

RE: ALLEGED INJURY TO PROPERTY VALUES

- 24500 The books listed below are written by authorities on the topics which the books address and both the books and the authors are generally relied upon by experts.
- A. George Judge, et al., *The Theory and Practice of Econometrics*, second edition. (Wiley, 1985).
 - B. Takeshi Amemiya, *Advanced Econometrics* (Harvard University Press, 1985)
 - C. Charles F. Manski and Daniel McFadden, *Structured Analysis of Discrete Data with Econometric Applications*, (MIT Press, 1981).
 - D. G. S. Maddala, *Limited-dependent and Qualitative Variables in Econometrics*, (Cambridge University Press, 1983).
 - E. Hsiao, Cheng, *Analysis of Panel Data*, (Cambridge University Press, 1986).
 - E. Jon P. Nelson, *Economic Analysis of Transportation Noise Abatement*, (Ballinger, 1978).
- 24501 The Maps listed below are official surveyors' maps of the areas they depict.
- A. 1980 Census Tracts Map, New Bedford, Massachusetts, Standard Metropolitan Statistical Area.
 - B. City of New Bedford, Bristol County, Massachusetts, Index Map showing locations of detailed Assessors Maps
 - C. City of New Bedford, Bristol County, Massachusetts, Zoning Map
 - D. Town of Fairhaven, Massachusetts, Index Map showing locations of detailed Assessors maps.
 - E. Town of Fairhaven, Massachusetts, Zoning Map, prepared by the Fairhaven Planning Board, revised June 1986.
- 24502 Professor Mendelsohn prepared five versions of his Repeat Sales Study.
- 24503 Attachment Q.VIII.d.1 contains a true and accurate copy of Professor Mendelsohn's repeat sales study entitled *Assessment of Economic Damages: Analysis of Residential Property Values in the New Bedford Area*, Final Report, June 2, 1986.
- 24504 Attachment Q.VIII.d.2 contains a true and accurate copy of Professor Mendelsohn's repeat sales study entitled *Assessment of Economic Damages From PCB Contamination in the New Bedford Area Using Residential Property Values*, Final Report, October 1, 1986.

- 24505 Attachment Q.VIII.d.3 contains a true and accurate copy of Professor Mendelsohn's repeat sales study entitled *Assessment of Damages by PCB Contamination to New Bedford Harbor Amenities Using Residential Property Values*, Final Report, November 12, 1986.
- 24506 Attachment Q.VIII.d.4 contains a true and accurate copy of Professor Mendelsohn's repeat sales study entitled *Measuring the Aesthetic Damages from Hazardous Wastes*, February 20, 1987.
- 24507 Tables 2, 3, and 4 in Attachment Q.VIII.d.5 contain results of Professor Mendelsohn's Repeat Sales Study that are reported in the Plaintiff's 1990 RFAs.
- 24508 Attachment Q.VIII.d.5 contains a true and accurate copy of Tables 2, 3, and 4 of the Plaintiff's RFAs.
- 24509 An hypothesis of the Repeat Sales Study is that the price of housing in the New Bedford Harbor area reflects the use value of the natural resources in the New Bedford Harbor.
- 24510 An hypothesis of the Repeat Sales Study is that people who live in the New Bedford Harbor area are willing to pay more to live near the harbor than they would be willing to pay for otherwise identical housing farther away from the harbor.
- 24511 An hypothesis of the Repeat Sales Study is that if the use value of the harbor's resources has declined because of PCB contamination, then homes close to the harbor will experience a greater drop in value than compared to homes farther away from the harbor.
- 24512 The purpose of Professor Mendelsohn's Repeat Sales Study is to measure the damage to the natural resources of the harbor caused by PCB contamination if such damage occurred.
- 24513 An assumption of Professor Mendelsohn's Repeat Sales Study is that if PCB contamination causes housing prices to decline, then this reflects damage to the natural resources in New Bedford Harbor; that is, declines in housing prices are used as a proxy for damage to the natural resources in the harbor.
- 24514 The study is not intended to show that if PCB contamination causes the prices of houses to decline, then this demonstrates injury to those houses.
- 24515 Professor Mendelsohn's Repeat Sales Study does not demonstrate injury to houses in New Bedford Harbor.
- 24516 If PCB contamination causes the prices of houses to decline, then this may reflect a financial impact on the owners of the houses.

- 24517 If PCB contamination causes the prices of houses to decline, then this does not necessarily reflect injury to the house or property.
- 24518 Attachment Q.VIII.d.6 contains a true and accurate copy of an article by K.E. McConnell, "Hedonic and Travel Cost Models," *Land Economics*, Vol. 66, No. 2 (May 1990), pp. 121-127.
- 24519 McConnell concludes that if an hedonic study indicates that PCB contamination affects housing prices, the housing price impacts cannot be added to impacts derived from travel cost analyses of recreation use to determine the total impacts.
- 24520 McConnell concludes that using the results of hedonic studies along with those of recreation demand studies based on travel costs involves double counting.
- 24521 Even if an hedonic or repeat sales study purports to indicate that PCB contamination affects housing prices, the housing price impacts cannot be added to impacts derived from travel cost analyses of recreation use to determine the total impacts.
- 24522 Using the results of hedonic or repeat sales studies along with those of recreation demand studies based on travel costs involves double counting.
- 24523 An econometric model designed to explain variations in housing prices by variations in exposure to PCB pollution is not valid when it relies on a sample of houses for which the level of exposure to PCB pollution does not vary.
- 24524 An econometric model designed to explain variations in housing prices by variations in exposure to PCB pollution must be able to hold the influences of other factors constant.
- 24525 A repeat sales study requires accurate data on market prices of houses and on the dates of the transactions.
- 24526 If a repeat sales study relies only on information for houses that were equally affected by the presence of PCBs in New Bedford Harbor, the effects of PCBs on real estate prices cannot be distinguished from the effects of other local market forces.
- 24527 The New Bedford Harbor is polluted with raw sewage and untreated wastewater.
- 24528 According to the assumptions that underlie Professor Mendelsohn's model, prospective homebuyers would pay more for a house near unpolluted water that is in all other respects exactly the same as a house near polluted water, regardless of what pollutants are present in the polluted water.

- 24529 If a repeat sales study uses information on houses whose values were not equally affected by the presence of PCBs in New Bedford Harbor, and if the effect of PCBs on property values is influenced by other factors that determine property values, then the effects of these other factors must be included in an analysis of sale prices of houses.
- 24530 Professor Mendelsohn did not use all of the data that were available to him pertaining to housing characteristics and other factors that affect housing prices.
- 24531 Professor Mendelsohn intended to estimate a model using only single-family homes in single-family neighborhoods.
- 24532 Professor Mendelsohn included properties with rental units in his sample.
- 24533 If preferences shift over time so that houses adjacent to waters that are known to be polluted become less desirable, then property values adjacent to polluted waters will decline over time relative to other property values, all other factors being held constant.
- 24534 If variations in the level of PCBs and in the levels of other pollutants in New Bedford Harbor are perfectly correlated, then the effects of PCBs on property values cannot be distinguished from the effects of other pollutants, should such effects exist.
- 24535 If variations in the level of PCBs and in the levels of other pollutants in New Bedford Harbor are highly correlated, then it is very difficult to distinguish the effects of PCBs on property values from the effects of other pollutants, should such effects exist.
- 24536 If the variations in the level of PCBs and in the levels of other pollutants in New Bedford are not perfectly correlated, then a repeat sales study of the effects of PCBs on property values must control for the effects of other pollutants in New Bedford Harbor.
- 24537 The time period over which Professor Mendelsohn has observations on the sale prices of houses is 1969 through 1989, 21 years.
- 24538 It is unlikely that preferences for housing in the New Bedford area have remained constant over such a long period of time.
- 24539 It is likely that variations in PCB levels and the levels of other pollutants in the New Bedford Harbor are highly correlated.
- 24540 It would be very difficult to distinguish the effects of PCBs on housing prices from the effects of other pollutants on housing prices should such an effects exist.
- 24541 A repeat sales study of the effects of PCBs on property values must control for the effects of other pollutants in New Bedford Harbor.

- 24542 The basis for repeat sales analysis is the relationship between the price of a house and the characteristics of the house and other factors that determine the price level.
- 24543 The basis for repeat sales analysis is hedonic price index analysis.
- 24544 The basic model equation for a repeat sales study should be specified in terms of the sales price of a house at a given time, rather than the change in price between two sales.
- 24545 A repeat sales model which purports to estimate the effects of PCBs on housing prices is not valid if it does not include all factors that affect housing prices that vary across time and across time and houses.
- 24546 Attachment Q.VIII.d.7 is a true and accurate copy of an article by Karl E. Case, "The Market for Single-family Homes in the Boston Area," published in *New England Economic Review*, May/June 1986 and is genuine.
- 24547 Case (1986) suggests many variables that may determine the general level of real estate values in a market. These include, but need not be limited to, employment, income, and inflation in construction costs.
- 24548 The effects of employment on real estate values in a market are likely to be complex. Both the level of employment and the direction of change in employment may be important.
- 24549 Many variables can affect local real estate values at a given time. Neighborhood characteristics that may influence local real estate values include but need not be limited to: typical education levels of the adults in the neighborhood, age and condition of the housing stock in the neighborhood; crime rates in the neighborhood; racial composition of the neighborhood; and population density of the neighborhood.
- 24550 Many variables can affect local real estate values at a given time. Amenity characteristics that may influence local real estate values include but need not be limited to: distance to and quality of schools; distance to or availability of employment opportunities; accessibility of transportation facilities; availability of recreation opportunities; road noise; aircraft noise; industrial noise; industrial air pollution; and water pollution.
- 24551 If neighborhood characteristics or amenities affect property values, and if neighborhood characteristics or amenities change over time, then an analysis of real estate sales prices over time must incorporate the effects of the changing characteristics or amenities.
- 24552 Over time, market factors may influence real estate values in different neighborhoods in different ways. For example, a reduction in blue-collar employment might affect property values in low-income neighborhoods more than in high-income neighborhoods.

- 24553 Preferences concerning characteristics of housing, neighborhoods, or amenities may change over time.
- 24554 If preferences concerning characteristics of housing, neighborhoods, or amenities change over time, then an analysis of real estate prices over time must incorporate the effects of the changing preferences.
- 24555 If neighborhood characteristics change over time, and if property values depend on neighborhood characteristics, then a repeat sales study requires information on these changes.
- 24556 If environmental amenities change over time, and if property values depend on environmental amenities, a repeat sales study requires information on these changes.
- 24557 In order for environmental effects to be estimated in a repeat sales model, the effects must vary across time and across locations.
- 24558 If a house has been renovated between two sales, then the characteristics of the house have been changed between the two sales.
- 24559 As formulated by Professor Mendelsohn, the repeat sales model should be estimated using a generalized least squares estimator.
- 24560 Professor Mendelsohn does not use a generalized least squares estimator in the model results he reports.
- 24561 The sales price and date data collected by or on behalf of IEC, and used in Plaintiff's Repeat Sales Study, consist of multiple observations over time on a cross-section of homes in Fairhaven, Dartmouth, and New Bedford.
- 24562 The sales price and date data therefore form the basis of a cross-section time-series data set, with irregularly spaced time-series observations.
- 24563 Given that the sales price and date data used in Plaintiff's Repeat Sales Study form the basis of a cross-section time-series data set, standard methods for estimating cross-section time-series models can be used or adapted.
- 24564 Amemiya (1985) and Judge, et al. (1985) describe in detail methods for estimating cross-section time-series models.
- 24565 Many commonly-used methods for estimating cross-section time-series models included "fixed effects" for each cross-sectional element.
- 24566 A model including fixed-effects can be applied to the data on sales contained in the Repeat Sales Study.
- 24567 If an estimator including fixed effects is applied to the data on sales contained in the Repeat Sales Study, the appropriate number of degrees

of freedom to use in estimating the variance of the parameters equals the total number of sales minus the total number of parameters. In this context, the total number of parameters includes the number of fixed effects, regardless of whether they are estimated explicitly.

- 24568 If properly specified, models estimated with fixed effects using housing price levels and models estimated with GLS using repeat sales are equivalent.
- 24569 If a fixed effects model is to be used in estimation, the equation specified for the price of a house at a given time should include all relevant factors that change over time and over both time and locations.
- 24570 Attachment Q.VIII.d.8 is a true and accurate copy of an article by Ray B. Palmquist, "Measuring Environmental Effects of Property Values Without Hedonic Regressions," published in *Journal of Urban Economics*, Vol. 11 1982, and is genuine.
- 24571 The Repeat Sales Study relies on the work of Palmquist (1982).
- 24572 Palmquist (1982) outlined an approach for using information on repeat sales to estimate the effects on property values of changes in environmental variables.
- 24573 The econometric technique that Palmquist (1982) used for estimation was flawed.
- 24574 In his repeat sales study of residential property values near Seattle, Palmquist (1982) specified a model in which the value of a property at a given time depends on an unknown real estate price index, a function of household and neighborhood characteristics, a function of an environmental characteristic, and a depreciation effect.
- 24575 In his repeat sales study of residential property values near Seattle, Palmquist (1982) explicitly assumed that the household and neighborhood characteristics did not change over time, and that the function of these characteristics likewise did not change over time.
- 24576 Palmquist (1982) did not deflate his housing sales by any price index.
- 24577 Palmquist (1982) used prior information about housing depreciation rates to derive an implicit real estate price index from his regression equation.
- 24578 Palmquist (1982) pointed out that if the environmental effect is of interest but the real estate price index is not, then the depreciation assumptions can be eliminated.
- 24579 In Palmquist's (1982) model, if the depreciation assumptions are eliminated, then the depreciation effects are absorbed into the coefficients of the dummy variables for years in which sales took place.

- 24580 Palmquist's (1982) approach, eliminating an explicit price deflator and using dummy variables for years in which sales take place, could be used in estimating the possible effects of PCBs on property values in Fairhaven, Dartmouth, and New Bedford.
- 24581 Palmquist (1982) recommended that houses that had been renovated be removed from the sample in a repeat sales study.
- 24582 Eliminating houses with renovations from the Fairhaven, Dartmouth, and New Bedford repeat sales sample is an approach that could be used in estimating the possible effects of PCBs on property values in Fairhaven.
- 24583 Professor Mendelsohn included 155 houses in his sample on which renovation expenditures had been recorded.
- 24584 Professor Mendelsohn did not report the actual dollar values of renovations as taken from building permits.
- 24585 Professor Mendelsohn reported only deflated dollar values.
- 24586 Professor Mendelsohn did not report the date of the renovations.
- 24587 Professor Mendelsohn did not report any additional information about the renovations.
- 24588 Residential real estate markets are, by their nature, local.
- 24589 A price index derived for the United States as a whole is not likely to track movements over time in the New Bedford real estate market.
- 24590 A price index derived for the United States as a whole cannot capture the specific features and trends of the real estate market in the New Bedford region.
- 24591 The price index used by Professor Mendelsohn does not capture the specific features and trends of the real estate market in the New Bedford region.
- 24592 No single index of real estate prices based on transactions outside the New Bedford area can be expected to correctly track movements over time in real estate prices in the New Bedford area.
- 24593 Given that no single index of real estate prices outside the New Bedford area, by itself, is likely to track movements over time in real estate prices in the New Bedford area, an equation used to analyze the movement over time of deflated real estate prices in the New Bedford area must include variables that reflect possible deviations between real estate prices in New Bedford and real estate prices in the geographical area for which the index is defined. In this context, the phrase "price index" includes true price

indices, average sales prices for homes, and median sales prices for homes.

- 24594 The "mean" or "average" sales price for single-family houses in a region over a given time period is the simple arithmetic average of the prices paid for the houses that sold in that period.
- 24595 The "median" sales price for single-family houses in a region over a given time period is the price level such that half of the houses sold at a higher price and half at a lower, for the houses that sold in that period.
- 24596 Houses that are not sold do not affect either the median or the mean sales price.
- 24597 A region like Massachusetts can be divided into subregions, such as standard metropolitan statistical areas (SMSAs).
- 24598 If two hypothetical subregions of a larger region have approximately equal numbers of households, and if the first subregion is growing rapidly while the second is not growing, then the first subregion will contribute many more housing sales than the second to a region-wide average or median sales price.
- 24599 Average and median sales prices for real estate in a large region reflect price trends in high-growth subregions more than they reflect trends in low-growth subregions.
- 24600 The Massachusetts Division of Employment Security collects unemployment data for the State of Massachusetts and since 1973 has compiled unemployment data for cities, towns, and labor areas in Massachusetts.
- 24601 Attachment Q.VIII.d.9 is a true, accurate, and genuine copy of the Massachusetts State unemployment rate from 1960 to 1985. The 1960 to 1969 data were published in *Employment and Unemployment: A Workforce Report*. The 1970 to 1985 data were listed in *CPS Estimates for Massachusetts*. The City of Boston, City of New Bedford, Boston PMSA, Boston SMSA, New Bedford MSA, and New Bedford LMA data are from annual records of employment and unemployment. All of the above documents are published by the Massachusetts Division of Employment Security.
- 24602 The values for unemployment for the State of Massachusetts, the City of Boston, the City of New Bedford, the Boston PMSA/SMSA, and the New Bedford MSA/LMA are correct.
- 24603 The economy in New Bedford has been relatively stagnant since the late 1970s, compared with the economy in the Boston area and much of the rest of Massachusetts; see Attachment Q.VIII.d.9.

- 24604 An average or median sales value for Massachusetts or the Boston area cannot by itself be used to predict what would have happened to real estate prices in the New Bedford area, absent the presence of PCBs in New Bedford Harbor.
- 24605 No simple additive or multiplicative function of an average of median sales value for Massachusetts or the Boston area, unless it relies on additional variables, can be used to predict what would have happened to real estate prices in the New Bedford area, absent the presence of PCBs in New Bedford Harbor.
- 24606 As an approximation, the value of a single family home can be thought of as consisting of the value of the house plus the value of the land on which the house is located.
- 24607 For most single family houses, the value of the physical house, excluding its lot and ignoring depreciation, increases over time at approximately the same rate as the local inflation rate in construction costs.
- 24608 Because the value of the physical house generally changes over time in accordance with the local inflation rate in construction costs, so does the value of renovations to the house.
- 24609 The U.S. Department of Commerce Bureau of Economic Analysis collects and publishes construction cost index data.
- 24610 Attachment Q.VIII.d.10 is a true and accurate compilation of the Department of Commerce (DOC) Composite Construction Cost Index from 1964 to 1985 and the Boeckh Construction Cost Index from 1961 to 1985.
- 24611 Attachment Q.VIII.d.10 was compiled from true and accurate copies of the following genuine documents: both the D.O.C. Composite and Boeckh Indexes from 1981 to 1984 were compiled from *Business Statistics: 1984*, U.S. Department of Commerce, Bureau of Economic Analysis, 1985, page 33 (also included are explanatory notes for page 33 from the Index of the report); the 1985 data for the two indexes were compiled from the *Survey of Current Business*, April 1986, page 5-7 (also included are explanatory notes for page S-7 from page S-33), U.S. Department of Commerce, Bureau of Economic Analysis.
- 24612 The annual values for DOC Composite Construction Cost Index and Boeckh Construction Cost Index are correct. The documents used are relied upon generally by experts in the field.
- 24613 An index of construction costs should be used in deflating renovation costs, in order to put them into constant dollars.
- 24614 The construction cost indexes appearing in Attachment Q.VIII.d.10 may be appropriate in deflating renovation costs.

- 24615 Attachment Q.VIII.d.11 is a true and accurate compilation of data to represent Fixed Investment (Residential) implicit price deflators for Gross National Product, 1929-1985 and Fixed Investment (Residential Nonfarm Structures) implicit price deflators for Gross National Product 1929-1984.
- 24616 Attachment Q.VIII.d.11 was compiled from true and accurate copies of the following genuine documents: the Fixed Investment (Residential) implicit price deflators were compiled entirely from the *1986 Economic Report of the President*, Table B-3; the Fixed Investment (Residential Nonfarm Structures) implicit price deflators for 1929 to 1982 were compiled from the *1983 Economic Report of the President*, Table B-3; the Fixed Investment (Residential Nonfarm Structures) for 1983 and 1984 were compiled from the *Survey of Current Business*, November 1985, Table 1.1, Bureau of Economic Analysis, United States Department of Commerce.
- 24617 The annual values for Fixed Investment (Residential) implicit price deflators and Fixed Investment (Residential Nonfarm Structures) implicit price deflators are correct. The documents used are relied upon generally by experts in the field.
- 24618 The residential investment price indexes appear in Attachment Q.VIII.d.11 could perhaps be used in deflating renovation costs.
- 24619 If an analysis of housing prices and housing price changes is conducted using real prices and real renovation costs, then real interest rates should be used.
- 24620 Professor Mendelsohn uses nominal interest rates in analyses of constant dollar price changes.
- 24621 In his Repeat Sales Study Professor Mendelsohn uses interaction variables to measure the pollution effect of PCBs. The variables are the interaction between Mendelsohn's event variable and zone variables distinguishing Zones I and II.
- 24622 The water nearest to Zone I contains relatively more non-PCB type pollutants (such as coliform bacteria) than the water nearest to Zone 2 or 3.
- 24623 In Mendelsohn's analysis reported in the Plaintiff's 1990 RFAs, the event variable is assigned a value of one if the first sale in the sale pair occurs before the event date and the second sale in the sale pair occurs on or after the event date. The event variable is assigned a value of zero otherwise; i.e., it is assigned a value of zero if both the first and second sales in a sale pair occur before the event date or both occur on or after the event date.
- 24624 The variable purporting to represent the event is interpreted as follows:

"The interaction variable is the product of a timing variable and a spatial variable. The timing variable (i.e., the pollution event), measures only effects which occur before versus after the pollution event. The spacial terms (i.e., the PCB zones), measures only effects on houses closer to the PCB pollution problem. By using the product of the two variables as our pollution variable, we measure only pollution effects which have both the expected spatial and timing effect of the PCB contamination." [Plaintiff's RFA No. 3543]

- 24625 RFAs 24626 through 24631 refer to Tables 2, 3, and 4 in Attachment Q.VIII.d.5.
- 24626 In these tables the variables that are supposed to measure PCB pollution effects on housing prices are EVENT[YR], EVPCBZONEI, and EVPCBZONEII.
- 24627 In the regressions reported in these tables, the variable EVENT[YR] takes the value of one if the first sale of a sale pair occurs before the event date (e.g., "YR" is 1982) and the second sale of the event pair occurs on or after the event date. Otherwise the variable takes the value of zero.
- 24628 In the regressions reported in these tables, the variable EVPCBZONEI takes the value of one if the first sale of a sale pair occurs before the event date (e.g., "YR" is 1982) and the second sale of the event pair occurs on or after the event date, and the house is located in the area Professor Mendelsohn defines as Zone I. Otherwise the variable takes the value of zero.
- 24629 In the regressions reported in these tables, the variable EVPCBZONEII takes the value of one if the first sale of a sale pair occurs before the event date (e.g., "YR" is 1982) and the second sale of the event pair occurs on or after the event date, and the house is located in the area Professor Mendelsohn defines as Zone II. Otherwise the variable takes the value of zero.
- 24630 It is not possible to determine whether PCB pollution in the New Bedford area affects housing prices unless factors other than PCB pollution that can affect housing prices, that change over a period straddling the event date, and that can affect different zones differently are identified and taken into account.
- 24631 No variables other than EVENT[YR], EVPCBZONEI, and EVPCBZONEII in the regressions reported in Tables 2, 3, and 4 of Attachment Q.VIII.d.5 represent factors that can both change by different amounts in different zones and that can affect housing price pairs that straddle the event date in contrast to housing price pairs that do not straddle the event date.
- 24632 Professor Mendelsohn's definition of the event date has changed from his June 1986 report to the current model reported in the Plaintiff's RFAs.

- 24633 In the June, October, and November 1986 reports, Professor Mendelsohn uses 1980 as the event date.
- 24634 In the June, October, and November 1986 reports, Professor Mendelsohn also estimates models using alternative event dates.
- 24635 In the June 1986 report Professor Mendelsohn estimates models using event dates 1979-80 and 1980-81.
- 24636 In the October and November 1986 reports Professor Mendelsohn estimates separate models for the event dates 1974 through 1983.
- 24637 In the June 1986 report a sales pair is classified as straddling the event date if the first sale occurs before 1980 and the second sale occurs after 1980.
- 24638 In the June 1986 report a sales pair is not classified as straddling the event date if either the first or second sale occurs in 1980.
- 24639 In the June 1986 report Professor Mendelsohn's definition of the event variable can result in inconsistent classification of transaction pairs.
- 24640 In the June 1986 report Professor Mendelsohn's definition of the event variable results in inconsistent classification of transaction pairs.
- 24641 If a property is sold in 1975, 1980, and 1984, the 1975-1980 sales pair is classified as not straddling the event date, the 1980-1984 sales pair is classified as not straddling the event date, whereas an otherwise identical house that sold in 1975 and 1984 would be classified as straddling the event date.
- 24642 In the October 1986 report Professor Mendelsohn classifies sale pairs as straddling the event date in the same way as in the June 1986 report.
- 24643 In the October 1986 report Professor Mendelsohn's definition of the event variable can result in inconsistent classification of transaction pairs.
- 24644 In the October 1986 report Professor Mendelsohn's definition of the event variable results in inconsistent classification of transaction pairs.
- 24645 In the November 1986 report Professor Mendelsohn classifies sale pairs as straddling the event date in the same way as in the June 1986 report.
- 24646 In the November 1986 report Professor Mendelsohn's definition of the event variable can result in inconsistent classification of transaction pairs.
- 24647 In the November 1986 report Professor Mendelsohn's definition of the event variable results in inconsistent classification of transaction pairs.

- 24648 In the February 1987 report Professor Mendelsohn classifies sale pairs as straddling the event date in the same way as in the June 1986 report.
- 24649 In the February 1987 report Professor Mendelsohn's definition of the event variable can result in inconsistent classification of transaction pairs.
- 24650 In the February 1987 report Professor Mendelsohn's definition of the event variable results in inconsistent classification of transaction pairs.
- 24651 In the results reported in the Plaintiff's RFAs (1990), Professor Mendelsohn defines a sales pair as straddling the event date if the first sale is before the event date and the second sale is on or after the event date.
- 24652 In the results reported in the Plaintiff's RFAs (1990), Professor Mendelsohn uses event dates of 1 January 1982 and 1 January 1983.
- 24653 In the results reported in the Plaintiff's RFAs (1990), Professor Mendelsohn estimates separate models for the event dates 1977 through 1985.
- 24654 In the results reported in the Plaintiff's RFAs (1990), Professor Mendelsohn's estimates for the separate models for the event dates 1977 through 1981, and 1984 and 1985 are reported in Table 4.
- 24655 Professor Mendelsohn states:

"It seems reasonable to assume that widespread knowledge of the contamination of the harbor did not occur until late in 1979." [June 1986 report, p. 15; October 1986 report, p. 11; November 1986 report, p. 15]
- 24656 Professor Mendelsohn states:

"If the effect is due to PCBs, we should expect the pollution effect to diminish as the event date moves away from the late 1979-1980 period." [October 1986 report, p. 12; November 1986 report, p. 15]
- 24657 Professor Mendelsohn states:

"Because of the publicity associated with the mandatory closings and the extent of the restrictions, it seems reasonable to conclude that the PCB contamination was affecting the real estate market by 1980." [February 1987 report, p. 18]
- 24658 In the results reported in Table 4 of the Plaintiff's RFAs (1990), the coefficients of the variables used by Professor Mendelsohn to measure the impact of PCBs on property values in Zones I and II are not negative and statistically significant for any year from 1977 through 1981.

- 24659 In the results reported in Table 4 of the Plaintiff's RFAs (1990), PCBs do not affect changes in housing prices in Zones I and II for an event date of 1 January 1979.
- 24660 In the results reported in Table 4 of the Plaintiff's RFAs (1990), PCBs do not affect changes in housing prices in Zones I and II for an event date of 1 January 1980, an event date in the same year used in earlier studies.
- 24661 In the results reported in Table 4 of the Plaintiff's RFAs (1990), PCBs do not affect changes in housing prices in Zones I and II for an event date of 1 January 1981.
- 24662 Results obtained from Professor Mendelsohn's model using an event date prior to 1982 or 1983 do not support Professor Mendelsohn's conclusions that housing prices are adversely affected by the awareness of PCBs.
- 24663 According to Professor Mendelsohn's current model, awareness of PCBs became widespread in 1982 or 1983.
- 24664 Professor Mendelsohn previously based his conclusions using 1980 as the event year.
- 24665 Professor Mendelsohn has provided no evidence for why 1982 is a more reasonable event year than 1980, if in fact it is.
- 24666 Professor Mendelsohn has provided no evidence for why 1983 is a more reasonable event year than 1980, if in fact it is.
- 24667 Plaintiffs have no evidence to differentiate PCB awareness in 1979, 1980, 1981, 1982 or 1983.
- 24668 The results from Professor Mendelsohn's current model based on an event date in 1980 do not support his conclusion that awareness of PCBs affected housing prices.
- 24669 If PCB pollution affects housing prices; if factors other than PCB pollution that affect housing prices change over a period straddling the event date; if the changes in these other factors differ by zone and differ from changes over periods that do not straddle the event data; then a model that does not include information on the changes in these factors cannot distinguish the effect of PCB pollution on housing prices from the effects of the other factors.
- 24670 In the linear first-difference equation using EVENT82 and reported in the plaintiff's 1990 RFAs, Professor Mendelsohn assumes that if other influences are the same (e.g., the change in interest rates, the change in county real per capita income, the real value of improvements, the zone, and the elapsed time between sales are all the same), then the absolute change in the real dollar price is the same as long as the sales do not straddle

the 1980 or 1982 event date. In other words, the price change is the same for houses with both sales before 1980, with both sales between the 1980 event date and 1982, and with both sales during or after 1982.

24671 In the linear first-difference equation using EVENT83 and reported in the Plaintiff's 1990 RFAs, Professor Mendelsohn assumes that if other influences are the same (e.g., the change in interest rates, the change in county real per capita income, the real value of improvements, the zone, and the elapsed time between sales are all the same), then the absolute change in the real dollar price is the same as long as the sales do not straddle the 1980 or 1983 event date. In other words, the price change is the same for houses with both sales before 1980, with both sales between the 1980 event date and 1983, and with both sales during or after 1983.

24672 If the absolute price change for a house depends on when the house is sold, other influences the same (e.g., the change in interest rates, the change in county real per capita income, the real value of improvements, the zone, and the elapsed time between sales are all the same), a model that assumes the absolute price change is not affected by when the house is sold cannot be relied upon to estimate the effect of PCBs on housing prices if such an effect exists.

24673 In the semi-log equation using EVENT82 and reported in the Plaintiff's 1990 RFAs, Professor Mendelsohn assumes that if other influences are the same (e.g., the change in interest rates, the change in county real per capita income, the real value of improvements, the zone, and the elapsed time between sales are the same), then the relative change in the real dollar price is the same as long as the sales do not straddle the 1980 or 1982 event date. In other words, the relative price change is the same for houses with both sales before 1980, with both sales between the 1980 event date and 1982, and with both sales during or after 1982.

24674 In the semi-log equation using EVENT83 and reported in the Plaintiff's 1990 RFAs, Professor Mendelsohn assumes that if other influences are the same (e.g., the change in interest rates, the change in county real per capita income, the real value of improvements, the zone, and the elapsed time between sales are all the same), then the relative change in the real dollar price is the same as long as the sales do not straddle the 1980 or 1983 event date. In other words, the relative price change is the same for houses with both sales before 1980, with both sales between the 1980 event date and 1983, and with both sales during or after 1983.

24675 If the relative price change for a house depends on when the house is sold, other influences the same (e.g., the change in interest rates, the change in county real per capita income, the real value of improvements, the zone, and the elapsed time between sales are all the same), a model that assumes the relative price change is not affected by when the house is sold cannot be relied upon to estimate the effect of PCBs on housing prices if such an effect exists.

- 24676 In his repeat sales study, Professor Mendelsohn assumes that if other influences are the same (e.g., the change in interest rates, the change in county real per capita income, the absolute real value of improvements, the zone, whether the sales pair straddles the 1980 or the pollution event date, and the elapsed time between sales are all the same), then the change in the absolute real dollar price of a house in the linear first-difference model is the same regardless of the town in which the house is located.
- 24677 If in a linear first-difference model the absolute real price change depends on the town in which a house is located, other influences the same (e.g., the change in interest rates, the change in county real per capita income, the absolute real value of improvements, the zone, whether the sales pair straddles the 1980 or the pollution event date, and the elapsed time between sales are all the same), then a model that assumes that the absolute real price change does not depend on the town in which the house is located cannot be relied upon to estimate the effect of PCBs on housing prices if such an effect exists.
- 24678 In his repeat sales study, Professor Mendelsohn assumes that if other influences are the same (e.g., the change in interest rates, the change in county real per capita income, the absolute real value of improvements, the zone, whether the sales pair straddles the 1980 or the pollution event date, and the elapsed time between sales are all the same), then the change in the relative real dollar price of a house in the semi-log model is the same regardless of the town in which the house is located.
- 24679 If in a semi-log model the relative real price change depends on the town in which a house is located, other influences the same (e.g., the change in interest rates, the change in county real per capita income, the absolute real value of improvements, the zone, whether the sales pair straddles the 1980 or the pollution event date, and the elapsed time between sales are all the same), then a model that assumes that the relative real price change does not depend on the town in which the house is located cannot be relied upon to estimate the effect of PCBs on housing prices if such an effect exists.
- 24680 Professor Mendelsohn estimates a model in which the dependent variable is the change in the price of a house between two points in time.
- 24681 In all forms of the model reported by Professor Mendelsohn in the Plaintiff's 1990 RFAs and in his June 1986, October 1986, November 1986, and February 1987 reports, the equations are estimated with a constant term.
- 24682 Professor Mendelsohn's repeat sales model is not derived consistently from a model of price levels.
- 24683 Under Professor Mendelsohn's assumptions, a model of price changes derived consistently from a model of price levels would not have a constant term in the equation.

- 24684 If Professor Mendelsohn's repeat sales model, which is estimated using price changes, had been derived consistently from a model of price levels, it would not have a constant term in the equation.
- 24685 The inclusion of a constant term in Professor Mendelsohn's model results in the model producing inconsistent results.
- 24686 If a house has sales in 1975, 1980, and 1985, and if one of Professor Mendelsohn's linear models accurately predicts price changes from 1975 to 1980, and from 1980 to 1985, then the model cannot predict accurately the price change from 1975 to 1980.
- a. The predicted price change from 1975 to 1980 using the estimated equation plus the predicted price change from 1980 to 1985 using the estimated equation will differ from the predicted price change from 1975 to 1985 using the estimated equation by the constant term.
 - b. In the Plaintiff's Table 2 using a 1982 event date, this discrepancy is \$5,840 (in constant 1989 dollars).
 - c. This discrepancy of \$5,840 (in constant 1989 dollars) is 54.3 percent of the average price change in constant 1989 dollars in the sample of sale pairs used to estimate the regressions reported in Table 2.
- 24687 If a house has sales in 1975, 1980, and 1985, and if one of Professor Mendelsohn's semi-log models accurately predicts price changes from 1975 to 1980, and from 1980 to 1985, then the model cannot predict accurately the price change from 1975 to 1980.
- a. The predicted relative price change from 1975 to 1980 using the estimated equation multiplied by the predicted relative price change from 1980 to 1985 using the estimated equation will differ from the predicted relative price change from 1975 to 1985 using the estimated equation by a factor equal to "e", the base of the natural logarithms, raised to a power equal to the constant term.
 - b. In the Plaintiff's Table 3 using a 1982 event date, this discrepancy amounts to a relative error of 7.6 percent; i.e., the product of the predicted relative change from 1975 to 1980 times the relative change from 1980 to 1985 will exceed the predicted change from 1975 to 1985 using the equation by 7.6 percent.
- 24688 Professor Mendelsohn assumes that the coefficients in both his linear and semi-log models do not change over time.
- 24689 If Professor Mendelsohn had derived his repeat sales model consistently from a model of price levels, then assuming that the coefficients in the price difference and the log price difference repeat sales models do not change over time is equivalent to assuming that the coefficients of the underlying price level equations do not change over time.

- 24690 If the coefficients of the underlying price level equations change over time, then the coefficients of a model of repeat sales change over time.
- 24691 If the coefficients of the underlying price level equations change over time, then a model of repeat sales requires that the level of all factors affecting housing prices be included, not just those that change over time.
- 24692 Coefficients of price level equations and of repeat sales studies (based on price changes) can change over time if purchaser preferences for houses change over time.
- 24693 Preferences for housing in a local market can change over time if the age, size, or composition of the population changes.
- 24694 Coefficients of price level equations and of repeat sales studies (based on price changes) can change over time if the income of actual and prospective purchasers change over time.
- 24695 Coefficients of price level equations and of repeat sales studies (based on price changes) can change over time if the cost of producing housing changes over time.
- 24696 Coefficients of price level equations and of repeat sales studies (based on price changes) can change over time if the cost of some inputs to producing housing change over time relative to other inputs.
- 24697 When population grows in a local housing market, land prices usually grow faster than most other inputs to producing housing.
- 24698 If purchaser preferences change over time, the price of a house can change even if all characteristics of the house and other factors influencing housing prices such as neighborhood characteristics and environmental amenities do not change.
- 24699 If the cost of producing housing changes over time, the price of an existing house can change even if all characteristics of the house and other factors influencing housing prices such as neighborhood characteristics and environmental amenities do not change.
- 24700 If the coefficients of the underlying price level equations change over time, then a model of repeat sales that assumes that the model coefficients do not change over time cannot be relied upon to estimate the effect of PCBs on housing prices if such an effect exists.
- 24701 If the coefficients in a model of repeat sales are assumed to be constant, and if housing price changes differ depending upon the years in which the first and second sales of a sales pair are made, even when they do not straddle the 1980 or the pollution event date, then this dependence may be due to changes in factors that affect housing prices that are not accounted for in the model.

- 24702 If the coefficients in a model of repeat sales are assumed to be constant, and if housing price changes differ depending upon the years in which the first and second sales of a sales pair are made, even when they do not straddle the 1980 or the pollution event date, then this dependence may be due to changes over time in the coefficients of the underlying price level model.
- 24703 If a repeat sales study is based on a properly specified model of price levels, and if the study indicates that PCB contamination is correlated with housing price declines, then this does not necessarily reflect injury to the house and property.
- 24704 Attachment Q.VIII.d.12 contains the results of regressions using the same data and estimation methods used by Professor Mendelsohn as presented in Tables 2, 3, and 4 in Attachment Q.VIII.d.5.
- 24705 The models estimated and reported in Attachment Q.VIII.d.12 differ from those of Professor Mendelsohn in that price changes for houses are allowed to differ by when the house is sold and the zone and town in which it is located, other influences the same (i.e., the change in interest rates, the change in county real per capita income, the real value of improvements, and the elapsed time between sales are all the same).
- 24706 In the models reported in Attachment Q.VIII.d.12, the effects of the timing of paired sales and the house location are represented by timing-zone-town interactions. These interactions are labeled so that the first part of the variable name indicates whether both sales occurred before the event date (PRE), the sales straddle the event date (EVNT), or both sales occur after the event date (POST); the second part of the variable name represents whether the town is Fairhaven (FAIR), Dartmouth (DART), or New Bedford (NEWB); and the third part of the variable name indicates whether the house is in Zone I (Z1), Zone II (Z2), or in Zones III or IV (Z3).
- 24707 In the models reported in Attachment Q.VIII.d.12, the price change for a sales pair straddling the event date for a house in Zone III of Fairhaven (EVNT_FAIR_Z3) is contained in the constant, other influences the same. The coefficients of the other timing-town-zone variables represent how price changes for these circumstances differ from a price change for EVNT_FAIR_Z3, other factors the same.
- 24708 The regressions in Attachment Q.VIII.d.12 indicate that the timing of the sales pair makes a difference in price changes, other influences the same.
- 24709 In the linear models pre-event date Dartmouth Zone 3 price changes are smaller and post-event date Dartmouth Zone 3 price changes are larger than those of Dartmouth Zone 3 sales that straddle the event date.
- 24710 The regressions in Attachment Q.VIII.d.12 indicate that the town in which the sales pair occurs makes a difference in price changes, other influences the same.

- 24711 Price changes for Dartmouth Zone 3 sales that straddle the event date are larger in the linear model with a 1983 event date and smaller in the semi-log models with 1982 and 1983 event dates compared to Fairhaven Zone 3 sales that straddle the event date.
- 24712 In the linear model using a 1983 event date, price changes in Fairhaven Zones 1 and 2 that straddle the event date are not statistically different from price changes in Fairhaven Zone 3 that straddle the event date, other influences the same.
- 24713 Attachment Q.VIII.d.13 contains the same results as those presented in Attachment Q.VIII.d.12 except stated differently; that is, price changes for houses are allowed to differ by when houses are sold and the zone and town in which they are located, other influences the same (i.e., the change in interest rates, the change in county real per capita income, the real value of improvements, and the elapsed time between sales are all the same). However, in this case, the coefficient of each timing-town-zone variable represents the price change of a house with the corresponding timing-town-zone circumstances, other influences the same; that is, the coefficients do not reflect deviations from EVNT_FAIR_Z3. EVNT_FAIR_Z3 is explicitly represented, and the regression is run without a constant.
- 24714 The regressions in Attachment Q.VIII.d.13 indicate that in the linear models there is no significant difference in expected absolute price changes for Fairhaven Zone 1 sales pairs that occur before the event date compared to sales pairs that straddle the event date, other influences the same.
- 24715 The regressions in Attachment Q.VIII.d.13 indicate that in the linear models Fairhaven Zone 1 has the largest expected increase in absolute price changes for sales pairs that occur after the event date, other influences the same. In addition, the expected price increase more than makes up for the lower expected price change for sales that straddle the event date compared to Fairhaven Zone 3 sales that straddle the event date.
- 24716 The regressions in Attachment Q.VIII.d.13 indicate that in the semi-log models there is no significant difference in expected relative price changes for Fairhaven Zone 1 sales pairs that occur before the event date compared to sales pairs that straddle the event date, other influences the same.
- 24717 The regressions in Attachment Q.VIII.d.13 indicate that in the semi-log models Fairhaven Zone 1 has the largest expected increase in relative price changes for sales pairs that occur after the event date, other influences the same. In addition, the expected price increase more than makes up for the lower expected price change for sales that straddle the event date compared to Fairhaven Zone 3 sales that straddle the event date.
- 24718 The regressions in Attachment Q.VIII.d.13 indicate that expected price changes for sales pairs in Fairhaven Zone 1 that straddle the event date

continue a trend experienced by Fairhaven Zone 1 sales pairs that occur before the event date, other influences the same.

- 24719 The regressions for the linear models in Attachment Q.VIII.d.13 indicate that expected price changes for Fairhaven Zone 3 sales pairs that occur after the event date continue a trend experienced by Fairhaven Zone 3 sales pairs that straddle the event date, other influences the same.
- 24720 The regressions for the semi-log models in Attachment Q.VIII.d.13 indicate that expected relative price changes for Fairhaven Zone 3 sales pairs that occur after the event date are smaller than Fairhaven Zone 3 sales pairs that straddle the event date, other influences the same.
- 24721 The regressions in Attachment Q.VIII.d.13 imply that for Fairhaven sales pairs that occur after the event date, houses in areas closest to water that may be affected by PCBs experience larger price increases than houses in areas farthest water that may be affected by PCBs, other influences the same.
- 24722 The regressions in Attachment Q.VIII.d.13 indicate that factors other than the alleged presence of PCBs in New Bedford Harbor affect housing prices in Zones 1 and 3 in Fairhaven.
- 24723 Professor Mendelsohn limited his sample of housing prices to houses for which he could identify repeat sales; i.e., the sample is limited to houses that sold at least twice over the time period covered in the Repeat Sales Study.
- 24724 Professor Mendelsohn eliminated houses for which repeat sales could not be identified.
- 24725 If houses that sell frequently differ from those that do not sell frequently, then a sample of houses that sell frequently will not be representative of all housing sales.
- 24726 If houses that sell frequently differ from those that do not sell frequently, then the prices of a sample of houses that sell frequently will not be representative of the prices of all housing sales.
- 24727 Professor Mendelsohn's sample of housing sale pairs and the corresponding housing prices may not be representative of the population of houses and housing values in Fairhaven, New Bedford, and Dartmouth.
- 24728 If the sample of houses and housing prices used in the Repeat Sales Study is not representative of the population of houses and housing values in Fairhaven, New Bedford, and Dartmouth, then the results of the Repeat Sales Study may be biased.

- 24729 If the results of the Repeat Sales Study are biased, then the results cannot be relied upon to indicate any effect of PCBs on housing prices if such an effect exists.
- 24730 Professor Mendelsohn's sample of sale pairs changed over five versions of his study.
- 24731 In his June 1986 report, Professor Mendelsohn has a sample of 805 sale pairs from Fairhaven.
- 24732 In his October 1986 report, Professor Mendelsohn added sales from Dartmouth and New Bedford.
- 24733 In the October 1986 report, the total data set consisted of 1,230 sale pairs. These consisted of 652 sale pairs from Fairhaven, 389 from Dartmouth, and 189 from New Bedford.
- 24734 In the October 1986 report, 1,081 sale pairs for houses in single family neighborhoods were used in most of the analyses. The October 1986 report does not indicate the number of sale pairs from each town.
- 24735 In the November 1986 report, the total data set is listed as 1,230 with a breakdown by town that is the same as in the October 1986 report.
- 24736 In the November 1986 report, 1,030 sale pairs for houses in single family neighborhoods were used in most of the analyses. The November 1986 report does not indicate the number of sale pairs from each town.
- 24737 The November 1986 report does not indicate which sale pairs from the October 1986 report were deleted and why.
- 24738 In the February 1987 report, 1029 sale pairs for houses in single family neighborhoods were used in most of the analyses. The February 1987 report does not indicate the number of sale pairs from each town.
- 24739 The number of sale pairs from single-family neighborhoods is almost the same in the sample reported in the February 1987 report as the sample reported in the November 1986 report.
- 24740 All sale pairs from single-family neighborhoods used in the February 1987 and November 1986 reports predate 1986.
- 24741 No indication is given in the February 1987 report that the sample was changed from the November 1986 report.
- 24742 Professor Mendelsohn has provided no reason for changing the sample between the November 1986 and February 1987 reports.

