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sewage disposal plants will be abandoned. The new works will serve a slaughterhouse and a dairy, both of which discharge unsatisfactory trade effluent into local drains.

Bourne Urban District

A consistently satisfactory effluent was discharged from the newly extended Bourne sewage disposal works. A foul sewer was fractured during the culverting of a drain, and it was necessary to divert some sewage into the Bourne Eau whilst repairs were carried out, but they were completed without any significant pollution.

Brixworth Rural District

More than half of the twenty-three sewage disposal works in the district produced effluent not consistently complying with prescribed conditions. This is attributed to the inability of the Council to find reliable men to carry out the poorly paid and certainly unpleasant but very necessary servicing of the sewage disposal works. The Council have had a progressive policy on sewage disposal works construction, but because of labour difficulties they have not achieved their object. To overcome this difficulty the Council are investigating the possibility of employing contractors to service some of their many works.

A sewerage and sewage disposal scheme for Kelmarsh and Arthingworth providing for the sewage to be treated at Great Oxendon sewage disposal works was submitted to the Ministry of Housing and Local Government in May, 1966 and again in October, 1967 but on each occasion permission to proceed was refused. The Council asked the Authority to persuade the Ministry of the importance of the scheme, but it was felt that some selectivity must be shown and that it might prejudice representations on more urgent and important sewage disposal schemes if support was given for a scheme, which although desirable was of relatively low priority in the Area as a whole.

Corby Urban District

Effluent from the three sections of Corby sewage disposal works generally complied with prescribed conditions, but due to overloading there was a tendency towards some deterioration in the normal high quality. An extension scheme to provide for additional population of 20,000 was submitted to the Ministry of Housing and Local Government.

Daventry Municipal Borough

A good effluent was discharged from both sections of Daventry sewage disposal works, but there were signs of deterioration towards the end of the year. An additional land irrigation area is to be brought into use, and the existing area is to be re-seeded to bring about some improvement.

Plans for a new sewage disposal works will be submitted to the Ministry of Housing and Local Government in the near future.

Daventry Rural District

The new sewage disposal works for Weedon and Flore came into operation towards the end of 1967, and eliminated unsatisfactory discharges from the old sewage works which were abandoned

Schemes for West Haddon providing for the construction of two lagoons with a total capacity of 7.8 days dry weather flow and for recirculation and land irrigation of humus tank effluent at Welton sewage disposal works were prepared.

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The Council abandoned a scheme for a sewage disposal works at Whilton in favour of sewering that village to either Long Buckby or the proposed Daventry Borough sewage disposal works. Tenders were invited for the extensions to Long Buckby works.

Desborough Urban District

The extensions at Desborough sewage disposal works proceeded satisfactorily, and should be completed in the coming year.

East Elloe Rural District

More adequate maintenance and attention to the numerous small sewage disposal plants resulted in marked improvement of the discharges.

Work proceeded on the long-awaited sewerage and sewage disposal scheme for Holbeach, and negotiations continued between the Council and a food processing factory in connection with the Long Sutton and Sutton Bridge sewage disposal scheme.

Higham Ferrers Municipal Borough

The final effluent from Higham Ferrers sewage disposal works continued to be of a very high quality following the provision of lagoons in January, 1967. The following analytical results were obtained:

		I	Lagoon Fe	ed	Lagoon Effluent						
		(as former	ly discharg	ged to river)	(as now	(as now discharged to river					
		Solids	Cl.	B.O.D.	Solids	Cl.	B.O.D.				
4th April		140	324	28	6	257	2.5				
4th May		200	230	31	5.5	310	2.1				
31st May		105	108	16	5	235	3				
9th August		95	120	6.5	7	250	1.7				
5th September		115	207	18	8	332	1.5				
17th October		140	100	20	25	270	7				
8th November		115	520	21	12.5	248	4				
2nd January		105	410	24	11	284	4.5				
1st February		155	396	37	12	378	3.6				
5th March	٠.	145	415	28	17	425	5.5				

Although the effluent was of a very high standard, the Council's attention was drawn to the signs of deterioration; the average solids figure for the first five months being 6.3 and for the last five months 15.5 milligrams per litre.

Irthlingborough Urban District

Effluent from Irthlingborough sewage disposal works continued to be unsatisfactory, and deteriorated further over the last five months. At the beginning of the year only half the filter capacity was being used because of difficulties in obtaining spares for the distributors. All filters were back in operation by May, and one new sludge bed was completed. The Council had hoped that considerable improvement would result so that the County Planning Authority could be advised that there was no longer any objection to normal development in the District, but the works were still substantially overloaded and it was not possible to agree to any new building which would result in a further deterioration of a bad effluent. It is clear that if there is to be any significant improvement in the effluent from this works, some form of tertiary treatment will be necessary. Experience at Higham Ferrers sewage disposal works (where the effluent is similar in that it has a high suspended solids content with a relatively low biochemical oxygen demand) shows that lagoon treatment with three or more days retention might well prove successful.

