

ABC County Flow Study

TRANSCAER[®] DIVISION OF
ABC COUNTY L: E: P: C: .
HAZARDOUS COMMODITY
TRANSPORTATION FLOW STUDY

AS PREPARED BY *ABC COUNTY* HAZMAT TEAM

ABC COUNTY "TRANSCAER"
HAZARDOUS COMMODITIES FLOW STUDY

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TRANSCAER FLOW STUDY STATEMENT OF PURPOSE

The TransCAER Emergency Planning Sub-Committee-of the ABC County Local Emergency Planning Committee will conduct a Hazardous Material transportation flow study in ABC County. The objectives and goals will be to identify shipments of hazardous materials that either originate or are destined to pass through the County.

By using the data collected we will be able to enhance our emergency planning capabilities and continue to support our emergency response organizations.

The way we plan to conduct, the study will be:

- Identify chemical amounts, the routes most frequently used, and the mode of that they are shipped throughout the County.
- Identify railroads, pipelines airports, waterways, and major highways, and survey the amounts and times transported.
- By working with state and local agencies we would be able to use information already gathered.
- Reviewing and with the help of current information gathered we would be able to determine high hazard areas and incident history.
- By using the data that is gathered we will then be better able to determine possible vulnerable facilities in the Community.
- When all data is compiled we will then develop a data base so that the information gathered can be stored and retrieved for local use, and emergency planning.

The TransCAER Sub-Committee of the ABC County LEPC shall gather and organize all data and determine the information that will aid LEPC. The committee will stop at identifying the major chemicals, the major routes, the major vulnerable areas and will share that information with the local municipalities and their emergency response groups.

When completed the completed flow information will be made available. Along with the LEPC we will review the ABC County Plan and local plans to assure preparedness for high risk routes and areas. We will continue to test the plan and will modify as needed.

MAKE-UP OF TRANSPORTATION.ROUTES '

WATER: The large XX River travels north entering extends to the middle of our most populated territory. Junction joining the smaller YY River which comes from the North directly South..

AIR: The ABC. County Airport is in the North West quarter of the County.

RAIL: Rail transportation .moves through-out all of ABC County, however a very large rail yard is located in the county.

HIGHWAYS: The Turnpike extends through the North Eastern Quarter, it also connects Route XY (north to south through the heart of the county) which travels from the Airport.. Route AB & Route CD parallel the XX River. Rt. 51 heads west and Route 68 travels through rural North-East sections before coming through the Junction area and traveling through heavier population along the XX River. The South West quarter areas have high traffic flow on 3 roads crossing through there area, with heavy truck traffic.