- 24743 Professor Mendelsohn has provided no evidence in support of any reason to change the sample between the November 1986 and February 1987 reports.
- 24744 Attachment Q.VIII.d.3 contains a true and accurate copy of Table 1 from Professor Mendelsohn's November 1986 report.
- 24745 Attachment Q.VIII.d.4 contains a true and accurate copy of Table 1 from Professor Mendelsohn's February 1987 report.
- 24746 The standard deviation for the variable DIFFERENCE differs between Table 1 of the November 1986 report and Table 1 of the February 1987 report.
- 24747 The mean and standard deviation for the variable IMPROVE differ between Table 1 of the November 1986 report and Table 1 of the February 1987 report.
- 24748 The mean and standard deviation for the variable HIGHSCHOOL differ between Table 1 of the November 1986 report and Table 1 of the February 1987 report.
- 24749 The mean and standard deviation for the variable INTEREST differ between Table 1 of the November 1986 report and Table 1 of the February 1987 report.
- 24750 The mean and standard deviation for the variable LENGTH1 differ between Table 1 of the November 1986 report and Table 1 of the February 1987 report, although the average length of time in years between sales in PCB Zone 1 is listed as being the same in both reports.
- 24751 The mean and standard deviation for the variable LENGTH3-4 IN Table 1 of the November 1986 report differ from the mean and standard deviation for the variable LENGTH3 in Table 1 of the February 1987 report, although the average length of time in years between sales in PCB Zone 3 and 4 is listed as being the same in both reports.
- 24752 No explanation is given for these differences between the November 1986 and February 1987 reports.
- 24753 Professor Mendelsohn has provided no evidence in support of any reasons for these differences between the November 1986 and February 1987 reports.
- 24754 Attachment Q.VIII.d.14 contains tables summarizing the sample sizes of sale pairs by town and by time period. The sample is broken down into all sale pairs for which both sale dates are before 1986, and all sale pairs for which the second sale date occurs after 1985.

- 24755 The tables in Attachment Q.VIII.d.14 are constructed from the same sample as that used by Professor Mendelsohn to run the regressions reported in Tables 2, 3, and 4 in Attachment Q.VIII.d.5.
- 24756 The sample used to estimate the models reported in Attachment Q.VIII.d.14 contains 946 sale pairs that occur before 1986 and 221 sale pairs for which the second sale date occurs after 1985.
- 24757 No explanation is given why sale pairs were deleted from the sample used in the February 1987 report.
- 24758 Professor Mendelsohn has provided no evidence in support of any reason to delete sale pairs from the sample used in the February 1987 report.
- 24759 The criteria for deleting sale pairs from the February 1987 report are not given.
- 24760 "In the Winter of 1989-90 additional sales data were collected to allow extension of the analysis to include the period 1986 to 1989." [Plaintiff's RFA No. 3435]
- 24761 In using the additional sales data from 1986 to 1989, Professor Mendelsohn assumes that the same model structure is appropriate for the additional sales as for sale pairs that occur before 1986; i.e., he assumes the same model coefficients apply to the additional sales as for sale pairs that occur before 1986.
- 24762 Attachment Q.VIII.d.15 contains regression results using the same sample as that used by Professor Mendelsohn to estimate the models reported in Tables 2, 3, and 4 of Attachment Q.VIII.d.5. The same functional forms are estimated using the same variables and estimating techniques. For each functional form and definition of the event date, separate models are estimated for the subsample of sale pairs occurring before 1986, for the subsample of sale pairs the second sale date of which occurs after 1985, and for the total sample.
- 24763 Attachment Q.VIII.d.15 contains the results of F-tests for the equality of coefficients between each model estimated for the subsample of sale pairs occurring before 1986 and the corresponding model for the subsample of sale pairs the second sale date of which occurs after 1985.
- 24764 An F-test for the equality of coefficients is a standard test in econometrics and statistics.
- 24765 The null hypothesis that the coefficients are the same can be rejected with a probability less than one percent in all cases.
- 24766 Attachment Q.VIII.d.16 contains the results of the same analysis as that presented in Attachment Q.VIII.d.15 using fixed effects models, and the results of Attachment Q.VIII.d.15 are confirmed.

- 24767 The results of the F-tests indicate that the subsample of sale pairs that occur before 1985 cannot be combined with the subsample of sale pairs the second sale date of which occurs after 1985 to estimate a model under the assumption that the same model coefficients apply to both subsamples.
- 24768 If different models, or different model coefficients, apply to two different samples of sale pairs, then any model estimated with two samples under the assumption that the same model coefficients apply to both cannot be relied upon to estimate the effect of PCBs on housing prices if such an effect exists.
- 24769 Professor Mendelsohn's current model specification includes no variable to differentiate sales pairs by the town in which the property is located.
- 24770 According to the assumptions that underlie Professor Mendelsohn's analysis, the town in which a property is located does not affect the estimated impact of PCBs on housing prices, other influences the same.
- 24771 Tables 1 and 3 in Attachment Q.VIII.d.17 contain regression results using the same sample of sales pairs occurring in the Town of Fairhaven as that used by Professor Mendelsohn to estimate the models reported in Tables 2, 3, and 4 of Attachment Q.VIII.d.5. The same functional forms are estimated using the same variables and estimating techniques.
- 24772 Attachment Q.VIII.d.17 containing regression results for the Town of Fairhaven are accurate.
- 24773 RFAs 24774 through 24789 relate to Attachment Q.VIII.d.17.
- 24774 Fairhaven is the only town in Professor Mendelsohn's sample that has sales pairs from zones 1, 2 and 3.
- 24775 Professor Mendelsohn interprets the coefficients of the event-zone interaction variables as estimates of the effect of PCB contamination on housing prices.
- 24776 In the results presented in Attachment Q.VIII.d.17, the event-zone interaction variables are EVENT_Z1 for Zone 1 and EVENT_Z2 for Zone 2.
- 24777 In the linear repeat sales equation estimated by ordinary least squares (OLS) and using an event date of 1 January 1982, the coefficients of EVENT_Z1 and EVENT_Z2 are not statistically different from zero at significance levels generally accepted in economic research.
- 24778 In the linear repeat sales equation estimated by OLS and using an event date of 1 January 1983, the coefficients of EVENT_Z1 and EVENT_Z2 are not statistically different from zero at significance levels generally accepted in economic research.

- 24779 In the semi-log repeat sales equation estimated by OLS and using an event date of 1 January 1982, the coefficients of EVENT_Z1 and EVENT_Z2 are not statistically different from zero at significance levels generally accepted in economic research.
- 24780 Analyses for definitions of event years of 1981, 1984 and 1985 for the linear repeat sales equation estimated by OLS have the same results; the coefficients of the event-zone variables are not statistically significant at levels generally accepted in economic research.
- 24781 Analyses for definitions of event years of 1981 and 1985 for the semi-log repeat sales equation estimated by OLS have the same results; the coefficients of the event-zone variables are not statistically significant significance levels generally accepted in economic research.
- 24782 Only in the semi-log repeat sales equation estimated by OLS and using an event year of 1983 and in the equation using an event year of 1984 are the coefficients of EVENT_Z1 statistically different from zero.
- 24783 The semi-log repeat sales equations were rejected by Professor Mendelsohn in the results presented in the Plaintiff's 1990 RFAs as being unstable.
- 24784 In the linear repeat sales equation estimated by fixed effects and using an event date of 1 January 1982, the coefficients of EVENT_Z1 and EVENT_Z2 are not statistically different from zero at significance levels generally accepted in economic research.
- 24785 In the linear repeat sales equation estimated by fixed effects and using an event date of 1 January 1983, the coefficients of EVENT_Z1 and EVENT_Z2 are not statistically different from zero at significance levels generally accepted in economic research.
- 24786 In the semi-log repeat sales equation estimated by fixed effects and using an event date of 1 January 1982, the coefficients of EVENT_Z1 and EVENT_Z2 are not statistically different from zero at significance levels generally accepted in economic research.
- 24787 In the semi-log repeat sales equation estimated by fixed effects and using an event date of 1 January 1983, the coefficients of EVENT_Z1 and EVENT_Z2 are not statistically different from zero at significance levels generally accepted in economic research.
- 24788 Analyses for definitions of event years of 1981, 1984 and 1985 for the semi-log repeat sales equation estimated by fixed effects have the same results; the coefficients of the event-zone variables are not statistically different from zero at significance levels generally accepted in economic research.
- 24789 Analyses for definitions of event years of 1981, 1984 and 1985 for the linear repeat sales equation estimated by fixed effects have the same

results; the coefficients of the event-zone variables are not statistically different from zero at significance levels generally accepted in economic research.

- 24790 According to Professor Mendelsohn's definition, PCBs do not affect housing prices in Fairhaven when the event date is in 1981.
- 24791 According to Professor Mendelsohn's definition, PCBs do not affect housing prices in Fairhaven when the event date is in 1982.
- 24792 According to Professor Mendelsohn's definition, PCBs do not affect housing prices in Fairhaven when the event date is in 1983.
- 24793 According to Professor Mendelsohn's definition, PCBs do not affect housing prices in Fairhaven when the event date is in 1984.
- 24794 According to Professor Mendelsohn's definition, PCBs do not affect housing prices in Fairhaven when the event date is in 1985.
- 24795 Nelson (1978) demonstrated that in Washington, D.C., property owners placed higher values on their homes than did professional appraisers, by about 4 percent.
- 24796 In Nelson's (1978) study, self-assessments of property values by owners were based on median values reported in the 1970 U.S. Census.
- 24797 In Nelson's (1978) study, professional appraisals were based on "professionally assessed estimates for 1970-1972."
- 24798 If property values in Washington, D.C. increased over the period 1970-1972, then a comparison of self-appraisals in 1970 with professional appraisals in 1970-1972 will understate the true extent to which self-appraisals exceed professional appraisals.
- 24799 Property values reported at the Census tract level in the U.S. Census overstate true market values by at least 4 percent.
- 24800 An average or median sales price for Massachusetts or Boston, by itself, cannot be used to translate property values reported in the 1980 U.S. Census into constant 1985 dollars.
- 24801 If Census tract data are to be used in estimating the extent, if any, to which the presence of PCBs in New Bedford Harbor reduced property values for owner-occupied single-family homes, the Census tracts that contain affected houses must be identified.
- 24802 If Census tract data are to be used in estimating the extent, if any, to which the presence of PCBs in New Bedford Harbor reduced property values for owner-occupied single-family houses, the number and perhaps the value of affected houses in each relevant tract must be estimated.

- 24803 If Census tract data are to be used in estimating the extent, if any, to which the presence of PCBs in New Bedford Harbor reduced property values for owner-occupied single-family houses, differential effects on houses within Census tracts must be considered.
- 24804 The entire New Bedford waterfront along the inner harbor, from the hurricane dike to Hadley St., is zoned for industrial purposes.
- 24805 Virtually all New Bedford property within 1000 feet of the waterfront along the inner harbor, from the hurricane dike to Hadley St., is zoned for industrial or commercial purposes.
- 24806 Virtually no single family homes in New Bedford are located within 1000 feet of the waterfront along the inner harbor, from the hurricane dike to Hadley St.
- 24807 Virtually all New Bedford property within 2200 feet of the waterfront along the inner harbor, from the hurricane dike to hadley St., is zoned for industrial or commercial purposes. The minor exceptions are areas with "Residence C" and "Residence B" zoning, located primarily between Acushnet Avenue and the inner harbor.
- 24808 Virtually no single-family homes in New Bedford are located within 2000 feet of the waterfront along the inner harbor, from the hurricane dike to Hadley St.
- 24809 Attachment Q.VIII.d.18 is a true and accurate copy of an article by Gardner Brown, Jr. and Henry Pollakowski, "Economic Valuation of Shoreline," published in the *Review of Economics and Statistics*, August 1977 and is genuine.
- 24810 The Repeat Sales Study relies in part on the work of Brown and Pollakowski.
- 24811 Brown and Pollakowski (1977) selected three lakes for their analysis.
- 24812 Brown and Pollakowski (1977) limited their attention to lakes that were used "extensively for recreation purposes."
- 24813 Even before the public in the New Bedford area became aware of the presence of PCBs in the harbor, the inner harbor of New Bedford would not have qualified as a waterbody used "extensively for recreation purposes," as this phrase was used by Brown and Pollakowski (1977).
- 24814 Brown and Pollakowski (1977) required that for a neighborhood near a lake to be included in their analysis, it had to be relatively homogeneous and not be near a large commercial zone.
- 24815 The areas that Brown and Pollakowski (1977) finally selected for their analysis were "almost exclusively single-family residential."

- 24816 The part of New Bedford that is within 4,000 feet of the inner harbor, from the hurricane dike to Hadley St., is not homogeneous, is not almost exclusively single-family residential, and contains many large industrial and commercial zones.
- 24817 The part of New Bedford that is within 2,200 feet of the inner harbor, from the hurricane dike to Hadley St., is not homogeneous, is not almost exclusively single-family residential, and contains many large industrial and commercial zones.
- 24818 The inner harbor area of New Bedford, from the hurricane dike to Hadley St., is not comparable to any areas near the three lakes that Brown and Pollakowski (1977) studied.
- 24819 The inner harbor area of Fairhaven, from the hurricane dike to the Acushnet town line, is not comparable to any areas near the three lakes that Brown and Pollakowski (1977) studied.
- 24820 One of the three lakes that Brown and Pollakowski (1977) studied, Green Lake, provided significant "setback," or water-related open space, contiguous to the water, to which the public had access.
- 24821 The inner harbor area of New Bedford, from the hurricane dike to Hadley St., does not have any "setback" like that for Green Lake, studied by Brown and Pollakowski (1977).
- 24822 The inner harbor area of Fairhaven, from the hurricane dike to the Acushnet town line, does not have any "setback" like that for Green Lake, studied by Brown and Pollakowski (1977).
- 24823 Two of the areas studied by Brown and Pollakowski (1977), Haller Lake and Lake Washington, had no setback in the areas that they used in their analysis.
- 24824 The inner harbor area of New Bedford, from the hurricane dike to Hadley St., is comparable to the areas that Brown and Pollakowski (1977) studied around Lake Washington and Haller Lake, in that none of these areas has any setback.
- 24825 The inner harbor area of Fairhaven, from the hurricane dike to the Acushnet town line, is comparable to the areas that Brown and Pollakowski (1977) studied around Lake Washington and Haller Lake, in that none of these areas has any setback.
- 24826 In their analysis of residential areas near Lake Washington and Haller Lake, Brown and Pollakowski (1977) limited their attention to those properties within 2,200 feet of the shoreline.

- 24827 In the equations that they present, Brown and Pollakowski (1977) use functional forms that specify that the effects of proximity to a shoreline decline smoothly with distance from the shore.
- 24828 The parameter estimates of Brown and Pollakowski (1977) suggest that, for a lake offering significant recreational opportunities but no "setback," property values for otherwise similar houses decline as distance from the shore increases.
- 24829 The parameter estimates of Brown and Pollakowski (1977) suggest that a home located one foot from a lake offering significant recreational opportunities, but no "setback," would be worth \$21,472 (in constant 1967 dollars) more than a similar home located 2,200 feet from the lake.
- 24830 The parameter estimates of Brown and Pollakowski (1977) imply that a home located one foot from a lake offering significant recreational opportunities, but no "setback," would be worth \$19,273 (in constant 1967 dollars) more than a similar home located 1,000 feet from the lake.
- 24831 Based on the parameter estimates of Brown and Pollakowski (1977), of the total decline in property values that would occur in moving from a distance of one foot to a distance of 2,200 feet, from a lake offering significant recreational opportunities but not "setback," 90 percent of the decline would occur in moving from one foot to 1,000 feet.
- 24832 Applying the results of Brown and Pollakowski (1977) to New Bedford, the effects of PCBs on property values, if they exist, are negligible more than 1,000 feet from the inner harbor.
- 24833 Applying the results of Brown and Pollakowski (1977) to Fairhaven, the effects of PCBs on property values, if they exist, are negligible more than 1,000 feet from the inner harbor.
- 24834 The term "hot spot" sometimes was used by Professor Mendelsohn to refer to the approximate location in the Acushnet River Estuary, adjacent to the Aerovox plant, where a high sediment concentration of PCBs allegedly has been found.
- 24835 The Aerovox plant and the so-called "hot spot" adjacent to it are more than 0.5 mile from the town of Fairhaven.
- 24836 All properties located in Maps 31, 31A, 31B, and 32 of the Fairhaven assessor are over 10.0 miles by water from the so-called "hot spot."
- 24837 The purchase prices of single-family homes in Fairhaven were not affected by the presence of PCBs in New Bedford Harbor or the Acushnet River Estuary.

- 24838 The purchase prices of single-family homes in New Bedford were not affected by the presence of PCBs in New Bedford Harbor or the Acushnet River Estuary.
- 24839 The purchase prices of single-family homes in Dartmouth were not affected by the presence of PCBs in New Bedford Harbor or the Acushnet River Estuary.
- 24840 No "pollution event" related to PCBs occurred in the New Bedford area in 1979.
- 24841 No "pollution event" related to PCBs occurred in the New Bedford area in 1980.
- 24842 No "pollution event" related to PCBs occurred in the New Bedford area in 1979-1980.
- 24843 No "pollution event" related to PCBs occurred in the New Bedford area in 1980-1981.
- 24844 No "pollution event" related to PCBs occurred in the New Bedford area in 1982.
- 24845 No "pollution event" related to PCBs occurred in the New Bedford area in 1983.
- 24846 Characteristics of census tracts are documented by the Bureau of the Census, U.S. Department of Commerce in its publication *Census of Population and Housing*.
- 24847 Attachment Q.VIII.d.19 is a true and accurate copy of the percent of housing units that are owner-occupied and 1979 median household income data in the *1980 Census of Population and Housing, Census Tracts, New Bedford, MA Standard Metropolitan Statistical Area* (PHC80-2-254), Tables P-11 and H-1.
- 24848 The percent of housing units that are owner-occupied and the 1979 median household income in Attachment Q.VIII.d.19 are correct.
- 24849 Residential areas near the inner harbor area of New Bedford, from the hurricane dike to Hadley St., are primarily multiple family and low income. See Attachment Q.VIII.d.19.
- 24850 Residential areas near the inner harbor area of Fairhaven, from the hurricane dike to the Acushnet town line, are primarily single-family and medium income. See Attachment Q.VIII.d.19.
- 24851 Residential areas near the inner harbor area of New Bedford, from the hurricane dike to Hadley Street, are quite unlike those near the inner

harbor area of Fairhaven, from the hurricane dike to the Acushnet town line.

- 24852 Estimates of the extent to which the presence of PCBs in New Bedford Harbor have affected property values in Fairhaven cannot be applied to the City of New Bedford.
- 24853 The annual average sales price of new one-family houses of the kind sold in 1977 and the price index of new one-family houses sold in the Northeast are calculated by the Bureau of the Census, U.S. Department of Commerce.
- 24854 Attachment Q.VIII.d.20 contains a true and accurate copy of the Bureau of the Census' data for the average sales price of new, one-family houses of the kind sold in 1977 and the price index of new one-family houses sold in the Northeast, obtained from the Data Resources, Incorporated computer for the years 1967 to 1985.
- 24855 The values for annual average sales price of new, one-family houses of the kind sold in 1977 and the values for the price index of new one-family houses sold in the Northeast in Attachment Q.VIII.d.20 are correct.
- 24856 The implicit price deflators of personal consumption expenditures for housing, owner-occupied non-farm space rent, and owner-occupied stationary units are calculated by the Bureau of Economic Analysis, U.S. Department of Commerce.
- 24857 Attachment Q.VIII.d.20 contains a true and accurate copy of the Bureau of Economic Analysis' data for the implicit price deflators of personal consumption expenditures, for housing, owner-occupied non-farm space rent, and owner-occupied stationary units, obtained from the Data Resources, Inc. computer for the years 1967 to 1985.
- 24858 The values for implicit price deflators of personal consumption expenditures, for housing, owner-occupied non-farm space rent, and owner-occupied stationary units in Attachment Q.VIII.d.20 are correct.
- 24859 Annual average sales prices for existing single-family homes are calculated by the National Association of Realtors.
- 24860 Attachment Q.VIII.d.20 contains a true and accurate copy of the National Association of Realtors' data for annual average sales prices of existing single-family homes obtained from the Data Resources, Inc. computer for the years 1967 to 1985.
- 24861 The values for annual average sales prices of existing single-family homes in Attachment Q.VIII.d.20 are correct.

- 24862 --- Annual average sales prices for new one-family homes are calculated by
--- the U.S. Department of Commerce, Bureau of Housing and Urban
Development.
- 24863 --- Attachment Q.VIII.d.20 contains a true and accurate copy of the U.S.
--- Department of Commerce, Bureau of Housing and Urban Development's
--- data for annual average sales prices of new one-family homes, obtained
--- from the Data Resources, Inc. computer for the years 1975 to 1985.
- 24864 --- The values for annual average sales prices of new one-family homes in
Attachment Q.VIII.d.20 are correct.
- 24865 --- Annual employment (non-agricultural wage and salary) for states and cities
--- is compiled by the Bureau of Labor Statistics, U.S. Department of Labor.
- 24866 --- Attachment Q.VIII.d.20 contains a true and accurate copy of the Bureau of
--- Labor Statistics' annual employment (non-agricultural wage and salary) data
--- for the State of Massachusetts and the cities of Boston and New Bedford,
--- obtained from the Data Resources, Inc. computer for the years 1965 to
1985.
- 24867 --- The values for annual employment (non-agricultural wage and salary) data
--- for the State of Massachusetts and the Cities of Boston and New Bedford
are correct.
- 24868 --- The Consumer Price Indexes (CPIs) for all U.S. urban areas and for
--- individual urban areas are calculated by the Bureau of Labor Statistics,
U.S. Department of Labor.
- 24869 --- Attachment Q.VIII.d.20 contains a true and accurate copy of the Bureau of
--- Labor Statistics' data of the monthly CPI for all urban areas and the
--- periodic CPI for the Boston urban area from the Data Resources, Inc.
--- computer for the years 1959 to 1985. Also included are annual CPI
averages, calculated from the monthly data.
- 24870 --- The monthly and annual values for the U.S. urban CPI and the Boston
urban CPI in Attachment Q.VIII.d.20 are correct.
- 24871 --- Total personal income for states and cities is calculated by the Bureau of
Economic Analysis, U.S. Department of Commerce.
- 24872 --- Attachment Q.VIII.d.21 contains a true and accurate copy of the Bureau of
--- Economic Analysis' total personal income data for the State of
--- Massachusetts, the Providence-Pawtucket-Woonsocket, RI metropolitan area,
--- the Boston-Lawrence-Salem-Lowell-Brockton, MA metropolitan area and the
--- New Bedford-Fall River-Attleboro, MA metropolitan area, obtained from the
Data Resources, Inc. computer for the years 1959 to 1984.
- 24873 --- The values for annual total personal income in Attachment Q.VIII.d.21 for
--- the State of Massachusetts, the Providence-Pawtucket-Woonsocket, RI

metropolitan area, the Boston-Lawrence-Salem-Lowell-Brockton, MA metropolitan area, and the New Bedford-Fall River-Attleboro, MA metropolitan area for the years 1959 to 1984 are correct.

- 24874 Total population for states is calculated by the Bureau of the Census, U.S. Department of Commerce. Population of cities is calculated by the Bureau of Economic Analysis, U.S. Department of Commerce.
- 24875 Attachment Q.VIII.d.21 contains a true and accurate copy of the Bureau of the Census' Massachusetts population data and the Bureau of Economic Analysis' Providence-Pawtucket-Woonsocket, RI, Boston-Lawrence-Salem-Lowell-Brockton, MA, and the New Bedford-Fall River-Attleboro, MA population data obtained from the Data Resources, Inc. computer for the years 1959 to 1984.
- 24876 The values for population in Attachment Q.VIII.d.21 for the State of Massachusetts, the Providence-Pawtucket-Woonsocket, RI metropolitan area, the Boston-Lawrence-Salem-Lowell-Brockton, MA metropolitan area, and the New Bedford-Fall River-Attleboro, MA metropolitan area for the years 1959 to 1984 are correct.
- 24877 Per capita personal income is calculated by the Bureau of Economic Analysis, U.S. Department of Commerce.
- 24878 Attachment Q.VIII.d.21 contains a true and accurate copy of the Bureau of Economic Analysis annual per capita income data for the state of Massachusetts, the Providence-Pawtucket-Woonsocket, RI, the Boston-Lawrence-Salem-Lowell-Brockton, MA, and the New Bedford-Fall River-Attleboro, MA, areas obtained from Data Resources, Inc. computer for the years 1959 to 1984.
- 24879 The values for annual per capita personal income in Attachment Q.VIII.d.21 for the state of Massachusetts, the Providence-Pawtucket-Woonsocket, RI metropolitan area, the Boston-Lawrence-Salem-Lowell-Brockton, MA metropolitan area, and the New Bedford-Fall River-Attleboro, MA metropolitan area for the years 1959 to 1984 are correct.
- 24880 Median Family Income is calculated by the Bureau of the Census, U.S. Department of Commerce.
- 24881 Attachment Q.VIII.d.21 contains a true and accurate copy of the Bureau of the Census' annual U.S. median family income data, obtained from the Data Resources' computer from the years 1959 to 1984.
- 24882 The values for annual U.S. median family income are correct.
- 24883 The Federal Home Loan Bank board conducts mortgage interest rate surveys to calculate monthly and annual average purchase prices for newly-built homes, previously occupied homes, and all homes in the Boston SCSA.

- 24884 Attachment Q.VIII.d.22 is a true and accurate copy of data from the Federal Home Loan Bank Board's mortgage interest rate surveys, which contain data on average monthly and annual purchase prices for newly-built, previously-occupied, and all homes in the Boston SCSA for the years 1963 to 1986. Also included are explanatory notes.
- 24885 The data calculated by the Federal Home Loan Bank Board's mortgage interest rate surveys for newly-built, previously-occupied, and all homes in the Boston SCSA for the years 1963 to 1986 in Attachment Q.VIII.d.22 are correct.
- 24886 Property values for single-family homes in Fairhaven and New Bedford have risen substantially in both nominal and real terms, since the public became aware of the presence of PCBs in New Bedford Harbor.
- 24887 Attachment Q.VIII.d.23 contains a true and accurate copy of an index of sales prices for single-family homes in Fairhaven, based on regression analysis of sales data used in the Plaintiff's Repeat Sales Study, for the years 1969 to 1985. Attachment Q.VIII.d.23 also contains a true and accurate copy of an index of sales prices for single-family homes in New Bedford for the years 1974 to 1985, based on regression analysis of sales prices for single-family homes, taken from 3-S forms prepared by the city of New Bedford. Attachment Q.VIII.d.23 also contains real indices of sales prices for single-family homes in Fairhaven and New Bedford, based on the nominal indices and the consumer price index for Boston.
- 24888 The indices of single-family sales prices for Fairhaven and New Bedford in Attachment Q.VIII.d.23 are correct.
- 24889 Total non-agricultural employment is calculated by the Bureau of Labor Statistics, U.S. Department of Labor.
- 24890 Attachment Q.VIII.d.24 contains a true and accurate copy of the Bureau of Labor Statistics' *Employment and Earnings, States and Areas 1939-75, 1977, Bulletin 1370-12*, which contains total nonagricultural employment data for the Boston, MA metropolitan area, the Providence-Warwick-Pawtucket metropolitan area, the New Bedford metropolitan area, and the state of Massachusetts for the years 1951 to 1975. Attachment Q.VIII.d.24 also contains true, accurate, and genuine copies of the Bureau of Labor's *Employment, Hours, and Earnings, States and Areas, 1939-82, Volume I: Alabama-Nevada, January 1984, Bulletin 1370-17* and *Supplement to Employment, Hours, and Earnings, States and Areas, Data for 1980-84, September 1985, Bulletin 1370-19*. These contain nonagricultural employment data for the state of Massachusetts, the Boston metropolitan area, and the New Bedford metropolitan area from 1970 to 1984, and the Providence metropolitan area for 1980 to 1984.
- 24891 The non-agricultural employment data in Attachment Q.VIII.d.24 are correct.

- 24892 Attachment Q.VIII.d.25 is a true and accurate copy of the original article, "An Economic Analysis of Air Pollution From Coal-Fired Power Plants," by Robert Mendelsohn, *Journal of Environmental Economics and Management*, 7, 1980 and is genuine.
- 24893 Robert Mendelsohn is the author of repeat sales analyses performed for the plaintiffs.
- 24894 On pages 32 and 33 of Attachment Q.VIII.d.25, Robert Mendelsohn states the following, "There are serious objections to the survey technique because respondents may purposefully tell lies (if they think it will help them). Also, because the survey questions are only hypothetical, the answers may deviate from observed behavior. Finally, not all surveys are well designed, so that answers may have ambiguous meanings. Property value studies also have serious drawbacks. Most studies are hampered by aggregated data, primitive hedonic equations, and poor air-quality measurements. Furthermore, both survey and property value approaches assume that people are aware of the harmful consequences of individual pollutants, which is most unlikely."
- 24895 Attachment Q.VIII.d.26 is a true and accurate copy (with labels added for clarity) of results of regressions performed by or on behalf of Professor Mendelsohn in connection with the earlier (pre-1990) versions of the Repeat Sales Study. The original document is genuine output of regressions performed by or on behalf of Professor Mendelsohn in connection with the Repeat Sales Study.
- 24896 Given the assumptions made by Professor Mendelsohn in his analysis, regression equations A and C in Attachment Q.VIII.d.26 provide statistical tests of the effects on real estate prices in Fairhaven of distance from the alleged PCB "hot spot," as this distance variable was defined by Professor Mendelsohn.
- 24897 Given the assumptions made by Professor Mendelsohn, regression equations A and C in Attachment Q.VIII.d.26 show that for sales that spanned Professor Mendelsohn's "event year," distance to the alleged PCB "hot spot" had no statistically significant effect on changes in sales prices, beyond the effect for sales that did not span Professor Mendelsohn's "event year."
- 24898 Given the assumptions made by Professor Mendelsohn, regression equations A and C in Attachment Q.VIII.d.26 show that the presence of PCBs in New Bedford Harbor had no significant effect on changes in prices of single-family homes in Fairhaven.
- 24899 Given the assumptions made by Professor Mendelsohn in his analysis, regression equations B and D in Attachment Q.VIII.d.26 provide statistical tests of the effects on real estate prices in Fairhaven of proximity to regulatory Zone I, as this proximity variable was defined by Professor Mendelsohn.

- 24900 Given the assumptions made by Professor Mendelsohn, regression equations B and D in Attachment Q.VIII.d.26 show that for sales that spanned Professor Mendelsohn's "event year," proximity to regulatory Zone I had no statistically significant effect on changes in sales prices, beyond the effect for sales that did not span Professor Mendelsohn's "event year."
- 24901 Given the assumptions made by Professor Mendelsohn, regression equations B and D in Attachment Q.VIII.d.26 show that the presence of PCBs in New Bedford Harbor had no significant effects on changes in prices of single-family homes in Fairhaven.
- 24902 Given the assumptions made by Professor Mendelsohn in his analysis, weighted regression equations E and F in Attachment Q.VIII.d.26 provide statistical tests of the effects on real estate prices in Fairhaven of proximity to regulatory Zone I, as this proximity variable was defined by Professor Mendelsohn.
- 24903 Given the assumptions made by Professor Mendelsohn, weighted regression equations E and F in Attachment Q.VIII.d.26 that for sales that spanned Professor Mendelsohn's "event year," proximity to regulatory Zone I had no statistically significant effect on changes in sales prices, beyond the effect for sales that did not span Professor Mendelsohn's "event year."
- 24904 Given the assumptions made by Professor Mendelsohn, weighted regression equations E and F in Attachment Q.VIII.d.26 show that the presence of PCBs in New Bedford Harbor had no significant effects on changes in prices of single-family homes in Fairhaven.
- 24905 The Mendelsohn model combines sales of houses located in Dartmouth, Fairhaven, and New Bedford.
- 24906 Professor Mendelsohn does not endeavor to determine what differences may have existed between the real estate markets in Dartmouth, Fairhaven and New Bedford at the time of the sales to which his data relate.
- 24907 Professor Mendelsohn assumes that characteristics specific to the different real estate markets in Dartmouth, Fairhaven and New Bedford do not have to be taken into account in his model.
- 24908 Professor Mendelsohn does not know of any individualized or town-specific characteristics of the real estate markets in Dartmouth, Fairhaven and New Bedford.
- 24909 Attachment Q.V111.d.27 contains average first sale prices and average second sale prices in 1989 dollars calculated using the same data set used by Professor Mendelsohn for the regressions reported in Tables 2, 3, and 4 of the Plaintiff's RFAs with respect to the Repeat Sales Study (See Attachment Q.VIII.d.5 and Plaintiff's RFAs 3404 through 3651).

- 24910 In Attachment Q.V111.d.27 the average first sale price of houses reported in Professor Mendelsohn's data base for Dartmouth and New Bedford are significantly higher than the average first sale price of houses reported in Professor Mendelsohn's data base for Fairhaven.
- 24911 In Attachment Q.V111.d.27 the average second sale price of houses reported in Professor Mendelsohn's data base for Dartmouth is significantly higher than the average second sale price of houses reported in Professor Mendelsohn's data base for Fairhaven and New Bedford.
- 24912 Housing markets with different characteristics may experience different changes in housing prices as a result of changes in general economic conditions.
- 24913 For example, prices in housing markets whose actual and potential purchasers are blue-collar workers can be expected to respond to declines in manufacturing employment differently than housing markets whose actual and potential purchasers are middle or upper income white collar workers.
- 24914 Professor Mendelsohn's current model specification includes no variable to differentiate sale pairs by the town in which the property is located.
- 24915 Professor Mendelsohn has not reported any calculations from which sale prices and sale price changes are differentiated by town.
- 24916 Professor Mendelsohn has not reported any calculations from which the alleged impact of PCB contamination on sale prices and sale price changes are differentiated by town.
- 24917 Professor Mendelsohn cannot state from any calculations that he made at the time he reached his conclusions whether the coefficients of his model equations differ across towns.
- 24918 Attachment Q.V111.d.28 contains regression results using the same sample of sale pairs as that used in by Professor Mendelsohn to estimate models reported in Tables 2, 3, and 4 of Attachment Q.VIII.d.5.
- 24919 The models in Attachment Q.V111.d.28 are estimated using the same underlying variables and estimating techniques as used by Professor Mendelsohn. The regressions differ from Professor Mendelsohn's in that all variables used by Professor Mendelsohn are interacted with three zero-one dummy variables, one for each town.
- 24920 The result is that for each variable used by Professor Mendelsohn, a separate coefficient is estimated for each town.
- 24921 The same coefficients can be obtained by estimating separate models for each town, Dartmouth, Fairhaven and New Bedford.

- 24922 Attachment Q.VIII.d.28 contains models estimated for definitions of event years 1977 through 1985; i.e., regressions are run using the event dates 1 January for the years 1977 through 1985. Linear repeat sales equations are estimated using ordinary least squares (OLS).
- 24923 In his models, Professor Mendelsohn interprets the coefficients of the event-zone interaction variables as estimates of the alleged effects of PCB contamination on housing prices.
- 24924 The equations in Attachment Q.VIII.d.28 demonstrate that, under Professor Mendelsohn's assumption that data for different towns can be pooled and used in the same regression, the equation coefficients differ across cities.
- 24925 In Attachment Q.VIII.d.29, F-statistics are calculated to test the null hypothesis that the coefficients do not differ across towns. The F-statistics indicate that the null hypothesis can be rejected at a significance level less than 0.001.
- 24926 A significance level of 0.001 is well within the criterion usually applied in tests of hypotheses in economic and other social science research.
- 24927 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1977.
- 24928 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1978.
- 24929 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1979.
- 24930 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1980.
- 24931 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1981.
- 24932 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1982.
- 24933 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1983.

- 24934 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1984.
- 24935 The regression results presented in Attachment Q.VIII.d.28 indicate that according to Professor Mendelsohn's definition, PCBs do not affect housing prices when the event date is in 1985.
- 24936 If housing sale pairs from different towns are to be pooled and used to estimate one regression, then the error variance of the regression equation must be the same for all towns.
- 24937 A test of whether the error variances are the same across towns is an F test; i.e., the statistical test is based on an F statistic.
- 24938 Attachment Q.VIII.d.30 contains the results of F tests for the equality of the error variances between towns. The hypothesis that the error variances are the same for Dartmouth and Fairhaven and for Dartmouth and New Bedford can be rejected at a significance level less than 0.01.
- 24939 The hypothesis that the error variances are the same for Fairhaven and New Bedford cannot be rejected at a significance level of 0.10.
- 24940 The results presented in Attachment Q.VIII.d.30 imply that sale pairs from the three towns Dartmouth, Fairhaven, and New Bedford cannot be pooled and used in the same regression as done by Professor Mendelsohn.
- 24941 If separate regressions are run for Dartmouth, Fairhaven, and New Bedford, then the results do not change; i.e., based on the separate regressions, PCBs do not affect housing prices when using any of the definitions of the event date, from 1977 through 1985.
- 24942 If no relationship exists between Professor Mendelsohn's definition of the pollution event and housing prices, then no injury to natural resources in the New Bedford Harbor has been demonstrated by his analysis.
- 24943 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1977.
- 24944 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1978.
- 24945 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1979.
- 24946 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1980.
- 24947 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1981.

- 24948 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1982.
- 24949 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1983.
- 24950 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1984.
- 24951 No relationship between PCBs and housing prices has been demonstrated when the event date is in 1985.
- 24952 Without such a relationship, no injury can be ascribed to the presence of PCBs in New Bedford Harbor.

- 26000 Martin J. Coleman, Jr., is a senior partner in the firm of Coleman & Sons, whose address is 486 Totten Pond Road, Waltham, Massachusetts, and 451 Main Street, Waltham, Massachusetts.
- 26001 Mr. Coleman has been a real estate consultant and a real estate appraiser for over 40 years.
- 26002 Mr. Coleman is a graduate of Boston College with a degree of Bachelor of Science in Business Administration.
- 26003 Mr. Coleman has participated in numerous courses and seminars on real estate appraising and real estate valuation and has completed courses given by the American Institute of Real Estate Appraisers.
- 26004 Mr. Coleman is certified by the Society of Real Estate Appraisers (SRA) and by the Massachusetts Board of Real Estate Appraisers (MRA). He is a member of numerous professional associations and boards having to do with the broad field of real estate.
- 26005 Mr. Coleman is a licensed real estate broker in the Commonwealth of Massachusetts.
- 26006 Coleman has lectured on numerous occasions in the Commonwealth of Massachusetts as well as many other sections of the country on the application of appraisal methodology, legal implications in valuation, and presentation of evidence in court proceedings.
- 26007 Some of the lectures presented by Mr. Coleman were in association with the Practicing Law Institute, Massachusetts Bar Association, Boston Bar Association, Harvard Law School, Boston College Law School, Boston University Law School, Northeastern University Law School and Suffolk University Law School.
- 26008 Mr. Coleman has been in the real estate business since 1946 specializing in real estate consulting and valuation for over 40 years.
- 26009 As a partner of Coleman & Sons, Mr. Coleman has been responsible for the overall real estate operations of the company, including a sales department consisting of 16 sales associates.
- 26010 Mr. Coleman has testified before courts, boards, and tribunals on numerous occasions concerning valuation of real estate.

- 26011 Mr. Coleman has qualified as an expert in the United States District Court in Boston and Philadelphia, in the states of Maine, New Hampshire, Rhode Island and Connecticut, and Mr. Coleman has been qualified as an expert in all of the superior courts in the Commonwealth of Massachusetts on real estate valuation issues, including issues of fair market value and total loss in value and damages sustained.
- 26012 Mr. Coleman has testified to issues pertaining to real estate valuation trends and characteristics as well as methods for establishing real estate values in particular markets.
- 26013 Mr. Coleman has appraised property in the City of New Bedford and has also testified as to fair market value of such property in the Superior Court of Bristol County as well as at the Massachusetts Appellate Tax Board.
- 26014 Beginning in 1986, and at various times thereafter, Mr. Coleman has inspected the area in and around New Bedford Harbor in connection with analyzing effects, if any, of alleged pollution on the local real estate.
- 26015 Mr. Coleman has reviewed the claims made by plaintiffs in the form of Requests for Admissions and Professor Mendelsohn's various reports and numerous conclusions as to when, where and to what degree alleged PCB contamination has affected real estate values in New Bedford, Dartmouth and Fairhaven.
- 26016 Mr. Coleman has reviewed facts bearing on the value of, and trends relating to, real estate in the greater New Bedford area, including the facts contained in defendant's Requests For Admissions and statements by local officials, real estate agents and bankers concerning local factors that have affected real estate values.
- 26017 In Mr. Coleman's opinion, PCBs or allegations regarding PCB pollution, have not affected real estate prices in the New Bedford Harbor area.
- 26018 In Mr. Coleman's opinion, PCBs or allegations regarding PCB pollution, have not injured or damaged property values in the New Bedford Harbor area.
- 26019 Professor Mendelsohn purports to demonstrate an effect from PCB contamination on the value of amenities of New

Bedford Harbor by analyzing certain residential housing values based on houses which sold at least two times during the period examined ("repeat sales study").

- 26020 Professor Mendelsohn alleges that certain residential property values were reduced relative to other real estate values, a perceived effect Professor Mendelsohn attributes to PCBs in New Bedford Harbor.
- 26021 Professor Mendelsohn studies certain repeat sales of properties in New Bedford, Dartmouth and Fairhaven to form the basis of his conclusions and allegations.
- 26022 The repeat sales data reported by Professor Mendelsohn began as early as 1969 and end in 1989.
- 26023 Analysis of the repeat sales data reported by Professor Mendelsohn forms the sole basis for Professor Mendelsohn conclusions that PCBs affected real estate values.
- 26024 Professor Mendelsohn relies upon what he describes as the GNP residential non-farm price deflator to control for inflation effects upon housing prices.
- 26025 Professor Mendelsohn relies exclusively upon the New Bedford Institution for Savings annual June mortgage interest rates in purporting to control for interest rate effects on housing prices.
- 26026 The properties included in Professor Mendelsohn's data base sold at various amounts throughout twenty years when rates varied substantially from the June rates used by Professor Mendelsohn.
- 26027 Professor Mendelsohn considered it important to the validity of the repeat sales study to control for any physical change in the houses occurring between the sales analyzed.
- 26028 Professor Mendelsohn believes that any effect PCBs may have had on residential market prices was only experienced after the contamination of the harbor became widely known.
- 26029 Professor Mendelsohn first concluded that PCBs became widely known in 1979 or 1980; later he concluded that PCBs became widely known only in 1982.
- 26030 For each year when Professor Mendelsohn has thought that PCBs became widely known, he purported to find a

negative effect on real estate sales due to PCBs.

- 26031 For example, Professor Mendelsohn concluded that PCBs became widely known in 1979 or 1980 and claimed that house prices were adversely affected in an and around 1979-1980 purportedly because of PCBs.
- 26032 Professor Mendelsohn believes that the exact time when the public became sufficiently aware of PCBs in the harbor to affect real estate sales is difficult to determine.
- 26033 Professor Mendelsohn believes that the initial discovery of PCBs in the harbor came in 1976.
- 26034 In 1986 Professor Mendelsohn stated that the understanding that the PCB problem was serious enough to affect the use of the harbor may not have been known to the public until September 1979 when the Massachusetts Department of Public Health restricted use of parts of the harbor specifically because of PCB contamination.
- 26035 Professor Mendelsohn stated in 1986 that further public debate about health risks and cleanup probably increased awareness through 1980 and 1981.
- 26036 Professor Mendelsohn stated in 1986 that if an effect is due to PCBs then the so-called pollution effect of his sales study model should diminish as the event date moved away from the 1979-1980 period.
- 26037 Professor Mendelsohn reported in 1986 that if PCBs were the cause of any reduction in property values, property values after the event should be depressed as compared to sales values before the event.
- 26038 Professor Mendelsohn reported in 1986 that the PCB event was expected to be strongest in pairs of sales which straddled the events.
- 26039 Professor Mendelsohn purported to explore spatial measures of pollution in analysis by two measures: zones and proximity to an inner harbor site.
- 26040 Professor Mendelsohn's "Zone I" corresponds to the harbor, north of the Hurricane Dike.
- 26041 Professor Mendelsohn's "Zone II" extends from the hurricane barrier out approximately four miles.

- 26042 Professor Mendelsohn's "Zone III" and "Zone IV" extend beyond "Zone II".
- 26043 Professor Mendelsohn reported that he had used a proximity measure that is the inverse of distance in miles from the so-called "hot spot" in the inner harbor.
- 26044 Professor Mendelsohn reported that he had used the product of a so-called pollution event variable and a zone variable to measure the pollution effect.
- 26045 Professor Mendelsohn uses both a linear and semilog to measure alleged damages.
- 26046 The linear model assumes the value is a constant number per house.
- 26047 The semilog model assumes the value is proportionate to the value of the house.
- 26048 Professor Mendelsohn includes in his analysis certain single-family homes in Fairhaven, Dartmouth, and New Bedford which were sold at least twice since 1969.
- 26049 Professor Mendelsohn purports to exclude, and considered it important to exclude, properties which were used for commercial or multi-family uses.
- 26050 Professor Mendelsohn's study includes properties used for commercial or multi-family uses.
- 26051 Professor Mendelsohn has never personally inspected the properties in his repeat sales study data to determine whether properties are used for commercial or multi-family uses.
- 26052 Professor Mendelsohn's study purports to exclude non-arms length sales.
- 26053 Professor Mendelsohn's study includes non-arms length sales.
- 26054 Professor Mendelsohn did not verify sales, as required by standard practices, in the field of assessing real estate values.
- 26055 Professor Mendelsohn has not personally inspected the premises used in his data.
- 26056 Professor Mendelsohn's study includes almost all sales from Fairhaven after 1980, but only a fraction of sales

before 1980.

