acetate	.902	24	U112,F003	I
Ethylene Dichloride	1.260	60	U077	T
Freon	1.629	-	F001	T
Hexane	.683	<0	D001	I
Heptane	.695	<20	D001	I
Isopropyl Acetate	.871	63	D001	I
Isopropanol	.804	57	D001	I
Methyl Ethyl Ketone	.806	0	F005,U159	I,T
Methyl Isobutyl Ketone	.802	60	U161	I
Methyl Acetate	1.006	21	D001	I
Methylene Chloride	1.328	-	F001	T
Pentane	.629	<0	D001	I
Perchloroethylene	1.622	-	F002,U210	T
1,1,1,-Trichloroethane	1.316	-	U226,F002	T
1,1,2,-Trichloroethane	1.316	-	U226,F002	T
Trichloroethylene	1.462	-	U228,F002	T
Trichlorofluoromethane	1.480	-	F001,U121	T
Toluene	.870	42	U220,F005	T
Xylene	.868	82	F003,U238	I
Assorted Non-Listed Wastes	.70-1.65	-4->140	D001	I
Ink Formulation	<1.6	-	K086	T
Solvent Washes				

6. INSPECTIONS

ISR will conduct regular inspections of the facility for equipment failures, structural deterioration, operator errors, and discharges which could lead to the release of hazardous wastes to the environment. The inspection will be conducted on a daily, weekly and yearly basis. Tables 6.1 - 6.4 are the inspection checklists which will be used by ISR. Each inspection will be completed per inspection schedule provided in Table 6.6. Upon completion of each of the checklists (6.1 - 6.4) which cover the items described in Table 6.6 the checklist will be placed into a 3 ring binder and maintained on site for a period of 3 years beyond the inspection date.

Table 6.6 presents the schedule for inspecting the safety and emergency equipment, the solvent tank farm, the tanks and associated equipment, the drum storage area and the security devices. Provided with each item is a list of problems which can be expected to be encountered. The checklists Table 6.1 - 6.4 addresses each of the items found in Table 6.6. The inspector will indicate in the appropriate area whether or not a problem is encountered. If a problem is discovered then Table 6.5., The Incident Report Form, is to be completed. It provides space for a description of the problem, the remedial action taken, and the date the repairs were completed.

Table 6.1
Inspection Checklist (Weekly)

- ✓ -No Problems
* -Problem Detected-Fill
out Incident Report Form

Date _____

Time _____

Inspected by _____

		Comments	Remedial Action
Solvent Tank Farm - Containment			
Dike			
Base			
Pipes			
Fittings			
Valves			

Dirty Solvent Tanks
(External)

Ladders			
Foundations			
Pipe Connections			
Protective Coatings			
Tank Shell			
Tank Roof			
Tank Bottom			

Drum Storage Building

Container Placement/ Stacking			
Sealing of Containers			
Labeling of Containers			
Containers			

Table 6.1
(Continued)

	Comments		Remedial Action
Entrance Ramp			
Pallets			
Dikes			
Base			
Loading Ramp			

Security Devices

Facility Fence			
Main Entrance			
Emergency Entrances			

Mobile Tanker

Valves			
Shell			
Fittings			
Undercarriage			

Safety & Emergency Equipment

Emerg. Shower & Eyewash			
-------------------------	--	--	--

✓-No Problems

*-Problem Detected-Fill
out Incident Report Form

Date _____

Time _____

Inspected by _____

Table 6.2

DAILY TANK INSPECTION LOG

Tank #	Type of Waste	Capacity	Current Volume (gallons)						
1		6000							
2		6000							
3		6000							
4		6000							
5		6000							
6		6000							
7		6000							
8		6000							
9		6000							
10		6000							
	Inspected by								
	Date								
	Time								

Table 6.3

Daily Inspections

Date							
Time							
Dirty Solvent Tank Farm Standing Liquid in Containment							
Level Indicators on Tanks Cross reference with Table 6.2							
Dirty Solvent Tanks - External Leaks							
Drum Storage Building Sump Area							
Dirty Solvent Tank Farm Sump Area							
Inspected by							

✓ - No Problems

* - Problem Detected- Fill
out Incident Report Form

ANNUAL TANK INSPECTION
(Shell thickness test)

Tested by _____

Test Date _____

Type of Test _____

Tank #	Minimum Shell Thickness	Measured Thickness (in.)				Comments
		0°	90°	180°	270°	
	Plate # 1					
	Plate # 2					
	Plate # 3					
	Plate # 4					
	Plate # 1					
	Plate # 2					
	Plate # 3					
	Plate # 4					
	Plate # 1					
	Plate # 2					
	Plate # 3					
	Plate # 4					
	Plate # 1					
	Plate # 2					
	Plate # 3					
	Plate # 4					
	Plate # 1					
	Plate # 2					
	Plate # 3					
	Plate # 4					