TRANCAER TRAFFIC STUDY /file/TRNCR

	STUDY SIGHT / CREW	STUDY ROUTES / CREW	DIRECTION of TRAVEL	DIRECTION of TRAVEL	SURVEY TIMES	SURVEY HOURS	SIGHT HOURS TOTAL	SURV. HOUR TOTAL
09-17-93	BIG BEAVER unknown	18 & 76 unknown	N/S 18	E/W 76.	1500/1900	4.00	4.00	4.00
09-21-93	SIG KNOB MORRELL	RT-68 ,, GROSSKOPF	E/W 68.		0800/1100	3.00	3.00	7.00
09-01-93	CENTER TWP SEIGEL	18 & 60 McKAY	E/W 18-	N/S 60	08.00/1200	4.00	4.00	11.00
09-02-93	SEIGEL	McKAY			0800/1200	4.00	8.00	15.00
09-14-93	SEIGEL	McKAY			0600/1200	6.00	14.00	21.00
09-16-93	SEIGEL	McKAY			0600/1200	6.00	20.00	27.00
09-16-93	SEIGEL	McKAY			1500/1800	3.00	23.00	30.00
09-20-93	SEIGEL	McKAY			0800/1200	4.00	27.00	34.00
09-21-93	SEIGEL	McKAY			0800/1200	4.00	31.00	38.00
09-22-93	SEIGEL	McKAY			0800/1200	4.00	35.00	42.00
09-22-93	MORRELL	DOUGLASS			1300/1600	3.00	38.00	45.00
09-09-93	CHIPPEWIA, MOORE	51 & 6b. ABBOTT	N/S 51	N/S 60	0800/1200	9.00	4.00	49.00
09-09-93	MOORE	MORRELL			1200/1600	4.00	8.00	53.00
09-09-93	MOORE	MORRELL			1600/2000	4.00	12.00	57.00
09-21-93	ECONOMY MORRELL,	RT-65 GROSSKOPF	N/S 65		1100/1500-	4.00	9.00	61.00
09-01-93	NEW BRIGHTN. MOORE	18 & 65 MORRELL	E/W 18	N/S65	0800/1200	4.00	4.00	65.00
09-08-93	MOORE	DOUGLASS			0800/1200	4.00	8.00	69.00
09-08-93	ROCHESTER MOORE	18 & 51 & 68 GLEENZ.	E/W 18	N/S 51	1300/1700	4.00	4.00	73.00
09-14-93	MOORE	ABBOTT.	E/W 68		0800/1200	4.00	7.00	77.00
09-01-93	VANP.ORT MORRELL	60 & 68 GLEENZ	N/S 60	N/S 68	1600/2000	4.00	4.00	81.00
09-23-93	MORRELL	GROSSKOPF			1500/1900	4.00	8.00	85.00
	BIG BEAVER-	18 & 76	N/S 18	E/W 76			4.00	4.00
	BIG KNOB	RT-68	E/W.68				3.00	7.00
	CENTER TWP	18 & 60	E/W 18	N/S 60			38.00	45.00
	CHIPPEWIA	51 & 60	N/S 51	N/S 60			12.00	57.00
	ECONOMY	RT-65.-.	N/S 65				4.00	61.00
	NEW.BRIGHTN	18 & 65	E/W 18	N/S 65			8.00	69.00
	ROCHESTER	18 & 51 & 68	E/W 18	N/S.51	E/W 68		7.00	77.00
	VANPORT	60 & 68	N/S 60	N/S 68			8.00	85.00

WATERWAY STUDY

The one page report on waterway traffic was received from the Corps of Engineers.

The report covered all items passing through the Lock & Dam from January 1, 1993 through November 1, 1993.

The report detailed Upbound & Downbound Tonnage (K tons), it detailed 31 different categories of shipments of which 9 were considered to be Hazardous.

The Totals for Hazardous Material movement were 12,285 Tons Upbound and 9,262 Tons Downbound, TOTALING MOVEMENT of over 21,547 (KTONS) of Hazardous Materials.

Although waterway transportation has not yielded high problems or accident history, Near water storage facilities present large potential for massive spill/water problems.

Response to matters on the River are coordinated after local alert by the Fish & Boat Commission, The United States Coast Guard Office, and The U.S. Army Corps of Engineers.

Accident & Response History yielded only discussion of the very large spill in the area of a tank collapse in the late 1980's, time and large commitments to the more immediate needs upriver made adequate response. This event did represent good inter-agency and local-to-national cooperation.

Recent history has seen decreased river shipping from less Western area manufacturing jobs and large increases in pleasure boat traffic. This recreational use represents the Public Safety consideration for increase preparation and planning as inadequate quick response resources exist for Water Safety, Boating Safety, SCUBA Rescue currently in the river communities.