- 26057 Professor Mendelsohn reported in 1986 that analyzing post-1980 property values in Fairhaven and Dartmouth revealed that housing prices declined with distance from shore. This analysis suggests that proximity to shore would be of positive value.
- 26058 Professor Mendelsohn purports to limit his analysis to properties within two miles of the shoreline.
- 26059 Professor Mendelsohn attempted to measure changes in housing characteristics using data from building permits.
- 26060 The only building permit data used by Professor Mendelsohn was collected from the town building department on repeat sales.
- 26061 Professor Mendelsohn used only 1980 US census data for the percentage of adults graduating from high school to control for changes in neighborhood quality.
- 26062 Professor Mendelsohn purports to use a Massachusetts deflator based upon the average sale price of a single family home in Massachusetts from 1969 to at least 1985 as collected by the Multiple Listing Service.
- 26063 Professor Mendelsohn attempted to exclude from consideration all sales from New Bedford multi-family neighborhoods.
- 26064 Professor Mendelsohn used various dates from 1974 through 1983 as possible pollution events, and at various times concluded that various dates were pollution "event" dates attributable to PCBs.
- 26065 Professor Mendelsohn extrapolated his findings from the sample of homes he studied to all single family homes in Dartmouth, Fairhaven, and New Bedford.
- 26066 Professor Mendelsohn calculated the alleged impact of PCBs using both linear and semi log methods.
- 26067 Professor Mendelsohn used 1980 U.S. census tracts as the source for his data regarding the number of occupied dwellings in his "zone" in each town.
- 26068 In order to determine an impact on single-family houses Mendelsohn makes several assumptions that he could not verify empirically.

- 26069 Professor Mendelsohn assumed that the towns of Fairhaven and Dartmouth and the City of New Bedford are comparable to one another.
- 26070 Professor Mendelsohn assumed that different neighborhoods within each of his "Zones" in each town are comparable to one another.
- 26071 Professor Mendelsohn assumed that neighborhoods straddling his "Zones" are different, one zone from the other.
- 26072 Professor Mendelsohn assumed that within all neighborhoods and within all communities mentioned in the study, amenities are comparable to one another across both neighborhood and community lines.
- 26073 Professor Mendelsohn assumed that the New Bedford Harbor closure in 1979 triggered a PCB effect capable of being measured by his analysis.
- 26074 Professor Mendelsohn assumed that public debate over the presence of PCBs in New Bedford harbor contributed to a PCB effect capable of being measured by his analysis.
- 26075 Professor Mendelsohn assumed that proximity to a particular harbor closure area had a relationship to the price people actually bought and sold single-family homes for.
- 26076 Professor Mendelsohn assumes that the mileage distance to the so-called PCB hot spot in the inner harbor had a relationship to prices at where people bought and sold single-family homes.
- 26077 Professor Mendelsohn assumes that the PCB contamination of New Bedford Harbor played a significant role in people's minds in making real estate transactions.
- 26078 If such a factor played a significant role in the price any or all sellers would sell or any or all buyers would buy a house allegedly diminished in value due to PCBs, then it is reasonable to assume that:
- (a) Such sellers would consciously factor PCBs into their thinking about the house's value;
 - (b) Such buyers would consciously factor PCBs into their thinking about the house's value;

- (c) Realtors trying to market such houses would factor PCBs into their thinking about their value;
 - (d) Bankers and appraisers lending money to mortgage such houses would factor PCBs into their thinking about value.
- 26079 Professor Mendelsohn assumes that the PCB contamination of New Bedford Harbor played a more significant role in people's minds in making real estate transactions than any non-PCB pollution affecting New Bedford Harbor, individually or collectively.
- 26080 Professor Mendelsohn assumes that any renovation done to a home was reported to the appropriate town building department.
- 26081 Professor Mendelsohn assumes that no renovations were done to a property if there were none reported to the building department.
- 26082 Professor Mendelsohn assumes that any renovation data reported to the town building departments is an accurate representation as to the dollars actually spent on renovations done to a property.
- 26083 Professor Mendelsohn assumes that renovations or improvements that do not need to be reported to the town building department had no affect on value.
- 26084 Professor Mendelsohn assumes that general upkeep differences between houses have no affect on value.
- 26085 All repeat sales used by Professor Mendelsohn dating from 1968 to 1988 are assumed to have had equal weight regardless of their remoteness from the so-called PCB event dates.
- 26086 The repeat sales straddling the so-called event date are assumed by Professor Mendelsohn to be more significant in determining impact from PCBs than any other repeat sales pairs.
- 26087 Professor Mendelsohn assumes that there are no other factors associated with the New Bedford area not adjusted for, that could explain the effects he attributes to PCBs.
- 26088 Professor Mendelsohn assumes that a GNP residential nonfarm price deflator is an appropriate benchmark for

determining the inflation standard to which his prices are judged.

- 26089 Professor Mendelsohn assumes that the GNP residential non-farm price deflator measures only single family residential properties.
- 26090 Professor Mendelsohn assumes that if the GNP residential non-farm price deflator includes other than single-family residential properties, that factor would nonetheless not affect his analysis.
- 26091 Professor Mendelsohn assumes that the June mortgage interest rate of the New Bedford Institution for savings is a more appropriate control for interest than the interest rate for any other particular month or the actual interest rates for the months of the sales in question.
- 26092 Professor Mendelsohn assumes that using an annual mortgage interest rate factor in his analysis is appropriate rather than a quarterly mortgage interest rate factor.
- 26093 Professor Mendelsohn assumes that the town's assessor's records be utilized accurately reflected transactions with respect to:
- a. the type of use of the property; and
 - b. the price of the property.
- 26094 Professor Mendelsohn assumes that no changes in use of the properties on which data was collected occurred between the first and second sales used in his paired sales analysis.
- 26095 Professor Mendelsohn assumes that the change in percentage of adults graduating from high school is an accurate indicator of neighborhood quality.
- 26096 Professor Mendelsohn assumes that the static quality of a neighborhood versus changes in quality of a neighborhood has no affect on the values in that neighborhood.
- 26097 Professor Mendelsohn assumes that US census tract data as to high school graduation statistics correlates perfectly to his so-called zones.
- 26098 Professor Mendelsohn assumes that a statewide average of single family houses is applicable to the greater

New Bedford region as an indicator of inflation and interest rates.

- 26099 Professor Mendelsohn assumes that the data compiled by the Multiple Listing service is comparable to the data compiled in his study.
- 26100 Professor Mendelsohn assumes US Census tract data as to number of single family houses correlates perfectly to his so-called "Zones."
- 26101 Repeat sales analysis is not a generally accepted technique for determining the fair market value of real property.
- 26102 Repeat sales analysis is not a generally accepted technique utilized by real estate appraisers for determining the FAIR MARKET VALUE of real property.
- 26103 Repeat sales analysis is not utilized by purchasers of real property to determine the FAIR MARKET VALUE of real property.
- 26104 Repeat sales analysis is not utilized by real estate brokers in determining the FAIR MARKET VALUE of real property.
- 26105 Repeat sales analysis is not utilized by banks or other entities loaning money for the purchase of real property to determine the FAIR MARKET VALUE of real property.
- 26106 Repeat sales analysis is not utilized by sellers of property to determine the FAIR MARKET VALUE of real property.
- 26107 Any method utilized to determine the FAIR MARKET VALUE of real properties must be based upon arms-length transactions.
- 26108 Any valuation method which uses data from transactions in real property is invalid if transactions utilized were not arms-length transactions.
- 26109 A transaction may not be relied upon to determine the FAIR MARKET VALUE of property if it is:
- a A sale between members of the same family.
 - b An intra-corporate sale (sales between the corporation and its stockholders, a subsidiary, an

affiliate, or corporations whose stock is held by the same or substantially identical ownership).

- c A transaction which includes a substantial amount of machinery, equipment, inventory, or good will.
- d A sale of a property which has been subject to fire, flood, demolition, or substantial remodeling.
- e A sale to or from the federal , state, or any local government or any subdivision thereof.
- f A transfer of convenience, such as to correct defects in title or to create a trust of similar entity.
- g A sale of property conveying only a portion of the original property.
- h A sale resulting from court order.
- i A sale by a trustee in bankruptcy or as a result of bankruptcy proceedings.
- j A sale of less than a one-hundred-percent interest in property.
- k A sale to or from an educational, charitable, or religious organization.
- l A sale of a foreclosed property or repossession of the same.
- m A sale of property influenced by zoning changes.

26110 Repeat sales analyses are invalid if:

- a The property has had a substantial physical change subsequent to the first sale.
- b The property has had a change in use subsequent to the first sale, including sales of property for which variances have been granted.
- c The property was sold for consideration which included the assumption of existing mortgages.

26111 The following three valid approaches to estimating the value of real estate are generally recognized as valid: (1) the direct sales comparison approach; (2) the reproduction cost approach; and (3) the

capitalization of income approach.

- 26112 The steps used in the direct sales comparison approach are to:
- a Identify the pertinent value-determining characteristics of the subject property.
 - b Find comparable, competitive properties, with similar characteristics, that have sold recently on the local market.
 - c Ascertain the sales price, date of sale, and terms and conditions of sale for each property. All such data must be verified.
 - d Compare the comparable with the subject property in terms of the pertinent or salient characteristics of the subject property.
 - e Measure the market difference for each characteristic on which the comparable properties differ from the subject property. Adjust the comparable sales to the subject property.
 - f Estimate the adjusted sales price for each comparable property. This is the estimated price at which the comparable property would have sold if it had possessed the identical characteristics as the subject property at the time of sale.
 - g Reconcile the adjusted sales prices of the comparable properties to an indication of the market value of the subject property via this direct sales comparison approach.
- 26113 The direct sales comparison approach is the most relevant approach to value for properties normally bought and sold on the real estate market.
- 26114 Single family houses are normally bought and sold on the real estate market.
- 26115 The direct sales comparison approach is appropriate for use in valuing single family houses.
- 26116 When applying the comparable sales approach to valuation of single-family homes it is essential to follow each step of the approach as outlined.
- 26117 Failure to properly follow each step of the comparable

sales approach will produce flawed results.

26118 In the capitalization of income approach, value is determined based upon a property's ability to produce an income stream.

26119 The steps in the capitalization of income method are as follows:

- a Conduct a market survey for rental properties that are comparable to the subject property and were rented in a meaningful time period and contrast these comparable rentals to the subject property in terms of the pertinent or salient characteristics of sale property.
- b Compare and contrast these comparable results to the subject property in terms of the pertinent or salient characteristics of each property.
- c Determine the market difference for each characteristic of which the comparable properties differ from the subject property. Adjust the comparable results to the subject property.
- d From the adjusted market data determine the FAIR RENTAL VALUE of the property and thereby determine the potential gross income of the property.
- e Determine the vacancy allowance and the credit loss allowance which is to be deducted from the potential gross income of the property.
- f Deduct the appropriate expense allowance from the effective gross income of the property. In most instances these items include real estate taxes, utilities, maintenance, insurance, management allowance and a capital reserve fund. The resulting amount will be the net income of the property.
- g Consider the amount of return available for alternative investments to real estate and the risk inherent in each. Compare these alternative investments opportunities to the subject real estate properties and determine the appropriate rate of return needed to attract investment given the risk involved with investing in the subject property.
- h Apply this capitalization rate to the net income

of the property to determine the FAIR MARKET VALUE
of the property after appropriate spending.

- 26120 The capitalization of income approach to value is most often applied to income producing properties of a commercial or industrial nature.
- 26121 The capitalization of income method is not generally applied to the valuation of single family residential houses such as those purported to be considered by Professor Mendelsohn in Fairhaven, Dartmouth, and New Bedford.
- 26122 The reproduction cost approach is most often used for the estimation of value in new or proposed construction or unique or special purpose properties.
- 26123 The steps in the reproduction cost approach are:
- a Estimate the site value as if the site were vacant and available to be put to its highest and best use. This is usually done through direct sales comparison analysis.
 - b Estimate the reproduction cost new of buildings.
 - c Estimate accrued depreciation or diminished utility experienced by the buildings as of the valuation date.
 - d Deduct accrued depreciation (diminished utility) from reproduction cost new in order to estimate the present worth (remaining utility or contribution) of major buildings.
 - e Estimate depreciated reproduction cost new of accessory buildings and site improvements.
 - f Add estimated depreciated reproduction cost new of accessory buildings and site improvements.
 - g Add estimated depreciated reproduction cost new of all improvements to estimated site value to reach and indication of the market value of the subject property via the cost approach.
- 26124 In each of the approaches to estimating FAIR MARKET VALUE it is essential to have a personal familiarity with the property being valued in order to be able to obtain an accurate determination of FAIR MARKET VALUE.

- 26125 It is essential to have a personal familiarity with all of the comparable sales properties used in the direct sales comparison to obtain an accurate determination of FAIR MARKET VALUE.
- 26126 If there is no personal familiarity with a property being valued then it is impossible to obtain an accurate estimation of value of that property.
- 26127 If there is no personal familiarity with a comparable sale property then it is impossible to use that comparable sale property in formulating an opinion of FAIR MARKET VALUE for another property.
- 26128 In applying the direct sales comparison approach it is essential to have true and accurate comparable sales data to determine the FAIR MARKET VALUE of the subject property.
- 26129 The absence of true and accurate sales data makes it impossible to accurately apply the direct sales comparison approach to determine the FAIR MARKET VALUE of the subject property.
- 26130 A blind sales data base of prices, address and dates of sales does not constitute a true and accurate data base of comparable sales properties.
- 26131 A blind sales data base of prices, addresses or dates of sales done with building permit data does not constitute a true and accurate data base of comparable sales properties.
- 26132 A blind data base of prices, addresses and dates of sales along with building permit data applied to repeat sales does not constitute a true and accurate data base of comparable sales properties.
- 26133 A personal familiarity of the before and after condition of property for sales used in a repeat sales analysis is needed in order to have a true and accurate data base of comparable repeat sales.
- 26134 If one does not have a personal familiarity with sales data used in a repeat sales analysis it is impossible to draw accurate conclusions from the sales data used.
- 26135 One should have personal familiarity with sales data used in a repeat sales analysis in order to determine what adjustments need to be made in the data to accurately control for the variable characteristics of

the sales pairs.

- 26136 Personal familiarity with repeat sales pairs is necessary to accurately control for all relevant differences between each sale in a sample sale pair.
- 26137 There are many factors that can affect the comparability of homes which sell more than once. These include, but are not limited to: the nature, quality and general characteristics of the neighborhoods from which the repeat sales are drawn.
- 26138 It is important to have a subjective knowledge of the quality of a neighborhood in order to make accurate adjustments between different properties.
- 26139 It is important to have a subjective knowledge of the changes in the quality of a neighborhood over time to make an accurate adjustment between the sales in a repeat sales analysis.
- 26140 It is important to have a subjective knowledge of the changes in the quality of a neighborhood over time to make an accurate adjustment between the sales in a repeat sales analysis.
- 26141 It is important to know the market demand, specific for each type of neighborhood to make an accurate adjustment for neighborhood conditions between different repeat sales pairs.
- 26142 It is important to know the changes in market demand over time for each type of neighborhood to make an accurate adjustment for neighborhood conditions between the sales in a repeat sales analysis as well as between different sales pairs.
- 26143 Demographics are important to consider when making subjective judgments about the quality of a neighborhood.
- 26144 Demographic considerations include such things as ages of buyers and sellers, income levels, ethnic patterns of settlement, education levels as well as other considerations.
- 26145 The quality of neighborhood schools is important to consider when valuing the quality of a neighborhood.
- 26146 The crime rates which apply to particular neighborhoods are important to consider when evaluating different

neighborhoods.

- 26147 The change in crime rates over time is important to consider when evaluating the change in quality of a neighborhood.
- 26148 Inflation rates exert an important outside influence on the value of a home.
- 26149 Inflation rate changes have a strong effect on changes in housing values over time.
- 26150 Inflation rate changes are typically not uniform from one region of the country to another or from one area of the state to another.
- 26151 Mortgage rates have a direct bearing on housing values.
- 26152 Mortgage rates directly affect the affordability of a house, given a constant selling price.
- 26153 Changes in mortgage rates can be expected to have an important effect upon changes in housing prices over time.
- 26154 Failure to adequately control for mortgage rates results in substantial error when attempting to estimate rates of appreciation of real estate over time as compared to other non-real estate indices.
- 26155 Types of employment analysis and unemployment rates can be expected to have a direct bearing on the value of particular segments of the real estate market in a particular area.
- 26156 Patterns of employment distribution can be expected to have a direct bearing on the relative value of different segments of the real estate market.
- 26157 Zoning can be expected to have an important influence on values for single family homes.
- 26158 Differences in zoning may make one neighborhood less comparable than if both neighborhoods had the same zoning, even if both neighborhoods are in the same town.
- 26159 Tax rate changes and total tax burdens can be expected to have an influence on real estate values.
- 26160 Differences in tax rates between towns make a town with lower tax rates more attractive all other things being

equal.

- 26161 Changes in the property tax structure in Massachusetts resulting from Proposition 2 1/2 had a profound influence on real estate values.
- 26162 This influence was disproportionate with respect to real estate values in particular to higher priced real estate brackets, and in particular towns.
- 26163 Particular physical characteristics of a particular single family home can be expected to have a significant effect on value.
- 26164 Such physical characteristics can be expected to have a strong effect on the rate of appreciation of particular homes as compared to other homes.
- 26165 The age of a single family home can be expected to have an effect on its value.
- 26166 The age of a single family home is an important factor affecting the rate of appreciation of a particular single family home.
- 26167 Older buildings generally have faster rates of depreciation than new buildings.
- 26168 Older buildings generally have a faster rate of deterioration than new buildings.
- 26169 Neighborhood boundaries are often determined by development patterns which reflect the age of the mix of buildings in a particular neighborhood.
- 26170 Neighborhood appreciation rates generally can be expected to correspond to established neighborhood boundaries.
- 26171 Neighborhood boundaries often largely reflect common age of the buildings.
- 26172 Within a given neighborhood, buildings of different ages can be expected to appreciate at different rates.
- 26173 Any analysis of appreciation rates of single family homes which does not take into account the age of a building is fundamentally flawed.
- 26174 Repairs and renovations made to a house can be expected to have an impact on value.

- 26175 Particular types of repairs and renovations made to a house can be expected to have an impact on the valuation of that house, with wide differences in value impact, house to house, neighborhood to neighborhood or town to town depending in fact on the particular type of renovation.
- 26176 The same level of expenditure on a renovation project can be expected to have widely varying effects on the value of the home (including, at times decreasing its value) depending on a host of factors such as, for example, the type of renovation, the quality of the work, and the desirability of the renovation in the neighborhood in question.
- 26177 Repairs and renovations made to a house can be expected to have an impact on its rate of appreciation.
- 26178 Particular types of repairs and renovations made to a house have an impact on its valuation.
- 26179 General upkeep falls within the repair and renovation category as contemplated in this analysis.
- 26180 Structural repairs and renovations falls within the repair and renovation category as contemplated in the analysis.
- 26181 Cosmetic repairs and renovations falls within the repair and renovation category as contemplated in this analysis.
- 26182 Additions and enlargements fall within the repairs and renovation category as contemplated in this analysis.
- 26183 Landscaping and site repairs and renovations falls within the repair and renovation category as contemplated in this analysis.
- 26184 A comprehensive list of repairs and renovations made to a property that may affect its value is impossible to determine without a physical inspection of that property.
- 26185 Building permit data is not a reliable indication of repairs and renovations made to a particular property.
- 26186 Reliance on building permit data alone to determine the extent of repairs and renovations made to a particular house will result in an inaccurate assessment of the

physical condition of a particular home.

- 26187 Without an accurate assessment of the physical condition of the house it is impossible to determine the effect on housing value resulting from that repair and renovation.
- 26188 Use and occupancy changes of a house over time can be expected to have an affect upon the sale of a house.
- 26189 Use and occupancy changes over time can be expected to have an effect upon the rate of appreciation of a house in paired sales analysis.
- 26190 Examples of use and occupancy changes that affect value include conversions of summer beach houses to year round home, conversion of one family homes to multi family homes and conversion of residential properties to properties with office or commercial uses.
- 26191 Without a determination of use changes by physical inspection, it is impossible to form meaningful conclusions with regard to appreciation rates or value of single family homes.
- 26192 Building size is a physical characteristic that has an affect on value.
- 26193 Single family homes of different sizes fall into different market categories based upon the size of the home.
- 26194 Single family homes of different styles fall into different market categories based upon the style of the home.
- 26195 Not all real estate market categories appreciate at the same rate.
- 26196 Not all real estate market categories experience the same level of demand at the same time.
- 26197 Different types of styles of single family homes experience different demands at different times due to changes in tastes and styles.
- 26198 The market differences reflecting the physical characteristics of houses influence rates of appreciation both within and across neighborhood boundaries.

- 26199 Demand for second homes is not generally consistent with the demand for primary homes.
- 26200 Changes in tax laws often have an effect upon the demand for second homes different from the effect on demand for primary homes.
- 26201 This difference has an important effect upon the valuation of the real estate included in Professor Mendelsohn's study area because many of the houses are second homes.
- 26202 Proper appraisal practice requires the use of sales data within a meaningful time of the date of valuation at issue.
- 26203 Sales more remote than five years from the date of valuation are generally considered by appraisers to have no relevance in valuation.
- 26204 Sales more remote than five years generally involve entirely different market conditions than those present at a particular valuation date.
- 26205 Sales data from 1969 to 1975 has no relevant bearing on property valuations in 1982 or later.
- 26206 Sales data from 1969 to 1975 is impossible to adjust to obtain property values in 1982 or later.
- 26207 Sales data from 1969 to 1975 is an improper foundation from which to base a paired sales analysis with a focus date of 1982.
- 26208 Sales data for single family homes is not generally comparable from one community to another when there is a substantial difference in the quality of the communities being compared.
- 26209 Regional sales statistics are not comparable to statewide averages.
- 26210 Local sales statistics are not comparable to statewide averages.
- 26211 Statewide sales statistical averages encompass a variety of markets, types of properties and market conditions that cannot be applied to a local market condition.
- 26212 Nationwide statistical data has no relevance to local

statistical data on a direct comparable basis.

- 26213 Nationwide appreciation data cannot be used to form meaningful conclusions regarding appreciation of a located basis.
- 26214 A statistic such as GNP non farm residential deflator contains a variety of data sources which do not apply to a specific type of single family homes on a local level.
- 26215 Mr. Coleman has examined each of the communities used by Professor Mendelsohn with regard to the factors previously discussed.
- 26216 Mr. Coleman has considered the criteria used by Professor Mendelsohn to establish the so-called Zones studied in his report.
- 26217 The so-called Zones used by Professor Mendelsohn have no relevance to real world considerations employed in real estate valuation.
- 26218 Mr. Coleman has completed a thorough inspection of relevant areas of the City of New Bedford, the Town of Fairhaven, and the Town of Dartmouth. Mr. Coleman paid particular attention to the location of the properties, the age and condition of single-family houses, the type of neighborhood, and the applicable zoning as well as other neighborhood appraisers of real estate.
- 26219 A map showing the streets on which paired sales took place for each town including a colored key map is attached as Q.VIII.d.134.
- 26220 Mr. Coleman studied data pertaining to the history and use of New Bedford Harbor, the construction of the hurricane barrier, the use of harbor facilities by the fishing industry and other commercial uses of waterfront space.
- 26221 Mr. Coleman studied the makeup of the residential component of each of the three communities with special attention given to single family clusters located in various Zones delineated by Professor Mendelsohn.
- 26222 Mr. Coleman studied the paired sales as identified by Professor Mendelsohn, which spanned a period of nearly 20 years.
- 26223 Sales which occurred prior to January 1, 1976 and after

January 1, 1986 are irrelevant in evaluating real estate conditions due to their remoteness from the "event" Professor Mendelsohn hypothesizes.

- 26224 Mr. Coleman examined each of the 14 paired sales in New Bedford noting location, age, condition, and date of the original sale as well as the repeat sale. A copy of a picture which is a true and accurate representation of each such paired sale property is attached as Q.VIII.d.31.
- 26225 Four of the New Bedford paired sales used by Professor Mendelsohn are irrelevant because too remote in time to the alleged event date. The sales that are too remote in time are #938 at 200 Seymour Street; #939 at 10 Nautilus Street; #944 at 214 Bellevue Street; and #946 at Ricketson Street.
- 26226 At least two of these sale pairs were occupied as two-family houses and are, therefore, not within the criteria set down by Professor Mendelsohn which he purports to have followed. The New Bedford sales pairs with two-family houses are 937 at 197 Seymour Street and #945 at 351 Dolphin Street.
- 26227 Sales of houses which have or could legally be converted to two-family houses are not appropriate to Professor Mendelsohn's analysis which purports to examine only single-family house pairs.
- 26228 The owners of the two-family houses that comprise the New Bedford paired sales did not give any weight to PCBs' in New Bedford Harbor in making decisions to purchase homes where they did in New Bedford.
- 26229 Eliminating the possible use of the 6 above-mentioned sale pairs in New Bedford, 8 sale pairs would remain out of the 14 used by Professor Mendelsohn.
- 26230 Professor Mendelsohn is attempting to support a claim for injury to 830 single family homes in New Bedford using a maximum of 14 paired sales in New Bedford itself, including the properties at 200 Seymour Street, 10 Nautilus Street, 214 Bellevue Street, Ricketson Street, 197 Seymour Street and at 351 Dolphin Street.
- 26231 Proper appraisal practice requires the use of sales in a particular city or town to determine the FAIR MARKET VALUE of a subject property in the same city or town.
- 26232 The adjustment process undertaken by Professor

Mendelsohn is inadequate to reflect the differences between the cities and towns included in his study.

- 26233 The use of only 14 New Bedford sale pairs by Professor Mendelsohn was inadequate to form any conclusions regarding the 830 single family houses in New Bedford to which Professor Mendelsohn assigns damages.
- 26234 The use of the 8 New Bedford allegedly single family house sale pairs by Professor Mendelsohn was inadequate to form any conclusions regarding the 830 single family houses in New Bedford to which Professor Mendelsohn assigns damages.
- 26235 Mr. Coleman examined a sampling of the paired sales used by Professor Mendelsohn in Fairhaven and Dartmouth. A copy of a picture which is a true and accurate representation of each property sampled for Fairhaven is attached as Q.VII.d.32, and for each property sampled for Dartmouth is attached as Q.VIII.d.33.
- 26236 331 of the paired sales in Fairhaven used by Professor Mendelsohn are irrelevant because they are too remote in time to the alleged event date.
- 26237 Those sales used by Professor Mendelsohn in studying alleged property effects of PCBs and occurring before 1976 in Fairhaven are Numbers: 1-2, 5-71 12, 17, 19; 24-30; 37, 39-40, 43, 45, 49-50, 52-53, 56, 59; 61, 65, 68, 70, 72-74, 78-79, 82, 85-86, 90-91, 93, 96, 99-100, 102, 104-105, 107, 117-120, 123, 125-126, 128, 130, 133, 135, 138-139, 143, 145, 149, 151-152, 153, 155, 157, 159, 160-161, 163, 168, 172-173, 177, 181-184, 188, 190, 191, 193-196, 200, 203-205; 208-210, 214, 216, 220, 222, 224, 228-231, 235-236, 240-241, 243-244, 246, 249, 252, 254, 256, 260-261, 264-265, 268, 270, 275, 280-281, 285-286, 290-299, 294-296, 299, 302-303, 308, 310, 312, 315, 317-319, 321-323, 326-327, 331-333, 336, 342-344, 348-354, 357, 359, 361-362, 364, 367, 369-373, 375, 379-380, 383-384, 388-390, 393-394, 397, 399-403, 408-409, 412-413, 416, 419-420, 751-754, 756-757, 762-765, 767-770, 772-778, 780-782, 784, 786-805, 807-810, 812, 816-819, 822-823, 827-829, 831-833, 837-839, 841-857, 860-863, 865-866, 868, 870-873, 875-876, 878-881, 883-884, 887-892, 894-897, 899-902, 908, 910-911, 913, 915-918, 924, 926-927, 929-935, 1032, 1039, 1053, 1080, 1148, 1153.
- 26238 At least two of the Fairhaven sale pairs were occupied as two family houses and are not within the criteria

set down by Professor Mendelsohn which he purports to have followed.

- 26239 The Fairhaven pairs of two family houses include: #150 of 240 Main Street and #62 of 3 Spring Street.
- 26240 As of 1990 one of Professor Mendelsohn's paired sales was used at least in part as a professional office.
- 26241 The sale pair #760 at 72 Elm Street houses professional office space.
- 26242 The sale of houses which are, have been, or could legally be converted to commercial or office uses in whole or in part do not belong in Professor Mendelsohn's analysis, the object of which is to examine single family home pairs.
- 26243 112 of the paired sales in Dartmouth used by Professor Mendelsohn are irrelevant because they are too remote in time to the alleged event date.
- 26244 Dartmouth sales studied by Professor Mendelsohn before 1976 include: Numbers 421-422, 424, 426-429, 439, 439-442, 447-448, 450-453, 460, 463, 470-471, 473, 480, 482; 486, 491-493, 499-500, 502, 511, 517, 520, 522, 524-525, 527, 530, 538-540, 543-544, 547, 554-555, 557-559, 561, 566; 571, 579, 585, 587, 591, 597, 599, 601, 603, 605-606, 608-610, 615, 618, 621, 624-625, 628, 633, 636-637, 641-642, 645, 653, 656, 659, 662, 664, 671, 673, 678, 680-681, 683-684, 686-687, 689-690, 700, 703-704, 706, 710, 715, 721, 723, 725, 727-728, 734, 737-740, and 744-745.
- 26245 At least one of the sale pairs from Dartmouth was occupied by a two family house and is not within the criteria set down by Professor Mendelsohn.
- 26246 The Dartmouth sale pair which is a two family house is #1070 at 100 Sharp Street.
- 26247 Within the Dartmouth sample is at least one sales pair which was occupied as a commercial property.
- 26248 The sales pair 1474 at 577 Dartmouth Street used as a commercial property.
- 26249 Single family homes in the City of New Bedford are not comparable to homes located in either Dartmouth or Fairhaven and sales of homes in these communities cannot, therefore, serve as comparable sales for real estate valuation purposes.

- 26250 New Bedford is an urban community with urban characteristics and orientation.
- 26251 New Bedford is an industrially oriented city that originally revolved economically around the whaling and fishing industries.
- 26252 Later industrial development in New Bedford expanded to the textile industry.
- 26253 Textile mills were built along the Acushnet River as well as at the innermost part of Clark's Cove to take advantage of the water resources available there.
- 26254 Development in New Bedford was dictated by water related uses and the industrial nature of that use.
- 26255 The commercial and industrial development near the harbor was followed by the development of multi-family tenement housing in the areas directly adjacent to the industrial areas.
- 26256 These tenement areas typically served to house mill workers who were able to walk to work from this housing.
- 26257 The mill owners and managers lived farther away from the water in the hilly areas to the north and west of the downtown New Bedford area.
- 26258 The collapse of the textile industry in the early part of the 20th century removed the economic base from the downtown New Bedford harbor area that was never fully replaced by the industries which subsequently occupied the old mill buildings along the water.
- 26259 This pattern of development and collapse is typical of what has taken place in mill and waterfront cities in Eastern Massachusetts of the state, such as Lowell, Lawrence, Newburyport, Gloucester, Beverly, Salem, Lynn, Boston, Quincy, and Fall River.
- 26260 Industrial and other development in New Bedford was static until the Interstate and limited access highway system was developed providing quick and easy access to employment opportunities.
- 26261 The newest industrial development in New Bedford is centered in the area north of Interstate Route 195 and west of Route 140.

- 26262 Additional fishing-related industrial development has also taken place along the Acushnet River in the North and South Terminal areas.
- 26263 The area typically considered most valuable of New Bedford single family homes are located well away from the waterfront's industrial and commercial area.
- 26264 That part of the area designated by Professor Mendelsohn as "Zone II" which is in New Bedford is located south of Cove Road and extends to Fort Rodman.
- 26265 The northern section of this area is dominated by mills along Cove Road and supporting commercial areas.
- 26266 The residential area closest to Cove Road in Professor Mendelsohn's "Zone II" is dominated by multi-family tenement type housing.
- 26267 Heading south toward Fort Rodman, the mix of housing types becomes more single family oriented.
- 26268 The types of homes which predominated in this area are Ranch, Cape, and Colonial types which were predominately built after World War II.
- 26269 This neighborhood of New Bedford is a middle class area, but by virtue of its location within the New Bedford city limits it carries with it certain negatives associated with the tenement areas of New Bedford.
- 26270 There is no access to this neighborhood which does not pass through tenement and industrial areas.
- 26271 There are no waterfront homes in this area of New Bedford. All residential development is located on the land side of Rodney French Boulevard.
- 26272 Professor Mendelsohn's "Zone II" to the extent located within New Bedford is not comparable to any zone in Dartmouth or Fairhaven using the criteria described above normally applied by experts to determine property values of single family housing.
- 26273 There is insufficient data relating to properties within the city limits of New Bedford to form any rational conclusion regarding an alleged PCB effect on housing values.
- 26274 The Town of Fairhaven originally developed as an

outgrowth of the New Bedford settlement.

- 26275 The economy of Fairhaven was originally centered on the Acushnet River and the whaling and fishing industries which developed in New Bedford.
- 26276 The area of the town of Fairhaven which developed first is centered around the wharf areas on the Acushnet River.
- 26277 As the regional economy located in New Bedford changed from exclusively water-related to a more textile based economy, the Oxford and North Fairhaven areas developed as residential areas serving New Bedford industries.
- 26278 The oldest areas of the town of Fairhaven are located within Professor Mendelsohn's "Zone I" and have little water orientation.
- 26279 These areas are typically separated from the water by either working commercial and industrial areas or marshlands.
- 26280 Professor Mendelsohn's "Zone II" located within Fairhaven encompasses a portion of the older downtown area of the town along with the Harbor View neighborhood and the west side of Scoticut Neck, including the Pope Beach and Silver Shell Beach areas.
- 26281 Other than the area north of the Harbor View, the Zone II area of Fairhaven has developed either as low quality fisherman shacks or as a summer cottage community with a water orientation.
- 26282 Professor Mendelsohn's "Zone II" within Fairhaven is not comparable in terms of styles of houses, water orientation or urban proximity to the New Bedford portion of "Zone II".
- 26283 The Fairhaven portion of Professor Mendelsohn's "Zone II" is not generally comparable in terms of styles of houses, water orientation and urban proximity to Fairhaven's portion of "Zone I".
- 26284 Professor Mendelsohn's "Zone III" within Fairhaven constitutes the eastern half of Scoticut Neck, West Island, East Fairhaven, and Knollmere.
- 26285 That portion of "Zone III" encompasses several neighborhood areas that have no comparability of one to the other.

- 26286 Sconticut Neck and West Island were developed as cottage communities used primarily as seasonal or summer homes.
- 26287 Sconticut Neck and West Island have a water orientation including waterfront homes, direct access to sandy beaches and boating facilities.
- 26288 Sconticut Neck and West Island homes during the time period encompassed by the Mendelsohn study have been largely transformed from summer cottages to winterized homes.
- 26289 West Island in particular is densely developed with small cottage type structures.
- 26290 Sconticut Neck and West Island cannot properly be compared to properties in New Bedford, Dartmouth, or other parts of Fairhaven due to the completely different nature of that area.
- 26291 The East Fairhaven area is dominated by the commercial corridor of Route 6 and is not properly compared to the more densely developed areas of Fairhaven's portions of Professor Mendelsohn's "Zone I" or the Sconticut Neck area.
- 26292 For purposes of marketing and neighborhood valuation local realtors have divided Fairhaven into five areas. The waterfront area is further broken down into five sub areas.
- 26293 The neighborhood boundaries used by local realtors confirm that there is no comparability between the various "Zones" created by Professor Mendelsohn.
- 26294 The characteristics of the Fairhaven economy, its' development history and its orientation toward the inner New Bedford Harbor, make Fairhaven not comparable to any portion of Dartmouth or New Bedford portions of Professor Mendelsohn's "Zone II".
- 26295 The division of Sconticut neck into the two separate Mendelsohn "zones" has no basis in the reality of the Fairhaven market for Sconticut Neck properties.
- 26296 As a practical matter, there is no difference in appreciation rates from one side of Sconticut Neck versus the other side.

- 26297 Town officials, real estate brokers, bankers and other real estate experts familiar with the areas studied by Professor Mendelsohn confirm that the general public in the New Bedford Harbor region involved in real estate transactions in the late 1970s and 1980s did not experience concern over or base action on alleged PCB pollution in purchasing or selling real estate.
- 26298 The data base used by Professor Mendelsohn in Dartmouth lacks meaningful comparability with respect to other residential zones that are hypothesized by Professor Mendelsohn to suffer a loss due to the presence of PCBs in New Bedford Harbor.
- 26299 The data base relied upon by Professor Mendelsohn to support a contention that damages were sustained in his "Zone II" in Fairhaven does not support such a conclusion.
- 26300 The drawing of a "zone" demarcation line down the middle of Sconicut Neck is artificial, arbitrary and improper because it overlooks established neighborhood patterns.
- 26301 No supportable conclusion can be formed as to alleged specific damage to real estate values from the type of data of the generality found in Professor Mendelsohn's various reports, including national statistics applied to a localized situation.
- 26302 Only local data can properly be used to support a conclusion with respect to specific properties or areas, and then only when substantial comparability can be demonstrated between specific properties, for comparable periods of time, and where market conditions are not skewed with assumptions.
- 26303 If a wide range in property prices, types, locations and values exists, in a sample of real estate properties, a set "average" dollar amount cannot properly be assumed to apply universally to a factor such as an alleged PCB "event" claimed to have diminished the value of such properties.
- 26304 Equally improper distortions may occur if percentages are used to measure changes in value.
- 26305 New uses of and development of real estate in areas other than New Bedford alleged to contain substantial toxic wastes, including carcinogens and non-biodegradable materials, have continued, despite

contamination and have continued notwithstanding such contaminants. Examples include Boston Harbor, Quincy Harbor, Salem Harbor, Newburyport Harbor and other New England Harbors.

- 26306 Development of waterfront areas including Quincy and Winthrop, bordering Boston Harbor, in what has been called "the dirtiest harbor in the United States," demonstrate that harbor pollution does not affect property values for commercial ports such as New Bedford in the manner plaintiffs hypothesized with respect to Professor Mendelsohn's "Zones I" and "II".
- 26307 PCBs in New Bedford Harbor not affected the real estate values of single-family homes in Professor Mendelsohn's various "zones".
- 26308 Actual market conditions confirm that there has been no adverse effect on seller's willingness to sell, buyer's willingness to buy, and banker's willingness to lend on single family homes before, during, and after the alleged "event" Professor Mendelsohn has hypothesized occurred, whether the "event" was in 1979-1980, 1982 or at any other time.
- 26309 The Town of Dartmouth is and is known to be substantially more affluent than either New Bedford or Fairhaven.
- 26310 The Town of Dartmouth does not have a waterfront oriented commercial or industrial economic base.
- 26311 The Town of Dartmouth can be considered a rural community in contrast to New Bedford, an urban community, and Fairhaven, a suburban community.
- 26312 The area of Dartmouth bounded by Clark's Cove and Apponagonsett Bay is the high density old town section of Dartmouth.
- 26313 The mixture of housing in this area varies from shacks to cottages to estate type homes.
- 26314 The different types of homes in this area are not comparable to one another and are not comparable to those homes in the New Bedford portion of Professor Mendelsohn's "Zone II" or to homes in any part of Fairhaven.
- 26315 The division of this neighborhood in the Town of Dartmouth into two different so-called "Zones" is not

relative to existing neighborhood development patterns and is inconsistent with the manner in which real estate experts look at values within neighborhoods.

- 26316 The part of Professor Mendelsohn's "Zone III" in the Town of Dartmouth west of Apponagonsett is distinguishable from all of the other zones in that it has a distinctive and large amount of new construction and development.
- 26317 The new construction that has taken place in "Zone III" in Dartmouth during the period of time encompassed in Dr. Mendelsohn's study, has primarily been in the higher priced end of the real estate market.
- 26318 The newly constructed homes in Dartmouth's "Zone III" have increased the desirability of the more modest quality homes by improving the overall quality of homes in "Zone III".
- 26319 The accelerated appreciation of older homes in Dartmouth "Zone III" due to the introduction of new construction is manifested in the results of Dr. Mendelsohn's study showing the highest rates of appreciation in Dartmouth "Zone 3".
- 26320 Fairhaven has a very small percentage of new construction relative to the existing housing stock.
- 26321 The area of Dartmouth west of Apponagonsett Bay along the Dartmouth waterfront is sparsely developed for the most part.
- 26322 The majority of the transactions located in Dartmouth that are within Professor Mendelsohn's "Zone III" are not comparable to properties in New Bedford or Fairhaven.
- 26323 Dartmouth in general is a bedroom community that relies on outside industrial and commercial areas for its employment opportunities. The local economy is predominately service or retail oriented.
- 26324 Dartmouth is generally not dependent on a single city or town for sources of employment for its citizens.
- 26325 A downturn in employment in the New Bedford area would not affect property values in Dartmouth to the same extent Fairhaven and New Bedford values would be affected.

- 26326 Negative economic conditions affecting New Bedford and Fairhaven in the early 1980's did not affect Dartmouth nearly as severely.
- 26327 Dartmouth is a substantially more affluent community whose real estate market is substantially more upscale than either Fairhaven's or New Bedford's.
- 26328 The Dartmouth real estate market cannot be directly compared to Fairhaven or New Bedford due to substantial differences in the nature of the town, types of housing, inhabitants, quality of life as well as educational, economic, and social differences.
- 26329 The properties in Dartmouth, Fairhaven and New Bedford are located in different zoning districts with different use regulations.
- 26330 It is not appropriate to compare single family residential zones with properties located in commercial or multiple family zones.
- 26331 It is not appropriate to compare properties located on small lots such as in Fairhaven and most particularly in West Island to properties located in multi acre zoning districts such as in Professor Mendelsohn's portion of "Zone III" located in Dartmouth.
- 26332 Dartmouth's portion of Professor Mendelsohn's "Zone III" is predominantly large lot zoning districts having no commonality with any part of Fairhaven or New Bedford.
- 26333 Large lot single family development is a separate and distinct real estate market from smaller lot properties.
- 26334 Professor Mendelsohn has assumed at various times that the general real estate market became aware of the PCB contamination of New Bedford Harbor in (a) 1979 - 1980, (b) 1981, (c) 1982, and (d) later.
- 26335 Professor Mendelsohn assumes that the real estate market acted upon this alleged public awareness of PCB, by valuing properties closest to harbor waters thought to be polluted by PCB at less than properties farther away from those waters.
- 26336 Recently the Fort Phoenix State Beach parking area has been expanded to allow for increased beach use.
- 26337 Notwithstanding expanded parking facilities, the Fort

Phoenix State Beach is still congested on good beach days.

- 26338 William Carter is a resident of the Town of Mattapoisett, Commonwealth of Massachusetts.
- 26339 William Carter was born on June 22, 1919.
- 26340 William Carter was born at 600 Cottage Street which is on the corner of Robeson Street. Mr. Carter lived on the third floor of a building that housed a drugstore on the first floor and two tenements above.
- 26341 William Carter lived at the above location for five years after his birth.
- 26342 In approximately 1924, William Carter and his parents occupied a home one block west of 600 Cottage Street at 108 Robeson Street. With the exception of military service, William Carter lived there until he married.
- 26343 In his youth, William Carter attended Holy Name School, New Bedford.
- 26344 Holy Name School was located at County and Linden Streets which is approximately less than one thousand yards from the waterfront.
- 26345 The home in which William Carter was born is approximately 1200 yards from the waterfront.
- 26346 William Carter during his youth (eight years) attended the Holy Name Grammar School and then attended Holy Family High School which was located on Summer and North Streets, New Bedford.
- 26347 William Carter graduated from Holy Family High School in 1936 and went to Providence College on a football scholarship for four years from 1937 to 1940 at which time he graduated with an AB degree.
- 26348 William Carter returned to New Bedford after college and was a teacher substituting in the New Bedford School System in the year 1941. In the year 1942, he was hired as a teacher and athletic coach at Holy Family High School.
- 26349 William Carter served there for the one year which ended in June of 1942, and he then entered the Navy as a naval officer. William Carter was a so-called "90-day Wonder." He was trained at Northwestern

University, Notre Dame College, and then transferred to Subchaser Trainer Center at Pier 13 in Miami, Florida.

- 26350 William Carter was then transferred to the Pacific. He participated in the invasion of Okinawa with his LSM and carried tanks and napalm, which serviced the flame throwing tanks at that time.
- 26351 William Carter was rotated to Boston where he was given command of an LST which is an amphibious craft larger than an LSM.
- 26352 As a naval officer and a commanding officer of the ship, William Carter did most of the navigating and went into many harbors such as New York Harbor; Norfolk, Virginia; Cape May, New Jersey; the Harbor of Miami; San Diego Harbor; and Pearl Harbor.
- 26353 Mr. Carter's observations are that most commercial harbors in the United States suffered, unfortunately, from pollution to some degree.
- 26354 After military service, William Carter opened a surplus store in 1946 and that store became Carters' in New Bedford which is a men and women's clothing store. He owned that store for forty years.
- 26355 In the year 1961, William Carter went into the real estate business and at that time he started selling homes.
- 26356 William Carter has been a real estate agent and appraiser since 1961.
- 26357 William Carter sold approximately 110 to 120 homes one year.
- 26358 William Carter subsequently became involved with the commercial and industrial aspect of real estate while still maintaining an office for selling homes. Mr. Carter's time was divided with approximately one half devoted to commercial and industrial property and one half to sales and appraising.
- 26359 William Carter became involved in appraising for court cases and testifying as an expert witness.
- 26360 William Carter has testified in approximately two-to-three-hundred land damage cases throughout the area of New Bedford, Fall River, Fairhaven, and Wareham.

