

Name.	Description.	Date.	Vol.	Page.	Question.
Hawksley, Charles	Civil Engineer	December 19, 1898; January 16, 1899.	II.	212	20,640.
Hervey, Matthew Wilson	Engineer to the West Middlesex Waterworks Company.	November 15, 1898; February 14, 1899.	II.	66; 435.	16,467; 26,089.
Hills, Henry George	Clerk to the Wandsworth District Board of Works.	May 9, 1898	I.	445	8,918.
Hollams, John	Solicitor to the Associated Metropolitan Water Companies.	November 7 and 8; March 13, 1899.	II.	20; 570.	15,386; 29,716.
Hunter, Walter	Engineering Director of the Grand Junction Waterworks Company.	November 8; December 12 and 13, 1898.	II.	35; 181.	15,686; 19,913.
Ivey, William	Mayor of the Borough of West Ham	July 11, 1898	I.	615	13,070.
Johnston, Andrew	Chairman of the Essex County Council	July 11, 1898	I.	606	12,872.
Kidd, Charles Newman	Chairman of the Dartford Urban District Council.	July 4, 1898	I.	600	12,702.
Knight, Sir Henry	Chairman of the Southwark and Vauxhall Water Company.	November 8, 1898; February 6 and 7, 1899.	II.	29; 373.	15,542; 24,567.
Knight, Thomas Leonan	Chairman of the East Ham Urban District Council.	July 11, 1898	I.	624	13,349.
Latham, Baldwin	Civil Engineer	March 13, 1899	II.	583	30,051.
Lecte, William Chambers	Clerk to the Vestry of the Parish of St. Mary Abbots, Kensington.	June 20, 1898	I.	531	10,988.
Littler, Ralph Daniel Makinson, C.B., Q.C.	Chairman of the Middlesex County Council.	June 13 and 20, 1898	I.	508; 545.	10,454; 11,244.
Lockwood, Lieut.-Col. Mark, M.P.	Chairman of the East London Waterworks Company.	January 30 and 31, 1899	II.	337	23,657.
Lubbock, Sir John, Bart., M.P.	Alderman and Ex-Chairman of the London County Council.	March 14 and 21, 1898	I.	310	5,713.
Marriott, William Kenaz	Chairman of the Barking Urban District Council.	July 11, 1898	I.	621	13,267.
Martin, Howard	Chairman of the Water Committee of the County Borough of Croydon.	July 4, 1898	I.	576	12,027.
Middleton, Reginald Empson	Civil Engineer	July 18 and 25; November 22, 28 and 29; December 5, 12, 1898.	I. and II.	658; 87.	14,212; 17,007.
More, Charles James	Engineer to the Thames Conservancy	January 30, 1899	II.	329	23,378.
Morris, William	Engineer to the Kent Waterworks Company.	November 15, 1898	II.	77	16,733.
Mullen, Robert Gordon	Clerk to the Guardians of the Bromley Union.	July 4, 1898	I.	603	12,830.
Murphy, Shirley Forster	Medical Officer of Health for the Administrative County of London.	May 2, 1898	I.	414	8,077.
Musgrave, Christopher George	Chairman of the Leyton Urban District Council.	July 11, 1898	I.	624	13,373.
Norman, Frederick Henry	Clerk to the Bromley Urban District Council.	July 4, 1898	I.	602	12,793.
Plant, Alfred	Accountant to the East Ham Urban District Council.	July 11, 1898	I.	622	13,307.
Parkes, Thomas Farmer	Engineer to the Lambeth Waterworks Company.	November 8, 1898	II.	41	15,841.
Randell, Reginald Maurice Henry.	Chairman of the Water Committee of the Beckenham Urban District Council.	July 4, 1898	I.	596	12,582.
Restler, James William	Engineer to the Southwark and Vauxhall Water Company.	November 7 and 8, 1898; February 13, 1899.	II.	15; 39; 403.	15,277; 15,807; 25,280.
Searle, James	Clerk of the New River Company	January 24, 1899	II.	298	22,616.
Smith, Urban Armstrong	Surveyor and Engineering Adviser to the Hertfordshire County Council.	March 13, 1899	II.	572	29,736.
Stoneham, Allen	Official Auditor	July 18, 1898	I.	653	14,065.
Tendron, Frederick	Chairman of the Grand Junction Waterworks Company.	February 14 and 20, 1899	II.	440	26,263.
Waring, Arthur Thomas	Chairman of the Dartford Rural District Council.	July 4, 1898	I.	601	12,733.
Watney, Theodore	Chairman of the Water Committee of the Borough of Richmond.	July 4, 1898	I.	586	12,336.
Weeden, Henry	Vice-Chairman of the Ilford Urban District Council.	July 18, 1898	I.	635	13,615.
Whitaker, William, F.R.S.	Late Senior Officer on the English Staff of the Geological Survey.	March 7, 1899	II.	546	28,928.
Whiter, Salter	Chairman of the Croydon Rural District Council.	July 4, 1898	I.	592	12,191.
Whitmore, Charles Algernon, M.P.	Alderman of the London County Council.	March 21 and 28, 1898	I.	334	6,109.
Whittingham, Walter Basden	Chairman of the Water Committee of the Essex County Council.	July 11, 1898	I.	613	13,015.
Wilkins, Harry	Secretary of the Lambeth Waterworks Company.	February 20, 21, and 27, 1899.	II.	450	26,570.
Wybroo, Frank Henry	Secretary of the West Middlesex Waterworks Company.	February 14, 1899	II.	424	25,834.

