Table 1
James River Paper Mill Site (100705)
Drum Log Summary (7/23/07)

Drum ID	Sample ID	Sample Date	Type	Size	Capacity	Contents	Labels	Location	Comments
DR-01*	JRP-DR-01	5/22/2007	Poly Drum	55-Gallon	1/2 full	Black oily liquid	None	In courtyard in front of door into Room No. 62 office	(Inadvertently Labeled DR-2)
DR-02*	JRP-DR-02	5/22/2007	Steel Tote	300-Gallon	1/8 full	Brown oily liquid	DTE Oil	On Construction pad outside room no. 50	
DR-03*	JRP-DR-03	5/22/2007	Plastic/Poly Container	5-Gallon(approx)	3/4 full	White Granular Solid	None	On Construction pad outside room no. 50	Container open, side breached; solid oxidizer
DR-04*	JRP-DR-04	5/22/2007	Plastic Bucket	5-Gallon	Full	Clear Liquid	None	On Construction pad outside room no. 50	aqueous liquid
DR-05*	JRP-DR-05	5/22/2007	Poly Drum	55-Gallon	1/2 full	Yellow viscous liquid	Vinac 884 Emulsion	Inside fence, front of main transformer yard	
DR-06*	JRP-DR-06	5/22/2007	Poly Drum	55-Gallon	1/4 full		None	Auxiliary substation area, near Room No. 21	
DR-07*	JRP-DR-07	5/22/2007	Steel Drum	55-Gallon	1/2 full	Clear Liquid	Gulf Transcrest HI 339379	Near large open pit (No.51A), in front of abandoned pickup truck	
DR-08*	JRP-DR-08	5/22/2007	Poly Drum	55-Gallon	Full		TC Prod Cod 68018	Near large open pit (No.51A), northeast edge of pit near fence	
DR-09*	JRP-DR-09	5/22/2007	Steel Drum	55-Gallon	3/4 full	Brown solid (dirt)	None	Behind buildings, at corner of Rooms No.33 and 37, in Coatings Facility	Solid
DR-10*	JRP-DR-10	5/29/2007	Steel Drum	55-Gallon	Full	Brown oily liquid	Mobil Heavy Lubricating Oil	In Room No. 50	
DR-11*	JRP-DR-11	5/29/2007	Plastic Container (laundry)	3-Gallon (approx)	Full	Brown oily liquid	In Laundry detergent container	In Courtyard outside Room No. 26	
DR-12*	JRP-DR-12	5/29/2007	Steel Drum	55-Gallon	1/3 full	Clear liquid w/sediment at bottom	None	In Room No. 81	Leaking
DR-13*	JRP-DR-13	5/29/2007	Plastic Container	1-Gallon (approx)	Full	Green liquid	None	In doorway at entrance to Room No. 81	
DR-14			Poly Overpack	95 gallon	1/3 full			In open pit	
DR-15			White Poly Drum	55 gallon	<1/8 full	Reddish liquid		Outdoor Drum Storage	no Bung
DR-16			Blue Poly Drum	55 gallon	1/8 full			In open pit	
DR-17			Blue Poly Drum	55 gallon	<1/8			Outdoor Drum Storage	
DR-18			1 Fiber Drum	55 gallon	full	Solid	101	Under Tank Outside near concrete pit	Deteriorated
DR-19			5 gallon Bucket	5 gallon	full	Solid	Sealant	Power House 51-B Office	
DR-20			5 gallon Steel	5 Gallon Bucket	1/2 Full	Liquid	Metal Gear	Power House 51-B	Mobil
DR-21			1 Fiber Drum (same as DR-18)	55 gallon	full	Solid	101	Under Tank Outside near concrete pit	Deteriorated
DR-22			Steel 55 gallon	55 gallon	Full	Liquid	DE Oil Heavy Med D931 326 TK	Room 50	
DR-23			Steel Drum	55 gallon	1/2 Full	Oil Soaked Rags		Room 50	Fiber Paks
DR-24			Steel Drum	5 gallon	1/4 Full			Room 50	
DR-25 (a,b,c,d)			Oil Collection Bin	220 gallons	Full	oily liquid		Room 50	
DR-26			5 gallon	5 gallon	1/4 full	solid grease	Mobil Grease	RR entrance	
DR-27			Metal Bucket	5 gallon	1/4 full	Grease	Lithium Grease	RR Platform	
DR-28			Plastic Bucket	5 gallon	1/2 full			Room 50	
DR-29			Fiber Drum	55 gallon	Full	Foam			
DR-30			Plastic Drum	10 gallon	Full	Solid/ with Clear liquid	Solvent Block	Room 50	
DR-31			Blue Poly Drum	55 gallon	<1/8	Liquid	7884	RR Platform	
DR-32 (A,B,C)			Metal Drum	55 gallon		Oil/Liquid	From Pool	Room 50	

*- Labeling/Documentation and Haz-catting of these drums performed by Tetra-Tech on behalf of U.S.EPA Site Assessment Group (Region III)

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Table 2
James River Paper Mill Site (100705)
Container Log Summary (7/23/07)