* Tests to be conducted by an independent testing laboratory. (See Appendix L)

TABLE 6.6 INSPECTION SCHEDULE

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY
Safety & Emergency Equipment	Standard Industrial Absorbant (6 drums)	Out of Stock	Monthly/as needed
	Solvent pump (portable)	Power/clogging	Monthly/as needed
	Flexible hoses & couple fittings	Cracks or holes, fittings stick	Monthly
	55 gallon drums (10)	Corrosion, structural damage	Monthly
	Emergency shower and eyewasher	Water pressure, leaking, drainage	Weekly
	Protective clothing	Holes, normal wear and tear	As used
	Chemical cartridge respirators with appropriate cartridges	Seals, spent chemical absorbent	Monthly/after each use
	First aide equipment	Items out of stock	As used
	Fire alarm system	Power failure	Per NFPA
	Telephone system	Power failure	Per NFPA
	Internal communication system	Electrical, power failure, speaker	As used
	Mobile storage tank	Leaks, corrosion or deterioration	Weekly
	Steam cleaning unit	Water supply, fuel supply	As used
	Fire extinguishers	Need recharging	Monthly/after each use
	A triple F system	Form-out of stock hoses - cracks or holes	Monthly/after each use
Dirty Solvent Tank Farm - Storage Area	Forklift	Tires, brakes	As used
	Dike	Cracks, deterioration	Weekly
	Base or foundation	Cracks, uneven settlement, erosion, wet spots	Weekly
	Sump area	Standing liquid - cracks, erosion	Daily
	Pipes	Loss of metal thickness, leaks corrosion or deterioration	Weekly

TABLE 6.6 INSPECTION SCHEDULE Continued

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY
Dirty Solvent Tank Farm - Storage Area (continued)	Level indicators	Inaccurate readings - correspondence with inspection log	Daily
	Fittings	Leaks loss of metal thickness; leaks corrosion or deterioration	Weekly
	Valves	Leaks loss of metal thickness, leaks corrosion or deterioration, locks in place	Weekly
	Standing liquid in containment area	Observe for presence	Daily
Dirty Solvent Tanks - External	Ladders	Damaged, structural stability	Weekly
	Foundation	Cracks, uneven settlement, erosion, wet spots	Weekly
	Pipe Connection	External corrosion, cracks, distortions	Weekly
	Protective Coating	Rust spots, blisters, paint lifting	Weekly
	Tank Shell	Corrosion, cracks, buckles, bulges	Weekly
	Tank Roof	Seal malfunctions, corrosion	Weekly
	Tank Bottom	Corrosion, cracks, buckles, bulges	Weekly
	Leaks - general	General observation for leaks	Daily
Dirty Solvent Tanks - Internal	Shell thickness	Corrosion, holes, metal loss, erosion	Yearly

TABLE 6.6 INSPECTION SCHEDULE Continued

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY
Drum Storage Building	Container placement and stacking	Aisle space, height or stacks	Weekly
	Sealing of containers	Open lids or bong holes	Weekly
	Labeling of containers	Hazardous waste labels - completed	Weekly
	Containers	Corrosion, leaks, structural defects	Weekly
	Pallets	Physical damage	Weekly
	Dikes	Cracks, deterioration	Weekly
	Base	Cracks, seals, uneven settlement, wet spots	Weekly
	Sump area	Cracks, accumulated liquids, seals, wet spots	Daily
	Loading ramp	Cracks, uneven settlement, erosion	Weekly
	Entrance Ramp	Cracks, uneven settlement, erosion	Weekly
Security Devices	Facility fence	Corrosion, damage to chain link or barbed wire	Weekly
	Main entrance	Corrosion, damage to chain link or barbed wire, sticking or corroding locks	Weekly
	Emergency entrances	Corrosion, damage to chain link or barbed wire, sticking or corroding locks, secured	Weekly
	Access Barrier	Mechanical malfunctions	Upon failure
Mobile Tanker	Valves	Leaks, loss of metal thickness, corrosion or deterioration	Weekly
	Shell	Corrosion, cracks, buckles, bulges	Weekly

TABLE 6.6 INSPECTION SCHEDULE Continued

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY
Mobil Tanker (continued)	Fittings	Leaks, loss of metal thickness, corrosion or deterioration	Weekly
	Undercarriage	Corrosion, cracks, buckles	Weekly

Table 9.1 LIST OF EMERGENCY EQUIPMENT

#	TYPE	LOCATION	
		MAINT. BLDG.	DRUM STORAGE BLDG.
13	Hard Hats	"	"
13	Safety Goggles	"	"
13	Chemical Resistant Gloves-Butyl Rubber	"	"
100	Surgical Gloves	"	"
13	Boots-Neoprene-Steel Toe and Shank	"	"
13	Booties-Butyl Rubber	"	"
13	Coveralls-Chemical Resistant	"	"
13	Respirators With Appropriate Cartridges	"	"
5	Chemical Aprons	"	"
2	Shovels	"	"
1	Solvent Pump	"	"
10	55 Gallon Drums	"	"

A Triple F Fire Fighting System See Figure 9.2

2 inductors @65 gal./min.