## LIST OF WITNESSES IN VOLUME II.

Date.	Name.	Description.	Page.	Question.
THIRTY-SECOND DAY. November 7, 1898	Mr. Ernest Collins	Distributing Engineer to the New River Company.	3	15,013
	Mr. James William Restler	Engineer to the Southwark and Vauxhall Water Company.	15	15,277
	Mr. William Booth Bryan	Engineer to the East London Waterworks Company.	19	15,362
	Mr. John Hollams	Solicitor to the Associated Metropolitan Water Companies.	20	15,386
THIRTY-THIRD DAY. November 8, 1898	Mr. John Hollams	Chairman of the Southwark and Vauxhall Water Company.	24	15,457
	Sir Henry Knight	Engineering Director of the Grand Junction Waterworks Company.	29	15,542
	Mr. Walter Hunter	Engineer to the Southwark and Vauxhall Water Company.	35	15,686
	Mr. James William Restler	Engineer to the Lambeth Waterworks Company.	39	15,807
	Mr. Thomas Farmer Parkes	Engineer to the East London Waterworks Company.	41	15,841
THIRTY-FOURTH DAY. November 14, 1898	Mr. William Booth Bryan	Engineer to the East London Waterworks Company.	43	15,881
THIRTY-FIFTH DAY. November 15, 1898	Mr. William Booth Bryan	Engineer to the West Middlesex Waterworks Company.	62	16,380
	Mr. Matthew Wilson Hervey	Engineer to the Chelsea Waterworks Company.	65	16,467
	Mr. Richard Hack	Distributing Engineer to the New River Company.	71	16,630
	Mr. Ernest Collins	Engineer to the Kent Waterworks	73	16,700
	Mr. William Morris	Engineer to the New River Company	77	16,733
	Mr. Joseph Francis	Chief Engineer to the London County Council.	80	16,807
	Sir Alexander Binnie		83	16,925
THIRTY-SIXTH DAY. November 22, 1898	Mr. Reginald Empson Middleton.	Civil Engineer	87	17,007
THIRTY-SEVENTH DAY. November 28, 1898	Mr. Reginald Empson Middleton.	"	105	17,569
THIRTY-EIGHTH DAY. November 29, 1898	Mr. Reginald Empson Middleton.	"	125	18,193
THIRTY-NINTH DAY. December 5, 1898	Mr. Reginald Empson Middleton.	"	147	18,934
FORTIETH DAY. December 12, 1898	Mr. Reginald Empson Middleton.	"	169	19,519
	Mr. Walter Hunter	Engineering Director to the Grand Junction Waterworks Company.	181	19,913
FORTY-FIRST DAY. December 13, 1898	Mr. Walter Hunter	"	190	20,163
	Sir Frederick Brumwell, Bart., F.R.S.	Past President of the "Institutions of Civil Engineers and Mechanical Engineers."	197	20,298
FORTY-SECOND DAY. December 19, 1898	Mr. Charles Hawksley	Civil Engineer	212	20,640
FORTY-THIRD DAY. January 16, 1899	Mr. Charles Hawksley	"	232	21,077
	Mr. Edward Michael Eaton	"	247	21,391
FORTY-FOURTH DAY. January 17, 1899	Sir William Crookes	Water Analyst to the Metropolitan Water Companies.	254	21,462
	Professor James Dewar	"	262	21,710
	Sir Edward Frankland, K.C.B., F.R.S.	Official Water Analyst	271	21,950
FORTY-FIFTH DAY. January 23, 1899	Mr. Charles Edward Groves, F.R.S.	Chemist to the Thames Conservancy	275	21,998a
	Mr. Henry Carrington Bowles	Governor of the New River Company	282	22,260
FORTY-SIXTH DAY. January 24, 1899	Mr. Henry Carrington Bowles	Governor of the New River Company	296	22,571
	Mr. James Searle	Clerk of the New River Company	298	22,616
	Mr. Joseph Francis	Engineer to the New River Company	301	22,756
FORTY-SEVENTH DAY. January 30, 1899	Sir Alexander Binnie	Chief Engineer to the London County Council.	317	23,113
	Mr. Charles James More	Engineer to the Thames Conservancy	328	23,378
	Lieut.-Col. A. R. Mark Lockwood, M.P.	Chairman of the East London Waterworks Company.	337	23,657