Container ID	Sample ID	Sample Date	Type	Size	Capacity	Contents	Labels	Location	Comments
C-1			Plastic Container	<1 gallon	1/4 full	Bar and Chain Oil		RR Entrance	
C-2			Plastic Container	1 gallon	1/4 full	clear liquid	High Detergent	RR Entrance Platform	
C-3			Plastic Container	1 gallon	1/2 full	Yellow Liquid	Cleanser, Step Germicide	RR Entrance Platform	
C-4			Plastic Container	Quart	1/4 full	Oily Liquid	4 cycle Oil	RR Entrance Platform	
C-5			Metal Can	Pint	Full	Polyester Poly Filler		Platform	
C-6				1 lb.	Full	Grease Solids	Packing Lab	RR Platform	
C-8			4 plastics	1 gallon		Yellow Liquid	Imunol	Maintenance Loading Dock File Room	
C-9			Plastic	1 gallon		Yellow Liquid	Triple Play Cleanser	Maintenance Locker Room	
C-10			Clear Plastic	1 gallon		Clear Liquid		Maintenance Shed	
C-11			Metal Bottle	1 quart			Flexane Accelerator	Maintenance Shed #22	
C-12			Metal Container	1/2 pint		Liquid	Universal Primer	Maintenance Room/ Paint Shop	
C-13			Metal Container	3.5 ounce		Liquid	High Build Elastomer Solidifier	Maintenance Room/ Paint Shop	
C-14			Metal Container	30 killogram		Liquid	Ceramics-Metal	Maintenance Room/ Paint Shop	
C-15			Metal Container	.5 ounce		Liquid	Belona Release Agent	Maintenance Room/ Paint Shop	
C-16			Plastic Container			Solid	9411	Maintenance Room/ Paint Shop	
C-17			Plastic Container	Pint		Solid	PMC Comosant P/N 12875	Maintenance Room/ Paint Shop	
C-18			Aluminum Tube	ounce		Solid	Certanum Modified Amines	Maintenance Room/ Paint Shop	
C-19 (A,B,C)			Plastic Tub	1/2 gallon		grey solid	Ceramics Metal Base Grey	Maintenance Room/ Paint Shop	
C-20			Metal Can	2.5 Gallon		Solid	Polymer Compound Base	Maintenance Room/ Paint Shop	
C-21 (A,B,C,D)			Plastic Tub	quart		Solid	Super Protectant part #12877A	Maintenance Room/ Paint Shop	
C-22 (A,B,C)			Plastic Tub	Pint		Liquid	Super Protectant part #12877A	Maintenance Room/ Paint Shop	
C-23 (A,B)			Plastic Bottle	5 pint		Solid	Cyrobond 806 Powder CW1952	Maintenance Room/ Paint Shop	
C-24			Plastic Bottle	Pint		Solid	Cyrospray 836 Powder	Maintenance Room/ Paint Shop	
C-25			Metal Can	Pint		Liquid	Belona Ceramics Metal Solidifier Blue	Maintenance Room/ Paint Shop	
C-26			Box	6 viles		Liquid	Chem Stud Capsule Anchors 3/4"	Maintenance Room/ Paint Shop	
C-27			Box	2 viles		Liquid	Chem Stud Capsule Anchors 1/2"	Maintenance Room/ Paint Shop	
C-28			Plastic Bottle	Pint		Solid	Cyrospray 836 Powder Ni/Cr		
C-29 (A, B)			Clear Poly Bottle	1 gallon	Full	Oily Liquid		Maintenance Sampling Room	
C-30			Plastic Bucket	5 gallon	3/4 Full	Coolant		Maintenance Sampling Room	
C-31			Fiber Container	100 lb.	Full		Oxygen Scavenger, Sulfite	Maintenance Sampling Room	
C-32			Steel Bucket	5 gallon	3/4 Full	Solid	Paint	Maintenance	
C-33			Bag	100 lb.	Full	Solid	Caustic Sodium	Powerhouse	
C-34			Steel Bucket	5 gallon	1/4 Full	Solid	Tar	Room 19	
C-35			Steel Bucket	5 gallon	3/4 Full	Solid	Tar	Room 19	
C-36			White Poly Bucket	5 gallon	1/2 Full	Liquid	Dark Oily Liquid	Pressure Washer Cleaner	
C-37			Clear Poly	1 gallon	1/8 Full	Liquid	Oily	Chlorine Building Trans Yard	
C-38			Box	1/2 gallon	1/2 full	Liquid	Battery Acid	Room 30 Corner Office	
C-39			Plastic Tube	Tube	1/2 Full	Solid	587 Locktite	Room 30 Corner Office	
CY-1			Steel Cylinder (Propane)	25 gallon	M/T			At Building Adjacent to ET Drum Storage	
CY-2			Steel Cylinder (Propane)	26 gallon	M/T			At Building Adjacent to ET Drum Storage Outside Garage Door	
CY-3			Steel Cylinder (Propane)	27 gallon	M/T			At Building Adjacent to ET Drum Storage Inside Garage Door	
CY-4			Steel Cylinder (Propane)	28 gallon	M/T			At Building Adjacent to ET Drum Storage Outside Garage Door	
CY-5			Steel Cy	25 gallon					

Table 3
James River Paper Mill Site (100705)
Tank Summary (7/23/07)

Drum ID	Sample ID	Sample Date	Type	Size	Capacity	Contents	Labels	Location	Comments
T-1			Poly Tank	200 gallon	<1/8 Full	Paste Advantage 1529		Center Room #6	
T-2			Steel Tank	100 gallon	3/4 Full	Liquid Soaked Paper		Center Room #6	
T-3			Poly Tank	200 gallon	1/4 Full	White Chalky Substance		Center Room #5	

Table 4
James River Paper Mill Site (100705)
Pictures Collected, Documentation performed, But Drums Not Retrieved Yet Log Summary (7/23/07)

Drum ID	Sample ID	Sample Date	Type	Size	Capacity	Contents	Labels	Location	Comments
0383			Metallic Grout					Room 50	
0385			Industrial Starch					Tamol SN 6-0224	
404, 406			Press Machine Oil/Cleaners ditches around base 2 Drums						

Attachment A
Tetra Tech Drum Screening Data

Combustable

Black/tan w/ asphalt odor

LIQUID/SOLID SCREENING DATA

Name of Label Info: SRP-DR-01

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
%O_2	20.9		
%LEL	0		
FID			
PID	3.2		
RAD			

NFPA MARKINGS

Blue	Red	Yellow
	4	2
		(-W-)
	(ACID or ALK)	
		(OX)
		1+
2		
	3	4
	2	3
	2	2
1,2		
	4	
	3	
	2	
	1	
	0	
	1	

General Reactivity

Pyrophoric	(Y)	(N)	1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
Water			2. Wet pH test strip with 2-3 drops of water and touch to unknown.
Reactivity	(Y)	(N)	3. Strong reaction (heat, fumes, spitting) indicates water reactive.
			4. Compare colors on a test strip to color chart. pH= 5
Corrosivity	(Y)	(N)	5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
			6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
			7. Touch wetted paper to unknown.
Oxidizer	(Y)	(N)	8. Rapid paper color change to black, purple, or blue/black indicates oxidizer slow change, not rapid

If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9

8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
Aqueous liquids - dip PEROXIDE test strip into unknown.
Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.

Peroxide	(Y)	(N)	8b. Color change of test strip to blue indicates peroxide.
			9. Wet LEAD ACETATE test paper with water.
			10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
Sulfide	(Y)	(N)	11. Color change of paper to brown/black is positive for sulfides.

Shock Sensitivity

1. Place a few grains of solid or dime size pool of liquid on a watch glass.
2. Heat a hairpin until it is cherry red.

Shock Sensitive	(Y)	(N)	3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION! slight reaction
	(Y)	(N)	4. If no noticeable reaction, put hairpin back in flame. FLAME! Smoke
Reactive	(Y)	(N)	5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4. smoke, step 4 flame

Flammability

Volatile	(Y)	(N)	1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
			2. Bring lit match from above unknown surface.
Ignition	(Y)	(N)	EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	(Y)	(N)	FLAMMABLE = Flame jumps to unknown.
	(Y)	(N)	FLAMMABLE = Unknown continues to burn after match is removed.
	(Y)	(N)	COMBUSTIBLE = Unknown burns with match as a wick.
	(Y)	(N)	NON-FLAMMABLE = Liquids extinguish match/solids do not burn.