TRANSCAER FLOW STUDY / WATERWAYS

	UPBOUND TONNAGE (KTONS)	DOWNBOUND TONNAGE. (KTONS)	TOTAL'S
-			
COAL	9,787.00	8,694.00	18,481.00
PETROLEUM	1,202.00	308.00	1,510.00
CRUDE PETROLEUM	16.00	5.00	21.00
GASOLINE, JET FUEL	98.00	13.00	111.00
DISTILLATE	153.00	32.00	185.00
PETROLUEM PITCHS	227.00	22.00	249.00
CHEMICALS & PRO	341.00	80.00	421.00
FERTILIZER	211.00	22.00	233.00
ORGANIC INDUSTRIAL	250.00	86.00	336.00
HAZARDOUS MATERIALS			
TOTALS	12,285.00	9,262.00	21,547.00
COAL	9,787.00	8,694.00	18,481.00
PETROLEUM	1,202.00	308.00	1,510.00
CRUDE PETROLEUM	16.00	5.00	21.00
GASOLINE, JET FUEL	98.00	13.00	111.00
DISTILLATE	153.00	32.00	185.00
PETROLUEM PITCHS	227.00	22.00	249.00
CHEMICALS & PRO	341.00	80.00	421.00
FERTILIZER	211.00	22.00	233.00
ORGANIC. INDUSTRIAL	250.00.	86.00	336.00
CRUDE MATERIALS	28.00...	7.00	35.00
LUMBER & FOREST PRO	10.00...	2.00	12.00
PULP & WASTE PROD	7.00.....	3.00	10.00
SAND & GRAVEL	2,803.00	44.00	2,847.00
IRON ORE & STEEL	247.00.	275.00	522.00
MARINE SHELLS	9.00.....	1.00	10.00
NON-FERROUS METALS	59.00...	80.00	139.00
SULFUR (DRY) & CLAY	371.00.	4.00	375.00
PRIMARY CO.	3.00.....	7.00	10.00
BUILDING CEMENT.	142.00.	6.00	148.00
PRIMARY IRON/STEEL	264.00	231.00....	495.00
PRIMARY NON-FERROUS	14.00	11.00	25.00
PRIMARY WOOD PRODS.	11.00	0.00	11.00
FOOD & FARM PRODS.	9.00	0.00	9:00
WHEAT	6.00	0.00	6.00
CORN	7.00	1.00	8.00
RYE, BARLEY & RICE	2.00	0.00	2.00
OILSEEDS & SOYBEANS	5.00	0.00	5.00
ANIMAL FEED, GRAIN	49.00	3.00	52.00
OTHER AGRICUTURAL	2.00	0.00	2.00
ALL EQUIPMENT	3.00	7.00	10.00
UNKOWN	10.00	0.00	10.00
TOTALS	16,346.00	9,944.00	26,290.00

RAILROAD STUDY
XYZ Railroad Company

A seven page report on XYZ rail traffic was received from the XYZ Rail Terminal Superintendent.

The report covered all items passing through the XYZ Rail Yards from January 1, 1992 through December 31,1992.

The report. detailed the Number of Cars in both directions of travel West to East bound & East to West bound, along with Totals in both directions and Freight Tons. The actual numbers were also placed in 13 different Hazards sections for computation and totals by haz-mat class, it detailed 291 different categories of shipment, of over 3 million tons in approximately 31,000 rail cars.

Response to matters both in the Yard and off-site through-out ABC County are varied. This response starts with XYZ Rail's own on-site response and goes up according to severity and regulation to the National level.

Accident & Response History has yielded inter-action between XYZ Rail and the ABC County Emergency Response Team. This has included many different events and increased cooperation and commitment to inter-action training during the past 5 years.

Planning and cooperation needs to continue between agencies, and while the danger level with-in one particular township. is high, the actual incident response to unusual events for the load potential is very minor. In comparison driving a cars on the highway is much more frequently hazardous.

RAILROAD STUDY
DEF Railroad Company

A 33 page print-out of DEF railroad traffic was received from the DEF Director of Chemical Safety. The report was from September 1, 1992 through August 31, 1993. It was from the DEF Hazardous Density Study Report.

The report outlined categories (Light to Heavy) of Cars traveling in the area ABC County, but could not detail these items (count or actual travel locations) since the actual lines that travel through ABC County are owned by another Railroad.

The report did show a fine tracking system within DEF, by hazards class, frequency and shipping name.

TRANSCAER FLOW STUDY:

XYZ SPREADSHEET.