- 26361 William Carter has performed appraisal assignments for government entities, such as the Bristol County Commissioners, City of New Bedford, Town of Fairhaven, Town of Mattapoissett, Town of Acushnet, the New Bedford Housing Authority, Fairhaven Housing Authority, Acushnet Housing Authority, and the Dartmouth Housing Authority.
- 26362 William Carter has performed appraisal assignments for banks, such as the Baybank of New Bedford, New Bedford Five Cents Savings Bank, New Bedford Institution for Savings, Shawmut Bank of Bristol County, Fairhaven Savings Bank, the Plymouth Home Bank of Mattapoissett, Bank of Boston, The First Bank and Trust of Providence, Rhode Island, the BMC Durfee Trust of Fall River, the National Bank of Wareham, the National Bank of Fairhaven and the Luzo Bank and Trust Company.
- 26363 William Carter has done individual appraisals for lawyers and private persons since 1961.
- 26364 William Carter has performed more than 100 appraisals per year since 1961.
- 26365 William Carter has testified as an expert witness before the United States District Court, the Superior Courts of Massachusetts (New Bedford, Fall river, Taunton, Plymouth, and Brockton), the district Court of Massachusetts, the Probate Court of Massachusetts, the Appellate Tax Board, and the American Arbitration Association.
- 26366 William Carter is a member of the New Bedford Board of Relators, the Massachusetts Board of Realtors, the National Board of Realtors, the Multiple Listing Service, the National Association of Real Estate Appraisers, and a charter member of the National Association of Reviewer Appraisers and Mortgage Underwriters.
- 26367 William Carter has done appraisal assignments for hundreds of corporations, including Maritime Terminal of New Bedford, Teledyne Corporation, Acushnet Company, Cliftex Incorporated, Hathaway-Braley Wharf Incorporated of Fairhaven, Fernandes Markets throughout Southeastern Massachusetts, Babbitt Steam, International Dryer Corporation, the Massachusetts Teachers Association, the Bertwhistle Adjustment Agency, Coders Incorporated, the Wamsutta Mills, Erica Mills, Bayview Mills, Clover Bay Mills, the Gilman Building, Frionor, the New Bedford Gas and Edison Light

Company properties in New Bedford and Fairhaven, the Fairhaven town beach and West Island, Cover Realty, and the Eastern States Exchange Property.

- 26368 William Carter has appraised the Superior Court Building in New Bedford and the District Court Building in New Bedford.
- 26369 William Carter has appraised the New England Petroleum Company and has done many assignments for the Roman Catholic Diocese of Fall River.
- 26370 William Carter has been intimately familiar with assessing real estate and acting as a broker for real estate properties in the Town of Fairhaven and the Town of Dartmouth for over forty years.
- 26371 When William Carter uses the word harbor, he is describing the area from the hurricane dike north to the Acushnet town line.
- 26372 In his youth, William Carter played in the sandlots of the New Bedford harbor area, played along the waterfront, and constantly observed the waterfront and waterfront activities.
- 26373 New Bedford harbor, in William Carter's youth, suffered from pollution, mostly sewerage, that William Carter could see floating in the harbor.
- 26374 In William Carter's youth, New Bedford harbor was never used for swimming, other than by youths who disobeyed their parents' instructions.
- 26375 In William Carter's youth, the nearest beaches to the New Bedford harbor were Acushnet Park, at the southern tip of New Bedford on the east side, and Hazelwood Park Beach on the West side of the point.
- 26376 In William Carter's youth, in Fairhaven, the beaches were Fort Phoenix Beach which at that time was a private beach and then a little further out in the harbor was Pope Beach.
- 26377 All swimming in the New Bedford harbor area was done in those areas described in the preceding two requests and outward.
- 26378 To William Carter's knowledge, people fished from the lighthouse outward toward Buzzards Bay in the so-called outer-harbor area.

- 26379 Most of the fishing that was done in that area was pleasure fishing.
- 26380 There was never any commercial fishing done in the inner harbor to William Carter's knowledge.
- 26381 Families at that time, as well as the police, restricted children from swimming in the harbor. No swimming was authorized in the harbor, and Mr. Carter never saw anyone swimming in that area, other than those described above.
- 26382 Mr. Carter has reviewed plaintiffs' requests for admissions concerning alleged property damage, plaintiffs' repeat sales study and earlier reports by Professor Mendelsohn on the repeat sales study.
- 26383 "Zone I", "Zone II", and "Zone III" are defined herein as in plaintiffs' repeat sales study.
- 26384 Mr. Carter has reviewed the Zone I, Zone II and Zone III areas designated by plaintiff's repeat sales study and in Mr. Carter's opinion, the real estate classified in Zone I is not comparable to the real estate classified in Zone III.
- 26385 In Mr. Carter's opinion, a competent real estate assessor would not expect real estate values in Zone I to appreciate at the same rate over time as the real estate values in Zone III.
- 26386 Homes in the Town of Fairhaven and the Town of Dartmouth are not comparable, for numerous reasons due to factors typically considered by assessors in evaluating real estate.
- 26387 In Mr. Carter's opinion, the homes in Zone I and Zone II and Zone III are not comparable for numerous reasons which must be considered by a competent real estate assessor in evaluating real estate.
- 26388 The differing natural neighborhoods within Professor Mendelsohn's zones reveal that differences in rates of rises in prices for properties over time would be expected. In particular, the Dartmouth properties, and the Zone III properties, would generally be expected to rise in value at a faster rate of appreciation than the Town of Fairhaven properties or properties outside the Zone III.

- 26389 In Fairhaven, along the river and inside the hurricane dike, primarily commercial and industrial properties exist along the waterfront.
- 26390 In Fairhaven, from the Acushnet line along the river and southward towards the Coggeshall Street bridge, is marshland on the waterfront in Fairhaven, with no homes, with no recreational uses by residents, no beaches, no piers for fishing, and including no dock spaces for boating.
- 26391 During Mr. Carter's lifetime, there has never been significant recreational uses of the Acushnet River along the Fairhaven or New Bedford side.
- 26392 South of the marshland along the waterfront in the Town of Fairhaven towards the Coggeshall Street bridge, the only other waterfront properties are industrial and commercial uses, including a large parking lot for hundreds of yellow buses, a large supermarket, a Food Mart, with parking for hundreds of cars along the waterfront, and an oil refinery factory in existence since the 1800's, operated by William S. Nye, Inc.
- 26393 South of the bridge, towards the last pier north of the hurricane dike along the waterfront in the Town of Fairhaven, industrial and commercial uses dominate, including an auto repair shop, an oil filling station, a Michelin tire shop, a commercial fishing pier, waterfront businesses related to the commercial fishing industry, boat repair, boat docking, boat cleaning and oil replacement facilities for the commercial fishing industry.
- 26394 Commercial and industrial uses predominate in Zone I for waterfront properties from the unusable marshland near the Acushnet line to the last commercial fishing pier before the Hurricane Dike.
- 26395 The homes in Zone I lying behind the industrial and commercial uses of the waterfront and behind the marshland, consist of houses on small plots of land primarily built between 1900 and 1928. They contain homes generally plain and modest in style, with few or no colonials.
- 26396 In Zone I, in the Town of Fairhaven, near the water, in the middle of town, lies a middle class neighborhood of working class and middle income residents, typified by the relatively high proportion of fishermen and teachers who live in the area.

- 26397 In order to determine whether properties in different locations are in comparable areas for real estate valuation purposes, it is necessary to evaluate neighborhood specific and area specific factors, such as:
- 3 the reputation and facilities of the schools;
 - 3 athletic facilities;
 - 3 availability of private schools;
 - 3 advanced education facilities and opportunities;
 - 3 shopping center availability;
 - 3 the tax climate;
 - 3 golf courses;
 - 3 museums;
 - 3 parks;
 - 3 beaches;
 - 3 boating; and
 - 3 function and event meeting facilities.
- 26398 One factor which affects rises in real estate values over time in the Town of Fairhaven versus the Town of Dartmouth is the difference in population growth, as the Town of Fairhaven has decreased in population over the last ten or fifteen years from approximately 15,500 people in 1980 to approximately 15,000 people in 1990.
- 26399 Fairhaven's school population has dropped by approximately one-third over the last ten years.
- 26400 Dartmouth has been a thriving bedroom community that attracts professionals and successful business people. It has jumped in population over the last ten years from the 1980 population of 23,768 to a 1989 population of 26,749.
- 26401 Over that time Dartmouth's school population has increased by over ten percent.
- 26402 As the declining school population in the Town of

Fairhaven and the increasing school population in the Town of Dartmouth reveals, the demographics in the Town of Fairhaven and Town of Dartmouth are not comparable.

- 26403 The Town of Fairhaven is an aging community, with a very significant percentage of senior citizens and retired persons on fixed incomes.
- 26404 The Town of Dartmouth has continually built new homes for professionals and business people still in their prime money-making and child-rearing years.
- 26405 The schools in the Town of Fairhaven are old and antiquated. The facilities remain in antiquated buildings donated to the Town in 1900 by Mr. Hubbleston Rogers, who also donated the Town Hall and library.
- 26406 The Town of Dartmouth has far more modern and larger schooling facilities than Fairhaven.
- 26407 The Town of Dartmouth athletic facilities are substantially larger and newer and more attractive than the relatively antiquated athletic facilities in the Town of Fairhaven.
- 26408 Private schools with excellent academic reputations exist in the Town of Dartmouth, including the French Academy and Stang Catholic High School.
- 26409 Advanced education also is available in the Town of Dartmouth, with Southeastern Massachusetts University occupying over 800 acres, much of it preserved open land.
- 26410 The Town of Fairhaven has no advanced education facilities.
- 26411 The shopping facilities in the Town of Dartmouth are the best in the New Bedford area, with many major new shopping centers having opened recently in the area.
- 26412 The Town of Fairhaven has only older mini-malls for shopping facilities.
- 26413 The tax climate in the Town of Fairhaven is subject to great unrest, as evidenced by over 1,000 requests for abatements on the property tax bill for fiscal year 1990 filed in May of 1990. Very few requests for abatements have been filed in the Town of Dartmouth, based on the Town of Dartmouth 1990 fiscal year evaluation.

- 26414 Two private and one semi-private golf courses exist in the Town of Dartmouth.
- 26415 The Town of Fairhaven has no golf facilities.
- 26416 The Town of Dartmouth has an active and popular children's museum, which offers babysitting facilities.
- 26417 The Town of Fairhaven has no museum facilities.
- 26418 Demarest Lloyd State Park in the Town of Dartmouth is much larger than, and includes all the facilities offered at Fairhaven's Fort Phoenix State Park. In addition, it offers biking and hiking trails.
- 26419 Dartmouth has three public beaches.
- 26420 The Town of Fairhaven has two public beaches, one of which is on West Island and provides very difficult access and the other of which is at Fort Phoenix Beach and has very limited and often overcrowded parking facilities.
- 26421 The New Bedford Yacht Club is in the Town of Dartmouth, is an extremely prestigious and desirable organization, with an over five-year wait list for membership.
- 26422 The Town of Fairhaven has no comparable facility.
- 26423 Function and meeting rooms in the Town of Dartmouth for weddings and other events include the New Bedford Yacht Club, the Hawthorne Country Club, the New Bedford Country Club, the Allendale Country Club, with the full dining and wedding facilities.
- 26424 The only sizeable function meeting room in the Town of Fairhaven is at the Skipper Motel. That motel is renowned for drug-related deaths and has a very bad reputation in the community.
- 26425 The average median prices for homes in the Town of Dartmouth are far in excess of the median prices for homes in the Town of Fairhaven.
- 26426 The Town of Dartmouth has many newer homes built in the last ten years.
- 26427 The Town of Fairhaven has had no new significant major construction in many years. The majority of Fairhaven neighborhoods neighborhoods were fully constructed

between the years 1900 and 1928, and have seen no new construction since the depression.

- 26428 The majority of homes in the Town of Dartmouth are larger homes, including a high percentage of colonials which are more valuable, and tend to appreciate in value faster, than the style of homes in the Town of Fairhaven, which are mainly capes or expanded capes, with a few ranches, but with very few colonial style homes.
- 26429 The size of the lots in the Town of Dartmouth are often very large, including over one and two acre lots in many instances.
- 26430 Such lots are worth far more, and tend to appreciate far more in value, than the lots of Fairhaven. Fairhaven lots are generally small in size and frequently contain homes, alligned in a row, each on a maximum of an eighth of an acre of land.
- 26431 The value of renovations and remodeling in the newer homes located in the Town of Dartmouth are far more likely to be directly reflected in the value of property than are repairs and renovations that are made to the older homes in the Town of Fairhaven.
- 26432 Such work on older homes is often primarily for maintenance and upkeep rather than improvements to living space or amenities.
- 26433 Many new professional buildings, occupied by a large number of doctors often practicing in groups, have been constructed in the Town of Dartmouth.
- 26434 No comparable professional buildings have been constructed in the Town of Fairhaven. No medical services are available in Fairhaven, other than single doctors practicing alone.
- 26435 The Town of Dartmouth is considered a bedroom community for white collar professionals who generally work elsewhere.
- 26436 The Town of Fairhaven is not generally considered a bedroom community for professionals.
- 26437 The average prices of homes and medium prices of homes are far greater in Dartmouth than in Fairhaven.
- 26438 In Zone III in Dartmouth, primarily professionals

reside, such as Doctors and Lawyers having far higher average and median incomes than is typical for residents of the Town of Fairhaven.

- 26439 The homes in Zone I in the Town of Fairhaven are far older than many of the homes in Zone III which are in Dartmouth, which have been built in the last ten years.
- 26440 The demographic makeups of the Fairhaven's portion of Zone I and Dartmouth's portion of Zone III are not comparable, as mixed ethnic populations exist only in the Town of Fairhaven.
- 26441 The homes in Zone I of the plaintiffs' repeat sales study were not bought for view of the river, and in fact no ready access to the river exists from these homes, as the river waterfront in Fairhaven is predominantly industrial and commercial.
- 26442 In contrast, the homes in Zone III in Dartmouth generally have good access to the beach and water and many were specifically built to enjoy the amenities of the outer harbor.
- 26443 Generally, in assessing real estate values for homes in Zone III, one would add value to the home for its proximity to the amenities of the ocean, including the fishing, swimming, mooring boats, the southwest breeze in the summer, the saltwater, the lower temperatures in summer along the ocean and for the view of the ocean.
- 26444 By contrast, for the houses in Zone I, there are no amenities to add to the value of homes relating to the proximity of the Acushnet River, because the River has no features for swimming, or places to moor a boat, no summer breeze, no drop in temperature, and because the only view of the River is from industrial and commercial areas, and to achieve that view one must stand in a parking lot.
- 26445 Amenities of the outer harbor differ significantly from amenities of the river, including the fact that beaches exist on the outer harbor, not on the river; oil and sewage pollution has always existed along the inner harbor and river, more appreciably than in the outer harbor; beaches exist along the outer harbor, not the river; no industry exists along the outer harbor in Zone III, whereas waterfront in Zone I is primarily industrial and commercial; a southwesterly cooling breeze exists along the outer harbor, not the river; and because the temperature is higher along the river

and inner harbor because no such cooling summer breeze exists.

- 26446 Mr. Carter's two sons recently bought homes in the Town of Dartmouth, one house being purchased for over \$300,000 and another home being purchased for over \$450,000.
- 26447 In William Carter's experience, prices of more affluent communities have risen dramatically faster than prices in homes in less affluent communities.
- 26448 Similarly, to the economically, demographically, and socially separate communities of the Town of Dartmouth and the Town of Fairhaven, one would expect that, and in fact it has occurred that, prices of homes in other wealthy communities in the 1980s rose dramatically faster than prices have risen in less wealthy communities.
- 26449 These zones contained in the repeat sale study violate traditional values and principals from assessing, because the areas are not comparable.
- 26450 The Zone I area as depicted in plaintiff's repeat sale study has four natural zones, or neighborhoods, all within the Town of Fairhaven.
- 26451 The first of these neighborhoods in Zone I is north of the Coggeshall Street Bridge and is considered an area of below average value in the Town of Fairhaven for numerous reasons. This has been true of the neighborhood since before the 1970's.
- 26452 The second such neighborhood in Zone I in Fairhaven is the area south of the Fairhaven Bridge to South Street. This is a primarily industrial, commercial business district, with all the attended negative effects on the single family homes that brought the industry and commerce to this area. These characteristics all existed prior to the 1970's.
- 26453 The third such neighborhood in Zone I in Fairhaven is the area from South Street to Fort Phoenix, which consists of a small number (approximately one to two dozen) of large and expensive homes on the water. This area constitutes the most expensive and prestigious residential area in the Town of Fairhaven.
- 26454 The fourth such neighborhood in Zone I in Fairhaven is the area south of the Coggeshall Street and North of

the Fairhaven Bridge. It is considered an average residential neighborhood for the Town of Fairhaven.

- 26455 Zone II consists of many varied natural neighborhoods.
- 26456 The first such neighborhood within Zone II is the area located in the East Farmfield Street area, known as Harbor View. It consists mainly of smaller summer cottages, some of which have been winterized. This area is considered low average in real estate value.
- 26457 The second such neighborhood in Zone II is the area on the West Side of Sconticut Neck Road and south of Washington Street, known as the Pope Beach area. It consists of many summer cottages now converted to year round use. Half of this area is considered above average in property value for the Town of Fairhaven, because of its location facing the southwesterly breezes and the nearby beach facilities.
- 26458 The third such neighborhood within Zone II is the remaining area southward of Pope Beach on the west side of Sconticut Neck. This area is considered above average in real estate value because it is a mixed area of summer cottages, some of which have been winterized, and some expensive newer homes. Values are influenced by the ocean front beaches and the prevailing southwesterly breeze.
- 26459 The fourth such neighborhood in Zone II is in the south end of New Bedford. It primarily consists of the area west of Bock Avenue and south of Portland Street, which is an area of average valued homes. In addition, a smaller division of homes abutting the river on Lighthouse Lane, which the city formerly-owned "Poor Farm" is in this neighborhood. Portions have been converted from the city owned "Poor Farm" into choice residential areas with new expensive homes.
- 26460 The next natural Fairhaven neighborhood in Zone III is an area on the east side of Sconticut Neck, composed of summer cottages and some summer cottages converted to year-round use.
- 26461 The next such Fairhaven neighborhood in Zone III is property located on West Island, a separate and district area originally developed as a summer resort featuring boating and beach amenities. Many of the original summer cottages on West Island have been converted to year-round use.

- 26462 West Island is not comparable to any other part in the New Bedford Harbor area because of its unique summer resort characteristics.
- 26463 The next natural neighborhood subdivision in Zone III in the Town of Fairhaven is the east part of Fairhaven, east of Route 240 and on both sides of Route 6. It is a mixed real estate area having many below average homes and also new substantially more valuable homes in the Hamlet Homes development and on New Boston Road.
- 26464 The next natural neighborhood subdivision in Zone III is in the Town of Dartmouth. It has the highest value of all properties in plaintiff's repeat sales study, with the waterfront bordering on Clark's Cove, in the so-called Solemar area, including two and a half miles from the waterfront and encompassing area of the town.
- 26465 The next natural neighborhood subdivision in Zone III in Dartmouth is the remaining properties more than a half mile from the water, including the exceptionally expensive Padnaram Village. It is referred to herein as the Zone III-D-2.
- 26466 Mr. Carter recently spoke to over 25 real estate brokers in the area responsible for approximately 60 to 70% of all sales of homes in the New Bedford Harbor area over the last 20 years.
- 26467 In order to determine whether, in appraising the values, one should take into account a decrease in the value of the homes due to PCB's, one factor Mr. Carter checked for was whether any of the real estate brokers whom he interviewed had ever had any buyer or any seller mention the issue of PCB's. No real estate broker in the area could remember any seller or buyer ever mentioning the issue of PCB's in connection with the purchase or sale of any home in the area.
- 26468 The real estate agencies contacted by Mr. Carter concerning whether any buyer or any seller ever mentioned PCBs in connection with a real estate transaction represent approximately 75% of the sales in this area over the last fifteen years.
- 26469 They include:
- (a) Town House Realty 27 years in business
Paul Langlois, President
27 State Road
North Dartmouth, MA

- (b) David J. Rumney 15 years in business
893 Lucy Street
New Bedford, MA
- (c) Maurice Savaria 30 years in business
389 State Road
North Dartmouth, MA
- (d) Hughes-Carey 20 years in business
Walter Hughes, President
930 Kempton Street
New Bedford, MA
- (e) Arthur Larivee 10 years in business
521 High Hill Road
North Dartmouth, MA
- (f) A&A Realty 25 years in business
Russell Arruda
19 Old Westport Road
North Dartmouth, MA
- (g) Owen Heleen many years in business
420 Arnold Street
New Bedford, MA
- (h) Steven Bouley many years in business
52 Cottage Street
Fairhaven, MA
- (i) Arnold Briden 38 years in business
128 Nauset Street
New Bedford, MA
- (j) William Carter III 24 years in business
1 Johnny Cake Hill
New Bedford, MA
- (k) Roger Pelletier 27 years in business
696 Ashley Boulevard
New Bedford, MA
- (l) David Sylvia 25 years in business
263 State Road
North Dartmouth, MA
- (m) Roland Sequin 18 years in business
28 Brook Drive
Fairhaven, MA

- (n) Roland Savaria 30 years in business
389 State Road
North Dartmouth, MA
- (o) Vera Almgren 40 years in business
40 School Street
South Dartmouth, MA
- (p) John Arnett 25 years in business
406 Rodney French Boulevard
New Bedford, MA
- (q) Rene Servais 21 years in business
43 Chicopee Street
New Bedford, MA
- (r) Nathaniel Guy 40 years in business
1209 Tucker Road
North Dartmouth, MA
- (s) Herbert Santos 19 years in business
8 Cooke Street
Fairhaven, MA
- (t) Sidney Kaplan 40 years in business
60 White Weed Drive
North Dartmouth, MA
- (u) John F. Quinn 9 years in business
179 Tremont Street
New Bedford, MA
- (v) Oscar Epstein 50 years in business
271 Maple Street
New Bedford, MA
- (w) Harry Marggson 40-50 years in business
533 Russells Mills Road
South Dartmouth, MA
- (x) Nicholas Tangney 37 years in business
243 Green Street
Fairhaven, MA.

26470 The primary amenities and uses of New Bedford Harbor are for industrial and commercial uses, including:

- A. Property zoned waterfront to permit operations in keeping with their activities - such as fish processing, large boat drydocking, dock side berthing, and like activities.

- B. Availability of services, such as boat repair, supply sources, icing facilities, daily auction to establish national prices on scallops and fish catches, banking, parking for crews, laundry, retail center, churches, bus terminal, post office and library.
 - C. Outstanding harbor - safety from hurricanes and storms because of hurricane dike, natural harbor delineation, adequate docking piers and year around use (including icing facilities).
 - D. Proximity to best fishing grounds on east coast of United States. Fishing boats may be within 36 hours of port at any time, and thus enjoy safety from bad weather.
- 26471 Never in William Carter's real estate experience, appraising, or sales dealing, has he heard that PCBs in any form detract from the value of properties in New Bedford or Fairhaven.
- 26472 In William Carter's opinion, PCBs are not a factor that establishes fair market value of properties.
- 26473 In William Carter's opinion, PCBs in New Bedford Harbor have no effect on the fair market value of real property.
- 26474 The business, commercial, and industrial activity on the waterfront which the city has enjoyed from 1976 to the present has been one of its greatest areas of expansion.
- 26475 In 1977, the port of New Bedford, was fifth in the total dollar volume of commercial fish landings.
- 26476 In 1979, the port of New Bedford was fourth in the total dollar volume of commercial fish landings.
- 26477 In 1980, the port of New Bedford was third in the total dollar volume of commercial fish landings.
- 26478 In 1981, the port of New Bedford was third in the total dollar volume of commercial fish landings.
- 26479 In 1982, the port of New Bedford was third in the total dollar volume of commercial fish landings.
- 26480 In 1983, 1984, and 1985, the port of New Bedford was

number one in the nation in dollar volume of commercial fish landings.

- 26481 In 1986, 1987 and 1989, the port of New Bedford was number one in the nation in dollar volume of commercial fish landings and was number two in 1988.
- 26482 The real estate property tax rate in Fairhaven for the year 1976, was approximately \$193.00 per thousand.
- 26483 The real estate property tax rate in Fairhaven for the year 1977, was approximately \$196.00 per thousand.
- 26484 The real estate property tax rate in Fairhaven for the year 1978, was approximately \$205.00 per thousand.
- 26485 The real estate property tax rate in Fairhaven for the year 1979, was approximately \$211.00 per thousand.
- 26486 The real estate property tax rate in Fairhaven for the year 1980, was approximately \$184.00 per thousand.
- 26487 The real estate property tax rate in Fairhaven for the year 1981, was approximately \$224.00 per thousand.
- 26488 The real estate property tax rate in Fairhaven for the year 1982, was approximately \$24.00 per thousand.
- 26489 The real estate property tax rate in Fairhaven for the year 1983, was approximately \$24.00 per thousand.
- 26490 The real estate property tax rate in Fairhaven for the year 1984, was approximately \$24.00 per thousand.
- 26491 The real estate property tax rate in Fairhaven for the year 1985, was approximately \$24.00 per thousand.
- 26492 In fiscal year 1982, Fairhaven implemented a 100 percent revaluation.
- 26493 The real estate property tax rate for the City of New Bedford for the year 1976, was approximately \$136.60 per thousand.
- 26494 The real estate property tax rate for the City of New Bedford for the year 1977, was approximately \$172.40 per thousand.
- 26495 The real estate property tax rate for the City of New Bedford for the year 1978, was approximately \$173.20 per thousand.

- 26496 The real estate property tax rate for the City of New Bedford for the year 1979, was approximately \$174.80 per thousand.
- 26497 The real estate property tax rate for the City of New Bedford for the year 1980, was approximately \$141.60 per thousand.
- 26498 The real estate property tax rate for the City of New Bedford for the year 1981, was approximately \$149.60 per thousand.
- 26499 The real estate property tax rate for the City of New Bedford for the year 1982, was approximately \$126.40 per thousand.
- 26500 The real estate property tax rate for the City of New Bedford for the year 1983, was approximately \$120.40 per thousand.
- 26501 The real estate property tax rate for the City of New Bedford for the year 1984, was approximately \$119.50 per thousand.
- 26502 The real estate property tax rate for the City of New Bedford for the year 1985, was approximately \$114.40 per thousand.
- 26503 The decrease in property taxes in New Bedford resulted from Proposition 2 1/2.
- 26504 In fiscal 1986, the City of New Bedford went to the 100 percent valuation.
- 26505 In fiscal year 1986, the residential property tax rate was \$18.18, and the commercial rate was \$34.38.
- 26506 Property tax rates affect the selling prices of homes in the New Bedford area.
- 26507 Property tax rates affect the fair market value of residential properties in the New Bedford area.
- 26508 Assessments of residential properties affect the fair market value of properties in the New Bedford area.
- 26509 The City of New Bedford is approximately twelve miles long from south to north and three miles wide at its widest point.

- 26510 The City of New Bedford may be divided into nine different zones for property valuation purposes.
- 26511 The City of New Bedford is composed of nine areas or neighborhoods which have distinguishable characteristics.
- 26512 Based upon William Carter's experience, education, and training, the City of New Bedford is composed of nine areas or neighborhoods which have distinguishable characteristics.
- 26513 At the southern tip of New Bedford, known as the Point, there is a residential area on the peninsula that has ocean front both to the east and to the west.
- 26514 The Point area extends from the southern tip of New Bedford, north to Willard and Frederick Streets. The Point is marked "1" on the map attached hereto and marked Q.VIII.f.007.
- 26515 The Point area is composed of single-family houses, two-family houses, and three-family houses and is a very desirable area. There are mills and industries located along the waterfront on the northern tip of this area. The Point contains excellent recreational facilities, including athletic fields, clubs, and beaches.
- 26516 A second area is the south central area, which is bounded on the west by County Street and Clarks Cove, on the north by Wing Street, on the east by the harbor, on the south by Area No. 2, and is marked "2" on the map attached hereto and marked Q.VIII.f.007.
- 26517 The south central area contains low-priced housing. It also contains mills such as Berkshire Hathaway, which is a large complex, and other mills of that type. Many tenement houses of two, three, four, five, and six families are in that area.
- 26518 The property values in the south central area are among the lowest in the City.
- 26519 The area known as the southwest of the city is bounded on the east by County Street, on the south by Clarks Cove and the city line, bounded on the north by Allen Street, and west by the city line. This area is marked "3" on the map attached hereto and marked Q.VIII.f.007.
- 26520 The south central area contains a mix of single-family

and multi-family dwellings and also has some mill complexes. It is an area inhabited by many Portuguese immigrants. The Portuguese comprise the largest national group in the City of New Bedford. In certain areas of this zone, the Portuguese language is predominant.

- 26521 The central area is bounded on the south by Wing Street, on the west by County Street, and on the north by Pearl Street, where Common Park is located, and on the east by the harbor and is marked "4" on the map attached hereto and marked Q.VIII.f.007.
- 26522 The central area is the main business district. It has newspaper offices, large office buildings, large retail stores, and many large housing units. High-rise housing facilities, which are generally occupied by low-income families and the elderly, are also in this area. Real estate prices are mixed.
- 26523 Many of the large-sized homes in the central area have been bought and converted into offices for lawyers, insurance offices, and other business interests.
- 26524 The west end of New Bedford is bound on the east by County Street, on the south by Allen Street, on the North by Parker Street, and on the west by the city line and is marked "5" on the map attached hereto and marked Q.VIII.f.007.
- 26525 The west end contains some single-family and multi-family units. The easterly half of this area consists of moderately priced housing. The westerly half is considered good housing for the area. The sector containing Hawthorn Street, Rockdale Avenue, and the area around Buttonwood Park is mostly large single-family homes. The property revaluation impacted this area to a great extent.
- 26526 The north central area is bound on the west by County Street, on the south by Pearl Street, and on the north by Coffin Avenue and is marked "6" on the map attached hereto and marked Q.VIII.f.007.
- 26527 The north central area consists of mostly multi-tenement housing units and mill blocks. They were originally utilized by people who worked in the factories along the waterfront.
- 26528 The houses in the north central area are close together and are generally not maintained as well as housing in the rest of the city.

- 26529 The northwest part of the city is bounded on the east by County Street, on the south by Parker Street, and on the north by Hathaway Road and Nauset Street, and is marked "7" on the map attached hereto and marked Q.VIII.f.007.
- 26530 The northwest area of the city is comprised of multi-family and single-family units.
- 26531 The eastern half of the northwest area is the oldest part of that area and is comprised of mostly multi-family units. The western half has more single-family homes, near Hathaway Road, the Mount Pleasant School, and the west area of Rockdale Avenue.
- 26532 The westerly half of the northwest area has higher priced single-family homes. The easterly half has higher priced multi-family homes.
- 26533 The north area is bound on the south by Coffin Avenue and on the north by Kings Highway and Tarkiln Hill Road. It runs from the harbor to the westerly city line. It is marked "8" on the map attached hereto and marked Q.VIII.f.007.
- 26534 Near the river in the north area are many factories such as the Acushnet Company, Cliftex Clothing, and Mars Retail Store. Mill buildings are used for industrial purposes and for retailing or mill outlets.
- 26535 In the middle of the north area is Brooklawn Park; and the area around Brooklawn Park there are single-family and tenement homes. Two-family homes in that area are very desirable and bring a greater price than the single-family homes.
- 26536 The homes that are closer to the water in the north area are multi-family homes, and their value depends on their proximity to the working factories.
- 26537 The final area is known as the far north. It is bound on the south by Kings Highway and Tarkiln Hill Road and on the north by the city line. It is marked "9" on the map attached hereto and marked Q.VIII.f.007.
- 26538 The far north area is a very desirable residential area consisting of mostly single-family dwellings. Route 140 runs through the middle of this area, and it is considered to be a fine residential area in the city of New Bedford.

- 26539 During Mr. Carter's youth, all the central part of the city near the Acushnet River was known as "mill blocks." These were the Wamsutta mill blocks and the Patomska mill blocks.
- 26540 There was an area known as the "Holy Acre" in which the Italian immigrants were the majority of the population.
- 26541 The residents of Lebanese descent lived near the Common Park of the city, near the waterfront.
- 26542 Most properties near the waterfront were tenement houses.
- 26543 When the cotton mills were built in the 1900s, they provided workers with homes.
- 26544 Workers' living quarters extended in a row with twenty or forty tenements in the same building abutting each other.
- 26545 Even outside the mill blocks, the properties near the New Bedford harbor were all or mostly multi-family units, such as two, three, four, and six-family houses.
- 26546 This construction existed because most of the people who worked in the cotton mills (including both of William Carter's parents who were weavers in the Patomska Mills) had no means of transportation other than the public transportation, so they chose to live in tenement houses near their places of employment.
- 26547 Most workers had no cars, and they were able to walk to these mills and work from six in the morning to six at night, six days a week.
- 26548 These properties were not bought or built for the purpose of enjoying the waterfront view or looking over the city harbor or at the salt water.
- 26549 One example of the New Bedford waterfront property market since 1986, includes the plans for rehabilitation of a waterfront hotel, an 86-year old building, for which renovations worth \$15.5 million are planned by the developer, Hotel Properties of Boston, a Sheraton franchise. The building is on the edge of the business district, two blocks from historic waterfront. The hotel has been closed for the last 30 years. The Sheraton developers also are planning an office building and parking for 300 cars, a civic

center and a six-screen cinema in the area of New Bedford near the rehabilitation of the old hotel.

- 26550 Since the late 1970's, a five-story Bank of Boston building has also gone up on the edge of the business district near the historic waterfront in New Bedford.
- 26551 According to Mr. Carter, more boats than ever are using the natural resources in the New Bedford Harbor area.
- 26552 According to Mr. Carter's observations, the beaches are more crowded, and the parking situation is even worse and more overcrowded than ever before.
- 26553 According to Mr. Carter, no one has ever fished or swam in the area of Zone I waters in the Acushnet River.
- 26554 According to Mr. Carter, the level of pollution in the area waters is a problem known to him and to all the residents of the City of New Bedford.
- 26555 Mr. Carter once ran for mayor in the City of New Bedford.
- 26556 Mr. Carter is aware of beach closings due to sewage pollution, as are virtually all residents of the New Bedford Harbor area.
- 26557 Mr. Carter is aware of the shellfish closures due to sewage contamination, as are virtually all residents of the New Bedford Harbor area.
- 26558 Mr. Carter is qualified as an expert on the history of the New Bedford Harbor area during his lifetime.
- 26559 Mr. Carter personally visited every home referenced in the repeat sales study in New Bedford.
- 26560 A substantial number of properties in New Bedford are multi-family properties.
- 26561 Plaintiffs have not studied whether any affect on multi-family homes occurred in N.B. (except by accidental inclusion in the plaintiff's repeat sales study).
- 26562 A substantial number of properties in New Bedford are rental properties.
- 26563 The plaintiff has not directly studied whether any affect to the PCB's has occurred on rental properties

in New Bedford (except by their inclusion in plaintiff's repeat sales study).

- 26564 Only small Boats can pass under the Coggeshall Street bridge, which is one reason no recreational boating, or other recreational use, is made of the river in this area.
- 26565 The price of apartment rentals has skyrocketed in the last ten years generally from approximately \$350-\$400 range to the \$550-850 range in New Bedford.
- 26566 One property in plaintiffs repeat sales study data set was the property owned by the brother and sister-in-law of Mr. Carter, a two-family property listed in the data set as a single-family property.
- 26567 Population in New Bedford in 1980 was approximately 101,000 citizens and the population in 1985 was 98,558 citizens, a significant drop in population in the area.
- 26568 Attachment Q.VIII.d.135 is a true and accurate representation of the New Bedford Harbor area depicted in the photograph.
- 26569 Attachment Q.VIII.d.136 is a true and accurate representation of the New Bedford Harbor area depicted in the photograph.
- 26570 According to William Carter, property values in the New Bedford Harbor area have followed the typical pattern for Massachusetts mill cities, including Fall River, Lowell, Lawrence.
- 26571 According to William Carter, the only areas comparable to the area surrounding an industrial harbor and old Massachusetts mill city are other old Massachusetts mill cities, such as Fall River, Lowell, and Lawrence.
- 26572 The only areas comparable to the area surrounding an industrial harbor and old Massachusetts mill city are other old Massachusetts mill cities, such as Fall River, Lowell, and Lawrence.
- 26573 As compared to those above Zone I, the pattern of less valuable and more valuable neighborhoods depending upon the proximity to industry and commerce in an industrialized harbor in New Bedford is very similar to the typical pattern in harbor cities such as the Boston Harbor, New York Harbor and harbors throughout the world.

- 26574 Boat slips in the Town of Fairhaven, the City of New Bedford and the Town of Dartmouth have been sold out for many years, with a long waiting list to dock a boat at a marina.
- 26575 Fort Phoenix Beach is state controlled and managed. Demand for the beach is so strong that the state has had to enlarge the parking facilities recently and restore sand to the beach area.
- 26576 The second public beach on the south shore of West Island is controlled and managed by the Town. The biggest problem is lack of parking facilities caused by the increased demand.
- 26577 Boating slips in the New Bedford Harbor area are booked in most of the yacht clubs for years in advance, and additional slips are being opened each year.
- 26578 Attachment Q.VIII.d.137 is a Town of Fairhaven zoning map prepared by or for the Town Planer, Nicholas Tagne.
- 26579 The real estate office of Hughes & Carey Realty Corporation acted as a broker for the below listed sales of real property in the Town of Fairhaven at or about the time set forth.

*HF+

1976

6/13/76	17-19 Laurel Street
6/23/76	34 Spring Street
8/2/76	16 Dover Street+

*HF+

1977

4/14/77	45 Daniel Street
4/22/77	9 Morton Street+
5/31/77	29 Elizabeth Street
6/10/77	69 Cedar Street
6/20/77	37 Mulberry Street
9/8/77	41 Walnut Street
9/9/77	2 Phillips Street
10/7/77	2 Bellevue Street
10/14/77	27 Main Street
12/28/77	23 Hicks Street

*HF+

1978

1/3/78	21 Hedge Street
1/9/78	17 Middle Street+

1/24/78	6 Park Avenue
2/21/78	6 Deane Street
3/16/78	24 Green Street
4/25/78	41-43 Walnut Street
5/23/78	675 Washington Street
6/2/78	89 Center Street
6/21/78	325 Main Street
7/25/78	17 Cedar Street
7/25/78	107 Fort Street
11/8/78	24 Mulberry Street
11/30/78	5 Rogers Street
12/1/78	64-66 Adams Street

*HF+

1979

1/3/79	391 Washington Street
1/8/79	61 Union Street+
1/12/79	32 Fort Street
2/6/79	39 Elm Street
2/6/79	16 Mozart Street
3/12/79	3 Rotch Street
3/29/79	1 Hedge Street
4/3/79	102 Laurel Street
5/23/79	83 Church Street
6/12/79	75 Pleasant Street
6/26/79	48 Parmfield Street
5/3/79	215 Main Street
7/31/79	218 Main Street
9/17/79	517 Washington Street
9/21/79	55 Church Street
9/25/79	163 Coggeshall Street
11/20/79	182 Main Street
12/4/79	47 Bridge Street

*HF+

1980

1/25/80	141 Pleasant Street
1/28/80	198 Huttleston Avenue+
2/19/80	16 Spring Hill Street
3/10/80	343 Washington Street
3/13/80	53 South Street
3/26/80	17 Hawthorne Street
6/5/80	25 Cottage Street
6/19/80	64-66 Adams Street
6/20/80	10 Taber Street
7/3/80	47 Parmfield Street
7/3/80	32 Hitch Street
8/13/80	28 Newbury Avenue
9/29/80	16 Jesse Street
10/9/80	61 Delano Street
10/17/80	14 Saratoga Street

10/30/80
11/29/80

34 Taber Street
40 Christian Street

*HF+

1981

7/21/81
5/11/81
5/30/81
1/28/81
8/25/81
5/30/81
5/11/81
7/1/81
1/30/81
2/5/81
4/16/81
2/27/81
7/17/81
6/15/81
10/2/81
12/16/81
10/15/81
5/20/81

366 Alden Road
69 Bridge Street+
117 Center Street
132 Chestnut Street
96 Farmfield Street
24 Fort Street
75 Francis Street
8 Green Street
34 Huttleston Avenue
6 James Street
327 Main Street
476 Main Street
77 Middle Street
24 Mulberry Street
171 North Walnut Street
5 Rodman Street
399 Washington Street
457 Washington Street

*HF+

1982

2/1/82
4/16/82
4/21/82
4/16/82
5/5/82
5/19/82
5/21/82
6/1/82
7/8/82
7/12/82
8/16/82
8/26/82
9/20/82
10/14/82
10/22/82
11/22/82
12/31/82

9 Green Street
517 Washington Street+
63 Sycamore Street
Cherry Street
366 Alden Road
34 Rotch Street
346 Washington Street
583 Washington Street
79 Chestnut Street
246 Green Street
135 Chestnut Street
240 Main Street
62 Massasoit Avenue
67 Green Street
25 Hawthorne Street
46 Veranda Avenue
45 Rotch Street

*HF+

1983

1/5/83
1/7/83
1/19/83
1/27/83

40 Harding Street
9 Francis Street+
63 Fort Street
22 Spring Street

3/24/83	137 Pleasant Street
4/7/83	213 Main Street
4/29/83	46 Hawthorne Street
5/12/83	21 East Allen Street
5/20/83	48 Farmfield Street
5/20/83	10 Saratoga Street
6/21/83	35 Huttleston Avenue
6/27/83	7 Pleasant Street
8/3/83	5 South Street
8/15/83	6 Morton Street
8/25/83	236 Main Street
8/26/83	11 Doans Street
8/26/83	11 Huttleston Avenue
10/21/83	155 Chestnut Street
10/21/83	132 Canter Street
12/14/83	2 South Summer Street

*HF+

1984

1/16/84	400 Main Street
1/24/84	475 Washington Street+
4/19/84	13 Brook Drive
5/8/84	90 Francis Street
5/30/84	78 Washington Street
10/12/84	15 Morton Street
11/29/84	8 Phillips Street
12/21/84	35 Huttleston Avenue

*HF+

1985

1/16/85	475 Washington Street
1/17/85	164 Main Street+
1/28/85	46 Veranda Avenue
3/22/85	115 Alden Road
4/10/85	89 Main Street
5/21/85	9 Magnolia Avenue
6/28/85	92 Ruttleston Avenue
9/12/85	35 Laurel Street
12/2/85	32 Oak Street

*HF+

1986

1/29/86	131 Chestnut Street
2/26/86	3 Rotch Street+
3/26/86	15 Rotch Street
4/16/86	135 Chestnut Street
4/25/86	46 Veranda Avenue
4/28/86	9 Gardner Street
5/16/86	106 Main Street
5/30/86	23 East Allen Street
6/5/86	322 Washington Street

6/16/86	32 Oak Street
6/19/86	30 Hitch Street
7/28/86	68 Brown Street
8/5/86	14 Maple Avenue
8/15/86	40 Massasoit Avenue
8/21/86	16 Oak Street
8/28/86	131 North William Street
9/11/86	60 Larch Avenue
9/15/86	27 Spring Street
9/15/86	27 Jefferson Street
9/17/86	23 Hicks Street
9/22/86	684 Washington Street

26580 The real estate office of Hughes & Carey Real Estate Corporation acted as a broker for the following number of sales in the Greater New Bedford area in the years' times listed below.

*HF+

		TOTAL SALES			
1976	1st Quarter	-	7		
	2nd Quarter	-	18		
	3rd Quarter	-	26		
	4th Quarter	-	21		
			TOTAL	72+	
1977	1st Quarter	-	13		
	2nd Quarter	-	54		
	3rd Quarter	-	47		
	4th Quarter	-	47		
			TOTAL	161	
1978	1st Quarter	-	38		
	2nd Quarter	-	60		
	3rd Quarter	-	51		
	4th Quarter	-	51		
			TOTAL	200	
1979	1st Quarter	-	40		
	2nd Quarter	-	65		
	3rd Quarter	-	52		
	4th Quarter	-	46		
			TOTAL	203	
1980	1st Quarter	-	26		
	2nd Quarter	-	30		
	3rd Quarter	-	57		
	4th Quarter	-	61		
			TOTAL	174	
1981	1st Quarter	-	31		

	2nd Quarter	-	41		
	3rd Quarter	-	47		
	4th Quarter	-	47		
				TOTAL	166
1982	1st Quarter	-	33		
	2nd Quarter	-	46		
	3rd Quarter	-	56		
	4th Quarter	-	63		
				TOTAL	198
1983	1st Quarter	-	73		
	2nd Quarter	-	87		
	3rd Quarter	-	93		
	4th Quarter	-	83		
				TOTAL	336
1984	1st Quarter	-	67		
	2nd Quarter	-	85		
	3rd Quarter	-	96		
	4th Quarter	-	101		
				TOTAL	349
1985	1st Quarter	-	84		
	2nd Quarter	-	97		
	3rd Quarter	-	104		
	4th Quarter	-	79		
				TOTAL	364
1985	1st Quarter	-	91		
	2nd Quarter	-	79		
	3rd Quarter	-	101		
	4th Quarter	-	Unavailable		
				TOTAL	271

26581 Stephen T. Lewin is a resident of the New Bedford area.

26582 Stephen T. Lewin was born on October 24, 1948.

26583 Stephen T. Lewin has been married for twenty-one years.

26584 Stephen T. Lewin is the father of four children whose ages are eight, thirteen, fifteen, and eighteen.

26585 Stephen T. Lewin is the Office Manager of the Hughes & Carey Realty Corporation.

26586 Stephen T. Lewin has been the Office Manager of the Hughes & Carey Realty Corporation from March 20, 1983, to the present.

- 26587 Stephen T. Lewin has been a real estate broker with the Hughes & Carey Realty Corporation from October, 1976, to the present.
- 26588 Stephen T. Lewin was a full-time real estate broker with the Hughes & Carey Realty Corporation from October, 1976, to August, 1977, and from March 20, 1983, to the present.
- 26589 Stephen T. Lewin was a part-time real estate broker with Hughes & Carey Realty Corporation from August, 1977, to March 19, 1983.
- 26590 From November, 1973, to October, 1976, Stephen T. Lewin was a real estate broker with Roger Pelletier Realty in New Bedford.
- 26591 From 1968 to 1972, Stephen T. Lewin served in the United States Navy and was honorably discharged with the rank of Radarman Third Class.
- 26592 Stephen T. Lewin was born in the City of New Bedford.
- 26593 Stephen T. Lewin lived at 1335 Pleasant Street, New Bedford, from his birth until age three.
- 26594 Stephen T. Lewin lived at 6 Austin Court, New Bedford, from the age of three until the age of nineteen.
- 26595 Stephen T. Lewin is a member of the New Bedford Board of Realtors.
- 26596 Stephen T. Lewin is a former member of the Professional Standards and Ethics Committee of the New Bedford Board of Realtors.
- 26597 Stephen T. Lewin has never heard of PCBs being an issue in the sale of any residential real estate in Fairhaven.
- 26598 Stephen T. Lewin has never heard of PCBs being an issue in the sale of any residential real estate in New Bedford.
- 26599 Stephen T. Lewin is of the opinion that the alleged presence of PCBs in the New Bedford Harbor does not have any effect upon the fair market value of residential real estate in Fairhaven.
- 26600 Stephen T. Lewin is of the opinion that that alleged presence of PCBs in the New Bedford Harbor does not have any effect upon the fair market value of

residential real estate in New Bedford.