If unknown is non-flammable, proceed to step 3, otherwise go to water solubility

3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
6. Indicators of organic compounds:

Organic	(Y)	(N)	Solids	Liquids
			Chairs with ignitable smoke	Evaporates with ignitable vapors
			Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
			Sublimes with ignitable vapors	Evaporates, then chars or tars
				Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow				
	TRY TO IGNITE FUMES					
	?4,3?	2 (-W-)	Water	(Y)	(N)	
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)	
	?	1		(Y)	(N)	
1		2 (-W-)		(Y)	(N)	
1		1		(Y)	(N)	
2			Sinks	(Y)	(N)	
1			Floats	(Y)	(N)	
?			Dissolves	(Y)	(N)	
			other	(Y)	(N)	
				(Y)	(N)	
				(Y)	(N)	
3			Cyanide	(Y)	(N)	
1,2	?CARCINOGEN?		Halogens	(Y)	(N)	
3			Amines or			
2			Nitrates	(Y)	(N)	
3			WARNING			
		1,2	Unsaturated Hydrocarbon	(Y)	(N)	
			Saturated Hydrocarbon	(Y)	(N)	
			Polar Hydrocarbon	(Y)	(N)	
3			Polar Aromatic	(Y)	(N)	
			Mixture	(Y)	(N)	
			Water	(Y)	(N)	

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

COMBUSTIBLE

Red Liquid w/ diesel-like odor.

Hydrocarbon

LIQUID/SOLID SCREENING DATA

NFPA MARKINGS

Name of Label Info

JBP-DS-02
5/22/07

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
$\%O_2$	20.7		
%LEL	0		
FID	--		
PID	15.0		
RAD	--		

Blue	Red	Yellow				
	4	2	Pyrophoric	(Y)	(N)	1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
			Water			2. Wet pH test strip with 2-3 drops of water and touch to unknown.
		(-W-)	Reactivity	(Y)	(N)	3. Strong reaction (heat, fumes, spitting) indicates water reactive.
						4. Compare colors on a test strip to color chart. pH= 5
	(ACID or ALK)		Corrosivity	(Y)	(N)	5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
						6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
						7. Touch wetted paper to unknown.
		(OX)	Oxidizer	(Y)	(N)	8. Rapid paper color change to black, purple, or blue/black indicates oxidizer

If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9

8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
Aqueous liquids - dip PEROXIDE test strip into unknown.
Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.

		1+	Peroxide	(Y)	(N)	8b. Color change of test strip to blue indicates peroxide.
						9. Wet LEAD ACETATE test paper with water.
						10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
2			Sulfide	(Y)	(N)	11. Color change of paper to brown/black is positive for sulfides.

Shock Sensitivity

						1. Place a few grains of solid or dime size pool of liquid on a watch glass.
			Shock			2. Heat a hairpin until it is cherry red.
	3	4	Sensitive	(Y)	(N)	3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
	2	3		(Y)	(N)	4. If no noticeable reaction, put hairpin back in flame. FLAME!
	2	2	Reactive	(Y)	(N)	5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.

Flammability

1,2			Volatile	(Y)	(N)	1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
						2. Bring lit match from above unknown surface.
	4			(Y)	(N)	EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	3		Ignition	(Y)	(N)	FLAMMABLE = Flame jumps to unknown.
	2			(Y)	(N)	FLAMMABLE = Unknown continues to burn after match is removed.
	1			(Y)	(N)	COMBUSTIBLE = Unknown burns with match as a wick.
	0			(Y)	(N)	NON-FLAMMABLE = Liquids extinguish match/solids do not burn.

If unknown is non-flammable, proceed to step 3, otherwise go to water solubility

3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
6. Indicators of organic compounds:

			Solids	Liquids
1	Organic	(Y) (N)	Chairs with ignitable smoke	Evaporates with ignitable vapors
			Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
			Sublimes with ignitable vapors	Evaporates, then chars or tars
				Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s): ORANGE
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (I.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, To, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

pH = 13
oxidizer
Non-flammable

LIQUID/SOLID SCREENING DATA

Name of Label Info: PPP-DR-03

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
%O_2	20.9		
%LEL	0		
FID	–		
PID	0		
RAD	–		

NFPA MARKINGS

Blue	Red	Yellow
	4	2
		(-W-)
	(ACID or ALK)	
		(OX)
		1+
2		
	3	4
	2	3
	2	2
1,2		
	4	
	3	
	2	
	1	
	0	
	1	

General Reactivity

Pyrophoric (Y) (N)
Water
Reactivity (Y) (N)
Corrosivity (Y) (N)
Oxidizer (Y) (N)
Peroxide (Y) (N)
Sulfide (Y) (N)

1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
2. Wet pH test strip with 2-3 drops of water and touch to unknown.
3. Strong reaction (heat, fumes, spitting) indicates water reactive.
4. Compare colors on a test strip to color chart. pH= 13
5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3); pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
7. Touch wetted paper to unknown.
8. Rapid paper color change to black, purple, or blue/black indicates oxidizer

If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9

8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
Aqueous liquids - dip PEROXIDE test strip into unknown.
Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.

8b. Color change of test strip to blue indicates peroxide.

9. Wet LEAD ACETATE test paper with water.
10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
11. Color change of paper to brown/black is positive for sulfides.

Shock Sensitivity

Shock Sensitive (Y) (N)
Reactive (Y) (N)

1. Place a few grains of solid or dime size pool of liquid on a watch glass.
2. Heat a hairpin until it is cherry red.
3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
4. If no noticeable reaction, put hairpin back in flame. FLAME!
5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.

Flammability

Volatile (Y) (N)
Ignition

(Y) (N) EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
(Y) (N) FLAMMABLE = Flame jumps to unknown.
(Y) (N) FLAMMABLE = Unknown continues to burn after match is removed.
(Y) (N) COMBUSTIBLE = Unknown burns with match as a wick.
(Y) (N) NON-FLAMMABLE = Liquids extinguish match/solids do not burn.

1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
2. Bring lit match from above unknown surface.

If unknown is non-flammable, proceed to step 3, otherwise go to water solubility

3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
6. Indicators of organic compounds:

Organic (Y) (N)

Solids	Liquids
Chairs with ignitable smoke	Evaporates with ignitable vapors
Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
Sublimes with ignitable vapors	Evaporates, then chars or tars
	Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s). ORANGE
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mg, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

N/A

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

non flammable, water solvable
(most likely water)

LIQUID/SOLID SCREENING DATA

NFPA MARKINGS

Name of Label Info: SRP-DK-04

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
$\%O_2$	20.9		
%LEL	0		
FID			
PID	~~3.2~~ 0.0		
RAD			

Blue	Red	Yellow
	4	2
		(-W-)
	(ACID or ALK)	
		(OX)
		1+
2		
	3	4
	2	3
	2	2
1,2		
	4	
	3	
	2	
	1	
	0	
	1	

General Reactivity

Pyrophoric (Y) (N)
Water
Reactivity (Y) (N)
Corrosivity (Y) (N)
Oxidizer (Y) (N)
Peroxide (Y) (N)
Sulfide (Y) (N)

1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
2. Wet pH test strip with 2-3 drops of water and touch to unknown.
3. Strong reaction (heat, fumes, spitting) indicates water reactive.
4. Compare colors on a test strip to color chart. pH= 6
5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
7. Touch wetted paper to unknown.
8. Rapid paper color change to black, purple, or blue/black indicates oxidizer

If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9

8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
Aqueous liquids - dip PEROXIDE test strip into unknown.
Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.