COMMODITY *****	CARS E>W	CARS W>E	# OF CARS	FREIGHT TONS
#1 CORROSIVE MATERIALS				
STCC				
4930010 FLOUROSULFONIC ACID	2.00	0.00	2.00	142.00
4930022 HYDROFLOUR ACID	1.00	4.00	5.00	296.00
4930024 HYDROFLOURIC.ACID,AN	17.00	153.00	170.00	13,083.00
4930026 HYDROFLOUS ACID	1.00	3.00	4.00	379.00
4930040 SULPHURIC ACID	483.00	81.00	564.00	54,684.00
4930042 SULPHURIC, SPEN	71.00	0.00	71.00	7,015.00
4930201 ACID INORGANIC	0.00	2.00	2.00	34.00
4930217 ELECTROLYTE	1.00	0.00	1.00	17.00
4930228 MURIATIC ACID	11.00	3.00	14.00	1,146.00
4930229 MURIATIC ACID	0.00	1.00	1.00	75.00
4930247 CORROSIVE LQDS	1.00	38.00	39.00	1,299.00
4930252 SLUDGE ACID	0.00	1.00	1.00	12.00
4931303 ACETIC ACID	0.00	124.00	124.00	11,306.00
4931304 ACETIC ANHYDRID	0.00	13.00	13.00	1,433.00
4931320 FORMIC ACID	37.00	5.00	42.00	4,218.00
4931401 ACETIC ACID	1.00	1.00	2.00	27.00
4931404 ACID, NEC, LIQ	0.00	57.00	57.00	4,986.00
4931405 CHEMICALS, NEC	0.00	50.00	50.00	4,509.00
4931412 CORROSIVE LIQ	28.00	0.00	28.00	2,502.00
4931413 CORROSIVE LIQ	8.00	354.00	362.00	32,370.00
4931417 CORRISIVE LIQ,CRESYL	47.00	46.00	93.00	7,630.00
4931757 ACID LIQUID NOS	0.00	7.00	7.00	119.00
4932329 CORROSIVE MATL	149.00	31.00	180.00	16,246.00
4932342 FERRIC CHLORIDE	127.00	71.00	198.00	19,031.00
4932343 FERRIC CHLORIDE	89.00	4.00	93.00	8,955.00
4932359 PHOSPHOROUS TRICHLOR	3.00	0.00	3.00	236.00
4932363 CHEMICALS, NEC	1.00	0.00	1.00	75.00
4932376 SDM BISULFITE	0.00	16.00	16.00	1,512.00
4932393 ZINC CHLORIDE	14.00	1.00	15.00	1,303.00
4933322 DIMETHYLSULFATE	0.00	1.00	1.00	45.00
4934223 CORROSIVE SOLID	4.00	22.00	26.00	2,239.00
4935206 ALKN CSTC LQDS,	1.00	0.00	1.00	45.00
4935208 --	0.00	5.00	5.00	73.00
4935220 ALKALINE LIQUID, NOS-	4.00	14.00	18.00	1,389.00
4935223 ALKALINE LIQUID NOS	1.00	5.00	6.00	507.00
4935225 POTAS HYDROXIDE, DR	10.00	0.00	10.00	170.00
4935230 POTAS HYDROXIDE LIQ	143.00	15.00	158.00	14,662.00
4935235 SODIUM HYDROXIDE, DR	18.00	292.00	310.00	
	6,190.00			
4935240 SODIUM HYDROXIDE, LI	70.00	93.00	163.00	15,743.00
4935245 SODIUM HYDROXIDE LIQ	3.00	1.00	4.00	68.00
49.35248 CORROSIVE LIQUID NOS	0.00	2.00	2.00	164.00
4935262 SODIUM HYDROXIDE, DR	0.00	1.00	1.00	10.00
4935268 SODIUM HYDROSULFIDE	2.00	0.00	2.00	163.00
4935273 SODIUM HYDROXIDE, LI	0.00	2.00	2.00	166.00

4935628	ETHYLENEDIAMINE	0.00	20.00	20.00	1,554.00
4935631	CORROSIVE LIQUID NOS	0.00	6.00	6.00	558.00
4935639	BUTYL PHENOL	2.00	0.00	2.00	136.00
1935645	HEXAMETHANYLENE DIAM	0.00	1,137.00	1,137.00	109,800.00
4935665	ETHANOLAMINE	0.00	126.00	126.00	10,962.00
4935674	CORROSIVE LIQUID NOS	0.00	1.00	1.00	95.00
4936507	STORAGE BTRYS	0.00	3.00	3.00	36.00
4936510	COAL TAR DYE, LIQUID	2.00	0.00	2.00	90.00