200 gallons of foam will provide 65 minutes of fire fighting capability

2 fire hydrants

2 hand carts with 2 1/2" rubber hose

9 Portable Fire Extinguishers

See Figure 9.2

6 Drums of Absorbent

Drum Storage Bldg. - Maintenance Bldg.

1 Forklift

Mobile

1 Mobile Storage Tank-5,000 gallon

Mobile

4 Remote Fire Alarms and Internal Communication Phones - Figure 10.1

1 Master Fire Alarm (Office)

Office

2 Outside Telephone Lines: 1. Office

2. Maintenance Building

1 255 First Aid Kit - O.S.H.A. Approval

(will service 25 men)

Laboratory

1 Portable Steam Cleaning Unit.

Maintenance Bldg.

1 Fork lift - equipped with 3'x3'x6" ss drip pan

Maintenance Bldg.

TABLE 9.2
SOLVENTS TO BE STORED IN TANKS

	20°/20°	Flash Pt. OF TCC	EPA ID#	Hazard Code
Acetone	.792	-4	U002,F003	I
n-Butyl Acetate	.882	72-81	D001	I
Benzene	.882	12	U019	I,T
Carbon Tetrachloride	1.596	-	U211,F001	T
Chloroform	1.490	-	U044	T
Cyclohexanone	.948	116	U057,F003	I
Cyclohexane	.781	0	U056	I
Ethyl Acetate	.902	24	U112,F003	I
Ethylene Dichloride	1.260	60	U077	T
Freon	1.629	-	F001	T
Hexane	.683	<0	D001	I
Heptane	.695	<20	D001	I
Isopropyl Acetate	.871	63	D001	I
Isopropanol	.804	57	D001	I
Methyl Ethyl Ketone	.806	0	F005,U159	I,T
Methyl Isobutyl Ketone	.802	60	U161	I
Methyl Acetate	1.006	21	D001	I
Methylene Chloride	1.328	-	F001	T
Pentane	.629	<0	D001	I
Perchloroethylene	1.622	-	F002,U210	T
1,1,1,-Trichloroethane	1.316	-	U226,F002	T
1,1,2,-Trichloroethane	1.316	-	U226,F002	T
Trichloroethylene	1.462	-	U228,F002	T
Trichlorofluoromethane	1.480	-	F001,U121	T
Toluene	.870	42	U220,F005	T
Xylene	.868	82	F003,U238	I
Assorted Non-Listed Wastes	.70-1.65	-4->140	D001	I
Ink Formulation	<1.6	-	K086	T
Solvent Washes				

our problem of disposal is compounded. All liquids collected in the drainage ditch will be pumped into 55 gallon drums, using the pump attached to the tractor trailer, for analysis in our laboratory (see Chapter 12 for pump specifications). The laboratory analysis will define the handling procedures. If determined to be non-hazardous and exceptable for discharge into the sewer system, the water will then be discharges into the P.O.T.W.

A 21 inch drainage ditch is located along the east face of the drum storage building. It is sloped 1/8"/foot toward the south corner of the building. See engineering drawings for specific details on construction. This ditch will deliver any contained liquids to the southeast corner of the drum storage building. No outlet from this system is provided. Any liquids collected will have to be manually pumped from the system. Collected liquids will be removed from the system the same day they are detected.

At this point, there is no sump designed into this system. It was felt since there is no immediate need to remove the liquids collected, it would be prudent to wait and collect data on the amount of water commonly collected. Once this data has been collected, the sump pump design and holding capacities could be cost effectively designed.

It should be noted that since the building can be entered from all sides, that during a major spill forklifts and mechanical equipment will not be driven through the spill. Access to remove the liquids can be accomplished without entering the building with any mechanical equipment. Pumps, lifts, etc., can be driven around the building to points close to the spill and men wearing protective clothing can enter the building with the necessary cleanup equipment.

11.3 CONTAINER MANAGEMENT PRACTICES

All 55 gallon drums, and other portable containers will be kept closed during storage, except when the contents of the containers are being transferred. The drums will be banded together and stored on wooden pallets. The pallets measuring 42" x 42" will hold 4 drums. Each pallet will be moved using a 3,500 lb. electric powered fork lift. In addition, the fork lift will be equipped with a device which will attach to the lift and will enable the driver to handle drums without pallets. Hand carts for moving 55 gallon drums will also be available.