8b. Color change of test strip to blue indicates peroxide.

9. Wet LEAD ACETATE test paper with water.
10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
11. Color change of paper to brown/black is positive for sulfides.

Shock Sensitivity

Shock Sensitive (Y) (N)
Reactive (Y) (N)

1. Place a few grains of solid or dime size pool of liquid on a watch glass.
2. Heat a hairpin until it is cherry red.
3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
4. If no noticeable reaction, put hairpin back in flame. FLAME! Slight Orange Flame
5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.

Flammability

Volatile (Y) (N)
Ignition (Y) (N)
(Y) (N)
(Y) (N)
(Y) (N)
(Y) (N)

1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
2. Bring lit match from above unknown surface.

EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
FLAMMABLE = Flame jumps to unknown.
FLAMMABLE = Unknown continues to burn after match is removed.
COMBUSTIBLE = Unknown burns with match as a wick.
NON-FLAMMABLE = Liquids extinguish match/solids do not burn.

If unknown is non-flammable, proceed to step 3, otherwise go to water solubility

3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
6. Indicators of organic compounds:

Organic (Y) (N)

Solids	Liquids
Chairs with ignitable smoke	Evaporates with ignitable vapors
Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
Sublimes with ignitable vapors	Evaporates, then chars or tars
	Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves (Yes)
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(I.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube. no alka seltzer
5. Effervescence indicates presence of >1% water in unknown liquid.

Non-flammable
pH = 5

LIQUID/SOLID SCREENING DATA

NFPA MARKINGS

Name of Label Info: TRP-DR-05

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
%O_2	20.9		
%LEL	0		
FID			
PID	0		
RAD	—		

Blue	Red	Yellow					
			General Reactivity				
	4	2	Pyrophoric	(Y)	(N)	1.	Place a pea size amount of solid or dime size pool of liquid on a watch glass.
			Water			2.	Wet pH test strip with 2-3 drops of water and touch to unknown.
		(-W-)	Reactivity	(Y)	(N)	3.	Strong reaction (heat, fumes, spitting) indicates water reactive.
						4.	Compare colors on a test strip to color chart. pH= 5
	(ACID or ALK)		Corrosivity	(Y)	(N)	5.	pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
						6.	Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
						7.	Touch wetted paper to unknown.
		(OX)	Oxidizer	(Y)	(N)	8.	Rapid paper color change to black, purple, or blue/black indicates oxidizer
			If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9				
						8a.	Solids - wet PEROXIDE test strip with water and touch to unknown.
							Aqueous liquids - dip PEROXIDE test strip into unknown.
							Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.
		1+	Peroxide	(Y)	(N)	8b.	Color change of test strip to blue indicates peroxide.
						9.	Wet LEAD ACETATE test paper with water.
						10.	Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
2			Sulfide	(Y)	(N)	11.	Color change of paper to brown/black is positive for sulfides.
			Shock Sensitivity				
						1.	Place a few grains of solid or dime size pool of liquid on a watch glass.
			Shock			2.	Heat a hairpin until it is cherry red.
	3	4	Sensitive	(Y)	(N)	3.	Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
	2	3		(Y)	(N)	4.	If no noticeable reaction, put hairpin back in flame. FLAME!
	2	2	Reactive	(Y)	(N)	5.	If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.
			Flammability				
1,2			Volatile	(Y)	(N)	1.	Place a few grains of solid or quarter size pool of liquid on a watch glass.
						2.	Bring lit match from above unknown surface.
	4			(Y)	(N)		EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	3		Ignition	(Y)	(N)		FLAMMABLE = Flame jumps to unknown.
	2			(Y)	(N)		FLAMMABLE = Unknown continues to burn after match is removed.
	1			(Y)	(N)		COMBUSTIBLE = Unknown burns with match as a wick.
	0			(Y)	(N)		NON-FLAMMABLE = Liquids extinguish match/solids do not burn.
			If unknown is non-flammable, proceed to step 3, otherwise go to water solubility				
						3.	Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
						4.	Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
						5.	While heating, try to ignite vapors or smoke that is being driven out of test tube.
						6.	Indicators of organic compounds:

	Solids	Liquids
1 Organic (Y) (N)	Chairs with ignitable smoke	Evaporates with ignitable vapors
	Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
	Sublimes with ignitable vapors	Evaporates, then chars or tars
		Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s). ORANGE
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow-Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue-Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

non flammable
polar aromatic
with layer of water

LIQUID/SOLID SCREENING DATA

NFPA MARKINGS

Name of Label Info: SEP-DR-06

Air Monitoring Readings	Headspace	0 - 6"	> 6"
%O_2	20.9		
%LEL	0		
FID			
PID	0.1		
RAD			

Blue	Red	Yellow					
			General Reactivity				
	4	2	Pyrophoric	(Y)	(N)	1.	Place a pea size amount of solid or dime size pool of liquid on a watch glass.
			Water			2.	Wet pH test strip with 2-3 drops of water and touch to unknown.
		(-W-)	Reactivity	(Y)	(N)	3.	Strong reaction (heat, fumes, spitting) indicates water reactive.
						4.	Compare colors on a test strip to color chart. pH= 6
	(ACID or ALK)		Corrosivity	(Y)	(N)	5.	pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
						6.	Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
						7.	Touch wetted paper to unknown.
		(OX)	Oxidizer	(Y)	(N)	8.	Rapid paper color change to black, purple, or blue/black indicates oxidizer
			If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9				
						8a.	Solids - wet PEROXIDE test strip with water and touch to unknown.
							Aqueous liquids - dip PEROXIDE test strip into unknown.
							Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.
		1+	Peroxide	(Y)	(N)	8b.	Color change of test strip to blue indicates peroxide.
						9.	Wet LEAD ACETATE test paper with water.
						10.	Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
2			Sulfide	(Y)	(N)	11.	Color change of paper to brown/black is positive for sulfides.
			Shock Sensitivity				
						1.	Place a few grains of solid or dime size pool of liquid on a watch glass.
			Shock			2.	Heat a hairpin until it is cherry red.
	3	4	Sensitive	(Y)	(N)	3.	Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
	2	3		(Y)	(N)	4.	If no noticeable reaction, put hairpin back in flame. FLAME! Slight orange flame
	2	2	Reactive	(Y)	(N)	5.	If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4. fast burning orange flame
			Flammability				
1,2			Volatile	(Y)	(N)	1.	Place a few grains of solid or quarter size pool of liquid on a watch glass.
						2.	Bring lit match from above unknown surface.
	4			(Y)	(N)		EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	3		Ignition	(Y)	(N)		FLAMMABLE = Flame jumps to unknown.
	2			(Y)	(N)		FLAMMABLE = Unknown continues to burn after match is removed.
	1			(Y)	(N)		COMBUSTIBLE = Unknown burns with match as a wick.
	0			(Y)	(N)		NON-FLAMMABLE = Liquids extinguish match/solids do not burn.
			If unknown is non-flammable, proceed to step 3, otherwise go to water solubility				
						3.	Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
						4.	Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
						5.	While heating, try to ignite vapors or smoke that is being driven out of test tube.
						6.	Indicators of organic compounds:

			Solids	Liquids
1	Organic	(Y) (N)	Chairs with ignitable smoke	Evaporates with ignitable vapors
			Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
			Sublimes with ignitable vapors	Evaporates, then chars or tars
				Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

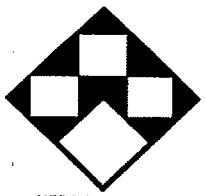
1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

Organic
non-flammable
Polar hydrocarbon-solvent / phenol

LIQUID/SOLID SCREENING DATA



NFPA MARKINGS

Blue	Red	Yellow
	4	2
		(-W-)
	(ACID or ALK)	
		(OX)
		1+
2		
	3	4
	2	3
	2	2
1,2		
	4	
	3	
	2	
	1	
	0	
	1	

Name of Label Info

JRP-DR-07

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
%O_2	20.9		
%LEL	0		
FID	-		
PID	0		
RAD	-		

General Reactivity

Pyrophoric (Y) (N)
Water
Reactivity (Y) (N)
Corrosivity (Y) (N)
Oxidizer (Y) (N)
Peroxide (Y) (N)
Sulfide (Y) (N)

1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
2. Wet pH test strip with 2-3 drops of water and touch to unknown.
3. Strong reaction (heat, fumes, spitting) indicates water reactive.
4. Compare colors on a test strip to color chart. pH= 5
5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
7. Touch wetted paper to unknown.
8. Rapid paper color change to black, purple, or blue/black indicates oxidizer

If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9

8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
Aqueous liquids - dip PEROXIDE test strip into unknown.
Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.

8b. Color change of test strip to blue indicates peroxide.

9. Wet LEAD ACETATE test paper with water.
10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
11. Color change of paper to brown/black is positive for sulfides.

Shock Sensitivity

Shock
Sensitive (Y) (N)
(Y) (N)
Reactive (Y) (N)

1. Place a few grains of solid or dime size pool of liquid on a watch glass.
2. Heat a hairpin until it is cherry red.
3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
4. If no noticeable reaction, put hairpin back in flame. FLAME!
5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.

Flammability

Volatile (Y) (N)
(Y) (N)
Ignition (Y) (N)
(Y) (N)
(Y) (N)
(Y) (N)
(Y) (N)

1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
2. Bring lit match from above unknown surface.

EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
FLAMMABLE = Flame jumps to unknown.
FLAMMABLE = Unknown continues to burn after match is removed.
COMBUSTIBLE = Unknown burns with match as a wick.
NON-FLAMMABLE = Liquids extinguish match/solids do not burn.

If unknown is non-flammable, proceed to step 3, otherwise go to water solubility

3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
6. Indicators of organic compounds:

Organic (Y) (N)

Solids	Liquids
Chairs with ignitable smoke	Evaporates with ignitable vapors
Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
Sublimes with ignitable vapors	Evaporates, then chars or tars
	Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow				
	TRY TO IGNITE FUMES					
	?4,3?	2 (-W-)	Water	(Y)	(N)	
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)	
	?	1		(Y)	(N)	
1		2 (-W-)		(Y)	(N)	
1		1		(Y)	(N)	
2			Sinks	(Y)	(N)	
1			Floats	(Y)	(N)	
?			Dissolves	(Y)	(N)	
			other	(Y)	(N)	
				(Y)	(N)	
				(Y)	(N)	
3			Cyanide	(Y)	(N)	
1,2	?CARCINOGEN?		Halogens	(Y)	(N)	
3			Amines or			
2			Nitrates	(Y)	(N)	
3			WARNING			
		1,2	Unsaturated Hydrocarbon	(Y)	(N)	
			Saturated Hydrocarbon	(Y)	(N)	
			Polar Hydrocarbon	(Y)	(N)	
3			Polar Aromatic	(Y)	(N)	
			Mixture	(Y)	(N)	
			Water	(Y)	(N)	

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

	Solids	Liquids
	Reacts Violently	Reacts Violently
	Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
	Effervesces	Effervesces
	Boils	
	Becomes Hot or Cold	Becomes Hot
	Sinks	Sinks
	Floats	Floats
	Dissolves	Dissolves
	Forms Suspension	Emulsifies
	Dissolves, then forms Gel	Forms Globules
	Changes Color	Changes Color
		Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Sc, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

Combustible Liquid
unsaturated hydrocarbon

LIQUID/SOLID SCREENING DATA

NFPA MARKINGS

Name of Label Info: JRP-IJR-08

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
$\%O_2$	20.9		
%LEL	0		
FID			
PID	11.6		
RAD			

Blue	Red	Yellow
	4	2
		(-W-)
	(ACID or ALK)	
		(OX)
		1+
2		
	3	4
	2	3
	2	2
1,2		
	4	
	3	
	2	
	1	
	0	
	1	

General Reactivity

Pyrophoric (Y) (N)
Water
Reactivity (Y) (N)
Corrosivity (Y) (N)
Oxidizer (Y) (N)
Peroxide (Y) (N)
Sulfide (Y) (N)

1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
2. Wet pH test strip with 2-3 drops of water and touch to unknown.
3. Strong reaction (heat, fumes, spitting) indicates water reactive.
4. Compare colors on a test strip to color chart. pH= 5
5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
7. Touch wetted paper to unknown.
8. Rapid paper color change to black, purple, or blue/black indicates oxidizer

If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9

8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
Aqueous liquids - dip PEROXIDE test strip into unknown.
Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.

8b. Color change of test strip to blue indicates peroxide.

9. Wet LEAD ACETATE test paper with water.
10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
11. Color change of paper to brown/black is positive for sulfides.

Shock Sensitivity

Shock Sensitive (Y) (N)
Reactive (Y) (N)

1. Place a few grains of solid or dime size pool of liquid on a watch glass.
2. Heat a hairpin until it is cherry red.
3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
4. If no noticeable reaction, put hairpin back in flame. FLAME! orange flame
5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.

Flammability

Volatile (Y) (N)

1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
2. Bring lit match from above unknown surface.

Ignition
(Y) (N) EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
(Y) (N) FLAMMABLE = Flame jumps to unknown.
(Y) (N) FLAMMABLE = Unknown continues to burn after match is removed.
(Y) (N) COMBUSTIBLE = Unknown burns with match as a wick.
(Y) (N) NON-FLAMMABLE = Liquids extinguish match/solids do not burn.