- 26601 Stephen T. Lewin is of the opinion to a reasonable degree of certainty that the alleged presence of PCBs in the New Bedford Harbor does not have any effect upon the fair market value of residential real estate in Fairhaven.
- 26602 Stephen T. Lewin is of the opinion to a reasonable degree of certainty that the alleged presence of PCBs in the New Bedford Harbor does not have any effect upon the fair market value of residential real estate in New Bedford.
- 26603 The alleged presence of PCBs in the New Bedford Harbor has not affected any decision regarding real estate made by Hughes & Carey Realty Corporation.
- 26604 The alleged presence of PCBs in the New Bedford Harbor has not affected any advice given by Hughes & Carey Realty Corporation to its clients.
- 26605 Maureen Moriarty Sylvia is a resident of the Greater New Bedford area.
- 26606 Maureen Moriarty Sylvia was born on August 25, 1965.
- 26607 Maureen Moriarty Sylvia is affiliated with the Hughes & Carey Realty Corporation.
- 26608 Maureen Moriarty Sylvia is a consultant for computer operations of the Hughes & Carey Realty Corporation.
- 26609 Maureen Moriarty Sylvia is a graduate of the St. James/St. John Grammar School, in the City of New Bedford.
- 26610 Maureen Moriarty Sylvia is a graduate of Bishop Stang High School.
- 26611 Maureen Moriarty Sylvia attends Southeastern Massachusetts University.
- 26612 Maureen Moriarty Sylvia researched the records of sales recorded at the Registry of Deeds in New Bedford, Massachusetts.
- 26613 The records Maureen Sylvia examined of transactions recorded at the Bristol County Registry of Deeds, Southern District, are known as transfer directories.

- 26614 Transfer directories are relied upon by persons interested in the field of real estate transactions.
- 26615 Real estate brokers rely upon information published in transfer directories.
- 26616 Mortgage lending institutions rely upon information published in the transfer directories.
- 26617 Maureen Sylvia determined from the records published in the transfer directories of real estate transactions recorded at the Bristol County Registry of Deeds, Southern District, the repeat sales of property in the Town of Fairhaven for the years 1975 to 1986, inclusive.
- 26618 Maureen Sylvia abstracted from the records of the transfer directories repeat sales of property in Fairhaven.
- 26619 Maureen Sylvia obtained from the transfer directories records of the repeat sales in New Bedford.
- 26620 The records of the Bristol County Registry of Deeds, Southern District, were examined to verify the sources of information used by Maureen Sylvia.
- 26621 The records of the Town of Fairhaven were examined to verify the sources of information used by Maureen Sylvia.
- 26622 Attachment 138 is a true and accurate copy of the information compiled by Maureen Sylvia setting forth the records of the repeat sales in the Town of Fairhaven and City of New Bedford for the years 1975 to 1986, inclusive.
- 26623 Attachment Q.VIII.d.138 is a summary of the contents of summaries of writings which can not conveniently be examined in court, the underlying data from which is contained in the Bristol County Registry of Deeds, and which is a public record.
- 26624 The high incidence of drug use has adversely affected the fair market value of real estate in certain neighborhoods in the City of New Bedford located adjacent to the New Bedford Harbor.
- 26625 The high incidence of crime has adversely affected the fair market value of real estate in certain neighborhoods near the New Bedford Harbor in the City of New Bedford.

- 26626 It is a generally accepted practice in the Town of Fairhaven for purchasers of residential building lots to require the seller of said lot to obtain a building permit prior to the sale of said lot so that the purchaser can be assured that the property will pass a percolation test.
- 26627 It is a generally accepted practice in the Town of Fairhaven for purchasers of residential building lots to require the seller of said lot to obtain a building permit for said lot prior to the sale of said lot so that the purchaser can be assured that a proposed residence will be allowed to be built on said property.
- 26628 Bernard Carey is a resident of the Greater New Bedford Area.
- 26629 Bernard Carey was born in the City of New York, on January 27, 1939.
- 26630 Bernard Carey moved to New Bedford when he was approximately five years old.
- 26631 Bernard Carey was a resident of New Bedford for at least forty-two years with the exception of the years he spent in the military service.
- 26632 Bernard Carey graduated from St. Joseph Elementary School, New Bedford, Massachusetts.
- 26633 Bernard Carey attended New Bedford Vocational High School from 1953, until his graduation in June of 1957.
- 26634 Bernard Carey enlisted in the Marine Corps in 1957, and served from 1957 to January, 1959.
- 26635 Bernard Carey returned to the greater New Bedford Area in 1959 and had assorted jobs from January, 1959, through September, 1962.
- 26636 Also in this time period he attended SMTI, predecessor to Southeastern Massachusetts University.
- 26637 In September, 1962, Bernard Carey entered into the insurance business and worked with Boston Mutual Insurance Company until July 1, 1976.
- 26638 Bernard Carey received a Massachusetts Real Estate License in 1963, and worked in both real estate and insurance from 1963 to 1976.

- 26639 On July 1, 1976, Bernard Carey left the insurance industry and concentrated full-time on a real estate business.
- 26640 Bernard Carey served as Chairman of the Multiple Listing Service and Vice President of the New Bedford Board of Realtors in 1977.
- 26641 Bernard Carey was President of the New Bedford Board of Realtors in 1978.
- 26642 Hughes & Carey Realty was formed on May 1, 1974.
- 26643 Hughes & Carey joined Century 21 in 1978.
- 26644 Hughes & Carey Realty is the largest real estate office in the number of units sold through the Multiple Listing Real Estate Service starting in 1978, and has held that number one position from 1978 to the present in the Greater New Bedford Area which includes: New Bedford, Fairhaven, Dartmouth, Acushnet, Freetown, Westport, Lakeville, and Mattapoisett.
- 26645 Hughes & Carey Realty is the largest Century 21 office in New England, which includes: Massachusetts, Vermont, New Hampshire, Maine, and approximately 525 offices.
- 26646 Hughes & Carey Realty has been the number one Century 21 real estate office in New England for eight out of the last ten years and second the other two years in the amount of units sold.
- 26647 In 1990, Bernard Carey is a Director of the New Bedford Board of Realtors.
- 26648 Bernard Carey has his own real estate radio show which is broadcasted from 12:00 p.m. to 1:00 p.m. on station WBSM called "Real Estate Line."
- 26649 Bernard Carey has given seminars for Century 21 of New England, Inc. on the subject of real estate.
- 26650 Bernard Carey has done appraisals for New Bedford Institution for Savings, the largest bank in Southeastern Massachusetts, and other assorted companies.
- 26651 On a nationwide basis, Hughes & Carey Realty is in the top five percent of all the Century 21 real estate offices in the amount of houses sold, and is in the top

five percent in dollar value of properties sold.

- 26652 A data base using widely scattered sales of real property cannot be utilized to support an opinion of fair market value of specifically located real estate.
- 26653 Properties which lack comparability or similarity due to the substantial time differences, substantial location differences, or substantial zoning differences cannot be utilized to support an opinion of fair market value.
- 26654 National sources of real property data and statewide sources of real property data have been shown to be unreliable to support an opinion of fair market value of real property, or to support trends and real estate values that can be applied to specific property.
- 26655 If the market data approach is the preferred method of supporting an opinion of fair market value, the sales data must contain elements of comparability and relate to the property being appraised in terms of close proximity of time, specific comparability of type of real estate, specific comparability of permitted uses under zoning laws, and comparability of location.
- 26656 Market conditions have a strong effect on an opinion of fair market value, and thus, a local market in which the property that is being appraised is located provides the most reliable support for an opinion of fair market value being expressed.

1687L

- 26657 Gilbert Costa, from the period of December, 1965, to December, 1984, was the Assistant Executive Director of the New Bedford Redevelopment Authority, and is a long-time resident of New Bedford.
- 26658 Gilbert Costa was the Project Manager for the New Bedford Redevelopment Authority for the North Terminal Project.
- 26659 Gilbert Costa was the Project Manager for the New Bedford Redevelopment Authority for the West End Project.
- 26660 As part of Mr. Gilbert Costa's duties as an employee of
of
the New Bedford Redevelopment Authority, he was in charge of business relocation.
- 26661 Mr. Gilbert Costa's duties as an employee of the New Bedford Redevelopment Authority required him to make decisions regarding valuations of real estate in the New Bedford Harbor area.
- 26662 Based upon his education, experience, training, and studies conducted with respect to valuation of real estate in the New Bedford Harbor area, Mr. Gilbert Costa is of the opinion that the presence of PCBs in New Bedford Harbor have had no effect upon values of real estate in the New Bedford Harbor area.
- 26663 Based upon his education, experience, training, and studies conducted with respect to valuation of real estate in the New Bedford Harbor area, Mr. Gilbert Costa is of the opinion that whether or not there are PCBs in the environment in the New Bedford Harbor area has no effect upon property values in said area.
- 26664 In all the transactions in which Mr. Gilbert Costa was involved between the years 1965 and 1985, he never heard anyone mention PCBs in connection with the valuation of real estate in the New Bedford Harbor area.
- 26665 Paul Swain is a fishery reporting specialist for the United States Department of Commerce National Oceanic and Atmospheric Administration.
- 26666 Mr. Paul Swain conducts his activities at the Custom House, in New Bedford, Massachusetts.

- 26667 As an employee of the United States Department of Commerce National Oceanic and Atmospheric Administration, Mr. Paul Swain conducts fishery statistics investigations.
- 26668 In the performance of his duties, Mr. Paul Swain relies upon the annual "Fisheries of the United States" publication produced by the United States Department of Commerce.
- 26669 Mr. Paul Swain is knowledgeable regarding the fishing industry in the New Bedford Harbor area.
- 26670 Mr. Paul Swain, by reason of his training, education, and experience in the harbor of New Bedford, is a person qualified to render an opinion with respect to the commercial fishing industry in the New Bedford Harbor.
- 26671 Mr. Paul Swain is of the opinion that PCB presence in the New Bedford Harbor has not had an effect on the commercial fishing industry in the New Bedford Harbor.
- 26672 Mr. Paul Swain is of the opinion that the presence of PCBs in the New Bedford Harbor has not adversely affected the commercial fishing industry in that area.
- 26673 Mr. Paul Swain is of the opinion that sewage is a problem in the New Bedford Harbor area.
- 26674 The alleged presence of PCBs in the New Bedford Harbor has not had an adverse effect upon the use of the harbor for recreational boating.
- 26675 Present utilization of recreational boating facilities is not affected in any manner by the alleged presence of PCBs in the New Bedford Harbor.
- 26676 The alleged presence of PCBs in the New Bedford Harbor area has not affected the commercial activities relating to recreational boating.
- 26677 Demand for recreational boating facilities has not diminished in the New Bedford Harbor area due to the alleged presence of PCBs in the New Bedford Harbor.
- 26678 Limitations of space due to the needs of the fishing industry and industrial maritime traffic limit the facilities available for recreational boating.
- 26679 Mr. David Rita is the Executive Director of the State

Pier in New Bedford.

- 26680 By education, training, and experience, Mr. David Rita is qualified to render opinions regarding business activity.
- 26681 Mr. David Rita is of the opinion that PCBs do not constitute a harm to business activity in the New Bedford Harbor area.
- 26682 Mr. David Rita is of the opinion that human sewage is a problem in the New Bedford Harbor area.
- 26683 Passenger line cruise ships commenced visiting New Bedford Harbor in 1980.
- 26684 The passenger cruise liner Vera Cruz visited New Bedford as a port of calling 1980 and returned in 1982 and 1983.
- 26685 The Clipper Cruise Line commenced utilizing New Bedford as a port of call in 1983, and its vessels, the Newport Clipper and the Nantucket Clipper, have utilized the port for those purposes since 1983.
- 26686 In recent years, the American Cruise Line has had three vessels stop at New Bedford as a port of call: the Savannah, the Independence, and the America.
- 26687 Paul Saunders is the Harbor Development Commissioner for the port of New Bedford.
- 26688 Paul Saunders is qualified by education, experience, and training to render an opinion with respect to the effect of PCBs in the New Bedford Harbor area upon valuation of property in said area.
- 26689 Mr. Paul Saunders is of the opinion that the alleged presence of PCBs in the New Bedford Harbor has not adversely affected property value in that area.
- 26690 Attachments "B 480001" through "B 481376" are the true and accurate copies of the 3-S Forms reporting property sales for the City of New Bedford for the period of January 1, 1975, through December 31, 1985.
- 26691 Attachments "B 480001" through "B 481376" are business records which are prepared and kept in the ordinary course of business; it was the ordinary course of business for the Assessors of the City of New Bedford to keep and maintain such records; and the records were made and/or prepared at or near the time of the

regularly conducted business activity of the Assessors of the city of New Bedford by or from information transmitted by a person with knowledge of such activity.

- 26692 Property Sales Reports, 3-S Forms, accurately reflect the sales for a city and accurately reflect the sale prices for property sales for the reported period.
- 26693 Property Sales Reports, 3-S Forms, are verified by a review of the deeds filed at the Registry of Deeds for a city or town.
- 26694 The arms-length sales of single-family residences in a city or town can be verified by a review of the Property Sales Reports, 3-S Forms, filed for a reported period.
- 26695 Fair market value is a term utilized by real estate appraisers to define the value of real estate resulting or which would result from a sale where both the buyer and seller are aware of the condition of the property and all reasonable uses to which it may be put and neither the buyer nor the seller are under compulsion either to buy or to sell.
- 26696 Martin Treadup is a resident of the Greater New Bedford area.
- 26697 Martin Treadup was born on November 12, 1942.
- 26698 Martin Treadup is a graduate of Holy Family Grammar School, New Bedford, Massachusetts.
- 26699 Martin Treadup graduated from Holy Family High School, New Bedford, Massachusetts.
- 26700 Martin Treadup graduated from Southeastern Massachusetts Technical Institute.
- 26701 Southeastern Massachusetts Technical Institute is currently known as Southeastern Massachusetts University.
- 26702 Martin Treadup graduated from Southeastern Massachusetts Technical Institute with a Bachelor of Science Degree in Accounting.
- 26703 While attending Southeastern Massachusetts Technical Institute, Martin Treadup was employed part-time by the New Bedford Institution for Savings.

- 26704 Upon graduation from Southeastern Massachusetts Technical Institute at age 21, Martin Treadup was employed by the New Bedford Institution for Savings.
- 26705 Martin Treadup has completed property appraisal courses.
- 26706 Martin Treadup has completed property appraisal courses conducted by the Massachusetts Board of Real Estate Appraisers.
- 26707 Martin Treadup has testified in the Courts of Massachusetts.
- 26708 Martin Treadup has been found qualified in Massachusetts to render opinion testimony with respect to mortgages and loans for real property.
- 26709 Martin Treadup has qualified as an expert in the Commonwealth of Massachusetts with respect to the issuance of mortgages by banking institutions.
- 26710 Martin Treadup has qualified as an expert by a Massachusetts Court with respect to loans granted to owners of real estate by commercial entities.
- 26711 Martin Treadup's duties as an employee of the New Bedford Institution for Savings initially were those of a savings teller.
- 26712 Martin Treadup, after working as a savings teller for the New Bedford Institution for Savings, became a mortgage-note teller for the New Bedford Institution for Savings.
- 26713 After employment as a mortgage-note teller for the New Bedford Institution for Savings, Martin Treadup worked as a loan teller until 1965 at the New Bedford Institution for Savings.
- 26714 Martin Treadup worked as a mortgage organization employee for the New Bedford Institution for Savings in January of 1966.
- 26715 From 1974 until 1980, Martin Treadup made decisions as to whether or not the New Bedford Institution for Savings would grant mortgages to real estate owners.
- 26716 Between 1974 and 1980, the duties of Martin Treadup as an employee of the New Bedford Institution for Savings included making decisions as to the granting of

mortgages by the New Bedford Institution for Savings to persons seeking to purchase real estate.

- 26717 Between 1974 and 1980, the duties of Martin Treadup as an employee of the New Bedford Institution for Savings included making decisions as to the granting of mortgages to persons desirous of obtaining a mortgage for real estate in New Bedford.
- 26718 In 1980, Martin Treadup was the person responsible for the operations of the mortgage department of the New Bedford Institution for Savings.
- 26719 Martin Treadup became the Vice President of the New Bedford Institution for Savings in 1981.
- 26720 As a Vice President of the New Bedford Institution for Savings, Martin Treadup was required to supervise the activities of another Vice President and three Assistant Vice Presidents.
- 26721 Martin Treadup was the person responsible at the New Bedford Institution for Savings for the operation of the Mortgage Loan Department of that Bank.
- 26722 The New Bedford Institution for Savings was the mortgage lender in approximately sixty percent of the residential mortgage transactions in the Greater New Bedford area.
- 26723 The New Bedford Institution for Savings was the mortgage lender in approximately fifty percent of the residential mortgage transactions in the Greater New Bedford area.
- 26724 The New Bedford Institution for Savings was the mortgage lender in approximately seventy percent of the residential mortgage transactions in the Greater New Bedford area.
- 26725 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1976, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26726 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1976, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.

- 26727 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1976, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26728 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1977, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26729 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1977, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26730 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1977, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26731 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1978, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26732 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1978, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26733 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1978, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26734 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1979, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26735 Of the loans made in the Greater New Bedford area for

the purchase of real estate in said area which involved the use of real estate mortgages in the year 1979, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.

- 26736 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1979, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26737 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1980, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26738 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1980, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26739 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1980, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26740 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1981, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26741 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1981, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26742 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1981, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26743 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1982, the New Bedford Institution for Savings was the lender in

approximately sixty percent of those instances.

- 26744 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1982, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26745 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1982, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26746 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1983, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26747 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1983, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26748 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1983, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26749 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1984, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26750 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1984, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26751 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1984, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26752 Of the loans made in the Greater New Bedford area for

the purchase of real estate in said area which involved the use of real estate mortgages in the year 1985, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.

- 26753 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1985, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26754 Of the loans made in the Greater New Bedford area for the purchase of real estate in said area which involved the use of real estate mortgages in the year 1985, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26755 Of the loans made in the Greater New Bedford area for the purchase of real estate in said which involved the use of real estate mortgages in the year 1986, the New Bedford Institution for Savings was the lender in approximately sixty percent of those instances.
- 26756 Of the loans made in the Greater New Bedford area for the purchase of real estate in said which involved the use of real estate mortgages in the year 1986, the New Bedford Institution for Savings was the lender in approximately fifty percent of those instances.
- 26757 Of the loans made in the Greater New Bedford area for the purchase of real estate in said which involved the use of real estate mortgages in the year 1986, the New Bedford Institution for Savings was the lender in approximately seventy percent of those instances.
- 26758 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1976.
- 26759 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1977.
- 26760 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1978.
- 26761 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1979.

- 26762 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1980.
- 26763 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1981.
- 26764 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1982.
- 26765 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1983.
- 26766 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1984.
- 26767 The New Bedford Institution for Savings lent money for approximately one thousand five hundred (1,500) residential real estate transactions in the year 1985.
- 26768 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions per year.
- 26769 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1976.
- 26770 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1977.
- 26771 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1978.
- 26772 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1979.
- 26773 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1980.
- 26774 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1981.

- 26775 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1982.
- 26776 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1983.
- 26777 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1984.
- 26778 The New Bedford Institution for Savings lent money for approximately one thousand (1,000) residential real estate transactions in the year 1985.
- 26779 The term residential real estate is used to define real estate which contains from one to four family-living units.
- 26780 The New Bedford Institution for Savings lends money for approximately eight hundred (800) residential real estate transactions per year in the New Bedford area.
- 26781 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1976 in the New Bedford area.
- 26782 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1977 in the New Bedford area.
- 26783 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1978 in the New Bedford area.
- 26784 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1979 in the New Bedford area.
- 26785 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1980 in the New Bedford area.
- 26786 The New Bedford Institution for Savings lent money for

approximately eight hundred (800) residential real estate transactions in the year 1981 in the New Bedford area.

- 26787 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1982 in the New Bedford area.
- 26788 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1983 in the New Bedford area.
- 26789 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1984 in the New Bedford area.
- 26790 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1985 in the New Bedford area.
- 26791 The New Bedford Institution for Savings lent money for approximately eight hundred (800) residential real estate transactions in the year 1985 in the New Bedford area.
- 26792 The New Bedford Institution for Savings lends money for approximately six hundred (600) residential real estate transactions per year in the New Bedford area.
- 26793 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1976 in the New Bedford area.
- 26794 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1977 in the New Bedford area.
- 26795 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1978 in the New Bedford area.
- 26796 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1979 in the New Bedford area.
- 26797 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate

transactions in the year 1980 in the New Bedford area.

- 26798 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1981 in the New Bedford area.
- 26799 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1982 in the New Bedford area.
- 26800 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1983 in the New Bedford area.
- 26801 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1984 in the New Bedford area.
- 26802 The New Bedford Institution for Savings lent money for approximately six hundred (600) residential real estate transactions in the year 1985 in the New Bedford area.
- 26803 The New Bedford Institution for Savings lends money for approximately ninety (90) residential real estate transactions per year in Fairhaven.
- 26804 The New Bedford Institution for Savings lends money for approximately sixty (60) residential real estate transactions per year in Fairhaven.
- 26805 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1976 in Fairhaven.
- 26806 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1977 in Fairhaven.
- 26807 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1978 in Fairhaven.
- 26808 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1979 in Fairhaven.
- 26809 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1980 in Fairhaven.
- 26810 The New Bedford Institution for Savings lent money for

approximately sixty (60) residential real estate transactions in the year 1981 in Fairhaven.

- 26811 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1982 in Fairhaven.
- 26812 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1983 in Fairhaven.
- 26813 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1984 in Fairhaven.
- 26814 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1985 in Fairhaven.
- 26815 The New Bedford Institution for Savings lent money for approximately sixty (60) residential real estate transactions in the year 1986 in Fairhaven.
- 26816 It was the duty of Martin Treadup to review all mortgage loans by the New Bedford Institution for Savings prior to closing said loans.
- 26817 It was the duty of Martin Treadup after 1981 as an employee of the New Bedford Institution for Savings to review all mortgage loans made by said institution prior to the closing of said loans.
- 26818 Martin Treadup knows of no transaction in real estate mortgages which was affected by the presence of PCBs in the New Bedford Harbor area.
- 26819 Martin Treadup never heard any party to a residential real estate transaction ever utilize the term "PCBs" or any similar term.
- 26820 Martin Treadup is not aware of any real estate property sales price being affected by the alleged presence of PCBs in the New Bedford Harbor area.
- 26821 Based upon his education, training, and experience, Martin Treadup is of the opinion to a reasonable degree of certainty as a mortgage loan officer that the alleged presence of PCBs in New Bedford Harbor has had no effect on property values in the City of New Bedford.
- 26822 Based upon his education, training, and experience,

Martin Treadup is of the opinion to a reasonable degree of certainty as a mortgage loan officer that the alleged presence of PCBs in New Bedford Harbor has had no effect on property values in the Town of Fairhaven.

- 26823 Based upon his education, training, and experience, Martin Treadup is of the opinion to a reasonable degree of certainty as a mortgage loan officer that real estate sales values in the City of New Bedford have not been affected by the alleged presence of PCBs in New Bedford Harbor.
- 26824 In performing evaluations of the fair market value of property in the City of New Bedford, Martin Treadup does not consider properties located in Fairhaven to be guidelines as comparable sales for properties in New Bedford.
- 26825 In performing evaluations of the fair market value of property in the City of New Bedford, Martin Treadup does not consider properties located in New Bedford to be guidelines as comparable sales for properties in Fairhaven.
- 26826 In determining whether one property is comparable to another for the purposes of determining fair market value of a property, one must consider the distance between the two properties.
- 26827 In determining whether one property is comparable to another for the purposes of determining fair market value of a property, the person making the appraisal must consider the distance between the two properties.
- 26828 The purchasers of mortgages from lending institutions establish procedures with respect to evaluating the fair market value of residential real estate.
- 26829 The procedures established by purchasers of residential real estate mortgages prohibit utilizing properties that are not comparable to establish the fair market value of a property.
- 26830 The government agencies involved in the purchase of residential real estate mortgages prohibit the utilization of properties that are not comparable to establish fair market value of a property.
- 26831 There is a Secondary Mortgage Market which involves the purchase of mortgages from institutions or entities that lend money for the purpose of residential real

estate.

- 26832 The practice and procedure of the Secondary Mortgage Market is to prohibit the utilization of properties that are not comparable to establish fair market value.
- 26833 The alleged presence of PCBs in the New Bedford Harbor has not affected, in any manner, any decision by the New Bedford Institution for Savings whether to loan money for the purchase of residential property in any location.
- 26834 The method used generally to appraise residential properties is known as the comparable sales approach to fair market value.
- 26835 In the New Bedford area, appraisers seldom have to examine properties further than a few blocks away from any subject property to be able to determine a value of that property by the comparable sales method, except in the case of some unique property such as a roller-skating rink, a church, or a school.
- 26836 When utilizing the comparable sales approach it is not proper to use as comparable sales property that is distant from the subject property or sales that are not arms-length sales.
- 26837 Property Sales Reports, 3-S Forms, are prepared by the Assessors of the cities and towns in the Commonwealth of Massachusetts.
- 26838 Property Sales Reports, 3-S Forms, are prepared by employees of cities and towns in the Commonwealth of Massachusetts.
- 26839 Property Sales Reports are prepared by:
- a) utilizing deeds from the Registry of Deeds in which records of property sales transactions for a particular community are recorded;
 - b) listing on the property sales report, the date a real property transaction was recorded at the Registry of Deeds;
 - c) listing on the property sales report the book and page in the Registry of Deeds at which the transaction was recorded;
 - d) examining documents of the Assessor's office and

determining the assessing map and lot on which the property which is the subject of the transaction is located;

- e) listing that map and lot on the property sales report;
- f) examining the deed listing the seller of the property, the purchaser of the property, and its street address;
- g) examining the records of the Assessor's office and determining the type of property (commercial, industry, residential, etc.) and listing that on the property sales report;
- h) examining the deed and determining whether or not it represents an arms-length transaction and utilizing codes established by the Department of Revenue of the Commonwealth of Massachusetts, listing codes if a transaction was not arms-length;
- i) listing the sales price for the transaction from the deed;
- j) examining the records of the Assessor's office and determining the assessed valuation of the particular property and listing that on the property sales report.

26840 Lack of familiarity with a property or properties to be appraised prohibits an otherwise qualified person from testifying as to an opinion based upon the alleged fair-market value of property.

26841 Allegations that the Atlas Tack property in Fairhaven contained toxic materials, including cyanide, were generally known in the Town of Fairhaven in 1980.

26842 The New Bedford Standard Times, the newspaper in general circulation in New Bedford and Fairhaven, contained articles in 1980 that the Atlas Tack property in Fairhaven contained toxic material, including cyanide.

26843 The conditions relating to PCBs in New Bedford Harbor will be substantially different subsequent to the year 2000 than they are at present, 1990.

26844 No information is available to determine the state of alleged pollution in New Bedford Harbor prior to

December, 1980.

- 26845 New Bedford Harbor's primary use is that of a commercial and industrial harbor.
- 26846 The primary use of New Bedford Harbor necessarily involves some degree of pollution.
- 26847 The primary and proper use of New Bedford Harbor precludes utilization of it for recreational fishing, swimming, and recreational boating.
- 26848 There are no accurate estimates of the level of impairment of the natural resources in New Bedford Harbor prior to December of 1980.
- 26849 The natural resources in New Bedford Harbor have been substantially impaired since the year 1900.
- 26850 Attachment B180832A&B is an accurate copy of Exhibit 4 of the deposition of Mr. Mendelsohn and contains markings by Mr. Mendelsohn as to his best estimate of the area in the City of New Bedford which in his opinion was affected by the presence of PCBs in New Bedford Harbor.
- 26851 The United States Environmental Protection Agency has held meetings in New Bedford to advise residents of the Greater New Bedford Harbor area as to the environmental condition of New Bedford Harbor and the EPA responses thereto.
- 26852 The meetings conducted by the United States Environmental Protection Agency to advise residents of the Greater New Bedford area as to the environmental condition of New Bedford Harbor and the EPA plans regarding the same have been reasonably publicized by the EPA.
- 26853 At a meeting at which the EPA advised the residents of the New Bedford Harbor area of the environmental condition of the New Bedford Harbor and the EPA's responses thereto, which meeting was reasonably publicized prior to the date on which it was conducted, there were only four persons in attendance. These persons included a reporter from the Providence Journal newspaper, an attorney representing one of the parties to this action, and two citizens who wished to discuss matters unrelated to PCBs. These four were in addition to staff members or parties associated with the EPA.

- 26854 At another meeting conducted by the EPA, which was publicized for the purpose of advising residents of the New Bedford area as to the environmental conditions of New Bedford Harbor and the EPA's responses thereto, which meeting was reasonably publicized prior to the date thereof, there were no more than twenty persons who were unassociated with any party to this action in attendance at said meeting.
- 26855 Property revaluations conducted by the Assessors of the City of New Bedford Town of Fairhaven and Town of Dartmouth significantly affected the fair-market value of residential properties.
- 26856 Property revaluations conducted by the Assessors of the City of New Bedford in 1979, had significant impact upon the fair-market value of residential properties in the City of New Bedford.
- 26857 Property revaluations conducted by the Assessors of the City of New Bedford in 1980 had significant impact on the value of residential properties in the City of New Bedford in 1980.
- 26858 Property revaluations conducted by the Assessors of the City of New Bedford in 1981 had significant impact on the value of residential properties in the City of New Bedford in 1981.
- 26859 Property revaluations conducted by the Assessors of the City of New Bedford in 1979 resulted in the transfer of significant property tax liabilities between various sections of the City of New Bedford.
- 26860 Property revaluations conducted by the Assessors of the City of New Bedford with respect to areas outside of the zones that Mr. Mendelsohn contends were affected by the presence of PCBs in New Bedford Harbor dramatically affected fair-market value of said properties.
- 26861 There was no "PCB event" in the Greater New Bedford area.
- 26862 Any alleged "PCB event" has had no effect upon the fair-market value of residential properties in either New Bedford or Fairhaven.
- 26863 Residential property in New Bedford is not generally considered by real estate appraisers to be comparable to residential real estate in Fairhaven for the purposes of evaluating the fair-market value of said

property.

- 26864 Residential properties outside of the City of New Bedford are generally not considered by real estate appraisers to be comparable to residential properties in New Bedford for the purpose of evaluating the fair-market value of said property.
- 26865 Residential properties outside of the Town of Fairhaven are generally not considered by real estate appraisers to be comparable to residential properties in the City of New Bedford for the purpose of evaluating the fair-market value of said property.
- 26866 Residential properties outside of the Town of Fairhaven are generally not considered by real estate appraisers to be comparable to residential properties in the Town of Fairhaven for the purpose of evaluating the fair-market value of said property.
- 26867 Statistics regarding the sale of residential real estate in the Commonwealth of Massachusetts are not valid indications of the fair-market value of properties in the Greater New Bedford area.
- 26868 Statistics based upon the sale of real property outside of the Greater New Bedford area are of no value in determining whether or not there has been an increase or decrease in the fair-market value of residential real property in the Greater New Bedford area since said statistics are based upon properties that are not comparable to the properties in the New Bedford area.
- 26869 Attachment XX-1 is a true and accurate copy of the Department of Interior Final Rule on Natural Resource Damage Assessments, Issued August 1, 1986, as it appeared in the Federal Register (51 Federal Register 27674, hereafter the "Final Rule") and is genuine.
- 26870 The Final Rule states that congestion or crowding out effects must be considered when estimating damages to natural resources.
- 26871 Plaintiffs did not consider congestion or crowding-out effects in their analysis of alleged damages to recreational activities from PCBs in New Bedford Harbor.
- 26872 Plaintiffs' damage assessment conflicts with the Final Rule regarding the consideration of congestion or crowding-out effects in a natural resource damage assessment.

- 26873 The Final Rule states that a 10 percent real discount rate should be used to calculate the expected present value of damages to natural resources.
- 26874 Plaintiffs employed a 3 percent real discount rate to calculate the expected present value of alleged damages to recreational activities, the commercial lobster fishery and those associated with the use of New Bedford Harbor sediments from PCBs in New Bedford Harbor.
- 26875 Plaintiffs' damage assessment conflicts with the Final Rule regarding the proper discount rate to use in a natural resource damage assessment.
- 26876 The Final Rule states that double counting of damages should be avoided when estimating damages to natural resources.
- 26877 A damage estimate based on an analysis of the change in property values should not be added to any alternative damages estimates of the same injury. Adding such alternative estimates would double count damages.
- 26878 Plaintiffs added damages estimates based on the change in property values to alternative damage estimates to the commercial lobster fishery, recreational activities and those associated with the use of New Bedford Harbor sediments to arrive at a total damage estimate for alleged damages to New Bedford Harbor. Plaintiffs double counted damages in their analysis of alleged damages to New Bedford Harbor.
- 26879 Plaintiffs damage assessment conflicts with the Final Rule regarding the issue of double counting of damages.
- 26880 The publication listed below were prepared by the Bureau of Census, U.S. Department of Commerce and contain official census maps:
- 1970 U.S. Bureau of the Census, Block Statistics Maps, New Bedford, Massachusetts, Standard Metropolitan Statistical Area.
- 1980 U.S. Bureau of the Census, Blcok Statistics Maps, New Bedford, Massachusetts Standard Metropolitan Statistical Area.
- 26881 The publications listed below were prepared by the Bureau of the Census, United States Department of

Commerce as part of its official duties.

1970 Census of Population and Housing, Census Tracts:
New Bedford, Massachusetts, Standard Metropolitan
Statistical Area, PHC(1)-140, issued March 1972.

- 26882 A computer tape, "Census of Population and Housing, 1980: Summary Tape File 3A," contains officially recorded census data. The tape and documentation for it are made available by the Bureau of the Census, U.S. Department of Commerce.
- 26883 Of the Census tracts bordering the waterfront in the City of New Bedford, only in tract 6528 did single-family homes account for more than half of all occupied housing units in 1980.
- 26884 The distance by road from a house to the nearest recreation site on the waterfront might be important in determining the value of the house.
- 26885 Whether a house has a view of the water might be important in determining the value of the house.
- 26886 The quality of the view available from a house might be important in determining the value of the house.
- 26887 The distance by road from a house to the nearest water is irrelevant in determining the value of the house, if no water access is available at the nearest water.
- 26888 Few if any houses in New Bedford are located directly on the harbor or estuary.
- 26889 Few houses in Fairhaven are located on the harbor or estuary.
- 26890 Few houses in Dartmouth are located on the harbor or estuary.
- 26891 A transaction may not be relied upon to determine the fair market value of property if it is:
- a) A sale between members of the same family.
 - b) An intra-corporate sale (sales between the corporation and its stockholders, a subsidiary, an affiliate, or corporations whose stock is held by the same or substantially identical ownership).
 - c) A transaction which includes a substantial amount

of machinery, equipment, inventory, or goodwill.

- d) A sale of a property which has been subject to fire, flood, demolition, or substantial remodeling.
- e) A sale to or from the federal, state, or any local government or any subdivision thereof.
- f) A transfer of convenience, such as to correct defects in title or to create a trust of similar entity.
- g) A sale of property conveying only a portion of the original property.
- h) A sale resulting from court order.
- i) A sale by a trustee in bankruptcy or as a result of bankruptcy proceedings.
- j) A sale of less than a one-hundred-percent interest in property.
- k) A sale to or from an educational, charitable, or religious organization.
- l) A sale of a foreclosed property or repossession of the same.
- m) A sale of property influenced by zoning changes.

26892

Repeat sales analyses are invalid if:

- a) The property has had a substantial physical change subsequent to the first sale.
- b) The property has had a change in use subsequent to the first sale, including sales of property for which variances have been granted.
- c) The property was sold for consideration which included the assumption of existing mortgages.

26893

Attachment Q.VIII.f.0001 is a true and accurate Zoning Map of the Town of Fairhaven.

26894

There have been no substantial changes to the Zoning Map of the Town of Fairhaven at any time material to this controversy.

26895

The Zoning Map of the Town of Fairhaven accurately

reflects the zoning districts of the Town of Fairhaven.

- 26896 The Zoning Map of the Town of Fairhaven accurately represents the zoning ordinances establishing zoning districts and their application to the Town of Fairhaven.
- 26897 The Zoning Map of the Town of Fairhaven is prepared in accordance with the laws governing the Town of Fairhaven.
- 26898 The Zoning Map of the Town of Fairhaven is utilized by government officials, landowners, and interested parties in matters involving zoning in the Town of Fairhaven.
- 26899 Attachment Q.VIII.f.0002 is a true and accurate Zoning Map of the City of New Bedford.
- 26900 There have been no substantial changes to the Zoning Map of the City of New Bedford at any time material to this controversy.
- 26901 The Zoning Map of the City of New Bedford accurately reflects the zoning districts of the City of New Bedford.
- 26902 The Zoning Map of the City of New Bedford accurately represents the zoning ordinances establishing zoning districts and their application to the City of New Bedford.
- 26903 The Zoning Map of the City of New Bedford is prepared in accordance with the laws governing the City of New Bedford.
- 26904 The Zoning Map of the City of New Bedford is utilized by government officials, landowners, and interested parties in matters involving zoning in the City of New Bedford.
- 26905 Attachment Q.VIII.f.0003 is a true and accurate copy of the Assessors' Map of the Town of Fairhaven.
- 26906 There have been no substantial changes to the Assessors' Map of the Town of Fairhaven at any time material to this controversy.
- 26907 The Assessors' Map of the Town of Fairhaven accurately reflects the assessing plots of the Town of Fairhaven.

- 26908 The Assessors' Map of the Town of Fairhaven is prepared in accordance with the laws governing the Town of Fairhaven.
- 26909 The Assessors' Map of the Town of Fairhaven is utilized by government officials, landowners, and interested parties in matters involving assessing in the Town of Fairhaven.
- 26910 Attachment Q.VIII.f.0004 is a true and accurate copy of the Assessors' Map of the City of New Bedford.
- 26911 There have been no substantial changes to the Assessors' Map of the City of New Bedford at any time material to this controversy.
- 26912 The Assessors' Map of the City of New Bedford accurately reflects the assessing plots of the City of New Bedford.
- 26913 The Assessors' Map of the City of New Bedford is utilized by government officials, landowners, and interested parties in matters involving assessing in the City of New Bedford.
- 26914 Attachment Q.VIII.f.0005 is a true and accurate copy of the zoning laws of the Town of Fairhaven.
- 26915 There have been no material changes to the zoning laws of the Town of Fairhaven material to this controversy.
- 26916 Any changes to the zoning laws of the Town of Fairhaven are not material to this controversy.
- 26917 Attachment Q.VIII.0006 is a true and accurate copy of the zoning laws of the City of New Bedford.
- 26918 There have been no material changes to the zoning laws of the City of New Bedford material to this controversy.
- 26919 Any changes to the zoning laws of the City of New Bedford are not material to this controversy.
- 26920 Any release of PCBs from the plant site once owned by AVX has had nothing to do with beach attendance in New Bedford Harbor.
- 26921 Any release of PCBs from the Aerovox plant site once owned by AVX has had no impact on the real estate market in Fairhaven or New Bedford.

- 26922 Substantial quantities of PCBs have been released into New Bedford Harbor from the City of New Bedford's sewer plant on Clark's Point.
- 26923 Substantial quantities of PCBs have been released into the Acushnet River and New Bedford Harbor by Cornell-Dubilier.
- 26924 PCBs are odorless and colorless in the environment.
- 26925 It is not possible to observe, smell or sense with the naked eye PCBs in the Acushnet River or New Bedford Harbor.
- 26926 Homes adjacent to the Acushnet River and the New Bedford Harbor are not affected adversely in value by the presence of PCBs in those areas.
- 26927 No one living near the Acushnet River of New Bedford Harbor is able to observe PCBs in the water or sediments.
- 26928 No one swimming at any New Bedford area beaches has ever suffered any documented physical ill effect whatever attributed to PCBs.
- 26929 To the extent that the value of homes near water is impacted by the proximity to water in a community like New Bedford or Fairhaven, the basic effect is due to the view.
- 26930 The view of the water from homes near the Acushnet River and New Bedford Harbor is not adversely affected by the presence of PCBs in the waters and sediments.
- 26931 The market value of homes in Fairhaven and New Bedford has been rising every year during the 1970s and 1980s.
- 26932 Homes within a mile of the Acushnet River in Fairhaven are different from homes within a mile of the Acushnet River in New Bedford.
- 26933 Homes within a mile of the Acushnet River in New Bedford and Fairhaven are mostly occupied by people at the lower end of the economic scale.
- 26934 It is not possible to say that real estate values in New Bedford track directly the real estate values in Fairhaven.
- 26935 William Carter has been involved in a condominium

development in New Bedford on the waterfront.

- 26936 That condominium development in the 1980s was sold out before it was built.
- 26937 Waterfront property in New Bedford, Fairhaven and surrounding areas is at an all time high.
- 26938 In doing his analysis, Professor Mendelsohn did not consult any real estate brokers or appraisers or anyone else familiar with any real estate transactions in Fairhaven or New Bedford.
- 26939 Professor Mendelsohn based his analysis exclusively on repeat sales data.
- 26940 Real estate values are affected by economic conditions including unemployment levels and interest rates.
- 26941 There is in fact no injury to the natural resources from any PCB contamination in the Acushnet River and New Bedford Harbor.
- 26942 If any diminution in real estate values or decreased utilization of the Acushnet River and New Bedford Harbor can be established, the cause is unnecessary statements and actions by both the state and federal governments.
- 26943 The actions by the state and federal governments with respect to New Bedford Harbor and the Acushnet River by closing certain areas to lobstering and fishing and by issuing warnings concerning PCBs are all intervening, superseding causes that break the chain of causation from any release of PCBs that may have occurred from the manufacturing sites involved in this litigation.
- 26944 Annexed hereto as Attachment VI-15 is a true and accurate copy of the United States Environmental Protection Agency brochure entitled PCBs and New Bedford Harbor.
- 26945 Unfounded governmental warnings such as those found in Attachment VI-15 have created hysteria among the population in and around New Bedford that is totally unwarranted and unfounded by any scientific evidence regarding PCBs and is directly attributable to the plaintiffs.
- 26946 Legislators like Roger Goyette and bureaucracies like the Environmental Protection Agency, the FDA, the DPH

and the DEQE have been the cause of, and have perpetuated, misconceptions concerning PCBs like those contained in press releases identified by the plaintiffs in their requests to admit and in the brochure, Attachment VI-15. Contrary to the statement in that brochure, PCBs do breakdown when exposed to environmental forces, and do not cause any health effects, given the levels at which they are found in the Acushnet River and New Bedford Harbor, including the mud flats above the Coggeshall Street Bridge.

- 26947 There was no need to caution children against playing near the River as was done by the EPA.
- 26948 There is no drinking water in the Acushnet River or New Bedford Harbor.
- 26949 Plaintiffs have offered no evidence of injury to the natural resource at issue in this case or damages that may have occurred following December 10, 1980.
- 26950 In a report issued by Summerhayes et al. in 1976, the authors reported that copper is a good indicator of metals contamination in the Harbor.
- 26951 Copper is a good indicator of metals contamination in the Harbor.
- 26952 Most of the outer Harbor between Ricketston's Point and Wilbur Point has copper concentrations of 10-100 ppm in surface sediments.
- 26953 The Acushnet River sediments above the hurricane barrier have copper concentrations exceeding 1,000 ppm. Levels of 500-1,000 ppm copper are found in the outer harbor, extending one and a half to two and a half miles southeast from the hurricane barrier, and 1-500 ppm in most remaining harbor areas between Ricketston's Point and Wilbur Point. Concentrations increased to 500-1,000 around the wastewater outfall off Clark's Point.
- 26954 The Summerhayes report is a report of the type reasonably relied upon by experts in the field.
- 26955 In August 1984, the United States Environmental Protection Agency issued a Draft Feasibility Study of Remedial Action Alternatives for the Acushnet River Estuary.
- 26956 The Study also reported that heavy metals, such as

copper, chromium, zinc and lead were released by metals manufacturing and textile dying operations over the past 80 years, and that the disposal of these wastes has led to environmental contamination of the Estuary and Harbor.

- 26957 In the Study, the EPA reported that the New Bedford 1980 unemployment rate was 8.6 percent, and the 1982 rate was 14.3 percent, which was higher than the labor market area rate of 12.4 percent and the state unemployment rate of 8 percent. These facts are true.
- 26958 The Study reported that Fairhaven was a residential suburb of New Bedford.
- 26959 In the Study, the EPA reported that sedimentation rate in the area of the Acushnet River has been estimated to range between 1.7 to 4 centimeters a year, since the construction of the hurricane barrier.
- 26960 There are no data on PCB concentration levels in clams and related species, or lobsters from locations north of the Coggeshall Street bridge, because there is little living benthic macrofauna in that area.
- 26961 In the Study, the EPA reported that PCB discharge to the Estuary was ended in 1977, and the most contaminated sediments have been covered by cleaner sediments since then.
- 26962 There is little or no use of the shoreline and mudflats of the upper Estuary.
- 26963 Mr. Stephen R. Bliven is, and has been since September of 1985, assistant director of the Massachusetts Coastal Zone Management Office ("CZM").
- 26964 From January of 1981 to September of 1986 Mr. Bliven was a principal planner in the Massachusetts Coastal Zone Management Office.
- 26965 The public beach at Fort Phoenix State Park in Fairhaven has been closed for public use from time to time, including a period in the summer of 1984 or 1985, because of elevated coliform levels but never for any other reason.
- 26966 One of CZM's concerns is over-fishing with respect to certain species of fish in certain areas.
- 26967 CZM has commented on potential over-fishing of alewife,

blue-back herring, various types of shellfish, various ground fish, flounder and haddock.