All 55 gallon drums used by ISR for the storage and hazardous wastes will be the specific containers specified by D.O.T. The manufacturing specifications set forth by D.O.T. are enclosed in Appendix K. See Table 11.1A for the specific container to be used for each solvent.

DELETE

Table 11.1 A

List Of Hazardous Wastes Stored In Containers

	EPA ID#	Hazard Code	DOT Container*
Acetone	U002,F003	I	17E
n-Butyl Acetate	D001	I	17E or 17H
Benzene	U019	I,T	17E
Carbon Tetrachloride	U211,F001	T	17E or 17H
Cyclohexanone	U057,F003	I	17E
Cyclohexane	U056	I	17E or 17H
Ethyl Acetate	U112,F003	I	17E or 17H
Ethylene Dichloride	U077	T	17E or 17H
Freon	F001	T	17E or 17H
Hexane	D001	I	17E
Heptane	D001	I	17E
Isopropyl Acetate	D001	I	17E or 17H
Isopropanol	D001	I	17E or 17H
Methyl Ethyl Ketone	F005,U159	I,T	17E
Methyl Isobutyl Ketone	U161	I	17E or 17H
Methyl Acetate	D001	I	17E
Methylene Chloride	F001	T	17E or 17H
Pentane	D001	I	17E
Perchloroethylene	F002,U210	T	17E or 17H
1,1,1,-Trichloroethane	U226,F002	T	17E or 17H
Trichloroethylene	U228,F002	T	17E or 17H
Toluene	U220,F005	T	17E or 17H
Xylene	F003,U238	I	17E or 17H
Chloroform	U044	T	17E or 17H
Trichlorofluoromethane	F001,U121	T	17E or 17H
Assorted Non Listed Wastes	D001	I or none	17E or 17H
Ink Formulation Wash	k086	T	---
Solvents			

* Container specifications are enclosed in Appendix K.

Table 12.1

Specific Gravities and Flash Points of Wastes to be Placed Into Tanks

	20°/20°	Flash Pt. °F TCC
Acetone	.792	-4
n-Butyl Acetate	.882	72-81
Benzene	.882	12
Carbon Tetrachloride	1.596	-
Cyclohexanone	.948	116
Cyclohexane	.781	0
Ethyl Acetate	.902	24
Ethylene Dichloride	1.260	60
Freon	1.629	-
Hexane	.683	<0
Heptane	.695	<20
Isopropyl Acetate	.871	63
Isopropanol	.804	57
Methyl Ethyl Ketone	.806	20
Methyl Isobutyl Ketone	.802	60
Methyl Acetate	1.006	121
Methyl Chloride	1.328	-
Pentane	.629	<0
Perchloroethane	1.622	-
Propyl Acetate	.885	203-217
1,1,1,-Trichloroethane	1.316	-
Trichloroethylene	1.462	-
Toluene	.870	42
Xylene	.868	82
Chloroform	1.490	-
Trichlorofluoromethane	1.490	-
Assorted Non Listed Wastes	.70-1.65	-4->140
Ink Formulation Wash Solvents	<1.60	-

REPLACES TABLE 12.2

All tanks are designed to hold any solvent which ISR will handle therefore solvents to be stored in specific tanks will not be designated in this application. The Daily Tank Inspection log will keep a daily record at which solvent is stored in each tank.

During all transfers from bulk storage containers where a mobile tanker is used a drip pan will be used to contain any possible minor spillage from the coupling operation between the fixed pump in the containment area and the tanker. There are two possible sources of spills in this operation. One is from the coupling attached to truck where the hose connects and the other is from moving the hose after completing the operation. To avoid possible contamination of the road surface a 3'x3'x6" stainless steel pan will be moved under the transfer point (from hose to tanker). This portable pan will be equipped with skids so that a forklift can pick the pan up and move it into position. A forklift will be dedicated to this operation.

The 3'x3'x6" design will enable the pan to fit between the wheels of a tanker, therefore if a tanker is equipped to unload the solvents from the rear, and easy access is not possible because of a bumper configuration, the pan can be lowered under the bumper and moved between the wheels.

Compartmentalized tankers usually unload from the side where access is not a problem, however in these cases only 1 compartment will be unloaded at a time with the pan placed under the appropriate area.

The second possible minor spill could result from residue in the hose. Contamination of the area outside of the containment area can be avoided by lifting the end of the hose attached to the tanker, and walking it into the containment area. A rack will be provided in this area to hold the hose during non-use periods.

Any drippings collected in the drip pan will be placed into 55 gallon drums for reclamation. During periods of non use the drip pan will be either covered or placed indoors so that rainwater will not be collected for disposal.

17 - PRODUCTION AREAS

To avoid possible groundwater contamination in the production areas any tanks or production vessels will be adequately diked using the guidelines set forth by the EPA for storage areas. The production equipment will all be constructed on concrete pads with either formed or concrete block dikes. All joints will be sealed using the Epoxy sealer.