If unknown is non-flammable, proceed to step 3, otherwise go to water solubility

3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
6. Indicators of organic compounds:

Organic (Y) (N)

Solids	Liquids
Chairs with ignitable smoke	Evaporates with ignitable vapors
Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
Sublimes with ignitable vapors	Evaporates, then chars or tars
	Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Pot, Sol	White Sparkles	Mg

Solvent Class

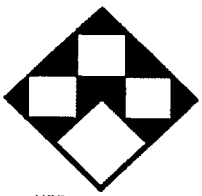
1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

Solid - nonflammable

LIQUID/SOLID SCREENING DATA



NFPA MARKINGS

Name of Label Info: JRP-DR-07

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
%O_2	20.9		
%LEL	0		
FID			
PID	0.2		
RAD			

Blue	Red	Yellow					
			General Reactivity				
	4	2	Pyrophoric	(Y)	(N)	1.	Place a pea size amount of solid or dime size pool of liquid on a watch glass.
			Water			2.	Wet pH test strip with 2-3 drops of water and touch to unknown.
		(-W-)	Reactivity	(Y)	(N)	3.	Strong reaction (heat, fumes, spitting) indicates water reactive.
						4.	Compare colors on a test strip to color chart. pH= 5
	(ACID or ALK)		Corrosivity	(Y)	(N)	5.	pH=0,14 (NFPA 4); pH=1,2,12,13 (NFPA 3); pH=3,4,10,11 (NFPA 2); pH=5,6,8,9 (NFPA 1)
						6.	Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
						7.	Touch wetted paper to unknown.
		(OX)	Oxidizer	(Y)	(N)	8.	Rapid paper color change to black, purple, or blue/black indicates oxidizer change not rapid
			If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9				
						8a.	Solids - wet PEROXIDE test strip with water and touch to unknown.
							Aqueous liquids - dip PEROXIDE test strip into unknown.
							Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.
		1+	Peroxide	(Y)	(N)	8b.	Color change of test strip to blue indicates peroxide.
						9.	Wet LEAD ACETATE test paper with water.
						10.	Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
2			Sulfide	(Y)	(N)	11.	Color change of paper to brown/black is positive for sulfides.
			Shock Sensitivity				
						1.	Place a few grains of solid or dime size pool of liquid on a watch glass.
			Shock			2.	Heat a hairpin until it is cherry red.
	3	4	Sensitive	(Y)	(N)	3.	Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
	2	3		(Y)	(N)	4.	If no noticeable reaction, put hairpin back in flame. FLAME!
	2	2	Reactive	(Y)	(N)	5.	If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.
			Flammability				
1,2			Volatile	(Y)	(N)	1.	Place a few grains of solid or quarter size pool of liquid on a watch glass.
						2.	Bring lit match from above unknown surface.
	4			(Y)	(N)		EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	3		Ignition	(Y)	(N)		FLAMMABLE = Flame jumps to unknown.
	2			(Y)	(N)		FLAMMABLE = Unknown continues to burn after match is removed.
	1			(Y)	(N)		COMBUSTIBLE = Unknown burns with match as a wick.
	0			(Y)	(N)		NON-FLAMMABLE = Liquids extinguish match/solids do not burn.
			If unknown is non-flammable, proceed to step 3, otherwise go to water solubility				
						3.	Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
						4.	Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
						5.	While heating, try to ignite vapors or smoke that is being driven out of test tube.
						6.	Indicators of organic compounds:

	Solids	Liquids
1	Organic (Y) (N)	Chairs with ignitable smoke
		Tars with ignitable smoke
		Sublimes with ignitable vapors
		Evaporates with ignitable vapors
		Forms scales which char with ignitable vapors or smoke
		Evaporates, then chars or tars
		Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

11210

LIQUID/SOLID SCREENING DATA

Name of Label Info: JRP-BR-10 / 5/29/07

brown oil

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
%O_2	22.7		
%LEL	0		
FID			
PID			
RAD			

NFPA MARKINGS

Blue	Red	Yellow
	4	2
		(-W-)
	(ACID or ALK)	
		(OX)
		1+
2		
	3	4
	2	3
	2	2
1,2		
	4	
	3	
	2	
	1	
	0	
	1	

General Reactivity

Pyrophoric (Y) (N) — 1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.

Water

Reactivity (Y) (N) — 2. Wet pH test strip with 2-3 drops of water and touch to unknown.

3. Strong reaction (heat, fumes, spitting) indicates water reactive.

4. Compare colors on a test strip to color chart. pH= 5

Corrosivity (Y) (N) — 5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)

6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID

7. Touch wetted paper to unknown.

Oxidizer (Y) / (N) — 8. Rapid paper color change to black, purple, or blue/black indicates oxidizer – NOT RAPID; SPOTTY

If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9

8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
Aqueous liquids - dip PEROXIDE test strip into unknown.
Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.

Peroxide (Y) (N) — 8b. Color change of test strip to blue indicates peroxide.

9. Wet LEAD ACETATE test paper with water.

10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.

Sulfide (Y) (N) — 11. Color change of paper to brown/black is positive for sulfides.

Shock Sensitivity

1. Place a few grains of solid or dime size pool of liquid on a watch glass.

Shock

2. Heat a hairpin until it is cherry red.

Sensitive (Y) (N) — 3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!

(Y) (N) — 4. If no noticeable reaction, put hairpin back in flame. FLAME!

Reactive (Y) (N) — 5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.

Flammability

Volatile (Y) (N) — 1. Place a few grains of solid or quarter size pool of liquid on a watch glass.

2. Bring lit match from above unknown surface.

(Y) (N) — EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.

Ignition (Y) (N) — FLAMMABLE = Flame jumps to unknown.

(Y) (N) — FLAMMABLE = Unknown continues to burn after match is removed.

(Y) (N) — COMBUSTIBLE = Unknown burns with match as a wick.

(Y) (N) — NON-FLAMMABLE = Liquids extinguish match/solids do not burn.

If unknown is non-flammable, proceed to step 3, otherwise go to water solubility

3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.

4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.

5. While heating, try to ignite vapors or smoke that is being driven out of test tube.

6. Indicators of organic compounds:

Organic (Y) (N)

Solids	Liquids
Chairs with ignitable smoke	Evaporates with ignitable vapors
Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
Sublimes with ignitable vapors	Evaporates, then chars or tars
	Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

DR-11

LIQUID/SOLID SCREENING DATA

NFPA MARKINGS

Name of Label Info

SRP-DR-11
5/24/07
brown oil

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
$\%0_2$	20.7		
%LEL	0		
FID			
PID			
RAD			