- 26968 CZM has expressed concern about over-fishing of alewife and blue-back herring within Buzzards Bay.
- 26969 CZM has worked with the towns of Bourne, Falmouth, Westport, and Dartmouth to develop management plans to limit the taking of alewife and blue-back herring.
- 26970 There is severe contamination caused by elevated levels of copper and cadmium in the area around the Revere Copper Works just south of the Route I-95 bridge/causeway.
- 26971 A plating company has been discharging arsenic into New Bedford Harbor.
- 26972 The disposition of dredged spoils contaminated with heavy metals is a matter of concern to CZM.
- 26973 Fecal material potentially contains pathogens.
- 26974 Fecal material can become embedded in dredged spoils.
- 26975 The disposal of dredged spoils containing fecal material is a matter of concern to CZM.
- 26976 The nature of CZM's concern is where such dredged spoils will be disposed of.
- 26977 It is the policy position of CZM that dredged spoils contaminated with heavy metals should not be disposed of at ocean locations.
- 26978 It is the policy position of CZM that dredged spoils contaminated with fecal bacteria should not be disposed of at ocean locations.
- 26979 CZM advises permit applicants for projects involving dredging that they should measure in the dredged spoils involved, and discuss in the permit application, certain contaminants including heavy metals and fecal bacteria.
- 26980 The position CZM takes with regard to the method of disposal of PCB-contaminated dredged spoils depends in part on the level of PCBs in the dredged spoils.
- 26981 The level of PCBs in dredged spoils affects whether CZM would recommend or endorse ocean disposal of such

spoils.

- 26982 CZM considers in deciding whether to recommend or endorse ocean disposal of dredged spoils containing PCBs, other than the levels of PCBs, the availability of the PCBs for resuspension or drift or uptake into the biota or water column and the nature of the site to which the materials would be taken.
- 26983 CZM's comments or recommendations with respect to methods of dredging, protections for dredging materials, and disposal of dredged materials have not been addressed specifically to either PCBs or heavy metals.
- 26984 Where ocean or other in-water disposal of dredged sediments is proposed, an applicant for a Section 404 permit is required to conduct bioaccumulation tests on the tissues of aquatic organisms which have been subjected to bioassay tests of such sediments to determine whether cadmium, mercury, PCBs, DDTs or petroleum hydrocarbons have accumulated in such items.
- 26985 These five elements are the ones that have been used for bioaccumulation tests since 1976.
- 26986 Dredged sediments may be disqualified for ocean dumping if there is a statistically significant mortality of test organisms exposed to the representative samples of the dredge material, in comparison to the reference samples as well as certain controls on the control sample mortality, or if there is a statistically significant bioaccumulation of any of the five or additional elements tested in the bioaccumulation tests, and the known literature indicates concern from such levels relative to the food chain and resulting harm to man.
- 26987 There is a high copper concentration in at least some New Bedford Harbor sediments.
- 26988 Typical special conditions imposed with respect to dredging projects include equipment selection to minimize resuspension of sediments at a dredge site; the use of silt curtains surrounding a dredge area to control the release of turbidity to other waters; special measures to deal with the treatment or filtering of any effluent which would be returned to the water from an upland disposal site; a restriction limiting dredging to a particular time of year; requiring upland disposal, rather than ocean disposal,

of dredged material; and use of certain techniques such as geotextile fabrics as filter fabrics in structures to hold dredged materials.

26989 These kinds of special conditions are sometimes imposed when there is no particular concern with PCBs, because of the presence of other contaminants of concern or because of a physical aspect of silt such as silt size particles that may cause problems with shellfish or spawning of organisms.

26990 EPA recommends the use of silt curtains in dredging operations where there is a large percentage of silt size particles and where there are contaminants that would likely be resuspended from a dredging operation and thus imperil aquatic life and water quality standards.

26991 In some instances where there is no concern over contaminants in the sediments, a silt curtain may be recommended because the silt itself and the resulting turbidity can be damaging to organisms, particularly shellfish.

26992 Mr. Edward Reiner is, and has been since June of 1979, an aquatic biologist with the Environmental Protection Agency, Region I, in Boston, Massachusetts.

26993 As an aquatic biologist with EPA, Mr. Reiner reviews permit applications under section 404 of the Clean Water Act, section 10 of the Rivers and Harbors Act of 1899, and section 103 of the Marine Protection Research and Sanctuaries Act, as well as environmental assessments, Environmental Impact Reports, Environmental Impact Statements, and makes recommendations of conditions for a permit or objects to issuance of a permit.

26994 Buzzards Bay is protected under the Marine Protection Research and Sauchiaries Act. As an aquatic biologist with EPA since 1979, Mr. Reiner has reviewed, and made recommendations or comments with respect to, a number of permit applications for projects which involve dredging in New Bedford Harbor, including, among others, the R.M. Packer project and the Route 6 bridge project.

26995 Mr. Reiner is not aware of any changes during the period 1979 to the present, when he has been an aquatic biologist with EPA, in permit requirements imposed with respect to projects in the New Bedford Harbor/Acushnet

Harbor/Buzzards Bay area concerning the testing for or disposal of PCB-contaminated sediments.

- 26996 Mr. Reiner does not know when EPA first became informed of a PCB problem in New Bedford Harbor in order to apply particular criteria.
- 26997 Dredging projects in New Bedford Harbor involve concerns with respect to sediments contaminated with heavy metals, particularly, in some locations, cadmium and copper.
- 26998 In at least one project, a dredging project in Hingham, the Commonwealth required the use of silt curtains although the sediments did not contain concentrations of PCBs.
- 26999 The sampling that has been done for PCBs in the Acushnet River and New Bedford Harbor was not done on a random sampling scheme or stratified random sampling scheme to ensure representativeness of the samples.
- 27000 All documents described as "Attachments" submitted as part of the AVX Requests to Admit are genuine; that is, they are what they purport to be.
- 27001 The plaintiffs have no evidence to segregate any injury to the New Bedford Harbor and Acushnet River environment that may have occurred after the enactment of Superfund from any injury that may have occurred before the enactment of that statute.
- 27002 The plaintiffs have no evidence to segregate any damages that may have occurred to the New Bedford Harbor and Acushnet River environment after the enactment of Superfund from only damages that may have occurred before the enactment of that statute.
- 27003 A study was performed by Balsam Environmental Consultants, Inc. ("Balsam") in 1986 to determine the present depth or the existing dredged navigation channels, basin, and anchorages in New Bedford Harbor and approached.
- 27004 Attachment VI-17 is a true and accurate copy of the 1986 Balsam report entitled, "New Bedford Harbor Bathymetric Survey - Data Report", Balsam Environmental Consultants, Inc., 5 Manor Parkway, Salem, New Hampshire 03079.
- 27005 The study consisted of taking soundings to determine

accurately the depths of the locations measured.

- 27006 The study performed by Balsam Environmental Consultants, Inc. with respect to the possible need for dredging in the Acushnet River and New Bedford Harbor followed accurate principles for such a study.
- 27007 Accurate Bathymetric readings were taken.
- 27008 The results of the Bathymetric survey are accurately presented in the drawing included as Appendix A prepared by Ocean Surveys, Inc. to the report of Balsam Environmental Consultants, Inc. annexed as Attachment VI-17.
- 27009 Attachment VI-17 accurately reports the present depth of the existing dredged navigation channels, basins, and anchorages in New Bedford Harbor and approaches.
- 27010 Attachment VI-17 accurately reports the locations measured.
- 27011 No maintenance dredging on the navigation channels, basins and anchorage in New Bedford Harbor and approaches has occurred since 1953.
- 27012 The depths of the channels, basis and anchorage in New Bedford Harbor and the Acushnet River exceed the depths prescribed by governmental agencies responsible therefor.
- 27013 There is no need for any maintenance dredging of said areas at this time.
- 27014 It is unknown when if ever there will be need for any such dredging.
- 27015 In June 1986, the Division of Marine Fisheries announced that it will continue to permit the catch and sale of striped bass in Massachusetts.
- 27016 The Division of Marine Fisheries announced that testing done at its laboratory in Salem revealed that all but one of the striped bass sampled fell within the PCB federal guidelines for PCBs -- two parts per million.
- 27017 The qualifications taken by AVX to plaintiffs' joint request to admit as reflected in AVX's "Qualified Admissions" are true and accurate and factual.
- 27018 Attachment VI-18 is, in three parts, an aerial

photograph of sections of the City of New Bedford, the Town of Acushnet, the Town of Fairhaven, including the Acushnet River and portions of New Bedford Harbor.

- 27019 Said attachment is a fair and accurate representation of the areas depicted therein.
- 27020 No assessment of damages with respect to the Acushnet River or New Bedford Harbor can be made unless one knows what cleanup, if any, will be undertaken of said areas.
- 27021 If the public in and around New Bedford has a perception that PCBs are dangerous and if that perception has in fact resulted in damages to the natural resources or services as a proxy measure of damages, the perception is misguided and unjustified and based upon inaccurate statements by public officials.
- 27022 PCBs cannot be detected by the human eye in the Acushnet River or New Bedford Harbor.
- 27023 During the late 1970s and early 1980s, New Bedford was a high unemployment area by comparison with the rest of the state.
- 27024 The unemployed people in the New Bedford area were principally concentrated at the low end of the economic scale.
- 27025 Most of the homes in New Bedford and Fairhaven within one mile of the Acushnet River are occupied by people at the low end of the economic scale.
- 27026 Water quality of a harbor and estuary like the Acushnet River and New Bedford Harbor has no effect on the value of waterfront property.
- 27027 The Acushnet Company and Fryonor were both cited for causing pollution in the Acushnet River during the 1970s or 1980s.
- 27028 Interest rates including consumer interest rates and mortgage rates were at all time highs in the 1979 to 1982 time period.
- 27029 All documents described as "Attachments" submitted as part of the AVX Requests to Admit are genuine; that is, they are what they purport to be.

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27030. Jeanne C. Reedy resides at 48 Thompson Street,
Fairhaven, Massachusetts.
27031. Ms. Reedy is the full-time appointed assessor for the
Town of Fairhaven.
27032. Ms. Reedy has been the full-time appointed assessor for
the Town of Fairhaven since February 29, 1988.
27033. Ms. Reedy was the elected assessor in the Town of
Fairhaven from 1982 until 1988.
27034. Ms. Reedy was an elected assessor for the Town of
Fairhaven for three terms before being appointed full-
time assessor for the Town of Fairhaven when the
position of assessor became appointed, not elected.
27035. In the early 1980's, Ms. Reedy was a real estate broker
for the New Bedford area for Alcon Realty.
27036. In the early 1980's, Ms. Reedy also worked as a tax
preparer for H & R Block for the New Bedford area.

27037. Prior to 1982, Ms. Reedy had been a homemaker for 25 years, and raised six children.
27038. Ms. Reedy has worked full-time as an assessor for the Town of Fairhaven since 1982, often working 80-hour weeks.
27039. Ms. Reedy attended New Bedford High School, and graduated in the class of 1956.
27040. Ms. Reedy moved to New Bedford in 1950.
27041. Ms. Reedy lived in New Bedford from 1950 to 1970.
27042. In 1970, Ms. Reedy moved to Fairhaven, and has lived in Fairhaven for the last twenty years.
27043. Ms. Reedy's duties and responsibilities as assessor for the Town of Fairhaven include administering the revaluation of all property in the Town of Fairhaven for tax assessment purposes, making determinations on all abatements and exemptions to the assessments of any real property, and assessment of personal property, including motor vehicles and boats.
27044. Ms. Reedy is accredited by the Massachusetts Association

of Assessing Officers as an assessor.

27045. Ms. Reedy is an expert in the field of assessing.
27046. On September 15, 1989, Ms. Reedy received a certificate from the International Association of Assessment Officers for completing a workshop on narrative appraisal report writing.
27047. On May 18, 1989, Ms. Reedy completed a course on assessment administration offered by the International Association of Assessing Officers.
27048. On September 13, 1985 Ms. Reedy completed Course Two, The Income Approach to Valuation, offered by the International Association of Assessing Officers.
27049. Ms. Reedy successfully completed the course, Principles of Assessing Procedures, given by the Massachusetts Association of Assessing Officers.
27050. On September 21, 1984 the International Association of Assessing Officers presented Ms. Reedy with a certificate in recognition of satisfactory completion of Course I, The Fundamentals of Real Property Appraisal.

27051. In 1984, Ms. Reedy was certified as a member of the International Association of Assessing Officers.
27052. On September 14, 1988, Ms. Reedy received a certificate from the International Association of Assessing Officers in recognition of her participation in a workshop on Multiple Regression Analysis for Real Property Valuation.
27053. In 1990, Ms. Reedy will be teaching a course to other assessors at the University of Massachusetts on planning and administrating a revaluation of real property for towns and cities.
27054. Ms. Reedy is the secretary of the education committee for the Massachusetts Assessors Association.
27055. Ms. Reedy is the Treasurer of the Bristol County Assessors Association.
27056. Ms. Reedy regularly attends conferences on specific topics in the field of assessing.
27057. Since 1982 Ms. Reedy has attended, on average, more than ten meetings per year, given by the Massachusetts Association of Assessing Officers, the International

Association of Assessors and the Massachusetts
Department of Revenue.

27058. Ms. Reedy has published an article in Massachusetts Assessors Association regarding education in the field of assessing.
27059. In July of 1988, the Town of Fairhaven began its revaluation of all real property for fiscal year 1990.
27060. Field workers were hired by the Assessor's Office of the Town of Fairhaven and instructed to measure and list all properties in the Town of Fairhaven.
27061. Field workers measured and listed all properties in the Town of Fairhaven for the revaluation for fiscal year 1990.
27062. All real property in the Town of Fairhaven was measured and listed by the firm of McGee & McGann in 1985-1986 for the 1986 fiscal revaluation.
27063. The McGee & McGann records from 1986 were updated by physical measurements of all real property in the Town of Fairhaven.

27064. A view of each property in the Town of Fairhaven was made to check against the assessment records from 1986 to determine if any additions were made to the homes.
27065. Examples of additions made to homes since 1982 included porches, sheds and pools.
27066. There were many changes required in the Town of Fairhaven's records to reflect changed property use between 1982 and 1988.
27067. As an example, many properties in the Town of Fairhaven had added porches between 1982 and 1988.
27068. As an example, many open porches on properties in the Town of Fairhaven had been enclosed between 1982 and 1988.
27069. The Assessor's Office for the Town of Fairhaven was frequently not notified of changes made to homes.
27070. Property owners were contacted by field workers for the Town of Fairhaven's Assessor's Office to determine the accuracy of information concerning the number of bathrooms, bedrooms, fireplaces and other pertinent information contained on the records for each house in

the Town of Fairhaven.

27071. A sales verification form was sent out for every 1988 sale in the Town of Fairhaven.

27072. The sales verification form was sent to buyers and sellers of property in the Town of Fairhaven.

27073. Sales verification was necessary to identify unqualified properties.

27074. Unqualified sales are sales that do not reflect the true market value for property.

27075. Unqualified sales exist for many reasons, including sales between relatives, sales where major changes were made to a property, and sales where other value changed hands besides the purchase price for the property.

27076. If there was a discrepancy between sale price and assessed value, the potentially unqualified sale was verified in person by a representative of the Assessor's Office of the Town of Fairhaven.

27077. The Assessor's Office of the Town of Fairhaven directed that all properties in the Town of Fairhaven be graded

and depreciated.

27078. One person graded and depreciated all properties for the Town of Fairhaven's Assessor's Office, so that those determinations would be uniform.

27079. The Town of Fairhaven Assessors' Office assessed the value of all properties in the Town of Fairhaven for fiscal year 1990.

27080. "Revaluation" is the term used to describe a town or a city's independent re-assessment of property.

27081. Property appraisals for the revaluations for fiscal year 1990 in the Town of Fairhaven were based only on the qualified sales of residential properties in the Town of Fairhaven in 1988.

27082. The Town of Fairhaven reevaluation for 1990 broke down the value of residential homes into categories of building value and land value.

27083. Residential building values were determined by replacement cost.

27084. Land values were determined as the residual value

between the replacement cost of the home and the market value for the residential property as determined from qualified sales in the Town of Fairhaven.

- 27085. The Town of Fairhaven used the program Lotus 1 2 3 to perform a sales ratio analysis.
- 27086. The Town of Fairhaven relied on the Marshall Swift computer program to verify the replacement cost for residential housing.
- 27087. The Marshall Swift computer program uses data concerning the type of housing, the foundation, the age and other basic conditions, including the type of floors and walls, the number of bathrooms and the number of bedrooms to calculate the replacement cost for the house.
- 27088. The Marshall Swift program determines depreciation from the age of the house.
- 27089. The Marshall Swift program was used by the Town of Fairhaven Assessors' Office for revaluations in fiscal years 1986 and 1990 to verify the tables used by the Town of Fairhaven in their appraisal program.

27090. All neighborhoods in the Town of Fairhaven were reviewed by the Assessors' Office to determine assessed values for residential property for the revaluation of real estate in the Town of Fairhaven for fiscal year 1986 and 1990.
27091. For both the fiscal year 1986 and 1990 revaluations, the Assessors' Office for the Town of Fairhaven reviewed all neighborhoods in the Town of Fairhaven to redefine the exact neighborhood boundaries, and the values in the different neighborhoods in the Town of Fairhaven.
27092. Determination of neighborhood values is essential in determining the fair market value of property.
27093. Knowledge of the qualified sales in the Town of Fairhaven in 1988, and the different neighborhoods in which each of those sales occurred, is necessary to determine the fair market value of property in the Town of Fairhaven.
27094. The Department of Revenue for the Commonwealth of Massachusetts reviewed and certified the revaluations done by the Town of Fairhaven for fiscal year 1986 and 1990.

27095. The revaluation was based on 1988 qualified sales and was compared to 1989 market values.
27096. All 1988 sales data was verified for the Town of Fairhaven to determine that no unqualified sales were used.
27097. Plaintiffs' Repeat Sales study data were not based on sales verified by the Town of Fairhaven as being qualified sales.
27098. The Town of Fairhaven's check for assessed values based on 1988 qualified sales revealed that the assessed values were comparable to properties advertised for sale in the Town of Fairhaven in 1989.
27099. Ms. Reedy has observed unusual development adjacent to the waterfront in the Town of Fairhaven.
27100. For example, in Fairhaven, a house purchaser has used only the foundation of an old house to build a new house.
27101. Since 1982, many houses near the waterfront or outer harbor in the Town of Fairhaven have been reconstructed.

27102. Summer residences along the waterfront of the outer harbor in the Town of Fairhaven have been slowly converted to year-round use.
27103. Since 1982, outer harbor waterfront property in the Town of Fairhaven has been more widely reconstructed than other properties.
27104. There is a trend for people to purchase cottages along the waterfront in the Town of Fairhaven and convert them to year-round use.
27105. Since 1982, the trend in the Town of Fairhaven is for waterfront cottages to increase in size.
27106. Examples exist in the Town of Fairhaven where summer cottages on the waterfront formerly used only 2 or 3 months out of the year have been and are being converted to year-round use and increased in size.
27107. William Carter's own home is his former summer cottage which he converted to year round use.
27108. Other examples of such changes can be found along Bayview Avenue off Sconticut Neck Road.

27109. Many examples of summer cottages converted to year-round homes are found on West Island.
27110. The conversion of summer cottages to year-round homes along the waterfront in the Town of Fairhaven are not usually reflected in the records of the Town of Fairhaven.
27111. Summer cottages are assessed as personal property on the personal property excise tax bills in the Town of Fairhaven; year-round residents do not receive personal property excise bills.
27112. The only records in the Town of Fairhaven of conversion of summer cottages to full year-round homes is based on applications for abatements for personal property excise bills on summer cottages.
27113. Residents of the Town of Fairhaven often continue to pay the personal property excise tax bill on summer cottages for years after summer cottages have been converted into larger homes and homes for year-round use.
27114. Certain former summer cottages converted to year-round use and increased in size are often rented year round.

27115. Former summer cottages in the Town of Fairhaven converted to year-round use and increased in size now have residents living year-round on the property.
27116. Prior to 1986, no abatement applications existed for former summer cottages converted to year-round use and increased in size in the Town of Fairhaven.
27117. Prior to 1986, the personal property excise tax bill on summer cottages was a maximum of only 2 or 3 dollars per year.
27118. Under the 1986 revaluation in the Town of Fairhaven conducted by Ms. Reedy as the assessor for the Town of Fairhaven, personal property excise tax bills were raised on summer cottages in the Town of Fairhaven from 2 or 3 dollars per year to 10% of the assessed value of the property.
27119. The change in 1986 from personal property excise tax bills of 2 or 3 dollars per year to an increase to 10% of the assessed value of the summer cottage, was a significant change in terms of the amount of the personal property excise tax bill paid by the owner of summer cottages in the Town of Fairhaven.

27120. Prior to 1986, owners of summer cottages in the Town of Fairhaven who had converted the cottages to year-round use and increased the cottages in size did not apply for abatements of the personal property tax bill, because the tax bill was only 2 or 3 dollars.
27121. The Town of Fairhaven has no records indicating summer cottages were converted to year-round use or increased in size except for records from applications for abatements on the personal property excise tax bill.
27122. Prior to 1986, the Town of Fairhaven had no records for any summer cottages that were converted to year-round use or increased in size on or near the waterfront.
27123. A significant number of homes in the Town of Fairhaven were converted from summer cottages to year-round use and increased in size prior to 1986.
27124. A significant number of homes on West Island were converted from summer cottages to year-round use and increased in size prior to 1986.
27125. At least 20 to 40 owners of summer cottages that were converted to year-round use and increased in size in the Town of Fairhaven have applied for abatements of the

personal property excise tax bill in the last 2 years.

27126. Prior to 1986, no owners of summer cottages that were converted from summer cottages to year-round use in size applied for abatements of their personal property excise tax bill because the personal property excise tax bill was only 2 or 3 dollars; for this reason, the Town of Fairhaven had no records of those summer cottages that were converted from summer cottages to year-round homes, of which a significant number existed on or near the waterfront in the Town of Fairhaven, particularly on West Island.

27127. Properties on West Island are included in Zone 3 in plaintiffs' repeat sales study.

27128. Plaintiffs do not know if properties in Zone 3 considered in their repeat sales study were converted from summer cottages to year-round use or were increased in size.

27129. It is probable that numerous properties were converted from summer cottages to year-round use and were increased in size between the time of the first and second sales used for data by plaintiffs in their repeat sales study.

27130. Plaintiffs do not know whether or how many properties were converted from summer cottages to year-round use and were increased in size in between sales used by plaintiffs as data in their Zone 3 and Zone 4 of the repeat sales study.
27131. Ms. Reedy was the Assessor for the Town of Fairhaven and conducted the total revaluation for the Town of Fairhaven for fiscal year 1986.
27132. Ms. Reedy was the assessor for the Town of Fairhaven and conducted the total revaluation for the Town of Fairhaven for fiscal year 1990.
27133. Ms. Reedy used the same standards and practices to conduct the total revaluations for assessed values in the Town of Fairhaven in both 1986 and 1990.
27134. Any errors that plaintiffs allege may exist in the actual numbers of the assessed values, whether under or over valued, from the Town of Fairhaven fiscal year 1986 and 1990 revaluations due to the standards and practices of the assessor Ms. Reedy and the Assessors' Office, would be consistent for the fiscal year 1986 and 1990 revaluations and assessed values of the Town of

Fairhaven.

27135. According to the Assessor's Office of the Town of Fairhaven, and in Ms. Reedy's professional opinion, the assessed value of property in the Town of Fairhaven from fiscal year 1986 to fiscal year 1990 has more than doubled.

27136. The actual value of real property in the Town of Fairhaven has more than doubled from fiscal year 1986 to fiscal year 1990.

27137. Plaintiffs' repeat sales study does not consider the more than doubling in assessed real estate prices in the Town of Fairhaven from fiscal year 1986 to fiscal year 1990.

27138. The assessment for fiscal 1986 and fiscal year 1990 shows that value of property near the waterfront in the Town of Fairhaven rose at a higher rate than other property in the Town of Fairhaven.

27139. Plaintiffs' repeat sales study did not consider that from fiscal year 1986 to fiscal year 1990 the assessed value of real estate in the Town of Fairhaven along the waterfront rose at a proportionately faster rate than

other property in the Town of Fairhaven.

27140. Attachment Q.VIII.e.165 is a true and accurate copy of the Assessor's Assessment/Classification Report for the Town of Fairhaven as of January 1, 1985, effective for fiscal year 1986, marked as Town of Fairhaven Exhibit 22, May 1, 1990.
27141. Attachment Q.VIII.e.165 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.
27142. The values reflected on the Certification Sheet referenced above, marked Fairhaven Deposition Exhibit 22, was completed in the year the total revaluation was completed for the Town of Fairhaven by Ms. Reedy as assessor for the Town of Fairhaven and based on the McGee and Magan and physical evaluation on the properties in the Town of Fairhaven.
27143. Attachment Q.VIII.e.166 is a true and accurate copy of the Certification Sheet for the Town of Fairhaven for January 1, 1989, referred to as the fiscal year 1990

reevaluation for the Town of Fairhaven, marked as Town of Fairhaven Deposition Exhibit 23 on May 1, 1990.

27144. Attachment Q.VIII.e.166 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.

27145. Attachment Q.VIII.e.166 is an admission by a party-opponent, offered against a party and is: a plaintiff's own statement; or a statement of which a plaintiff has manifested an adoption or belief in its truth; or a statement by a person authorized by a plaintiff to make a statement concerning the subject; or a statement by plaintiff's agent or servant concerning a matter within the scope of the agency or employment, made during the existence of the relationship.

27146. The above-referenced information for both the 1986 and 1990 Town of Fairhaven assessments was certified by the Department of Revenue for the Commonwealth of Massachusetts, and constitutes an admission by plaintiffs of the accuracy of the assessments, including an admission that the assessed values of property in the

Town of Fairhaven has more than doubled from 1989 to 1990.

27147. Attachment Q.VIII.e.167 is a true and accurate copy from the Commonwealth of Massachusetts Department of Revenue Division of Local Services Guidelines for Classification and Taxation of Property According to Use and Property Type Classification Codes form the Bureau of Local Assessment March, 1988 marked as Town of Fairhaven Deposition Exhibit 28 on May 1, 1990.

27148. Attachment Q.VIII.e.167 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.

27149. Attachment Q.VIII.e.167 is an admission by a party-opponent, offered against a party and is: a plaintiff's own statement; or a statement of which a plaintiff has manifested an adoption or belief in its truth; or a statement by a person authorized by a plaintiff to make a statement concerning the subject; or a statement by plaintiff's agent or servant concerning a matter within the scope of the agency or employment, made during the

existence of the relationship.

27150. Attachment Q.VIII.e.168 is a true and accurate copy of the Assessment Classification Report for fiscal year 1990 from the Town of Fairhaven computer on April 26, 1990 and marked as Town of Fairhaven Deposition Exhibit 24 on May 1, 1990.

27151. Attachment Q.VIII.e.168 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.

27152. Property Class Code 101 is for single family residential homes, as referenced in the 1986 fiscal year Assessment and Classification Report and the fiscal year 1990 Classification Report.

27153. For Fiscal year 1990, Class Code 101 for residential single family homes consisted of 4,877 properties.

27154. The number of new single family residential homes in the Town of Fairhaven from fiscal year 1986 to fiscal year 1990 changed from 4,766 to 4,877 properties, an increase

of 121 homes. The value of single family property in the Town of Fairhaven much more than doubled from fiscal year 1986 to fiscal year 1990.

27155. Attachment Q.VIII.e.169 is a true and accurate copy of the Commonwealth of Massachusetts Department of Revenue Notification of Certification to the Board of Assessors in the Town of Fairhaven for the fiscal year 1990 revaluation for the Town of Fairhaven, marked as Exhibit 27 at the Deposition of the Town of Fairhaven on May 1, 1990.

27156. Attachment Q.VIII.e.169 is a true and accurate copy of the Assessment Classification Report for fiscal year 1990 from the Town of Fairhaven computer on April 26, 1990 and marked as Town of Fairhaven Deposition Exhibit 24 on May 1, 1990.

27157. Attachment Q.VIII.e.169 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.

27158. Approximately 500 deeds recorded in the Town of

Fairhaven in 1988 were evaluated to determine properties eligible to serve as qualified sales for the fiscal year 1990 assessment for the Town of Fairhaven.

27159. Of these 500 deeds, 120 properties were determined to be qualified single family residential sales eligible for use in the analysis of fair market value in the Town of Fairhaven.
27160. Each of the 500 deeds recorded in 1988 in the Town of Fairhaven described above, was carefully reviewed by the Town of Fairhaven Assessors' Office to determine if it was a qualified sale.
27161. After the review of the 500 deeds described above, approximately 120 sales were determined by the Town of Fairhaven Assessors' Office to be qualified sales.
27162. Of the 500 deeds described above, approximately 250 were single family residences sold in the Town of Fairhaven.
27163. Of the 250 single family residences sold in the Town of Fairhaven in 1988, 130 of those sales were determined to be unqualified.
27164. Over one-half of the sales in 1988 of single family

residences in the Town of Fairhaven were determined by the Board of Assessors of the Town of Fairhaven to be unqualified sales.

27165. Among the reasons approximately 130 of the 250 sales of single family residences in the Town of Fairhaven were determined by the Board of Assessors of the Town of Fairhaven to be unqualified for use in determining fair market value of properties in the Town of Fairhaven were: owner financing of sales; sales between relatives; construction on the properties; change of use of the properties; distress sales; property sales including house contents or other land.

27166. Field workers in the Town of Fairhaven physically inspected the outside of each property as part of the fiscal year 1990 revaluation.

27167. Field workers for the Assessor's Office of the Town of Fairhaven for the revaluation for fiscal year 1990 spoke to the owners or physically inspected the inside of approximately 85% of the houses and businesses in the Town of Fairhaven.

27168. Attachment Q.VIII.e.170 is a true and accurate copy of the Tax Rate Recapitulation of Fairhaven for Fiscal

1990, marked as Town of Fairhaven deposition Exhibit 25 on May 1, 1990.

27169. Attachment Q.VIII.e.170 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.
27170. Attachment Q.VIII.e.171 is a true and accurate copy of a letter to the Board of Assessors of Fairhaven from Mariellen Murphy, Massachusetts Department of Revenue, dated July 1, 1989, with an assessment change list enclosed.
27171. Attachment Q.VIII.e.171 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.
27172. Attachment Q.VIII.e.172 is a true and accurate copy of the 1980 Recapitulation for Fairhaven, marked as Exhibit 29 during the deposition of the Town of Fairhaven on May

1, 1990.

27173. Attachment Q.VIII.e.172 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.

27174. No one from the United States Government of the Commonwealth of Massachusetts contacted Ms. Reedy prior to May 1, 1990.

27175. Prior to May 1, 1990, no agent of the United States Government or agent of the Commonwealth of Massachusetts, including anyone participating in investigations alleged effects of PCBs on area waters or land values in the Town of Fairhaven contacted either Ms. Reedy or anyone in the Assessor's Office of the Town of Fairhaven concerning the possible effect of alleged presence of PCBs on land values in the Town of Fairhaven.

27176. Different neighborhoods exist in the Town of Fairhaven.

27177. Different neighborhoods in the Town of Fairhaven have

different residential property values .

27178. Neighborhood lines have changed significantly over time in the Town of Fairhaven, making some properties more or less valuable over time.

27179. Physical boundaries of neighborhoods in the Town of Fairhaven were based on the personal familiarity of Ms. Reedy.

27180. Ms. Reedy is familiar with the neighborhoods in the Town of Fairhaven as she has travelled in each different neighborhood in Fairhaven for many years.

27181. Ms. Reedy drove through each neighborhood in the Town of Fairhaven from 1986 to 1990 to place neighborhood values on each property in the Town of Fairhaven.

27182. Paul Matheson assisted Ms. Reedy in the drawing of neighborhood lines in the Town of Fairhaven.

27183. Paul Matheson was born and brought up in the Town of Fairhaven, and owns property on Sconticut Neck and is now in his forties.

27184. Ms. Reedy had the final say on how neighborhood lines

were drawn for the assessment of values of real property in the Town of Fairhaven.

27185. Ms. Reedy took maps of the Town of Fairhaven home to review and made changes to carefully determine the boundaries of each neighborhood in the Town of Fairhaven.

27186. The Commonwealth of Massachusetts Department of Revenue reviewed the neighborhoods in the Town of Fairhaven to determine whether the neighborhood lines were properly drawn and approved those neighborhood lines.

27187. Ms. Reedy has travelled through most of the Town of Fairhaven to inspect the neighborhoods to determine neighborhood boundaries.

27188. Ms. Reedy is familiar with each neighborhood in the Town of Fairhaven.

27189. Property values in neighborhoods closer to the water are higher usually because of the water view, rather than recreational amenities related to the water.

27190. Ms. Reedy determined that proximity to the waterfront in the Town of Fairhaven added value to property.

27191. Neighborhood lines in the Town of Fairhaven have changed between 1982 and 1990.
27192. The neighborhoods in the Town of Fairhaven changed in part due to summer cottages being developed and reconstructed into larger year-round residences.
27193. For example, on Bayview Avenue in Fairhaven what was primarily an all summer resident neighborhood has now been redeveloped and reconstructed into year round homes, so that the area is no longer a welfare community, but has changed and increased in value.
27194. Plaintiffs' repeat sales study does not consider the neighborhood boundaries, or the changes in neighborhood boundaries, in the Town of Fairhaven.
27195. Fred Rafael is the Acting Superintendent of Public Works in the Town of Fairhaven, and is in charge of records regarding beach use and parking permit sales in the Town of Fairhaven.
27196. Attachment Q.VIII.e.173 is a true and accurate copy of the records of the Town of Fairhaven Board of Public Works regarding the number of permits sold for West

Island Beach for 1986-1989.

27197. Attachment Q.VIII.e.173 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.

27198 Paul Bergman is the administrator of assessing for the Town of Dartmouth.

27199 Mr. Bergman was responsible for the re-assessment of property values in the Town of Dartmouth for fiscal year 1990.

27200 Attachment Q.VIII e. 174 is a true and accurate copy of the record of the Town of Dartmouth Assessor's Office of the number of boats taxed in the Town of Dartmouth, and marked as Town of Dartmouth Deposition Exhibit Number 11.

27201 Attachment Q.VIII e. 174 is a public record.

27202 Attachment Q.VIII e. 174 is a business record.

- 27203 The number of boats registered in the Town of Dartmouth and taxed in the Town of Dartmouth has more than doubled in the last ten years.
- 27204 Mooring spaces in the Town of Dartmouth are generally full during the summer.
- 27205 The assessed value of taxable real estate in the Town of Dartmouth for fiscal year 1989 was \$1,109,160,577.
- 27206 The assessed value of taxable real estate in the Town of Dartmouth for fiscal year 1990 was \$1,915,625,901.
- 27207 From fiscal year 1989 to fiscal year 1990, the assessed value of real estate in the Town of Dartmouth rose 173%.
- 27208 In order to determine the rise of assessed value of real estate on the waterfront in the Town of Dartmouth from fiscal year 1973 to fiscal year 1990, the assessor of the Town of Dartmouth, Paul Bergman, randomly chose five properties along the waterfront in the Town of Dartmouth to determine their increase in value.
- 27209 Mr. Bergman randomly chose properties described above from separate map and lot designations as kept on the maps at the assessor's office of the Town of Dartmouth.

- 27210 Attachment Q.VIII e. 175 is a true and accurate copy of the assessor's map of the Town of Dartmouth setting forth the map and lot numbers in the Town of Dartmouth, and is marked as Town of Dartmouth Deposition Exhibit 12.
- 27211 Attachment Q.VIII e. 175 is a public record.
- 27212 Attachment Q.VIII e. 175 is a business record.
- 27213 The first property chosen by Mr. Bergman had map and lot number 88/33, and is located at Sulter's Point, in Dartmouth, Massachusetts and had a total assessed value in fiscal year 1973 of \$44,700, and a total assessed value in fiscal year 1990 of \$546,500, a 1222% increase in assessed value.
- 27214 Mr. Bergman reviewed the records of the Town of Dartmouth's assessor's office which indicate that the property at map and lot number 105/20, in Bayview in the Town of Dartmouth, had a total assessed value in 1973 of \$24,900 and had a total assessed value in fiscal year 1990 of \$388,800, a 1561% increase in total assessed value.

- 27215 Mr. Bergman reviewed the records of the assessors of the Town of Dartmouth and found that property at map and lot number 113/34, at Recketson's Point in Dartmouth, Massachusetts had a total assessed value in 1973 of \$125,900, and had a total assessed value in fiscal year 1990 of \$918,000, a 729% increase in assessed value.
- 27216 Mr. Bergman reviewed the records of the Town of Dartmouth assessor's office and discovered that the property at the map and lot number 129/33, on Redward Street in the Town of Dartmouth, had an assessed value in 1973 of \$15,100, and an assessed value in fiscal year 1990 of \$301,600, a 1997% rise in value.
- 27217 Mr. Bergman reviewed the records of the Town of Dartmouth's Assessor's office, and found that at map and lot number 7/6 on Misham Point in the Town of Dartmouth, the total assessed value of the property in 1973 was \$68,650, and the total assessed value in fiscal year 1990 was \$733,500, a 1068% rise in total assessed value.
- 27218 Mr. Bergman concluded from his review of the records of the Assessor's Office of the Town of Dartmouth that property values have increased dramatically along the waterfront from 1973 to 1990 in the Town of Dartmouth.

- 27219 The Commonwealth of Massachusetts certified the revaluation done for fiscal year 1990 in the Town of Dartmouth.
- 27220 For the fiscal year 1990 revaluation of the Town of Dartmouth, a check was made on the qualified versus unqualified sales.
- 27221 Attachment Q.VIIIe. 176 is a true and accurate copy of the records of the Town of Dartmouth listing the number of beach stickers issued in each year from 1981 through 1989, and is marked as Town of Dartmouth Deposition Exhibit 13.
- 27222 Attachment Q.VIIIe. 176 is a public record.
- 27223 Attachment Q.VIIIe. 176 is a business record.
- 27224 The information contained in the above attachment is true.
- 27225 Attachment Q.VIII e.177 is a true and accurate copy of correspondence from the Commonwealth of Massachusetts Division of Marine Fisheries to the Town of Dartmouth indicating that shellfish beds have been closed due to coliform counts, and is marked as Town of Dartmouth

Deposition Exhibit 20.

- 27226 Attachment Q.VIII e.177 is a public record.
- 27227 Attachment Q.VIII e.177 is a business record.
- 27228 Attachment Q.VIII e.178 are true and accurate copies of Town of Dartmouth Board of Selectmen orders closing areas of the Town of Dartmouth to shellfishing due to bacterial contamination, and is marked as Town of Dartmouth Deposition Exhibit 19.
- 27229 Attachment Q.VIII e.178 is a public record.
- 27230 Attachment Q.VIII e.178 is a business record.
- 27231 Attachment Q.VIII e.179 is a true and accurate copy of the records of the Commonwealth of Massachusetts, Town of Dartmouth Board of Selectmen records of closures of shellfishbeds in the Town of Dartmouth due to bacterial contamination from sewage, and is marked as Town of Dartmouth Deposition Exhibit 21.
- 27232 Attachment Q.VIII e.179 is a public record.
- 27233 Attachment Q.VIII e.179 is a business record.

27234 Attachment Q.VIII e.180 is a true and accurate copy of the memorandum to the Dartmouth Town Management Group from Camp, Dresser & McKee on the subject of preliminary management issues for the Town of Dartmouth, and is marked as Town of Dartmouth Exhibit 23.

27235 Attachment Q.VIII e.180 is a public record.

27236 Attachment Q.VIII e.180 is a business record.

27237 Concerns of the Town of Dartmouth include environmental and quality of life issues, including environmental quality as it applies to public health and well being, water pollution and contamination of the shellfish beds, but no where in the above report does the Town raise the issue of PCBs as an environmental or quality of life issue affecting the Town of Dartmouth.

27238 A large number of waterfront development projects in the Town of Dartmouth have been planned since 1986, including such major condominium projects as:

- A. Roundhill, at the Woodlands, on Heddy Green Drive, overlooking Buzzards Bay;
- B. At Slokum River Realty at Horseneck Road overlooking

the Slokum River;

- C. Cloisters at Padanaram on Sollymar Road overlooking Clark's Cove;
- D. Gulf Hill Estates on Gulf Road overlooking Buzzards Bay;
- E. Gulf Hill Farm on Gulf Road overlooking Buzzards Bay;
- F. Hidden Bay on Country Lane overlooking Clark's Cove;
- G. Nunquit Village on Nunquit Avenue overlooking Buzzards Bay;
- H. Salt Creek Farm on Smithneck Road overlooking Salt Creek;
- I. Ann Brown on North Avenue overlooking Buzzards Bay;
- J. Gulf Meadows on Belleville Road overlooking Salt Creek.

27239 Attachment Q.VIIIe. 181 is a true and accurate copy at the Town of Dartmouth's records of sales of parking beach stickers at Town of Dartmouth beaches.

27240 In 1981, 4,019 beach stickers were issued in the Town of Dartmouth to town residents for one day beach use.

27241 In 1981, approximately 914 daily parking fees were issued by the Town of Dartmouth for area beaches.

- 27242 In 1982, 4,000 stickers were issued by the Town of Dartmouth for daily beach use.
- 27243 In 1982, approximately 144 daily parking fees were issued in the Town of Dartmouth for beach use.
- 27244 In 1983, 4,425 stickers were issued in the Town of Dartmouth for beach use.
- 27245 In 1983 approximately 868 daily parking fees were issued in the Town of Dartmouth for beach use.
- 27246 In 1984 4,409 stickers were issued in the Town of Dartmouth for beach use.
- 27247 In 1985, 4,651 stickers were issued for beach use in the Town of Dartmouth.
- 27248 In 1986, 4,689 stickers were issued for beach use in the Town of Dartmouth.
- 27249 No records for daily parking fees exist in the Town of Dartmouth for beach use for the years 1984, 1985 and 1986.
- 27250 Dr. McConnell considered none of this beach use data in

coming to a conclusion as to whether allegations of PCBs affected beach use in the New Bedford Harbor area.

27251 Attachment Q.VIII. e.181 is a public record setting forth the activities of the office or agency; or matters observed pursuant to duty imposed by law as to which matters there was a duty to report; or factual findings resulting from an investigation made pursuant to authority granted by law.

27252 Attachment Q.VIII e.181 is an admission by a party-opponent, offered against a party and is: a plaintiff's own statement; or a statement of which a plaintiff has manifested an adoption or belief in its truth; or a statement by a person authorized by a plaintiff to make a statement concerning the subject; or a statement by plaintiff's agent or servant concerning a matter within the scope of the agency or employment, made during the existence of the relationship.

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XI. LEGAL

30000. The Ambient Water Quality Criteria Document for PCBs was published in 1980.
30001. Much new scientific information concerning PCBs has been published since 1980.
30002. The Ambient Water Quality Criteria Document for PCBs does not consider scientific studies published in the area of toxicity of PCBs to humans, animals, or risk assessment methods released after 1980.
30003. In light of new scientific data published since 1980, the Ambient Water Quality Criteria Document for PCBs is no longer appropriate for use as a guidance document for establishing water quality criteria for PCBs.
30004. The Ambient Water Quality Criteria Document for PCBs fails to recognize toxicological differences between commercial PCB mixtures with different

chlorine contents.

30005. Studies indicating toxicological differences between commercial PCB mixtures with differing chlorine contents have been published between 1980-1990.
30006. The Schaeffer et al. (1984) feeding study in rats established toxicological and carcinogenic differences between PCB mixtures containing 42% and 60% chlorine contents.
30007. The Ambient Water Quality Criteria Document for PCBs does not include human mortality studies of PCB-exposed persons by Bertazzi et al. (1981 & 1987), Brown (1981 & 1987), Nicholson et al. (1987), and Gustavsson et al. (1986).
30008. A review of toxicological and epidemiological studies published between 1980 and 1990 would result in different ambient water quality criteria than that reached from scientific data published only through 1980.
30009. The 0.0079 ng/L, 0.079 ng/L, and 0.79 ng/L PCB water criteria corresponding to the 10⁻⁷, 10⁻⁶,

- and 10⁻⁵ risk levels, respectively, are inconsistent with the 2 ppm FDA action level for PCBs in edible portions of fish.

30010. According to Ambient Water Quality Criteria Document for PCBs, the daily dose of PCBs ingested from consumption of fish from waters containing 0.79 ng/L PCBs is 0.16 ug/day.

30011. According to the 2 ppm FDA action level for PCBs in fish, a PCB intake of 18 ug of PCB/day is allowed.

30012. The amount of PCBs intake allowed by the FDA from fish consumption is 81 times higher than the amount of PCB intake from fish allowed by the EPA at the water quality criterion of 0.79 ng/L for PCBs.

30013. The Ambient Water Quality Criteria Document for PCBs characterizes the 0.79 ng/L water quality criterion as "exceedingly low."

30014. The Ambient Water Quality Criteria Document for PCBs developed to protect human health is based on animal data in which a dose-response relationship

was not demonstrated.

30015. The approach to developing ambient water quality criteria for PCBs in the Ambient Water Quality Criteria Document for PCBs is flawed from the standpoint that the bioconcentration factor used to estimate accumulation of PCBs in fish was derived from studies which composited edible and nonedible portions of fish. The EPA has stated that:

"The kind and location of tissue analyzed may influence the realism of the exposure assessment. For example, most humans consume only fillets of fish, not the internal organs or whole fish. Because internal organs are often more contaminated by toxic chemicals than are fillets, exposure estimates based on chemical analyses of organs or whole fish could be unrealistically high." (Assessing Human Health Risks from Chemically Contaminated Fish and Shellfish: A Guidance Manual September 1989 EPA-503/8-89-002)

30016. The Ambient Water Quality Criteria Document for PCBs relies heavily on a theoretically derived bioconcentration factor to predict uptake of PCBs

- in fish and the amount of PCBs that exposed individuals will ingest from consuming fish.
30017. The Ambient Water Quality Criteria Document for PCBs estimates carcinogenic risk using the linearized multistage model.
30018. The linearized multistage model does not give a realistic prediction of the risk posed by consumption of PCBs in fish. The true value of risk is unknown, and may be as low as zero.
30019. The bioconcentration factor used for developing PCB ambient water quality criteria for protection of human health is based on freshwater fish.
30020. It is inappropriate to use a bioconcentration factor for freshwater fish to develop a bioconcentration factor for saltwater species in New Bedford Harbor.
30021. Interpretation of the Bahn (1976) and Kuratsune et al. (1976) studies as providing evidence for the carcinogenicity of PCBs in humans is prevented by confounders. These studies provide no evidence which supports the carcinogenicity of PCBs in

humans.