Date.	Name.	Description.	Page.	Question.
FORTY-EIGHTH DAY. January 31, 1899	Lieut.-Col. A. R. Mark Lockwood, M.P. Mr. William Booth Bryan	Chairman of the East London Waterworks Company. Engineer to the East London Waterworks Company.	340 344	23,751 23,888
FORTY-NINTH DAY. February 6, 1899	Mr. Isaac Adolphus Crookenden. Sir Henry Knight	Secretary of the East London Waterworks Company. Chairman of the Southwark and Vauxhall Water Company.	366 373	24,392 24,567
FIFTIETH DAY. February 7, 1899	Sir Henry Knight	" " "	383	24,765
FIFTY-FIRST DAY. February 13, 1899	Mr. James William Restler Mr. Edmund Boulnois, M.P.	Engineer to the Southwark and Vauxhall Water Company. Chairman of the West Middlesex Waterworks Company.	403 415	25,280 25,622
FIFTY-SECOND DAY. February 14, 1899	Mr. Frank Henry Wybroo Mr. Matthew Wilson Hervey Mr. Frederick Tendron	Secretary of the West Middlesex Waterworks Company. Engineer to the West Middlesex Waterworks Company. Chairman of the Grand Junction Waterworks Company.	424 435 440	25,864 26,080 26,263
FIFTY-THIRD DAY. February 20, 1899	Mr. Frederick Tendron Mr. Harry Wilkins	" " " Secretary of the Lambeth Waterworks Company.	444 450	26,372 26,570
FIFTY-FOURTH DAY. February 21, 1899	Mr. Harry Wilkins	" " "	464	26,964
FIFTY-FIFTH DAY. February 27, 1899	Mr. Harry Wilkins Mr. Francis Stephen Clayton Mr. George Henry Gill	Governor of the "Chelsea Waterworks Company." Secretary of the Chelsea Waterworks Company.	489 490 498	27,450 27,457 27,727
FIFTY-SIXTH DAY. February 28, 1899	Mr. George Henry Gill Sir William Hart Dyke, Bart., M.P. Mr. Alexander Dickson	" " " Chairman of the "Kent Waterworks Company." Secretary of the Kent Waterworks Company.	508 511 516	28,039a 28,103 28,171
FIFTY-SEVENTH DAY. March 6, 1899	Mr. Alexander Dickson Sir Frederick Dixon-Hartland, Bart., M.P. Sir Edward Frankland, K.C.B., F.R.S.	" " " Chairman of the Thames Conservancy Official Water Analyst	528 537 540	28,447 28,684 28,775
FIFTY-EIGHTH DAY. March 7, 1899	Mr. William Whitaker, F.R.S. Mr. Richard Hack Mr. Ernest Collins Mr. George Corble	Late Senior Officer of the English Staff of the Geological Survey. Engineer to the Chelsea Waterworks Company. Distributing Engineer to the New River Company. Clerk to the Lea Conservancy Board	546 549 554 558	28,928 29,033 29,225 29,368
FIFTY-NINTH DAY. March 13, 1899	Mr. John Hollams Mr. Urban Armstrong Smith Mr. Baldwin Latham	Solicitor to the Associated Metropolitan Water Companies. Surveyor and Engineering Adviser to the Hertfordshire County Council. Civil Engineer	570 572 583	29,716 29,736 30,051
SIXTIETH DAY. March 14, 1899	Mr. Edward Arthur Bonnor-Maurice.	Solicitor to the Chelsea, Grand Junction, East London, and the Southwark and Vauxhall Water Companies.	589	30,213