TRANSCAER FLOW STUDY/XYZ MASTER SPREADSHEET

COMMODITY	CARS E>W	CARS W>E	# OF CARS.	FREIGHT TONS	DIFFERENT LISTINGS
CORROSIVE MATERIALS	1,519.00	2,937.00	4,456.00	368,588.00	60.00
FLAMMABLE LIQUIDS	584.00	4,957.00	5,541.00	479,668.00	58.00
COMBUSTIBLE LIQUIDS	249.00	1,214.00	1,493.00	123,742.00	42.00
FLAMMABLE LIQUIDS-3.-	599.00	1,176.00	1,775.00	141,667.00	37.00
ORM CLASS-9	3,250.00	3,296.00	6,546.00	1,061,700.00	25.00
POISON - B -	183.00	360.00	543.00	43,368.00	16.00
FLANMABLE.GAS.	2,473.00	5,807.00	8,280.00	663,117.00	14.00
OXIDIZERS.	113.00	302.00	415.00	35,192.00	10.00
NON-FLAMMABLE GAS	196.00	885.00	1,081.00	88,151.00	9.00
HAZARDOUS WASTE	189.00	186.00	372.00	32,738.00	8.00
FLAMMABLE SOLIDS	-28.00	68.00	96.00	40,774.00	7.00
EXPLOSIVES 1:3 & 1.4	12.00	34.00	46.00	1,685.00	3.00
EXPOLSIVES 1.1 & 1.2	15.00	1.00	16.00	780.00	2.00
	9,410.00	21,223.00	30,660.00	3,045,170.00	291.00

AIRPORT STUDY.

A two page report on the ABC County Airport was received from the Airport Director in ABC County.

The report covered the time period from January 1, 1993 through December 31, 1993.

The report detailed all aircraft activity, which take-offs and landings, along passenger counts at the airstrip. The airport had 94,422 aircraft passing in or out, a daily average of over 250.

It details included the shipping amounts and frequency of the private contractor aviation fueling operations located at the airport. Over 17,000 gallons of fuel was distributed during the year.

The airport has enjoyed a fine safety record over the years, however the increase activity load (mostly from the Community College program) yield to a high level of risk for the future. Additional emergency services planning and resources may be needed in the near future.

TRANSCAER FLOW STUDY ABC COUNTY AIRPORT

	AV 100 TOTAL	JET A	TOTAL AVIATION FUEL	DIESEL	AUTO GAS	FUEL
ACTIVITY		I				
AIRCRAFT	94,422.00					
PASSENGERS	200.00					
ABC AVIATION storage	10,000.00	10,000.00				
usage.	5,000.00	2,420.00	7,420.00			
STENSIN AVIATION storage	10,000.00					
usage	8,780.00		8,780.00			
Total USAGE	13,780.00	2,420.00	15,200.00			16,200.00
ABC COUNTY AVIATION GARAGE				1,100.00	330.00	
1,430.00						17,630.00

PIPELINE STUDY

Responses were received from STR Line Company, Manager, Right of Way Dept.. and EFG Company, Regulatory Compliance Administrator.

Both reports responded only to pipeline location by presenting the study with maps of line travel and type of product, however NO flow rates were disclosed.

Both lines are pumping various grades of automobile gasoline (leaded, unleaded and premium) and occasional home heating oil.

STR PIPE LINE COMPANY
EASTERN AREA
COMMODITIES TRANSPORTED
MSDS ATTACHMENT

<u>PRODUCT</u>	<u>DOT</u>	<u>CLASSIFICATION</u>	
	<u>I.D.</u>	<u>No.</u>	<u>GUIDE No.</u>
Regular Leaded Gasoline	UN 1203		27
Regular Unleaded Gasoline	UN 1203		27
Premium Unleaded Gasoline	UN 1203		27
Toluene	UN 1294		27