30022. Fish species used to determine a bioconcentration factor for PCBs in the Ambient Water Quality Criteria Document were freshwater species. The 31,200 bioconcentration factor developed for freshwater fish is not applicable to saltwater species.

30023. The toxic effects noted in the Kuratsune et al. (1972 & 1976) studies are related to polychlorinated dibenzofuran exposure and not PCB exposure.

30024. The Ambient Water Quality Criteria Document for PCBs indicates there is a correlation between degree of chlorination of PCB mixtures and their tumor-inducing potential.

30025. The Ambient Water Quality Criteria Document for PCBs indicates that PCBs have been shown to inhibit tumor formation or growth associated with genotoxic carcinogens..

30026. The Ambient Water Quality Document for PCBs calculates an allowable daily intake (ADI) for

- PCBs of 210 ug/day for a 70 kg individual.
30027. PCBs are not mutagenic in short term tests.
30028. Occupationally exposed persons studied by Alvares et al. (1977) had no manifestation of PCB toxicity.
30029. Induction of antiprene metabolism in PCB-exposed workers is not a toxic effect.
30030. Studies cited in the Ambient Water Quality Criteria Document for PCBs indicate that acne associated with occupational PCB exposure clears markedly after exposure ceases.
30031. The closure of parts of New Bedford Harbor to certain fishing activities was not based on the Ambient Water Quality Criteria Document.
30032. No regulatory actions have been taken and no prohibitions on the use of New Bedford Harbor have been imposed on the basis of the Ambient Water Quality Criteria.
30033. The Ambient Water Quality Criteria did not exist at the time when parts of New Bedford Harbor were

- closed to certain fishing activities.

30034. The Ambient Water Quality Criteria are not a mandatory federal standard or regulation.

30035. The Massachusetts Hazardous Waste Regulations, 310 CMR §30.000 et seq., promulgated by the Department of Environmental Protection pursuant to the Hazardous Waste Management Act, M.G.L. c. 21c, did not take effect until December 31, 1986, at the earliest.

30036. The requirements set forth in 40 CFR §761.60, promulgated pursuant to the Toxic Substances Control Act, did not take effect until May 31, 1979, at the earliest.

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XII. HISTORY OF CLOSURE

(1) Background

- 31,100. Gerald S. Parker is an Assistant Commissioner in the Department of Public Health ("DPH").
- 31,101. Mr. Parker was designated by the DPH pursuant to Fed. R. Civ. P. 30(b)(6) to testify on behalf of the DPH on the subjects set forth in a deposition notice to the DPH. Attachment Q.XII.0001 is a true and accurate copy of the deposition notice to the DPH and is genuine.
- 31,102. Statements by Mr. Parker during his deposition are admissions of DPH and the Commonwealth of Massachusetts.
- 31,103. Mr. Parker is the senior person in DPH responsible for the environment.
- 31,104. Mr. Parker obtained a bachelor's degree from Northeastern University in 1953, with a major in biology and a minor in chemistry; a master's degree from the Harvard Graduate School of Arts and Sciences in 1955; and a master's degree from the Harvard School of Public Health in 1965.
- 31,105. After the Massachusetts Department of Environmental Quality Engineering ("DEQE") was formed in 1975, responsibility for water pollution control and air pollution control was transferred to DEQE. DPH retained responsibility for radiation control, oversight on approving standards for farm labor camps, lockups, prisons, and housing codes; as well as approval authority for all DEQE regulations and for regulations of various parts of the Executive Office of Environmental Affairs ("EOEA").
- 31,106. DPH now has responsibility for housing codes, restaurant codes, bakeries, retail food establishments, lockups, farm labor camps, children's recreational camps and the general public health in the community, as well as maternal and child health.
- 31,107. Attachment Q.XII.0002 is a true and accurate copy of an organizational chart of the Executive Office of Human Services, DPH, as of June 30, 1985 and is genuine.
- 31,108. With the exception of a new section on AIDS under the Center for Laboratories and Communicable Disease Control, the organization chart dated June 30, 1985 accurately reflects the current organization of DPH.

(2) 1977 Warning; 1979 Fishing Area Closure
Regulation; Proposed Reopening

- 31,109. Attachment Q.XII.0003 is a true and accurate copy of a press release issued by DPH on March 8, 1977 and is genuine.
- 31,110. Attachment Q.XII.0003 was prepared and kept in the ordinary course of business of DPH; it is the ordinary course of business of the DPH to prepare, keep and maintain such records; and the record was made at or near the time of a regularly conducted business activity of the DPH, by or from information transmitted by a person with knowledge of such activity.
- 31,111. The statements contained in Attachment Q.XII.0003 are statements made by a person or persons authorized by the Commonwealth of Massachusetts and/or the DPH to make a statement concerning this subject matter.
- 31,112. The statements contained in Attachment Q.XII.0003 are statements concerning matters within the authority of the DPH, its employees or agents.
- 31,113. The statements contained in Attachment Q.XII.0003 are admissions by DPH and/or the Commonwealth of Massachusetts.
- 31,114. The statement in Attachment Q.XII.0003 that the Acushnet River is an area that has been closed to shellfish taking for many years because of bacterial pollution is true.
- 31,115. The statement by DPH Commissioner Fielding in Attachment Q.XII.0003 that "there is no commercial fishing in either of these areas for which I have issued health warnings" is true.
- 31,116. The areas which were the subject of the March 1977 health warnings are identical to Areas I, II and III.
- 31,117. The statement by DPH Commissioner Fielding in Attachment Q.XII.0003 that there have been "no increased PCB levels found in fish samples at commercial landings and in the market place" is true.
- 31,118. The voluntary ban on lobster fishing in the New Bedford Harbor area adopted in 1977 was sometimes referred to as "the gentlemen's agreement."

- 31,119. G.L. c. 111, §§ 5 and 6; G.L. c. 94 §§ 186 and 192; and G.L. ch. 30A, § 2, cited as authority for 105 C.M.R. 260, the fishing area closure regulation as adopted by the DPH Public Health Council on September 25, 1979, do not contain specific language authorizing the DPH to prohibit taking of fish from the territorial waters of the Commonwealth or to prohibit selling of fish or shellfish based on geographical origin.
- 31,120. Mr. Parker testified at deposition that the fishing area closure regulation was promulgated on the basis of M.G.L. ch. 111, § 6, known as the "dangerous disease" statute.
- 31,121. There are no diseases known or referred to as PCB intoxication or carcinogenesis.
- 31,122. At the time that the fishing area closure regulation was adopted, DPH acted on the assumption that PCBs were a human carcinogen because PCBs were considered to be a known animal carcinogen.
- 31,123. At the time the fishing area closure regulation was adopted, DPH acted in the belief that because of the ethnic background of the population of New Bedford, eels were a delicacy and PCBs in eels presented a public health risk.
- 31,124. At the time that the fishing area closure regulation was adopted, the only information available to the DPH concerning eel consumption was an oral report by Leigh Bridges or Philip Coates of DMF that eel was a delicacy for the Portuguese community in New Bedford and that some people might even eat eels once a day if available.
- 31,125. At the time that the fishing area closure regulation was adopted, DPH, DEQE and DMF knew that the voluntary ban adopted in 1977 was not working.
- 31,126. At the time that the fishing area closure regulation was adopted, DPH acted in the belief that the average level of PCBs found in lobsters was over the recommended FDA limit of 5 ppm. Mr. Parker testified that the main factor in making decisions about the fishing area closure regulation is the levels of PCBs in lobster and bottom-feeding fish.
- 31,127. At the time that the fishing area closure regulation was adopted, DPH relied on the recommended FDA limit of 5 ppm to determine acceptable levels of PCBs.

- 31,128. Attachment Q.XII.0004 is a true and accurate copy of a memorandum dated May 25, 1982 from Norman C. Telles to Gerald Parker and is genuine.
- 31,129. Attachment Q.XII.0004 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,130. The statement contained in Attachment Q.XII.0004 that the FDA limit on PCBs in edible portions of finfish and shellfish applies to composited market samples taken by FDA is true.
- 31,131. Attachment Q.XII.0005 is a true and accurate copy of a memorandum dated July 19, 1979 to Commissioner Chmura, Mr. Parker, Dr. Delaney, Mr. Hannon, Mr. Anderson, Mr. McCall, and Mr. Cass from Thomas McLaughlin, Acting Commissioner, DEQE and is genuine.
- 31,132. Attachment Q.XII.0005 includes a true and accurate copy of a memorandum dated July 12, 1979 to Commissioner McLaughlin from Dr. John E. Delaney and is genuine. The July 12, 1979 memo is Attachment Q.XII.0006.
- 31,133. Attachment Q.XII.0006 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DEQE to prepare, keep and maintain such record; and the record was made or prepared at or near the time of a regularly conducted business activity of DEQE by or from information transmitted by a person with knowledge of such activity.
- 31,134. At the time the fishing area closure regulation was adopted DPH relied on the sampling information set forth in Attachment Q.XII.0006.
- 31,135. The statement contained at p. 2 of Attachment Q.XII.0006 that it is difficult to know whether these data [sampling data] represent the average pools of lobsters in these areas or whether the grab collection was biased high or low is true.
- 31,136. The statement contained at p. 2 of Attachment Q.XII.0006 that distinct possibility exists that the migratory habits of these animals (lobsters)

within the confines of the area under observation may have imposed a significant variation on this type of comparative analysis is true.

- 31,137. The statement contained at p. 2 of Attachment Q.XII.0006 that the 1977 samples were collected in the spring and the 1978 samples were collected in the fall is true.
- 31,138. On or about July 19, 1979 and prior to adoption of the fishing area closure regulation, DEQE recommended that a new actual updated survey/sampling program of PCB levels in biota and sediments in the New Bedford Harbor area be undertaken.
- 31,139. No such updated survey/sampling program was undertaken prior to adoption of the fishing area closure regulation.
- 31,140. Attachment Q.XII.0007 is a true and accurate copy of a memorandum dated September 26, 1979 to Paul Anderson from Tom McLaughlin (as produced by plaintiffs) and is genuine.
- 31,141. Attachments Q.XII.0005 and Q.XII.0007 are business records, which were prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DEQE to prepare, keep and maintain such records; and the records were made or prepared at or near the time of a regularly conducted business activity of DEQE by or from information transmitted by a person with knowledge of such activity.
- 31,142. The revised sampling program recommended by Dr. Delaney in Attachment Q.XII.0006 was not undertaken until after adoption of the fishing area closure regulation.
- 31,143. At the time the fishing area closure regulation was adopted, DPH had no sampling information concerning the presence of anything other than PCBs in the sediments or biota in the New Bedford Harbor area.
- 31,144. At the time the fishing area closure regulation was adopted, DPH did not conduct any survey with respect to the consumption of shellfish, bottom-feeding fish, eels or lobsters from Areas I, II and III.
- 31,145. At the time the fishing area closure regulation was adopted, DPH had no data with respect to the

consumption patterns of shellfish, bottom-feeding fish, eels, or lobsters taken from Areas I, II and III.

- 31,146. At the time the fishing area closure regulation was adopted, DPH had no information as to distribution patterns of lobsters in Area III so that an accurate estimate of the population at risk could be made.
- 31,147. At the time the fishing area closure regulation was adopted, DPH had no data concerning bioaccumulation in shellfish, bottom-feeding fish or lobsters in Areas I, II or III.
- 31,148. At the time the fishing area closure regulation was adopted, neither DPH nor any other federal, state or local agency had measured the PCB blood serum levels in residents in the New Bedford Harbor area.
- 31,149. At the time that the fishing area closure regulation was adopted, DPH had no information as to the source of any PCBs ingested by the shellfish, bottom-feeding fish, lobster and other biota which had been sampled and reported to contain PCBs.
- 31,150. At the time that the fishing area closure regulation was adopted, DPH had no information whether the shellfish, bottom-feeding fish, lobsters or other biota which were reported to contain PCBs had ingested PCBs in areas other than Areas I, II, and III.
- 31,151. At the time that the fishing area closure regulation was adopted, DPH and DMF knew that lobsters and certain bottom-feeding fish were migratory.
- 31,152. At the time that the fishing area closure regulation was adopted, the only human health effects of PCBs considered by DPH were that they were a potential carcinogen and that they caused chloracne.
- 31,153. At the time that the fishing area closure regulation was adopted, DPH did not have a toxicologist on its staff.
- 31,154. At the time that the fishing area closure regulation was adopted, DPH did not perform any risk assessment.

- 31,155. At the time that the fishing area closure regulation was adopted, DPH did not have sufficient information to perform a risk assessment.
- 31,156. At the time that the fishing area closure regulation was adopted, DPH had never before closed marine areas to fishing; since the fishing area closure regulation was adopted, DPH has never again closed marine areas to fishing.
- 31,157. Attachment Q.XII.0008 is a true and accurate copy of the minutes of the Public Health Council meeting of September 25, 1979 and is genuine.
- 31,158. The Public Health Council of DPH is authorized by M.G L. ch. 111 § 3 to promulgate rules and regulations.
- 31,159. Attachment Q.XII.0008 accurately sets forth the proceedings of the meeting of the Public Health Council on September 25, 1979 concerning the adoption of the fishing area closure regulation.
- 31,160. During his presentation to the Public Health Council on September 25, 1979, Mr. Parker told the Council about the analytical results of PCB sampling supplied to DPH, that PCBs were considered a presumed human carcinogen because they were considered an animal carcinogen, that eels were considered to be a delicacy in the New Bedford area because of the ethnic background of the population, that fishing continued despite the voluntary ban, and that a regulation was necessary.
- 31,161. No one besides Mr. Parker made a presentation to the Public Health Council on September 25, 1979 regarding the fishing area closure regulation.
- 31,162. The fishing area closure regulation was drafted by the General Counsel's office of DPH and by Mr. Gerald Parker.
- 31,163. As of September 25, 1979, Mr. Parker's understanding of the term "PCB intoxication" meant that PCBs could have caused chloracne and elevated levels of PCBs in blood serum and perhaps body fat.
- 31,164. As of the present time, Mr. Parker's understanding of "PCB intoxication" is the same.
- 31,165. As of September 25, 1979, Mr. Parker and/or DPH had no information as to the human health effects of elevated levels of PCBs in blood serum and perhaps in body fat.

- 31,166. DPH's Division of Food and Drugs ("DFD") is responsible for the prevention of the sale of adulterated food to the public.
- 31,167. The only factual information provided by the DFD to DPH staff prior to the adoption of the fishing area closure regulation was some sampling information provided by a chemist at DPH's Jamaica Plain laboratory.
- 31,168. The samples analyzed by the DPH laboratory were not taken at the direction of the DFD.
- 31,169. As of September 25, 1979, DMF opposed the fishing area closure regulation adopted by DPH.
- 31,170. After September 25, 1979, DMF continued to oppose the DPH fishing area closure regulation.
- 31,171. DMF felt that additional sampling was needed before adopting a fishing area closure regulation; DMF also felt that public health policy on closure of an area should be based on the low consumption of lobster per person.
- 31,172. It was and is DMF's contention (at least as of July 31, 1981) that due to the low per capita consumption rate of lobsters, the contamination in levels in Area III was not enough to warrant closure of the fishery.
- 31,173. M.G.L. ch. 130, §17A explicitly authorizes closing marine areas. DMF and/or the Marine Fisheries Advisory Commission never issued any regulations to restrict fishing in Areas I, II, or III under M.G.L. ch.130, §517A or any other statute.
- 31,174. Attachment Q.XII.0009 is a true and accurate copy of a letter of March 26, 1981 from Philip G. Coates, Director, DMI, to Dr. Alfred Frechettes, Commissioner, DPH, and is genuine.
- 31,175. Attachment Q.XII.0009 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.
- 31,176. On or about March 26, 1981, DMF requested DPH to remove the lobster fishing area closure regulation

in Area III as soon as possible, based upon DMF's review of PCB analyses in and from the New Bedford Harbor area.

- 31,177. The statements in Attachment Q.XII.0009 are true.
- 31,178. In January 1981, the DMF completed an assessment of the PCB analyses taken in [and] from New Bedford Harbor from 1976 to the summer of 1980. The purpose of this study . . . was to determine the trend of PCB levels in the affected area. Basically, the study recommended that the Department of Public Health review and re-evaluate restrictions in the closed area as soon as possible. It appeared that the PCB levels in lobster were beginning to decline, although this trend was not statistically significant.
- 31,179. The following statements in Attachment Q.XII.0009 are true: "Since this report was produced . . . further analysis of samples collected in the fall of 1980 indicated that of 20 samples from Area III, none were above the Federal recommended action limit upon which the closure was based. The highest sample was 4.9 ppm."
- 31,180. Attachment Q.XII.0009, pp. 2 and 3 are maps which show sample location and results from 1979 through the fall of 1980 for Area III, as prepared by DMF.
- 31,181. On at least two other occasions DMF requested DPH to modify the fishing area closure regulation during meetings.
- 31,182. During a meeting between DMF, DPH and DEQE, DMF told DPH that continued closure of Area III was not warranted based on the sampling data. DMF requested DPH to review the sampling data for biota in Areas I, II and III.
- 31,183. DMF questioned whether data available about consumption patterns for lobsters taken from Area III warranted continuation of the fishing area closure regulation in Area III.
- 31,184. Mr. Parker testified that he knows of no data concerning consumption patterns of lobsters taken from Areas I, II and III.
- 31,185. There is no data concerning consumption patterns of lobsters taken from Areas I, II and III.

- 31,186. Attachment Q.XII.0010 is a true and accurate copy of a memorandum of July 2, 1982 from Norman C. Telles, M.D., Director, Environmental Health Assessment to Elaine Krueger, DPH and others, and is genuine.
- 31,187. Attachment Q.XII.0010 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,188. The statements contained in Attachment Q.XII.0010 are statements made by a person or persons authorized by DPH to make a statement concerning this subject matter.
- 31,189. The statements contained in Attachment Q.XII.0010 are statements concerning matters within the authority of DPH, its employees or agents.
- 31,190. The statements contained in Attachment Q.XII.0010 are admissions by DPH and/or the Commonwealth of Massachusetts.
- 31,191. The statements contained on page 2 of Attachment Q.XII.0010 that the levels of PCBs and lobsters taken from Area III have been declining from the high levels discovered during the late 1970s which prompted the original closure, to levels approaching the current Federal Food and Drug Administration's temporary tolerance for PCBs in fish and shellfish of 5 ppm is true.
- 31,192. In response to the requests from DMF to DPH to consider reopening Area III, DPH undertook to draft criteria which would permit the reopening of Area III.
- 31,193. In connection with the consideration of criteria for reopening Areas I, II and III, Elaine Krueger, Chief Toxicologist in the Division of Environmental Health Assessment, recommended much more research on consumption patterns in order to assess more accurately what the risk to public health might be.
- 31,194. DPH did not establish final criteria for the reopening of Area III because of the adoption in Massachusetts of the FDA 2 ppm level.

(3) Authority/Enforcement

- 31,195. At the time the fishing area closure regulation was adopted, DPH sought advice from legal counsel as to the authority of DPH to close New Bedford Harbor or portions thereof to fishing and the authority of DPH to enforce such a fishing area closure regulation.
- 31,196. Prior to adoption of the fishing area closure regulation in 1979 there were no discussions by DPH with other state agencies as to how the fishing area closure regulation would be enforced.
- 31,197. The only aspect of the fishing area closure regulation which DPH was responsible for enforcing concerned the prohibition of the sale of adulterated food.
- 31,198. With respect to the sale of adulterated food as prohibited by the fishing area closure regulation, the DFD had responsibility for monitoring compliance.
- 31,199. In performing its obligations to monitor compliance with the regulation, the DFD took only nine market samples; the last market sample was taken July 1981.
- 31,200. All market samples taken after the date the fishing area closure regulation was adopted showed PCB levels of less than 5 ppm.
- 31,201. The DFD did nothing else in order to monitor compliance with the fishing area closure regulation.
- 31,202. The DFD never sent a letter to any vendor requiring them to cease and desist the sale of adulterated food taken in violation of the fishing area closure regulation.
- 31,203. The DFD has never seized any adulterated food taken in violation of the fishing area closure regulation.
- 31,204. Other than DFD, no other division or bureau within DPH had responsibility for insuring compliance with the fishing area closure regulation.
- 31,205. At no time did the DPH ever seize any shellfish taken in violation of the fishing area closure regulation.
- 31,206. At no time did the DPH ever take any step to prevent the sale of fish taken in violation of the fishing area closure regulation.

- 31,207. At no time did DPH ever issue a cease and desist order with respect to the sale of fish taken in violation of the fishing area closure regulation.
- 31,208. At the time the fishing area closure regulation was adopted and thereafter, DPH believed that the Division of Law Enforcement ("DLE"), Executive Office of Environmental Affairs ("EOEA"), was the state agency responsible for insuring compliance with the fishing area closure regulation.
- 31,209. Mr. Parker testified that the fishing area closure regulation is not being enforced because there are still lobster pots in the closure area.
- 31,210. The fishing area closure regulation is not being enforced.
- 31,211. The fishing area closure regulation has not been enforced.
- 31,212. Most fishermen have not complied with the fishing area closure regulation.
- 31,213. Many fishermen have not complied with the fishing area closure regulation.
- 31,214. DPH, DMF and DLE knew that most fishermen did not comply with the fishing area closure regulation.
- 31,215. DPH, DMF and DLE knew that many fishermen did not comply with the fishing area closure regulation.
- 31,216. DMF has informed DPH on more than one occasion that there are still lobster pots in the closure area.
- 31,217. Mr. Parker is the person at DPH most knowledgeable about whether people are fishing in Areas I, II and III.
- 31,218. Mr. Parker is the person at DPH most knowledgeable about as to any action taken by any state or federal agency to stop people from fishing in Areas I, II or III.
- 31,219. Mr. Parker testified that he knew of no action taken by DLE to enforce the fishing area closure regulation.
- 31,220. No action was taken by DLE to enforce the fishing area closure regulation.

- 31,221. Mr. Parker testified that he knew of no action taken by the FDA to enforce the fishing area closure regulation.
- 31,222. No action was taken by the FDA to enforce the fishing area closure regulation.
- 31,223. Mr. Parker testified that he knew of no action taken by DMF to enforce the fishing area closure regulation.
- 31,224. No action was taken by DMF to enforce the fishing area closure regulation.
- 31,225. Immediately after the adoption of the fishing area closure regulation, Mr. Parker sent Mr. Crossman a copy of the regulation.
- 31,226. On September 25, 1979, and for sometime thereafter, Mr. Kenneth Crossman was Director of the DLE.
- 31,227. Immediately after the fishing area closure regulation was enacted, Mr. Parker sent a letter to Mr. Crossman of DLE asking him to provide him with information as to what he had done as a result of being supplied with a copy of the regulation.
- 31,228. Mr. Parker and DPH believed that DLE had authority to issue warnings to fishermen who were setting lobster pots in the closure area; Mr. Parker and DPH had no knowledge as to any additional enforcement measures the Division of Law Enforcement could take to enforce the fishing area closure regulation.
- 31,229. Attachment Q.XII.0011 is a true and accurate copy of a letter of October 18, 1979, to Philip Coates, Director, DMF, from Gerald F. Parker and is genuine.
- 31,230. Attachment Q.XII.0011 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,231. On or about October 18, 1979, Mr. Parker sent Mr. Coates a copy of the regulation enacting the fishing area closure regulation.

- 31,232. On or about October 18, 1979, Mr. Parker asked Mr. Coates to send him copies of letters that have been sent to fishermen that have licenses in the areas affected, Areas I, II or III, regarding adoption of the fishing area closure regulation.
- 31,233. On or about October 18, 1979, Mr. Parker asked Mr. Coates to send him copies of any letters that DMF sent to other state agencies regarding the fishing area closure regulation.
- 31,234. Mr. Coates never sent Mr. Parker copies of any letters sent to fishermen that have licenses in Areas I, II or III regarding adoption of the fishing area closure regulation.
- 31,235. Mr. Parker never received copies of any letters that DMF sent to fishermen that had licenses in Areas I, II or III in the closure areas regarding adoption of the fishing area closure regulation.
- 31,236. DMF never sent any letters to fishermen that had of licenses in Areas I, II or III regarding adoption the fishing area closure regulation.
- 31,237. Mr. Coates never sent Mr. Parker copies of any letters sent to other state agencies regarding adoption of the fishing area closure regulation.
- 31,238. Mr. Parker never received copies of any letters that DMF sent to other state agencies regarding adoption of the fishing area closure regulation.
- 31,239. DMF never sent any letters to other state agencies regarding adoption of the fishing area closure regulation.
- 31,240. Attachment Q.XII.0012 is a true and accurate copy of a letter of January 11, 1980 from Ira J. Somerset, FDA to Kenneth Crossman and is genuine.
- 31,241. Attachment Q.XII.0012 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for HEW/FDA to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of HEW/FDA by or from information transmitted by a person with knowledge of such activity.
- 31,242. A once a week patrol of Areas I, II and III is not adequate to deter harvesting of shellfish, finfish

and lobsters in the areas in which such harvesting is prohibited.

- 31,243. The statements to Mr. Crossman in Attachment Q.XII.0012 that several buoys were observed in Area III and that some buoys were observed in Area II is true.
- 31,244. Mr. Somerset's report to Mr. Crossman in Attachment Q.XII.0012 that a local resident of Ricketson's Point had observed lobster traps being pulled in Area II is true.
- 31,245. Officer Lahaye was an officer in DLE on or about January 11, 1980.
- 31,246. Mr. Somerset's statement in his letter to Mr. Crossman that Officer Lahaye believed that a voluntary restriction in lobstering was still in effect and that he had no authority to halt harvesting in Areas II or III is true.
- 31,247. Mr. Sam Ammeen worked for DLE on or about January 11, 1980.
- 31,248. On or about January 11, 1980 there was a critical shortage of officers (11 vacancies out of 27 positions) which would take five to six months to fill in the DLE.
- 31,249. Mr. Somerset's statement in his letter to Mr. Crossman, Attachment Q.XII.0012, that Mr. Ammeen knew of no closure of the New Bedford area other than the "gentlemen's agreement" or voluntary ban is true.
- 31,250. Mr. Somerset's statement in his letter to Mr. Crossman that Mr. Ammeen was uncertain whether DLE could enforce a DPH closure or if they only enforce DMF closures is true.
- 31,251. Mr. Somerset's statement in his letter to Mr. Crossman, Attachment Q.XII.0012, that the severe manpower shortage experienced by DLE greatly limited the amount of protection DLE is able to provide the public against illegally harvested clams and lobsters is true.
- 31,252. The statements contained in Attachment Q.XII.0012 are statements made by a person or persons authorized by HEW/FDA to make a statement concerning this subject matter.

- 31,253. The statements contained in Attachment Q.XII.0012 are statements concerning matters within the authority of HEW/FDA, its employees or agents.
- 31,254. The statements contained in Attachment Q.XII.0012 are admissions by the United States.
- 31,255. Attachment Q.XII.0013 is a true and accurate copy of a letter of February 28, 1980 from Gerald Parker to Kenneth Crossman, Director, Division of Law Enforcement and is genuine.
- 31,256. Attachment Q.XII.0013 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,257. On February 28, 1980, Mr. Parker sent Mr. Crossman a copy of the fishing area closure regulation and asked him to bring these to the attention of all DLE employees.
- 31,258. Gerald Parker, DPH, Ken Crossman, DLE and Thomas McLoughlin, DEQE, met in early 1980 to discuss enforcement of the DPH fishing area closure regulation.
- 31,259. Attachment Q.XII.0014 is a true and accurate copy of a letter from Kenneth Crossman to Gerald Parker and is genuine.
- 31,260. Attachment Q.XII.0014 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DLE to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DLE by or from information transmitted by a person with knowledge of such activity.
- 31,261. In February 1980, Mr. Parker informed Mr. Crossman that DLE had unquestionable authority to enforce the fishing area closure regulation.
- 31,262. Attachment Q.XII.0015 is a true and accurate copy of a letter of April 15, 1980 from Gerald S. Parker, Assistant Commissioner, DPH, to William Hicks, Assistant Secretary, EOE and is genuine.

- 31,263. By Attachment Q.XII.0015, Mr. Parker transmitted a true and accurate copy of a memorandum dated January 6, 1977 from Judy Saltzman to Stuart Shapiro on the subject of "DPH Authority to Prevent Taking of Fish from New Bedford Harbor Area Contaminated by PCB." This memorandum is attached to Attachment Q.XII.0015 and is genuine.
- 31,264. Attachment Q.XII.0015 (and its attachment) is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,265. Because of the problems in legibility of the document which has been marked with Attachment Q.XII.0015, the contents thereof have been retyped and marked as Attachment Q.XII.0015A. Attachment Q.XII.0015A is a verbatim transcript of the substance of the memo sent with Attachment Q.XII.0015.
- 31,266. The statement contained in Attachment Q.XII.0015 that lobsters and crabs are shellfish is true.
- 31,267. DPH has authority to regulate the taking of shellfish in coastal areas found to be so contaminated that the shellfish obtained there are unfit for food and dangerous to the public health. M.G.L. ch. 130, §74.
- 31,268. The statement contained in Attachment Q.XII.0015 that DPH's authority with respect to crabs, lobster and finfish is more limited is true.
- 31,269. DPH has authority to prevent the sale of contaminated fish. M.G.L. ch. 94.
- 31,270. DPH has authority to seize adulterated food. M.G.L. ch. 94, §§186-195.
- 31,271. DPH never enacted any regulations under G.L. ch. 94, §192 regarding examination of fish for PCBs.
- 31,272. In enacting the fishing area closure regulation, DPH relied on its authority under M.G.L. ch. 111, §6, the "dangerous disease" statute.

- 31,273. As of January 6, 1977, DPH believed that for marine fishing that then required a license (commercial finfishing in excess of 100 pounds, commercial shellfishing and commercial and non-commercial lobster and crab fishing), chapter 111, § 6 regulations could be enforced by license revocation.
- 31,274. As of April 15, 1980, DPH believed that for marine fishing that then required a license (commercial finfishing in excess of 100 pounds, commercial shellfishing and commercial and non-commercial lobster and crab fishing, ch. 111, §6 regulations could be enforced by license revocation.
- 31,275. With respect to all fishing that may be conducted without a license (finfish up to 100 pounds and shell fishing up to one bushel per family per week) DPH believed it had no authority to enforce chapter 111, §6 regulations.
- 31,276. DPH never issued regulations requiring special permits to fish in Areas I, II, or III.
- 31,277. DPH never appointed duly authorized agents to detain fish caught in Areas I, II or III, to take samples of the fish for lab inspection, or to arrest persons who attempted to dispose of the fish during the detention period.
- 31,278. DPH never appointed local police agents for the purpose of seizing fish caught in Areas I, II or III.
- 31,279. As of January 6, 1977, DPH believed that an effective enforcement scheme would have to include a blanket ban of fishing in Areas I, II or III under G.L. ch. 111, §6 with provision for a modest fine or possible revocation to be imposed upon persons fishing in the prohibited area.
- 31,280. As of April 15, 1980, DPH believed that an effective enforcement scheme would have to include a blanket ban of fishing in Areas I, II or III under G.L. ch. 111, §6 with provision for a modest fine or possible revocation to be imposed upon persons fishing in the prohibited area.
- 31,281. DPH never issued regulations which imposed any fine on persons fishing in Areas I, II or III.
- 31,282. At the time the fishing area closure regulation was adopted, DPH was relying on DLE and DMF to enforce the fishing area closure regulation by revoking the licenses of persons fishing in Areas I, II or III.

- 31,283. At the time the fishing area closure regulation was adopted, DPH was relying on DLE and DMF license revocation of persons fishing in Areas I, II or III as the principal means of enforcing the fishing area closure regulation.
- 31,284. Attachment Q.XII.0016 is a true and accurate copy of a memorandum dated April 9, 1980 from Jerry Rodman, in the DPH General Counsel's office to Gerald Parker, and is genuine.
- 31,285. On or about April 15, 1980, DPH sent EOEa a copy of Attachment Q.XII.0016 as an additional enclosure to Attachment Q.XII.0015, the letter from Mr. Parker to Mr. Hicks.
- 31,286. By letter of April 15, 1980, Mr. Parker sent Mr. Hicks two legal memorandum discussing DLE's authority to enforce the fishing area closure regulation.
- 31,287. Statements contained in Attachments Q.XII.0015 and Q.XII.0016 are admissions by DPH and/or the Commonwealth.
- 31,288. The position adopted by DPH as of April 9, 1980 was that DLE and DMF had authority to enforce the fishing area closure regulation.
- 31,289. In order for DLE and DMF to enforce the fishing area closure regulation, the Commissioner of DPH must request that the director of DMF revoke and cancel fishing licenses due to violation of the DPH fishing area closure regulation.
- 31,290. Mr. Parker is the person at DPH who is most knowledgeable about any action the Commissioner of DPH took with respect to the fishing area closure regulation.
- 31,291. Mr. Parker testified that he has no knowledge that the Commissioner of DPH ever requested the Director of DMF to revoke the permits of any fisherman caught fishing in violation of the fishing area closure regulation.
- 31,292. The Commissioner of Public Health never requested the Director of DMF to revoke permits of any fisherman caught fishing in violation of the fishing area closure regulation.
- 31,293. As of April 9, 1980, DPH had not asked the Director of DMF to revoke any permits based on the non-commercial taking of fish other than lobsters.

- 31,294. The fishing area closure regulation adopted by DPH is not a law relative to marine fisheries.
- 31,295. DMF has no authority to revoke permits based on violation of the fishing area closure regulation because the fishing area closure regulation is not a DMF fisheries management closure.
- 31,296. DMF has no authority to revoke permits based on violation of the fishing area closure regulation because the Commissioner of DPH has never asked DMF to do so.
- 31,297. Attachment Q.XII.0017 is a true and accurate copy of a letter of July 20, 1981 from Roger R. Goyette, State Representative, to Attorney General Francis X. Bellotti and is genuine.
- 31,298. Attachment Q.XII.0017 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for Representative Goyette to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of Representative Goyette by or from information transmitted by a person with knowledge of such activity.
- 31,299. The statement contained in Attachment Q.XII.0017 that the state agencies responsible for enforcing the fishing area closure regulation have chosen not to do so is true.
- 31,300. During a public hearing chaired by Representative Goyette as Chair of the Subcommittee on Lobsters, Shellfish and Fisheries on May 20, 1981, Mr. Comproni stated that DPH did not have responsibility to enforce the fishing area closure regulation.
- 31,301. Mr. Elise Comproni is an Assistant Sanitary Engineer in the DPH and held that position on July 27, 1981. Mr. Comproni had worked on the fishing area closure regulation in 1979.
- 31,302. Mr. Comproni's statement during the May 20, 1981 hearing is a statement made by a person or persons authorized by DPH to make a statement concerning this subject matter.
- 31,303. Mr. Comproni's statement during the May 20, 1981 hearing is a statement concerning matters within the authority of DPH, its employees or agents.

- 31,304. The statement made by Mr. Comproni during the May 20, 1981 hearing is an admission by DPH and/or the Commonwealth of Massachusetts.
- 31,305. Attachment Q.XII.0018 is a true and accurate copy of a memorandum to Mr. Gerald Parker from Mr. Comproni and Dr. Telles dated July 27, 1981 and is genuine.
- 31,306. The statement contained in Attachment Q.XII.0018 that Mr. Comproni and Dr. Telles noted over 50 lobster pot buoys illegally placed in Areas II and III is true.
- 31,307. As of July 27, 1981, Dr. Norman Telles was the Director of the DPH Division of Environmental Health Assessment.
- 31,308. The Division of Environmental Health Assessment did not exist until late 1980 or early 1981.
- 31,309. The Division of Environmental Health Assessment is now known as the Environmental Epidemiology and Toxicology Division, which was formed on or about January 1, 1984.
- 31,310. Attachment Q.XII.0019 is a true and accurate copy of a memorandum to Mr. Gerald Parker from Mr. Comproni and Dr. Telles dated July 27, 1981 and is genuine.
- 31,311. The statement contained in Attachment Q.XII.0019 that Mr. Comproni and Dr. Telles were informed by Mr. Almeida, Shellfish Constable, Dartmouth, that he had sent a lengthy list of lobster trap numbers that were found in the closure area to Mr. Crossman, Division of Law Enforcement, is true.
- 31,312. Attachment Q.XII.0020 is a true and accurate copy of a memorandum dated July 27, 1981 to Mr. Parker and Mr. Comproni from Norman C. Telles and is genuine.
- 31,313. Attachment Q.XII.0020 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.

- 31,314. The statements contained in Attachment Q.XII.0020 by Dr. Telles reporting that during the inspection of the three closure areas it was noted that dozens of illegal lobster pots were in both Areas II and III is true.
- 31,315. The statement by Dr. Telles in Attachment Q.XII.0020 that during the inspection of the three closure areas, at least two lobster boats were observed operating within Area II illegally is true.
- 31,316. Attachment Q.XII.0021 is a true and accurate copy of a letter of July 30, 1981 to Mr. Ken Crossman from Gerald S. Parker and is genuine.
- 31,317. The DPH investigators referred to in Attachment Q.XII.0021 were Mr. Comproni and Dr. Telles.
- 31,318. When Mr. Parker used the phrase "appropriate enforcement action" he meant that the people who were putting up the lobster pots ought to be warned that the area was closed; that was the responsibility of the local fish warden and Mr. Crossman's Division of Law Enforcement.
- 31,319. The only thing the local fish wardens could do to enforce the fishing area closure regulation was to post signs in the closure area.
- 31,320. Mr. Parker testified that he does not know whether anyone ever informed the local fish wardens that they were supposed to post signs in the closure area.
- 31,321. Mr. Parker testified that DPH requested the fish wardens to post signs with respect to the fishing area closure regulation.
- 31,322. Attachment Q.XII.0022 is a true and accurate copy of a letter of July 7, 1981 to Mr. Elise Comproni, Director, Toxic and Hazardous Materials, DPH, from Mr. Coates, DMF and is genuine.
- 31,323. Attachment Q.XII.0022 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.

- 31,324. The statement contained in Attachment Q.XII.0022 that a recent survey of the Acushnet River estuary by Division CDMFI personnel shows an absence of bilingual signs warning the public about the possible threat of PCB contamination in bottom dwelling fish and lobsters is true.
- 31,325. As of July 7, 1981, there were no warning signs posted in the New Bedford Harbor area regarding the fishing area closure regulation.
- 31,326. As of July 7, 1981, it is uncertain whether there were warning signs posted in the New Bedford Harbor area regarding the fishing area closure regulation.
- 31,327. Any action taken by DPH to post warning signs in the New Bedford Harbor area, or cause others to do so, came only after Mr. Coates' letter.
- 31,328. At a meeting within the past two years,, a representative of DMF informed Mr. Parker, Mr. McLaughlin from DEQE, and others that there were lobster pots in the closure area.
- 31,329. Attachment Q.XII.0023 is a true and accurate copy of a memorandum dated April 26, 1983 from Andrew Kolek, Marine Fisheries Biologist, to Philip G. Coates, Director, DMF, and is genuine.
- 31,330. Attachment Q.XII.0023 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.
- 31,331. The following statements in Attachment Q.XII.0023 are true:
- a. that Natural Resource Officer Jack Power was very concerned about the amount of lobster gear in Area II, especially Clark's Cove;
 - b. that he had asked many fishermen to take their gear out of the Cove but that he is legally powerless to force them to do so; and
 - c. that most of the fisherman are "10 potters"; as the season progresses, more 10 potters will be setting in Area II and surely commercial fisherman will start to fish in this area.

- 31,332. Mr. Kolek's statements in Attachment Q.XII.0023 imply that DPH, DMF and DLE had an agreement not to enforce the fishing area closure regulation in Area III.
- 31,333. DPH, DMF and DLE had an agreement not to enforce the fishing area closure regulation in Area III.
- 31,334. When Mr. Kolek refers to "the status quo of Area III" in Attachment Q.XII.0023, he means that DPH, DMF and DLE had an agreement not to enforce the fishing area closure regulation in that area.
- 31,335. The statements contained in Attachment Q.XII.0023 are statements made by a person or persons authorized by DMF to make a statement concerning this subject matter.
- 31,336. The statements contained in Attachment Q.XII.0023 are statements concerning matters within the authority of DMF, its employees or agents.
- 31,337. The statements contained in Attachment Q.XII.0023 are admissions by plaintiffs.
- 31,338. Attachment Q.XII.0024 is a true and accurate copy of a memorandum of February 29, 1984 to Secretary James S. Hoyte, EOE from Richard F. Delaney, Director, CZM, and is genuine.
- 31,339. Attachment Q.XII.0024 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for CZM to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of CZM by or from information transmitted by a person with knowledge of such activity.
- 31,340. The statement in Attachment Q.XII.0024 that DPH has no enforcement capability with respect to the fishing area closure regulation is true.
- 31,341. The statement in Attachment Q.XII.0024 that because of staff and funding constraints (and possibly to differences in opinion and philosophy concerning the contamination issue) the fishing area closure regulation has not been effectively enforced is true.
- 31,342. The statement in Attachment Q.XII.0024 that the fishing closure remains in effect but unenforced is true.

- 31,343. The statements contained in Attachment Q.XII.0024 are statements made by a person or persons authorized by CZM to make a statement concerning this subject matter.
- 31,344. The statements contained in Attachment Q.XII.0024 are statements concerning matters within the authority of CZM its employees or agents.
- 31,345. The statements contained in Attachment Q.XII.0024 are admissions by plaintiffs.
- 31,346. Attachment Q.XII.0025 is a true and accurate copy of a memorandum dated March 15, 1984 to Representative Roger Goyette from Commissioner Walter Bickford and is genuine.
- 31,347. Attachment Q.XII.0025 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.
- 31,348. The statement contained in Attachment Q.XII.0025 that there has been no reason to keep the outermost Harbor closed (Area III) since the mean level of PCB in every sample of lobsters has been below the current federal FDA standard of 5.00 ppm since 1979 is true.
- 31,349. The statements contained in Attachment Q.XII.0025 are statements made by a person or persons authorized by DMF to make a statement concerning this subject matter.
- 31,350. The statements contained in Attachment Q.XII.0025 are statements concerning matters within the authority of DMF its employees or agents.
- 31,351. The statements contained in Attachment Q.XII.0025 are admissions by plaintiffs.
- 31,352. Attachment Q.XII.0026 is a true and accurate copy of a letter of July 17, 1984 from James S. Hoyte, Secretary, EOE, to Michael Deland, Regional Administrator, EPA and is genuine.
- 31,353. Attachment Q.XII.0026 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of

business for EOE A to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business-activity of EOE A by or from information transmitted by a person with knowledge of such activity.

- 31,354. The enforcement plan referred to in Attachment Q.XII.0026 is the same plan marked as Attachment Q.XII.0027.
- 31,355. Attachment Q.XII.0027 is a true and accurate copy of a memorandum of September 10, 1984, to Commissioner Walter E. Bickford, Department of Fisheries, Wildlife and Recreational Vehicles, from Allen McGroary, Acting Director, DLE, and is genuine.
- 31,356. Attachment Q.XII.0027 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.
- 31,357. The statement contained in Attachment Q.XII.0027 that tests conducted by DMF on lobsters taken from Area III have shown PCB levels under 5 ppm and that consequently DMF has not taken any action in the past against lobstermen fishing in this area is true.
- 31,358. The statement contained in Attachment Q.XII.0027 that without any action from Marine Fisheries, DLE had no ability to enforce the fishing area closure regulation is true.
- 31,359. The statement contained in Attachment Q.XII.0027 that samples have indicated PCB levels below the 2 ppm tolerance level in finfish is true.
- 31,360. The statement contained in Attachment Q.XII.0027 that the Marine Fisheries Commission has the authority to pass stronger more enforceable regulations (than the fishing area closure regulation) but has been reluctant to do so because this closure is not viewed as a Marine Fisheries management priority is true.
- 31,361. The statement contained in Attachment Q.XII.0027 that the Division of Marine Fisheries strongly

feels that there are alternatives to a complete closure of Area III is true.

- 31,362. The statements contained in Attachment Q.XII.0027 are statements made by a person or persons authorized by DMF to make a statement concerning this subject matter.
- 31,363. The statements contained in Attachment Q.XII.0027 are statements concerning matters within the authority of DMF, its employees or agents.
- 31,364. The statements contained in Attachment Q.XII.0027 are admissions by DMF and/or the Commonwealth.
- 31,365. Attachment Q.XII.0028 is a true and accurate copy of a memorandum of July 19, 1984 to Walter E. Bickford, Commissioner, from Phil Coates, Director, DMF.
- 31,366. Attachment Q.XII.0028 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.
- 31,367. The statement contained in Attachment Q.XII.0028 that based on recent DMF sampling, DMF is taking the position that the lowering of the FDA's standard to 2 ppm will have little effect on Massachusetts seafood and recreational species is true because average levels in Massachusetts seafood and recreational species are below 2 ppm.
- 31,368. The statement contained in Attachment Q.XII.0028 that last year's (1983) bluefish samples averaged out to 1.8 ppm is true.
- 31,369. The statement contained in Attachment Q.XII.0028 that results of lobster samples collected by DMF along the entire coast average out far below the proposed standard 2 ppm is true.
- 31,370. The statement contained in Attachment Q.XII.0028 that PCB levels in Area II in lobsters has been below the 5 ppm standard so that DMF has not pressed closure in Area II is true.
- 31,371. The statement contained in Attachment Q.XII.0028 that there is no fishery management closure in the

Acushnet River estuary, which limits the scope of the enforcement activity, is true.