Blue	Red	Yellow				
			General Reactivity			
	4	2	Pyrophoric	(Y)	(N)	1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
			Water			2. Wet pH test strip with 2-3 drops of water and touch to unknown.
		(-W-)	Reactivity	(Y)	(N)	3. Strong reaction (heat, fumes, spitting) indicates water reactive.
						4. Compare colors on a test strip to color chart. pH= _____
	(ACID or ALK)		Corrosivity	(Y)	(N)	5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
						6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
						7. Touch wetted paper to unknown.
		(OX)	Oxidizer	(Y)	(N)	8. Rapid paper color change to black, purple, or blue/black indicates oxidizer
			If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9			
						8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
						Aqueous liquids - dip PEROXIDE test strip into unknown.
						Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.
		1+	Peroxide	(Y)	(N)	8b. Color change of test strip to blue indicates peroxide.
						9. Wet LEAD ACETATE test paper with water.
						10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
2			Sulfide	(Y)	(N)	11. Color change of paper to brown/black is positive for sulfides.
			Shock Sensitivity			
						1. Place a few grains of solid or dime size pool of liquid on a watch glass.
			Shock			2. Heat a hairpin until it is cherry red.
	3	4	Sensitive	(Y)	(N)	3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
	2	3		(Y)	(N)	4. If no noticeable reaction, put hairpin back in flame. FLAME!
	2	2	Reactive	(Y)	(N)	5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.
			Flammability			
1,2			Volatile	(Y)	(N)	1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
						2. Bring lit match from above unknown surface.
	4			(Y)	(N)	EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	3		Ignition	(Y)	(N)	FLAMMABLE = Flame jumps to unknown.
	2			(Y)	(N)	FLAMMABLE = Unknown continues to burn after match is removed.
	1			(Y)	(N)	COMBUSTIBLE = Unknown burns with match as a wick.
	0			(Y)	(N)	NON-FLAMMABLE = Liquids extinguish match/solids do not burn.
			If unknown is non-flammable, proceed to step 3, otherwise go to water solubility			
						3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
						4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
						5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
						6. Indicators of organic compounds:

				Solids	Liquids
	1		Organic	(Y) (N)	Chairs with ignitable smoke / Evaporates with ignitable vapors
					Tars with ignitable smoke / Forms scales which char with ignitable vapors or smoke
					Sublimes with ignitable vapors / Evaporates, then chars or tars
					Liquid shoots out explosively

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

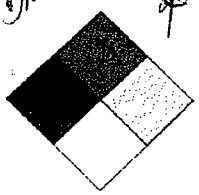
1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

Drum #B12

LIQUID/SOLID SCREENING DATA



NFPA MARKINGS

Name/Label Info: JRP-DR-12; 5/29/07

clear liquid

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
%O_2	20.9		
%LEL	0		
PID			
RAD			

Blue	Red	Yellow					
			General Reactivity				
	4	2	Pyrophoric	(Y)	(N)	1.	Place a pea size amount of solid or dime size pool of liquid on a watch glass.
			Water			2.	Wet pH test strip with 2-3 drops of water and touch to unknown.
		(-W-)	Reactivity	(Y)	(N)	3.	Strong reaction (heat, fumes, spitting) indicates water reactive.
						4.	Compare colors on a test strip to color chart. pH= 4
	(ACID or ALK)		Corrosivity	(Y)	(N)	5.	pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
						6.	Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
						7.	Touch wetted paper to unknown.
		(OX)	Oxidizer	(Y)	(N)	8.	Rapid paper color change to black, purple, or blue/black indicates oxidizer
			If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9				
						8a.	Solids - wet PEROXIDE test strip with water and touch to unknown.
							Aqueous liquids - dip PEROXIDE test strip into unknown.
							Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.
		1+	Peroxide	(Y)	(N)	8b.	Color change of test strip to blue indicates peroxide.
						9.	Wet LEAD ACETATE test paper with water.
						10.	Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
2			Sulfide	(Y)	(N)	11.	Color change of paper to brown/black is positive for sulfides.
			Shock Sensitivity				
						1.	Place a few grains of solid or dime size pool of liquid on a watch glass.
			Shock			2.	Heat a hairpin until it is cherry red.
	3	4	Sensitive	(Y)	(N)	3.	Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
	2	3		(Y)	(N)	4.	If no noticeable reaction, put hairpin back in flame. FLAME!
	2	2	Reactive	(Y)	(N)	5.	If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.
			Flammability				
1,2			Volatile	(Y)	(N)	1.	Place a few grains of solid or quarter size pool of liquid on a watch glass.
						2.	Bring lit match from above unknown surface.
	4			(Y)	(N)		EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	3		Ignition	(Y)	(N)		FLAMMABLE = Flame jumps to unknown.
	2			(Y)	(N)		FLAMMABLE = Unknown continues to burn after match is removed.
	1			(Y)	(N)		COMBUSTIBLE = Unknown burns with match as a wick.
	0			(Y)	(N)		NON-FLAMMABLE = Liquids extinguish match/solids do not burn.
			If unknown is non-flammable, proceed to step 3, otherwise go to water solubility				
						3.	Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
						4.	Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
						5.	While heating, try to ignite vapors or smoke that is being driven out of test tube.
						6.	Indicators of organic compounds:
	1		Organic	(Y)	(N)		Solids: Chairs with ignitable smoke; Tars with ignitable smoke; Sublimes with ignitable vapors
							Liquids: Evaporates with ignitable vapors; Forms scales which char with ignitable vapors or smoke; Evaporates, then chars or tars; Liquid shoots out explosively

NOT RAPID ~15 SEC

> 2mg/1 H_2O

Dam #12

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow				
	TRY TO IGNITE FUMES					
	?4,3?	2 (-W-)	Water	(Y)	(N)	
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)	
	?	1		(Y)	(N)	
1		2 (-W-)		(Y)	(N)	
1		1		(Y)	(N)	
2			Sinks	(Y)	(N)	
1			Floats	(Y)	(N)	
?			Dissolves	(Y)	(N)	
			other	(Y)	(N)	
				(Y)	(N)	
				(Y)	(N)	
3			Cyanide	(Y)	(N)	
1,2	?CARCINOGEN?		Halogens	(Y)	(N)	
3			Amines or			
2			Nitrates	(Y)	(N)	
3			WARNING			
		1,2	Unsaturated Hydrocarbon	(Y)	(N)	
			Saturated Hydrocarbon	(Y)	(N)	
			Polar Hydrocarbon	(Y)	(N)	
3			Polar Aromatic	(Y)	(N)	
			Mixture	(Y)	(N)	
			Water	(Y)	(N)	

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

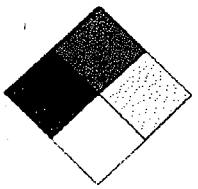
1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.