## ADDRESSES OF COUNSEL.

SIXTY-FIRST DAY. March 20, 1899	Lord Robert Cecil Mr. Edward Henry Pember, Q.C. Mr. Edward Henry Pember, Q.C.	Representing the Hertfordshire County Council. Representing the Metropolitan Water Companies. " " "	591 598 608
SIXTY-SECOND DAY. March 21, 1899	Mr. Edward Henry Pember, Q.C.	" " "	631
SIXTY-THIRD DAY. March 22, 1899	Mr. Samuel Pope, Q.C. Mr. Ralph Makinson Littler, Q.C. Mr. John Hutton Balfour Browne, Q.C.	" " " Representing the Kent Waterworks Company. Representing the London County Council	648 654 667
SIXTY-FOURTH DAY. March 23, 1899	Mr. John Hutton Balfour Browne, Q.C.	" " "	676

## MINUTES OF EVIDENCE

TAKEN BEFORE

## HER MAJESTY'S COMMISSIONERS

APPOINTED TO INQUIRE INTO THE SUBJECT OF THE

## WATER SUPPLY

WITHIN THE LIMITS OF THE

## METROPOLITAN WATER COMPANIES.

Volume II.

THIRTY-SECOND DAY.

Monday, November 7, 1898.

Guildhall, Westminster, S.W.

PRESENT:

THE RIGHT HONOURABLE VISCOUNT LLANDAFF, CHAIRMAN.

The Right Honourable JOHN WILLIAM MELLOR, Q.C.,  
M.P.  
Sir JOHN EDWARD DORINGTON, Bart., M.P.  
Sir GEORGE BARCLAY BRUCE, Knt., C.E.

ALFRED DE BOCK PORTER, Esq., C.B.  
Major-General ALEXANDER DE COURCY SCOTT, R.E.  
ROBERT LEWIS, Esq.

CECIL OWEN, Esq., Secretary.

Mr. Balfour Browne, Q.C., and Mr. Freeman, Q.C., appeared as Counsel for the London County Council.  
Mr. Pope, Q.C., and Mr. Claude Baggallay, Q.C., appeared as Counsel for the New River Company.  
Mr. Littler, Q.C., and Mr. Lewis Coward appeared as Counsel for the Kent Waterworks Company.  
Mr. Pember, Q.C., appeared as Counsel for the Lambeth, East London, Grand Junction, and West Middlesex Waterworks Companies.  
Sir Joseph Leese, Q.C., M.P., appeared as Counsel for the Kent County Council.  
Mr. Richards appeared as Counsel for the Chelsea Waterworks Company.  
Lord Robert Cecil appeared as Counsel for the Hertfordshire County Council.  
Sir Richard Nicholson appeared for the County Council of Middlesex.  
Mr. G. Prior Goldney (Remembrancer) appeared for the Corporation of the City of London.  
Messrs. Bircham and Company appeared for the Southwark and Vauxhall Water Company.

15,012. (Chairman.) I presume the counsel are aware that we propose to deal first with a separate and small subject, namely, that of inter-communication between the different companies. The President of the Local Government Board has written to me officially to ask that we should deal with that, and report upon it as soon as possible; so we propose to interrupt the course of the evidence to that extent.

(Mr. Pope.) No doubt the Commission are aware that since the communication on the part of the Commission to the companies that that would probably be the course which the matter would take this morning, the companies have met and have carefully considered what their position should be with regard to that. They are prepared, of course, to offer to the Commission general evidence as to the practicability of such a matter; but it involves so many small considerations of detail both as regards the engineering requirements the particular points where connexion should be made, and so on, and the general legal bearings of the question, that it has appeared to them that it would be desirable to save the time of the Commission rather by directing their evidence, if they should be called upon for any, to the general question rather than to ask you to go into a long inquiry in detail as to any particular scheme of connexion. But

further, I daresay the Commission are aware that the result of inter-communication between the companies has been that they have come to the conclusion that it would be a convenience, and, therefore, as a convenience, they would undertake the duty to promote in the next session of Parliament a Bill obviating these questions of detail. For instance, without legislation, of course the companies could not be relieved from their statutory obligations to apply their powers only to the purposes of their own district, and especially from those particular obligations which bind individual companies not to supply water to adjoining companies. All that would have to be dealt with, of course, by legislation; and I am instructed upon the part of the associated companies to call the attention of the Commission to a series of resolutions which they came to, which in general terms express what their views will be with regard to such legislation; and to say at once that their view, putting it briefly, would be this—that while a scheme of inter-communication is perfectly practicable, it would be desirable that some authority should be armed with power to say how and in what way that connexion should be made, not merely at the time when the emergency might arise for it, but anticipating the necessity for any such inquiry. They would suggest that the matter in detail might be left to the Local Government Board to decide, putting upon

7 Nov. '98