- 31,372. The statement contained in Attachment Q.XII.0028 that enforcement on Area III will be time consuming and costly and, given the mobility of the fishermen and the ease of disguising or hiding lobster gear, will not be very effective is true.
- 31,373. The statement contained in Attachment Q.XII.0028 that the commercial harvesting operations take place mostly in the outer portions of Area III where PCB levels have been low, even close to the 2 ppm limit, is true.
- 31,374. The statement contained in Attachment Q.XII.0028 that lobsters are only a fraction of the 12.9 pounds of seafood consumed by each person in the U.S. last year is true.
- 31,375. The statement contained in Attachment Q.XII.0028 that most of the PCBs are in the lobster's digestive gland or tomalley (80%) is true.
- 31,376. In Attachment Q.XII.0028, DMF recommended that a simple advisory telling people not to eat the tomalley of lobsters taken from the area would minimize health risks.
- 31,377. In Attachment Q.XII.0028, DMF recommended issuing a simple advisory telling people not to eat the tomalley of lobsters taken from the area rather than continue the closure of Area III.
- 31,378. An advisory specifically warning people not to eat tomalley from lobsters would protect the public health.
- 31,379. An advisory specifically warning people not to eat the tomalley from lobsters would protect the public health as well as the closure of Area III to the taking of lobsters.
- 31,380. PCBs found in lobsters are generally found in the lobster tomalley.
- 31,381. The statement contained in Attachment Q.XII.0028 that the lobsters harvested from Area III are mixed in the marketplace with lobsters caught from other areas, thus diluting the distribution and reducing the probability of the consumer eating a lobster with elevated PCBs is true.

- 31,382. The statements contained in Attachment Q.XII.0028 that fish and shellfish PCB standards are set at 2 ppm with the per capita consumption level of 12.9 pounds, but meat and poultry standards are 3 ppm and the per capita consumption for these foods are 144 pounds and 65 pounds respectively is true.
- 31,383. The statements contained in Attachment Q.XII.0028 are statements made by a person or persons authorized by DMF to make a statement concerning this subject matter.
- 31,384. The statements contained in Attachment Q.XII.0028 are statements concerning matters within the authority of DMF its employees or agents.
- 31,385. The statements contained in Attachment Q.XII.0028 are admissions by DMF and/or the Commonwealth.
- 31,386. Attachment Q.XII.0029 is a true and accurate copy of a letter of October 25, 1984 from Allen McGroary, Acting Director DLE, to Walter E. Bickford and is genuine.
- 31,387. Attachment Q.XII.0029 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DLE to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DLE by or from information transmitted by a person with knowledge of such activity.
- 31,388. The statements contained in Attachment Q.XII.0029 are true.
- 31,389. The statements contained in Attachment Q.XII.0029 that there is a serious question as to whether or not Natural Resources Officers have the authority to enforce rules and regulations promulgated by the Department of Public Health is true.
- 31,390. In Attachment Q.XII.0029, DLE requested that the Secretary of Environmental Affairs request from the Commissioner of Public Health that Natural Resource Officers in the Division of Law Enforcement from the director on down, be designated as agents for the Commissioner of Public Health.
- 31,391. The Commissioner of DPH never designated anyone in DLE as an agent for the Commissioner of DPH.

- 31,392. At no time on or after October 25, 1984 did Mr. McGroary, or anyone else at DLE, direct Natural Resource Officers to patrol the area in question, nor were they directed to give citations in hand or to seek court complaints in the New Bedford District Court predicated on the Public Health regulations.
- 31,393. At no time before October 25, 1984 did Mr. McGroary, or anyone else at DLE, direct Natural Resource Officers to patrol the area in question nor were they directed to give citations in hand or to seek court complaints in the New Bedford District Court predicated on the Public Health regulations.
- 31,394. Mr. McGroary had serious questions whether the enforcement plan proposed in Attachment Q.XII.0029 would be lawful or constitutional.
- 31,395. The statements contained in Attachment Q.XII.0029 are statements made by a person or persons authorized by DLE to make a statement concerning this subject matter.
- 31,396. The statements contained in Attachment Q.XII.0029 are statements concerning matters within the authority of DLE its employees or agents.
- 31,397. The statements contained in Attachment Q.XII.0029 are admissions by DLE and/or the Commonwealth.
- 31,398. Attachment Q.XII.0030 is a true and accurate copy of a memorandum dated January 29, 1985 to Lanny Johnson, DMF, from Gerald S. Parker and is genuine.
- 31,399. Mr. Parker's statement in Attachment Q.XII.0030 that DPH has been asking DMF for five years to enforce the 5 ppm level in New Bedford Harbor is true.
- 31,400. Mr. Parker testified that he had no memory of ever asking DMF to enforce the 5 ppm level set forth in the September 25, 1979 regulation.
- 31,401. DMF did not enforce the 5 ppm level in New Bedford Harbor in Area III.
- 31,402. DMF did not enforce the 5 ppm level in New Bedford Harbor in Area II.
- 31,403. DMF did not enforce the 5 ppm level in New Bedford Harbor in Area I.

- 31,404. Attachment Q.XII.0031 is a true and accurate copy of a May 28, 1985 letter from Walter E. Bickford, Commissioner of the Department of Fisheries, Wildlife and Recreational Vehicles of the Commonwealth of Massachusetts to Bailus Walker, Jr., Commissioner of the Massachusetts Department of Public Health and is genuine.
- 31,405. Attachment Q.XII.0031 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.
- 31,406. The statements contained in Attachment Q.XII.0031 are statements made by a person or persons authorized by DMF to make a statement concerning this subject matter.
- 31,407. The statements contained in Attachment Q.XII.0031 are statements concerning matters within the authority of DMF, its employees or agents.
- 31,408. The statements contained in Attachment Q.XII.0031 are admissions by DMF and/or Commonwealth of Massachusetts.
- 31,409. In Attachment Q.XII.0031, DMF requested DPH to modify the fishing area closure regulation by lifting the ban on fishing in Area III.
- 31,410. In Attachment Q.XII.0031, DMF proposed that DPH consider a number of alternatives to the Area III lobster closure.
- 31,411. The statement contained in Attachment Q.XII.0031 that the DLE does not possess the statutory authority to enforce the regulations of an agency not within the Executive Office of Environmental Affairs ("EOEA") is true.
- 31,412. The statement in Attachment Q.XII.0031 that DLE has been enforcing the regulations in Areas I and II to the extent that commercial fishing permits issued by DMF are revoked or suspended if fishermen are found violating the fishing area closure regulation is false.
- 31,413. DLE has no authority to revoke fishing permits issued by DMF for violation of the DPH fishing area closure regulation.

- 31,414. No commercial fishing permits were revoked by DMF or DLE between September 25, 1979 and May 28, 1985 because a fisherman violated the fishing area closure regulation.
- 31,415. No commercial fishing permits have been revoked by DMF or DLE from May 28, 1985 to date because a fisherman violated the fishing area closure regulation.
- 31,416. DLE has taken no action to enforce the fishing area closure regulation in Area I.
- 31,417. DLE has taken no action to enforce the fishing area closure regulation in Area II.
- 31,418. DLE has taken no action to enforce the fishing area closure regulation in Area III.
- 31,419. DPH and DMF have not entered into any memorandum of understanding concerning the enforcement of the fishing area closure regulation.
- 31,420. DPH has never appointed any natural resource officers as public health inspectors.
- 31,421. All that DMF has done to enforce the fishing area closure regulation in Area II is send letters out to some violators fishing in the area and if they persist, threatening them with permit revocation hearings. DMF has not done this with respect to all persons violating the fishing area closure regulation.
- 31,422. All that DMF has done to enforce the fishing area closure regulation is to send verbal and written warnings, and confiscate fishing gear of some, but not all persons violating the fishing area closure regulation.
- 31,423. DMF has never conducted a permit revocation hearing because of violation of the fishing area closure regulation.
- 31,424. DMF has never revoked any fishing or lobstering permits based on violation of the fishing area closure regulation.
- 31,425. The statement contained in Attachment Q.XII.0031 that in a legal memorandum dated February 5, 1985 the Secretary of Environmental Affairs concluded that the Commissioner of Public Health has the authority to appoint natural resource officers as

- public health inspectors and, in conjunction with a suitable memorandum of understanding, could do so thereby providing the DLE with the appropriate authority for the enforcement of the regulation, is true.
- 31,426. DPH never entered into a memorandum of understanding with any other state or federal agency concerning enforcement of the fishing area closure regulation.
- 31,427. In a legal memorandum dated February 5, 1985, the Secretary of Environmental Affairs concluded that the Division of Law Enforcement had no authority to enforce the fishing area closure regulation.
- 31,428. DLE has no authority to enforce the fishing area closure regulation.
- 31,429. In a legal memorandum dated February 5, 1985 the secretary of Environmental Affairs concluded that the DMF had no authority to enforce the fishing area closure regulation regulation.
- 31,430. DMF has no authority to enforce the fishing area closure regulation.
- 31,431. DMF never issued any regulations to close Area I to commercial and recreational fishing of any kind.
- 31,432. DMF never issued any regulations to close Area II to commercial and recreational fishing of any kind.
- 31,433. DMF never issued any regulations to close Area III to commercial and recreational fishing of any kind.
- 31,434. Attachment Q.XII.0032 is a true and accurate copy of a letter of July 2, 1985 to James S. Hoyte from Michael R. Deland and is genuine.
- 31,435. The statement contained in Attachment Q.XII.0032, that "due to a separation of authority between the Massachusetts Division of Law Enforcement (DLE), which normally patrols the area, and the DPH, which has no field enforcement personnel, no one currently has the legal authority to enforce this specific ban" is true.
- 31,436. The statements contained in Attachment Q.XII.0032 are statements made by a person or persons authorized by EPA to make a statement concerning this subject matter.

- 31,437. The statements contained in Attachment Q.XII.0032 are statements concerning matters within the authority of EPA its employees or agents.
- 31,438. The statements contained in Attachment Q.XII.0032 are admissions by the United States.
- 31,439. In order to enforce the fishing area closure regulation, it is necessary to have a visible enforcement program.
- 31,440. There was never any visible enforcement program for the fishing area closure regulation.
- 31,441. Mr. Parker never had any conversations with anyone at the DPH other than counsel concerning DLE's authority to enforce the fishing area closure regulation.
- 31,442. Mr. Parker never had any conversations with anyone at DLE concerning DLE's authority to enforce the fishing area closure regulation.
- 31,443. Mr. Parker never had any conversations with anyone at DMF concerning DLE's authority to enforce the fishing area closure regulation.
- 31,444. Mr. Parker never had any conversations with anyone at DPH other than counsel concerning DMF's authority to enforce the fishing area closure regulation.
- 31,445. Mr. Parker never had any conversations with anyone at DLE concerning DMF's authority to enforce the fishing area closure regulation.
- 31,446. Mr. Parker never had any conversations with anyone at DMF concerning DMF's authority to enforce the fishing area closure regulation.
- 31,447. The New Bedford PCB Task Force (Interagency Task Force), headed by Thomas McMahon or Dick Chalpin of DEQE, which included representatives of the EOE, CZM, DEQE, DPH, DLE, Lawrence Experiment Station, DMF, the MEPA Unit, EPA, U.S.C.G., U.S. Army Corps of Engineers, the City of New Bedford, and the Woods Hole Oceanographic Institute, and others, published a proposal to deal with PCBs and their repercussions in New Bedford and Buzzards Bay sometime in 1981 or 1982.
- 31,448. Attachment Q.XII.0033 is a true and accurate copy of this proposal and is genuine.

- 31,449. Attachment Q.XII.0033 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for the task force to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of the task force by or from information transmitted by a person with knowledge of such activity.
- 31,450. The statement in Attachment Q.XII.0033 that both commercial and recreational fishing for shellfish, finfish and eels persist in New Bedford Harbor and the adjoining section of Buzzards Bay is true.
- 31,451. The statement in Attachment Q.XII.0033 that due to recent cuts to the state budget, the DLE has lost 12 of its land officers and six of its boat officers as well as suffering the docking of one of its two patrol boats, is true.
- 31,452. The statement in Attachment Q.XII.0033 that under these conditions, DLE cannot ensure that unlawful harvesting of fish from Areas I, II and III will be curtailed is true.
- 31,453. In Attachment Q.XII.0033, DEQE estimated enforcement costs at \$187,000 per year.
- 31,454. DLE never received a budget allocation for the cost of enforcing the fishing area closure regulation.
- 31,455. After adoption of 2 ppm as the PCB action level on or about December 19, 1985, no enforcement protocol for the New Bedford Harbor area has been developed by DFD or any other division of DPH or of any other state agency with respect to the 2 ppm action level in PCBS.

(4) Sampling

- 31,456. Mr. Parker testified that on several occasions he received different results from different laboratories performing analysis on the same samples; these laboratories were the Cat Cove Marine Laboratory, the Lawrence Experiment Station, the DPH laboratory in Jamaica Plain, and the FDA laboratory.
- 31,457. Mr. Parker testified that his conclusion with respect to the reliability of the sampling results provided by the Cat Cove, Jamaica Plain, Lawrence, and FDA laboratories was that the method of

analysis to be used by all four laboratories should be standardized.

- 31,458. Mr. Parker testified that as a result of concluding that a standard method of analysis for samples was necessary, he questioned the validity and accuracy of the sampling results DPH received.
- 31,459. Because of different results in analyses of the same samples, the validity and accuracy of sample analyses by Cat Cove Marine Laboratory, Lawrence Experiment Station, the DPH laboratory and the FDA laboratory is questionable.
- 31,460. The test data on which DPH relied in enacting the fishing area closure regulation showed wide variation among laboratories with respect to analyses of the same samples; these analyses therefore are untrustworthy, unreliable and invalid.
- 31,461. Attachment Q.XII.0034 is a true and accurate copy of a letter written on or about March 26, 1981 from Gerald S. Parker to Philip Coates and is genuine.
- 31,462. Attachment Q.XII.0034 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,463. Prior to March 26, 1981, DPH had requested a vigorous sampling and testing program for the closure area. No such program had been instituted prior to that date.
- 31,464. On or around March 26, 1981, DPH recommended that a vigorous sampling and testing program be instituted as soon as possible and that adequate quality control be part of that program. Prior to that date, adequate quality control had not been part of the sampling program jointly conducted by DPH, DMF, DEQE and FDA.
- 31,465. The New Bedford Harbor lobster sampling program undertaken by DMF and DPH as of 1981, and continuing to date, tests lobsters only for PCBs.
- 31,466. Attachment Q.XII.0035 accurately describes the lobster sampling program established by DPH and DMF on or about October 8, 1981.

- 31,467. The draft recommendation for opening New Bedford Harbor, Area III, as set forth in Attachment Q.XII.0035 was recommended with approval by DPH.
- 31,468. In Attachment Q.XII.0035, its draft recommendation for reopening New Bedford Harbor, DPH recommends averaging sampling results of analyses of edible portions of lobsters to determine whether levels are below 5 ppm.
- 31,469. Averaging sampling results of analyses of edible portions of lobsters to determine whether levels are below 5 ppm is the appropriate method of determining such levels.
- 31,470. The statements contained on page 2 of Attachment Q.XII.0035 that the levels of PCBs and lobsters taken from Area III have been declining from the levels discovered during the late 1970s which prompted the original closure, to levels approaching the current Federal Food and Drug Administration's temporary tolerance for PCBs in fish and shellfish of 5 ppm is true.
- 31,471. Attachment Q.XII.0036 is a true and accurate copy of a memorandum of October 8, 1981 to Mr. Parker from Mr. Comproni and is genuine.
- 31,472. Attachment Q.XII.0036 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,473. Attachment Q.XII.0036 accurately describes the lobster sampling program established by DPH and DMF on or about October 8, 1981.
- 31,474. There was no ongoing lobster sampling program for New Bedford Harbor prior to October 8, 1981.
- 31,475. There was no organized and coordinated lobster sampling program for New Bedford Harbor prior to October 8, 1981.
- 31,476. Attachment Q.XII.0037 is a memorandum dated August 20, 1982 from Dr. John E. Delaney, DEQE, to Mr. Gerald Parker, Assistant Commissioner, DPH and is genuine.

- 31,477. Attachment Q.XII.0037 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DEQE to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DEQE by or from information transmitted by a person with knowledge of such activity.
- 31,478. Attachment Q.XII.0037 correctly describes the methods of laboratory analyses used on lobster samples from Area III in New Bedford as of that date.
- 31,479. As of August 20, 1982, state laboratories involved in the New Bedford Harbor PCB lobster sampling program did not possess the instrumentation needed to integrate areas under the peaks in gas chromatograms and, therefore, employed the peak height approach quantification.
- 31,480. The peak height approach to quantification of PCBs in a gas chromatogram is not a reliable method of quantification.
- 31,481. The peak height approach to quantification of PCBs in a gas chromatogram does not permit precise measurement.
- 31,482. As of December 23, 1981, the latest round of 42 lobster samples in New Bedford Harbor averaged less than 1 ppm.
- 31,483. Attachment Q.XII.0038 is a true and accurate copy of a chart setting forth the Autumn 1982 lobster samples in the New Bedford Harbor area and is genuine.
- 31,484. Attachment Q.XII.0038 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH, DEQE, and/or DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH, DEQE, and/or DMF by or from information transmitted by a person with knowledge of such activity.
- 31,485. The average PCB level detected in the Autumn 1982 lobster samples was 4.3 ppm.

- 31,486. Attachment Q.XII.0039 is a true and accurate copy of the memorandum dated October 20, 1982 from Ralph Timperi, DPH, to Dr. Norman Telles and is genuine.
- 31,487. Attachment Q.XII.0039 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,488. The average level of PCBs found in lobsters from New Bedford Harbor Area III on or about October 20, 1982 was 3 ppm. These results were derived from 22 lobsters taken from 11 trap sites in Area III of New Bedford Harbor. A composite by trap site was made of all edible lobster tissues. The results were calculated as Aroclor 1254.
- 31,489. Attachment Q.XII.0040 is a true and accurate copy of a press release issued by the DPH on or about December 8, 1982 and is genuine.
- 31,490. Attachment Q.XII.0040 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH by or from information transmitted by a person with knowledge of such activity.
- 31,491. The statements contained in Attachment Q.XII.0040 that the average value of PCBs in lobster samples taken during the summer of 1982 is 3.0 ppm is true.
- 31,492. The statement contained in Attachment Q.XII.0040 that the average of fall samples in 1982 is 4.3 ppm is true.
- 31,493. As of July 26, 1983, Elaine Krueger, Chief, Environmental Toxicology, DPH Division of Environmental Health Assessment, correctly stated that:
- a. the seasonal sampling program for lobsters in Area III, the least contaminated of the closed areas, has shown that average PCB concentrations have decreased since 1979 and are now approximately at or below 5.0 ppm during the most recent sampling periods;

- b. that lobster is the only species from this area which is commercially marketable for human consumption; and
 - c. that it is assumed that commercial lobsters will be widely distributed in the marketplace, making it unlikely that any one individual will be continuously consuming lobsters with elevated concentrations of PCBs. This is a reasonable assumption.
- 31,494. The statements contained in Attachment Q.XII.0040 are statements made by a person or persons authorized by DPH to make a statement concerning this subject matter.
- 31,495. The statements contained in Attachment Q.XII.0040 are statements concerning matters within the authority of DPH, its employees or agents.
- 31,496. The statements contained in Attachment Q.XII.0040 are admissions by DPH.
- 31,497. Attachment Q.XII.0041 is a true and accurate copy of a memorandum of March 1, 1984 to Philip G. Coates, Director, DMF, from A. Russell Ceurvels, Chief of Laboratory, DMF, and is genuine.
- 31,498. Attachment Q.XII.0041 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DMF to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DMF by or from information transmitted by a person with knowledge of such activity.
- 31,499. Attachment Q.XII.0041 accurately sets forth the results of DMF PCB analyses in the Acushnet River in Area III from the winter of 1979 through the fall of 1983.
- 31,500. Attachment Q.XII.0041 correctly states that the means of all such PCB analyses is less than 5 ppm.
- 31,501. Attachment Q.XII.0041 correctly states that winter samples indicate significantly less PCBs.
- 31,502. Attachment Q.XII.0041 is a true and accurate copy of a letter dated 11/9/82 to Mr. Al Comproni, DPH and is genuine.

- 31,503. Attachment Q.XII.0042 is a business record, which was prepared or received and kept in the ordinary course of business; it was the ordinary course of business for DPH and/or Metcalf & Eddy to prepare, keep and maintain such records; and the record was made or prepared at or near the time of a regularly conducted business activity of DPH and/or Metcalf & Eddy by or from information transmitted by a person with knowledge of such activity.
- 31,504. Attachment Q.XII.0042 correctly shows that there is no documentation as to the collection methods or collection dates of the PCB analyses of lobsters done by DPH or FDA as of that date.
- 31,505. The Division of Environmental Epidemiology and Toxicology has not conducted any studies relative to the exposure of people in the New Bedford Harbor area to PAHS or coliform.
- 31,506. The Department of Public Health closure notice describes Area I as being the waters north of the Hurricane Dike which generally include inner New Bedford Harbor and the Acushnet River.
- 31,507. Areas II, III and IV are located south of the Hurricane Dike.
- 31,508. In September, 1975, the Division of Marine Fisheries (DMF) began to analyze finfish, shellfish and crustaceans from New Bedford area waters for PCB content.
- 31,509. Samples of finfish, shellfish and crustaceans were collected and analyzed for PCBs over a four-year period (1976-1980).
- 31,510. During this sampling period one hundred and eleven lobsters were analyzed for PCBs.
- 31,511. During this sampling period no lobsters were collected from the waters of Area I.
- 31,512. During this sampling period no lobsters from Area I were analyzed for PCB content.
- 31,513. Plaintiffs have no knowledge or evidence of the PCB content of lobsters from Area I.
- 31,514. During this sampling period blue crabs were collected from five different stations in Area I.

- 31,515. Three of the stations from which blue crabs were collected are adjacent to the location of Aerovox, Incorporated.
- 31,516. The concentration of PCBs found in the blue crabs collected at these three stations was approximately 1.0 ppm.
- 31,517. This is the lowest concentration measured in any of the blue crabs analyzed during the sampling Period.
- 31,518. Between 1975 and 1985 more than 380 lobsters were collected and analyzed for PCBs by the DMF.
- 31,519. None of these lobsters was collected from Area I.
- 31,520. Lobsters live in coastal waters as well as offshore waters.
- 31,521. Lobsters are physiologically unable to live in fresh water.
- 31,522. Because lobsters are physiologically intolerant to low salinities they do not penetrate very far into estuaries.
- 31,523. In the waters around New Bedford, lobsters live in the outer harbor.
- 31,524. Lobsters do not live in the waters between the Hurricane Dike and the Fairhaven Bridge (Rt. 6).
- 31,525. Lobsters do not live in the waters of the Acushnet River between the Fairhaven Bridge and the I-195 overpass.
- 31,526. Lobsters do not live in the waters of the Acushnet River north of the I-195 overpass.
- 31,527. The sediments of the inner New Bedford Harbor and the Acushnet River are contaminated with heavy metals.
- 31,528. The sediments of the inner New Bedford Harbor and the Acushnet River are contaminated with high concentrations of heavy metals.
- 31,529. Concentrations of copper in excess of 2,000 ppm have been found in the sediments in some parts of the inner New Bedford Harbor.
- 31,530. Concentrations of copper in excess of 5,000 ppm have been found in the sediments in some parts of

the Acushnet River between the Fairhaven Bridge and the I-195 overpass.

- 31,531. The source of copper contamination is Revere Copper Co. located on the Acushnet River.
- 31,532. Metals such as copper, Monel, zinc and lead can be lethal to lobsters.
- 31,533. Metals such as copper, Monel, zinc and lead are lethal to lobsters at relatively low concentrations.
- 31,534. Lobsters that crawled into the inner New Bedford Harbor would be exposed to high concentrations of copper.
- 31,535. Lobsters that crawled into the area north of the Fairhaven Bridge (Rt. 6) would be exposed to high concentrations of copper.
- 31,536. Lobsters that feed on benthic organisms inside of the Hurricane Dike would ingest high concentrations of copper.
- 31,537. Lobsters that excavated a burrow in the sediments inside of the Hurricane Dike would be exposed to high concentrations of copper.
- 31,538. Lobsters that crawled into the inner New Bedford Harbor would be exposed to copper.
- 31,539. Lobsters that crawled into the area north of the Fairhaven Bridge (Rt. 6) would be exposed to copper.
- 31,540. Lobsters that feed on benthic organisms inside of the Hurricane Dike would ingest copper.
- 31,541. Lobsters that excavated a burrow in the sediments inside of the Hurricane Dike would be exposed to copper.
- 31,542. Copper is toxic to fish as well as to lobster.
- 31,543. The presence of lobsters in the waters outside the Hurricane Dike suggests that the conditions are favorable for their existence there.
- 31,544. The continued deposition of fine-grained sediments in the inner harbor results in the creation of a muddy or mucky bottom.
- 31,545. In the absence of naturally occurring shelter, lobsters may excavate a burrow if the substrate is firm enough to keep from collapsing.

- 31,546. The walls of a burrow excavated in soft mud will collapse.
- 31,547. Most of the substrate inside of the Hurricane Dike is unsuitable for the construction of lobster burrows.
- 31,548. Environmental conditions, unrelated to PCBs, inside of the Hurricane Dike are unsuitable for lobsters.
- 31,549. The plaintiffs have no documentary evidence that any recreational finfishing occurred in Area I in the period subsequent to the construction of the Hurricane Dike and prior to its closure in September, 1979.
- 31,550. Recreational fishing in Area II for species closed after September, 1979 (eels, scup, flounder, tautog) was limited prior to that date.
- 31,551. The closure of Areas I and II to recreational fishing did not affect the taking of fish for bait in these areas.
- 31,552. There is a bait fishery both for eels (striped bass bait) and mummichogs (summer flounder bait) in Area I.
- 31,553. In the early 1970s the densities of fish eggs and larvae in the water column were the same in Areas I and II.
- 31,554. In the early 1970s the densities of fish eggs and larvae in the water column in Areas I and II were not different from densities found in the Westport River at the same time.
- 31,555. Seven species were affected by the closure in Area II, including tautog, scup, flounder and eels.
- 31,556. According to DMF, the mean of all reported sample values for tautog is only 1.43 ppm of PCBs.
- 31,557. Taken as a whole, the limited data on PCB concentrations in scup show a trend in declining levels of PCBs, culminating at levels below the FAL:
- | | | |
|-------------|-------------|-------------|
| <u>1977</u> | <u>1979</u> | <u>1980</u> |
| 8.75 | 2.30 | 0.06 |
- 31,558. The window pane and fourspot flounders in Area II are of limited recreational value.

- 31,559. The windowpane and fourspot flounders in Area II are a small population.
- 31,560. The winter flounder is the most important recreational flounder species in Area II.
- 31,561. According to DMF, the winter flounder shows a trend of declining PCBs over all areas:

<u>1976</u>	<u>1979</u>	<u>1980</u>
7.8 (7 fish)	3.2 (18 fish)	2.2 (2 fish)

- 31,562. According to DMF, for summer flounder, the following PCB concentrations have been found in Areas I and II:

<u>1976</u>	<u>1979</u>	<u>1980</u>
8.3 (3 fish)	1.7 (2 fish)	2.2 (2 fish)

- 31,563. A limited recreational fishery for eels existed in Area II prior to the closure.
- 31,564. A small recreational fishery for eels existed in Area II prior to the closure.
- 31,565. The DMF has not conducted finfish sampling or PCB analyses on finfish after 1980.
- 31,566. The DMF has conducted limited finfish sampling or PCB analyses on finfish after 1980.
- 31,567. The DMF has not conducted finfish sampling or analyses of PCB concentrations in finfish after 1986.
- 31,568. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for American eels in Area I of the Acushnet River Estuary.
- 31,569. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for American eels in Area I of the Acushnet River Estuary.
- 31,570. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for scup in Area I of the Acushnet River Estuary.
- 31,571. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for scup in Area I of the Acushnet River Estuary.

- 31,572. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for tautog in Area I of the Acushnet River Estuary.
- 31,573. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, an insignificant recreational fishery existed for tautog in Area I of the Acushnet River Estuary.
- 31,574. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for tautog in Area I of the Acushnet River Estuary.
- 31,575. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for cunner in Area I of the Acushnet River Estuary.
- 31,576. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for cunner in Area I of the Acushnet River Estuary.
- 31,577. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for winter flounder in Area I of the Acushnet River Estuary.
- 31,578. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for winter flounder in Area I of the Acushnet River Estuary.
- 31,579. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for summer flounder in Area I of the Acushnet River Estuary.
- 31,580. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for summer flounder in Area I of the Acushnet River Estuary.
- 31,581. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for windowpane flounder in Area I of the Acushnet River Estuary.
- 31,582. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for windowpane flounder in Area I of the Acushnet River Estuary.

- 31,583. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for striped bass in Area I of the Acushnet River Estuary.
- 31,584. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for striped bass in Area I of the Acushnet River Estuary.
- 31,585. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for bluefish in Area I of the Acushnet River Estuary.
- 31,586. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for bluefish in Area I of the Acushnet River Estuary.
- 31,587. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for American eels in Area II of the Acushnet River Estuary.
- 31,588. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for American eels in Area II of the Acushnet River Estuary.
- 31,589. According to the Current Fishery Statistics published by the U.S. Department of Commerce (NOAA) in 1984 and 1985, catches of eels in Massachusetts comprised less than 0.5 percent by numbers of the total marine recreational fishery in this state.
- 31,590. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for scup in Area II of the Acushnet River Estuary.
- 31,591. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for scup in Area II of the Acushnet River Estuary.
- 31,592. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for tautog in Area II of the Acushnet River Estuary.
- 31,593. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no

- recreational fishery existed for tautog in Area II of the Acushnet River Estuary.
- 31,594. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for cunner in Area II of the Acushnet River Estuary.
- 31,595. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for cunner in Area II of the Acushnet River Estuary.
- 31,596. According to the Current Fishery Statistics published by the U.S. Department of Commerce (NOAA) in 1984 and 1985, catches of cunner in Massachusetts comprised less than 3 percent by numbers of the total marine recreational fishery in this state.
- 31,597. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for winter flounder in Area II of the Acushnet River Estuary.
- 31,598. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for winter flounder in Area II of the Acushnet River Estuary.
- 31,599. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for winter flounder in Area II of the Acushnet River Estuary.
- 31,600. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for summer flounder in Area II of the Acushnet River Estuary.
- 31,601. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for summer flounder in Area II of the Acushnet River Estuary.
- 31,602. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, a minor recreational fishery existed for windowpane flounder in Area II of the Acushnet River Estuary.
- 31,603. Subsequent to the construction of the Hurricane Dike and prior to September 25, 1979, no recreational fishery existed for windowpane flounder in Area II of the Acushnet River Estuary.

- 31,604. According to the Current Fishery Statistics published by the U.S. Department of Commerce (NOAA) in 1984 and 1985, catches of windowpane flounder in Massachusetts comprised less than 0.5 percent by numbers of the total marine recreational fishery in this state.
- 31,605. Subsequent to September 25, 1979, and continuing to the present time, the taking of eels and other fishes for bait is permitted in Area I of the Acushnet River Estuary.
- 31,606. Subsequent to September 25, 1979, and continuing to the present time, the taking of eels and other fishes for bait is permitted in Area II of the Acushnet River Estuary.
- 31,607. According to data assembled by the Massachusetts Division of Marine Fisheries and the Massachusetts Office of Coastal Zone Management from 1976 to 1981, the PCB concentrations in the edible portions in most tautog caught in Area II of the Acushnet River Estuary are below the FAL of 2.0 PPM.
- 31,608. According to data assembled by the Massachusetts Division of Marine Fisheries and the Massachusetts Office of Coastal Zone Management from 1976 to 1981, the PCB concentrations in the edible portions in nearly all tautog caught in Area II of the Acushnet River Estuary are below the FAL of 2.0 ppm.
- 31,609. According to data assembled by the Massachusetts Division of Marine Fisheries and the Massachusetts Office of Coastal Zone Management from 1976 to 1981, the PCB concentrations in the edible portions in many tautog caught in Area II of the Acushnet River Estuary are below the FAL of 2.0 ppm.
- 31,610. According to data assembled by the Massachusetts Division of Marine Fisheries and the Massachusetts Office of Coastal Zone Management, from 1976 to 1981, the PCB concentrations in the edible portions of winter flounder caught in Area II of the Acushnet River Estuary have declined.
- 31,611. According to data assembled by the Massachusetts Division of Marine Fisheries and the Massachusetts Office of Coastal Zone Management from 1976 to 1981, the PCB concentrations in the edible portions of winter flounder caught in Area II of the Acushnet River Estuary declined to levels below the FAL.

- 31,612. Finfish reproductive success, as measured by egg and larval densities, are similar in Areas I and II of the Acushnet River Estuary.
- 31,613. Finfish reproductive success in Areas I and II of the Acushnet River Estuary, as measured by egg and larval densities, are not different from those found in the nearby Westport River Estuary.
- 31,614. The Westport River Estuary is not polluted.
- 31,615. According to data assembled by the Massachusetts Division of Marine Fisheries, from 1976 to 1980, the PCB concentrations in the edible portions of scup caught in the Acushnet River estuary have declined.
- 31,616. According to data assembled by the Massachusetts Division of Marine Fisheries, from 1976 to 1980, the PCB concentrations in the edible portions of scup caught in the Acushnet River estuary declined to levels below the current FAL of 2 ppm.
- 31,617. According to data assembled by the Massachusetts Division of Marine Fisheries, from 1976 to 1980, the PCB concentrations in the edible portions of summer flounder caught in Areas I and II of the Acushnet River Estuary declined to levels below the current FAL of 2 ppm.
- 31,618. According to data assembled by the Massachusetts Division of Marine Fisheries, from 1976 to 1980, the PCB concentrations in the edible portions of summer flounder caught in Areas I and II of the Acushnet River Estuary declined.
- 31,619. No finfish samples from Areas II or III have been analyzed for PCBs by the Massachusetts Division of Marine Fisheries after 1980.
- 31,620. No finfish samples from Areas II or III have been analyzed for PCBs by the plaintiffs after 1980.
- 31,621. Concentrations of PCBs in fish in New Bedford Harbor and the Acushnet River have been declining since 1980.

(5) Miscellaneous

- 31,622. EPA has had many discussions over a period of time with various state officials relative to enforcement of the fishing area closure regulation.

- 31,623. EPA received citizen complaints concerning enforcement of the fishing area closure regulation in New Bedford Harbor.
- 31,624. EPA received complaints regarding the enforcement of the fishing area closure regulation in New Bedford Harbor.
- 31,625. EPA received reports of illegal fishing and clamming.
- 31,626. EPA has had problems with the data validation process in the Contract Laboratory Program and they have had to go out upon occasion and resample.
- 31,627. EPA normally validates the samples taken at the New Bedford site.
- 31,628. EPA has sufficient information about the constituents in the New Bedford Harbor sediments to believe that heavy metals are present.
- 31,629. EPA has never sampled to determine whether any contaminants are present in the estuary, harbor or bay as a result of any oil spills that have occurred in those locations.
- 31,630. EPA concluded that the data generated by GCA did not provide a sufficient data base for further action by EPA in New Bedford Harbor.
- 31,631. The data generated by GCA is relied on by plaintiffs in their RFAS.
- 31,632. EPA and Battelle did not resolve problems with the extraction procedures for Battelle's sediment samples until May 1986.
- 31,633. The Coast Guard performed a tidal cycle and PCB mass transport study (plaintiffs' attachment V.B.R-0029) to examine the transport of PCBs from the upper estuary to the outer harbor and whether or not that represented a serious enough concern that further emergency steps had to be taken.
- 31,634. EPA and the Coast Guard concluded as a result of the study done on the transport of PCBs that no emergency steps were warranted.
- 31,635. Sign posting in the estuary and conducting the transport study are the only emergency steps that have been taken in the New Bedford area.

- 31,636. EPA did not request the USCG to conduct the 1983 study.
- 31,637. The Coast Guard study was a very brief study and was not meant to be an exhaustive examination of the fate and transport of PCBs throughout New Bedford Harbor.
- 31,638. The Coast Guard study addresses only the question of movement of PCBs between the inner and outer harbor and it does not address the movement of other contaminants.
- 31,639. It was EPA's position that the information in the Coast Guard study was not a sufficient basis for decision making concerning the movement of PCBs in the estuary and harbor.
- 31,640. The Coast Guard study lacked a thorough enough characterization of the current locations of PCBs in the harbor.
- 31,641. The Coast Guard study lacked a thorough understanding and characterization of the sediment conditions and sediment types in the harbor.
- 31,642. The Coast Guard study lacked information sufficient to develop a food chain model relating to the fate and transport of PCBs.
- 31,643. The Coast Guard study lacked a thorough enough characterization of the current locations of PCBs in the harbor.
- 31,644. The Coast Guard study lacked a thorough understanding and characterization of the sediment conditions and sediment types in the harbor.
- 31,645. Personnel from NUS, the Army Corps of Engineers, EPA and DEQE took part in discussions in which they questioned whether the information in the United States Coast Guard Tidal Cycle study could be used as the sole basis for determining transport questions regarding PCBs. There was general discussion that this was a one-time short study and that more study was going to be need.
- 31,646. EPA's Cincinnati (EMSL) are EPA's experts on laboratory analysis techniques because they establish the procedures and protocols which EPA and industry are required to use.

- 31,647. EPA is charged with putting out the standards and protocols for performing analyses on various compounds.
- 31,648. EPA's Cincinnati lab (EMSL) has developed particular protocols for testing PCBs.
- 31,649. EPA has reported detecting PCBs and heavy metals in its sampling in the estuary, harbor and bay.
- 31,650. Other federal or state agencies or EPA contractors have reported positive result for the priority pollutant list contaminants.
- 31,651. At his deposition Mr. Hackler produced a document from EPA files which included sampling data by DEQE in 1981 near the City WWTP outfall.
- 31,652. In 1981, DEQE reported PCB levels near the City WWTP outfall as follows:

<u>Station</u>	<u>PCB Concentrations (1242)</u>
XVI (a)	46 ppm
(b)	30 ppm
(c)	34 ppm
XVII (a)	69 ppm
(b)	43 ppm
(c)	11 ppm

- 31,653. Stations XVI and XVII are adjacent to the City WWTP outfall.
- 31,654. DEQE's reported findings of PCB near the WWTP outfall are admissions by the plaintiffs.

(6) Biota Sampling

- 31,655. There has been no regular sampling and analysis of biota data in the New Bedford Harbor area and Buzzards Bay for several years.
- 31,656. In the absence of a regular and systematic sampling plan and review of analytical information obtained thereby, state officials have no continued basis for maintenance of the fishery closure in New Bedford Harbor.
- 31,657. Levels of PCBs in the lobster and fish in the Acushnet River in New Bedford Harbor have been declining.

- 31,658. Those levels will continue to decline over the next several years.
- 31,659. Those levels will continue to decline at a steady rate over the next several years.
- 31,660. Those levels will continue to decline at a rapid rate over the next several years.
- 31,661. In order for results of a sampling program to be representative of the attribute being sampled, it is necessary that the sampling design take into consideration the distribution of the attribute being sampled, the amount of replicate samples necessary to reliably describe the attribute in question and the temporal variability in occurrence of the attribute being sampled.
- 31,662. In order that the results of any sampling program be representative of the attribute being sampled, it is necessary to select sampling locations in a manner that does not bias the results of the analysis; generally this implies that the sampling locations be randomly chosen.
- 31,663. In order to be able to compare the difference between sampling sites or sampling times it is necessary to have statistically reliable estimates of within sample and between sample variability.
- 31,664. If none of the above requirements are met in designing or conducting a sampling program than the results of that sampling program cannot be deemed to represent the characteristics of the attribute being sampled.
- 31,665. Any conclusion, either implicit or explicit, regarding trends in the distribution, either temporally or spatially, of the attributes being sampled or in differences, either temporally or spatially, of the attributes being sampled is unsupported if the sampling program did not meet the above requirements. The differences may be due to chance alone.
- 31,666. No appropriate sampling plan has been employed by Massachusetts or federal government agencies in connection with biota sampling in New Bedford Harbor and Buzzards Bay.
- 31,667. Even if the 2 ppm standard established by the FDA were valid and meaningful, that level will not be exceeded by lobster in the Acushnet River in New Bedford Harbor for more than a couple of years.

- 31,668. The studies relied upon by the FDA do not support its 2 ppm tolerance level, or, indeed 5 ppm.
- 31,669. The Department of Public Health over-reacted to the PCB problem and, to the extent that New Bedford Harbor and the Acushnet River were closed to fishing and lobstering because of PCBs, said closure was unwarranted and unjustified.
- (7) Leigh Bridges
- 31,670. Since 1986, the Massachusetts Division of Marine Fisheries has sampled the New Bedford Harbor area only for lobsters.
- 31,671. Since 1986, the Massachusetts Department of Marine Fisheries has not sampled any biota except for lobsters in the New Bedford Harbor area.
- 31,672. The Massachusetts Division of Marine Fishery has ceased sampling of biota other than lobsters in the New Bedford Harbor area.
- 31,673. The Massachusetts Division of Marine Fisheries has no present plans to begin sampling biota other than lobsters in the New Bedford Harbor area.
- 31,674. The Massachusetts Division of Marine Fisheries' decision to limit biota sampling and analysis, made by order of the DMF indicates that the cost of testing biota for PCBs is greater than any benefit to the public from knowing the level of PCBs in the biota in the New Bedford Harbor area.
- 31,675. Leigh Bridges of the Massachusetts Division of Marine Fisheries has not discussed with any official representative of the Massachusetts Department of Public Health or the Massachusetts Department of Environment Protection, the issue of the reopening of any of the closed portions of New Bedford Harbor.
- 31,676. The Massachusetts Division of Marine Fisheries has not provided any other state agencies with any testing on PCB levels in biota in New Bedford Harbor since 1986.
- 31,677. Since 1986, the Division of Marine Fisheries has taken over responsibilities from the Department of Environmental Quality Engineering concerning state shell fish management, pursuant to which the Division has kept closed several thousand acres of shell fish flats because of bacterial contamination.

- 31,678. According to Mr. Bridges, by 1979, most of the areas around the Achnusnet River in New Bedford Harbor had already been closed to shell fish for many years due to bacteriological contamination.
- 31,679. By 1979, most of the areas around the Achnusnet River in New Bedford Harbor had already been closed to shell fish for many years due to bacteriological contamination.
- (8) Jack Schwartz
- 31,680. Jack Schwartz is chief of the laboratory for the Division of Marine Fisheries of the Commonwealth of Massachusetts, and, since 1987, he has been supervisor of the laboratory at Cat Cove.
- 31,681. Mr. Schwartz reports to Mr. Leigh Bridges as his supervisor.
- 31,682. The Commonwealth of Massachusetts has not conducted any PCB sampling or analysis on any biota in New Bedford Harbor other than the American lobster from New Bedford Harbor since April 1, 1986.
- 31,683. Mr. Schwartz is not aware of any sampling and analysis by the Commonwealth of Massachusetts on any biota in New Bedford, other than the American lobster, conducted after April 1, 1986.
- 31,684. Since April 1, 1986, only the Cat Cove Laboratory has performed any PCB sampling or analysis on any biota from New Bedford Harbor for the Commonwealth of Massachusetts.
- 31,685. Document bate stamp 140015 is a letter from Mr. Charles Bearing to Dr. Schwartz dated October 25, 1985, on the letterhead of the Commonwealth of Massachusetts Division of Marine Fisheries, which states that as of October 25, 1988, the only PCB data available from collections of biota in New Bedford Harbor since 1985 was based on samples of American lobsters collected between May 8 and 14, 1986.
- 31,686. Additional samples of New Bedford Harbor lobster have been collected since October 25, 1988, but they have not been analyzed by the Cat Cove Laboratory or the Division of Marine Fisheries or any branch of the Commonwealth of Massachusetts.
- 31,687. Samples of American lobsters from New Bedford Harbor collected after October 25, 1988, in the

- physical possession of Cat Cove Laboratory, have not yet been analyzed, and have been in the physical possession of the Cat Cove Laboratory since approximately the Spring to Fall of 1989.
- 31,688. Lobster samples have also been taken after April 1, 1986, from May 8 to 14, 1986, samples and the 1989 samples, which are the samples that remain unanalyzed at the Cat Cove Laboratory. Lobster samples from New Bedford were taken in the Fall of 1986, Spring of 1987, and again in the Fall of 1987, and some of these samples were sent to the EPA Laboratory in Narrangansett.
- 31,689. The lobster samples taken in the Fall of 1986 were eventually analyzed by Cat Cove Laboratory some time after October 25, 1988.
- 31,690. The results of the analysis of the lobster samples, from New Bedford taken in the Fall of 1986 and analyzed by the Cat Cove Laboratory were never provided to anyone else in the Division of Marine Fisheries, or submitted to the Environmental Protection Agency, but were only submitted to counsel for the United States Department of Justice in this matter.
- 31,691. The samples collected of New Bedford Harbor lobsters in the Spring of 1987 were analyzed by the Cat Cove Laboratory some time after October 25, 1988.
- 31,692. The results of the analysis of lobster samples from New Bedford Harbor that were collected in the Spring of 1987 were provided to the counsel for the United States Department of Justice in this matter, but were not provided to the Environmental Protection Agency.
- 31,693. Samples of lobsters in New Bedford were also collected in the Spring and Fall of 1989, and those samples were provided to the Cat Cove Laboratory.
- 31,694. No samples of lobsters in New Bedford were collected in 1988.
- 31,695. No samples of lobsters from New Bedford were received by the Cat Cove Laboratory in 1988.
- 31,696. Dr. Schwartz remembers only one conversation in which he discussed with his supervisor, Mr. Bridges, that no samples of lobsters from New Bedford were received by the Cat Cove Laboratory in 1988.

- 31,697. Cat Cove Laboratory has not analyzed the lobster samples taken from New Bedford Harbor during the Spring of 1989.
- 31,698. Cat Cove Laboratory has not ever completed its analysis of lobster samples from New Bedford Harbor taken during the Fall of 1989.
- 31,699. Dr. Schwartz has no knowledge that the sampling program for biota in New Bedford Harbor represents an attempt to produce a statistically valid representation of PCB levels in lobsters in New Bedford Harbor.
- 31,700. Dr. Schwartz letter of October 25, 1988, to Mr. Bering accurately reports all the analysis of sample data done by Cat Cove Laboratory on samples collected after April of 1986, until the date of that letter.
- 31,701. According to Mr. Schwartz there have been quality control problems due to contamination of samples from laboratory gloves such that background readings were too high to use the results from the testing on those particular New Bedford lobsters.

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