Room 13

LIQUID/SOLID SCREENING DATA



NFPA MARKINGS

Name/Label Info: JRP-DR-13 5/29/07

green liquid

Air Monitoring Readings

	Headspace	0 - 6"	> 6"
$\%O_2$	20.9		
%LEL	0		
PID			
RAD			

Blue	Red	Yellow				
			General Reactivity			
	4	2	Pyrophoric	(Y)	(N)	1. Place a pea size amount of solid or dime size pool of liquid on a watch glass.
			Water			2. Wet pH test strip with 2-3 drops of water and touch to unknown.
		(-W-)	Reactivity	(Y)	(N)	3. Strong reaction (heat, fumes, spitting) indicates water reactive.
						4. Compare colors on a test strip to color chart. pH= 5
	(ACID or ALK)		Corrosivity	(Y)	(N)	5. pH=0,14 (NFPA 4): pH=1,2,12,13 (NFPA 3): pH=3,4,10,11 (NFPA 2): pH=5,6,8,9 (NFPA 1)
						6. Wet POTASSIUM IODIDE test paper w/2-3 drops of 3N HCL ACID
						7. Touch wetted paper to unknown.
		(OX)	Oxidizer	(Y)	(N)	8. Rapid paper color change to black, purple, or blue/black indicates oxidizer
			If Oxidizer test is positive, do peroxide test (8A & 8B), otherwise proceed to step 9			
						8a. Solids - wet PEROXIDE test strip with water and touch to unknown.
						Aqueous liquids - dip PEROXIDE test strip into unknown.
						Organic solvent- dip test strip in unknown, allow to dry, then wet w/water.
		1+	Peroxide	(Y)	(N)	8b. Color change of test strip to blue indicates peroxide.
						9. Wet LEAD ACETATE test paper with water.
						10. Hold paper over unknown while adding 5 drops of 3N HCL ACID to unknown.
2			Sulfide	(Y)	(N)	11. Color change of paper to brown/black is positive for sulfides.
			Shock Sensitivity			
						1. Place a few grains of solid or dime size pool of liquid on a watch glass.
			Shock			2. Heat a hairpin until it is cherry red.
	3	4	Sensitive	(Y)	(N)	3. Touch cherry red hairpin to unknown on a watch glass. VIOLENT REACTION!
	2	3		(Y)	(N)	4. If no noticeable reaction, put hairpin back in flame. FLAME!
	2	2	Reactive	(Y)	(N)	5. If there is still no reaction, add 3 drops 3N HCL and repeat steps 3 & 4.
			Flammability			
1,2			Volatile	(Y)	(N)	1. Place a few grains of solid or quarter size pool of liquid on a watch glass.
						2. Bring lit match from above unknown surface.
	4			(Y)	(N)	EXTREMELY FLAMMABLE = Flame jumps 2" or more to unknown.
	3		Ignition	(Y)	(N)	FLAMMABLE = Flame jumps to unknown.
	2			(Y)	(N)	FLAMMABLE = Unknown continues to burn after match is removed.
	1			(Y)	(N)	COMBUSTIBLE = Unknown burns with match as a wick.
	0			(Y)	(N)	NON-FLAMMABLE = Liquids extinguish match/solids do not burn.
			If unknown is non-flammable, proceed to step 3, otherwise go to water solubility			
						3. Place 2 pea size amounts of solid or 1/2" of liquid unknown in a test tube.
						4. Heat test tube in torch flame until no further reaction takes place/test tube begins to melt.
						5. While heating, try to ignite vapors or smoke that is being driven out of test tube.
						6. Indicators of organic compounds:

			Solids	Liquids
1	Organic	(Y) (N)	Chairs with ignitable smoke	Evaporates with ignitable vapors
			Tars with ignitable smoke	Forms scales which char with ignitable vapors or smoke
			Sublimes with ignitable vapors	Evaporates, then chars or tars
				Liquid shoots out explosively

Prom #13

LIQUID/SOLID SCREENING DATA

Blue	Red	Yellow			
	TRY TO IGNITE FUMES				
	?4,3?	2 (-W-)	Water	(Y)	(N)
1+	?4,3?	2 (-W-)	Reactivity	(Y)	(N)
	?	1		(Y)	(N)
1		2 (-W-)		(Y)	(N)
1		1		(Y)	(N)
2			Sinks	(Y)	(N)
1			Floats	(Y)	(N)
?			Dissolves	(Y)	(N)
			other	(Y)	(N)
				(Y)	(N)
				(Y)	(N)
3			Cyanide	(Y)	(N)
1,2	?CARCINOGEN?		Halogens	(Y)	(N)
3			Amines or		
2			Nitrates	(Y)	(N)
3			WARNING		
		1,2	Unsaturated Hydrocarbon	(Y)	(N)
			Saturated Hydrocarbon	(Y)	(N)
			Polar Hydrocarbon	(Y)	(N)
3			Polar Aromatic	(Y)	(N)
			Mixture	(Y)	(N)
			Water	(Y)	(N)

Water Solubility + Cyanide

1. Place 1/2" of water in a test tube.
2. Add a pea size amount or 1/2" of liquid unknown to the test tube.
3. Allow time for reaction to occur.

Solids	Liquids
Reacts Violently	Reacts Violently
Hesitates, Reacts with Fumes	Hesitates, Reacts with Fumes
Effervesces	Effervesces
Boils	
Becomes Hot or Cold	Becomes Hot
Sinks	Sinks
Floats	Floats
Dissolves	Dissolves
Forms Suspension	Emulsifies
Dissolves, then forms Gel	Forms Globules
Changes Color	Changes Color
	Forms White Stringy Strands

4. In a separate test tube place 1/4" FERROUS AMMONIUM CITRATE.
5. Add a pinch of FERROUS AMMONIUM SULFATE and shake for 10 seconds.
6. Add tube 2 to tube 1, shake for 1 minutes.
7. Add at least 5, but not more than 10 drops of 3N HCL ACID to the mixture.
8. Dark Prussian Blue color is positive for cyanides.

Halogens

1. Clean copper wire by heating in torch flame until wire glows red. And until there is no green color in the flame. (Yellow or orange rim to the flame is OK)
2. Remove wire from the flame and allow to cool.
3. Dip cooled wire into unknown.
4. Put wire back into flame and observe color(s).
5. Green flame color is positive for halogens at concentrations >500 ppm.
6. Water soluble amines, nitrates, and nitric acid also show green flame color.

If an unknown sinks during water solubility test and has a negative halogen test, the material may be extremely dangerous. (i.e., Pesticides, Aniline, Pyrethrins, Organo - metals, Organophosphates, etc.)

Yellow	Na	Yellow/Green	Mo, Ba, B	Dark Green	Tl, Te, Zn Salt
Red	Li, Ca	Orange	Sr	Whitish Glow	W
Blue	Pb, As, Se, Zn	Blue/Green	Cu, Po4, So4	White Sparkles	Mg

Solvent Class

1. Place 1/2" of unknown liquid in a test tube.
2. Add a small IODINE crystal to the test tube.
3. Note color change:

BURGUNDY RED	(i.e., benzene, xylene, toluene, turpentine, PCBs perchloroethylene, trichloroethylene)
PURPLE	(i.e., kerosene, stoddard solvent, carbon disulfide thinners, carbon tetrachloride, trichloroethane)
YELLOW/ORANGE	(i.e., alcohol, aldehyde, ketone, carboxylic acid ester, amine, nitrates)
YELLOW/RED	(i.e., phenol NFPA 3)
BROWN	(i.e., two or more of above classes)

4. Add a pea size amount of ALKA SELTZER ™ to the test tube.
5. Effervescence indicates presence of >1% water in unknown liquid.