About 65,000 gallons per day of tannery effluent having biochemical oxygen demand around 800 milligrams per litre is still discharged direct to the Nene in Irthlingborough.

Kettering Municipal Borough

Effluent from Kettering sewage disposal works continued to be unsatisfactory as regards suspended solids. The Council's Consultants have surveyed the various industrial discharges in Kettering prior to submitting a scheme for long term extensions in anticipation of further development.

The Council's attention was drawn to the success of lagoon treatment at Higham Ferrers, and they are considering providing similar lagoons at the Kettering works.

Kettering Rural District

Of the seventeen sewage disposal plants maintained by Kettering Rural District Council, twelve have produced satisfactory discharges fairly consistently. The Council are to install upward flow clarifiers which should produce some improvement at the other five works.

A scheme for sewering Warkton and Weekly to Kettering Borough Council's sewage disposal works is in preparation.

Ketton Rural District

The Ministry have approved a joint scheme by Ketton and South Kesteven Rural District Councils to enlarge Ryhall sewage disposal works, and the sewage from Essendine and Carlby will then be dealt with there.

Market Harborough Urban District

Although an additional humus tank was brought into use at Market Harborough sewage disposal works, effluent was not consistently satisfactory, and only thirteen of the thirty-one samples analysed complied with prescribed conditions. The Council's attention was drawn to the need for some improvement.

Pollution of a tributary of the River Welland by effluent from a mushroom farm gave rise to complaints, but the trade waste is now discharged to the public sewer.

Market Harborough Rural District

Market Harborough Rural District Council are responsible for the operation of twenty sewage disposal works, all but two of which usually produce fairly satisfactory discharges. The Council were informed that more frequent servicing would be likely to produce better discharges.

When a surface water sewerage scheme for Husbands Bosworth is implemented there will be a considerable reduction in the amount of infiltration water passing to the sewage disposal works.

At Kibworth sewage disposal works the filter capacity was increased by fifty per cent, and upward flow clarifiers were installed in the humus tanks in anticipation of an increase in dry weather flow.

Norman Cross Rural District

The sewage disposal works at Sibson-cum-Stibbington and at Elton were commissioned during the year, but the early discharges were disappointing, although neither of the works had had time to mature.

Northampton County Borough

With only occasional exceptions, effluent from Northampton sewage disposal works complied with the prescribed conditions. To remedy overloading (and unconnected with the proposed expansion under the New Towns Act, 1965) the Council are proposing to install two sedimentation tanks, a sludge digestor and a new sludge pump house at an estimated cost of £390,000, and it is hoped that the works will then produce an effluent at all times in accordance with the prescribed conditions, because the lack of dilution at certain times can result in an unsatisfactory effluent having serious consequences.

The Council are also preparing plans for a substantial extension of the sewage works to provide for an increase in the population of some 75,000 under the Town Expansion Scheme. When Stage I of the plans is completed the two sedimentation tanks installed to meet immediate needs will be used as balancing tanks.

The Ministry of Housing and Local Government and the Council have been informed that unless an effluent of the highest quality is discharged, the substantial volume of sewage in relation to the flow in the river will inevitably result in pollution.

Northampton Rural District

It has become increasingly apparent that Bugbrooke and Heyford sewage disposal works is operating at capacity, and any further development would result in a contravention of the consent granted under section 1 of the Rivers (Prevention of Pollution) Act, 1961. In view of this, and with the knowledge that planning permission for about 220 houses has already been granted, the County Planning Authority were asked to restrict further development until the works are extended. An improvement scheme providing in the first instance for a population of 7,000, and eventually of 10,500 is in preparation.

Oakham Urban District

Oakham Urban District Council received Ministry approval for the extension of the sewage disposal works to provide treatment for a dry weather flow of 300,000 gallons per day compared with the present 135,000 gallons per day.

Oakham Rural District

The Minister of Housing and Local Government dismissed an appeal against Rutland County Council's refusal to allow the erection of three dwellings at Stretton, following the advice that the sewage disposal facilities were inadequate.

The Rural District Council propose to enlarge the sludge beds and install a Banks clarifier at Exton sewage disposal works.

It is hoped that extensions to Cottesmore and Greetham sewage disposal works will be completed in July, 1968.

Old Fletton Urban District

Growths of sewage fungus in the River Nene were caused on occasions when floodwater rose above a weir at the British Sugar Corporation's Peterborough factory and in draining back carried out grossly polluting nutrients from the internal fluming system. To prevent a recurrence the weir has been removed and the bank is to be completed to seal off the internal fluming system.

Oundle Urban District

It is intended to incorporate recirculation at Oundle sewage disposal works to improve

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the effluent until the works can be extended to deal with the increased flow from the expected increase in population. There are also proposals to take sewage from one or two nearby villages in the Oundle and Thrapston Rural District to the Urban Works for treatment.

Oundle and Thrapston Rural District

The Ministry's approval was received for a new sewage disposal works at Thrapston, which at a later stage will also serve the villages of Islip, Denford and Ringstead. Land irrigation provided a reasonably satisfactory effluent from the Thrapston works.

Woodford sewage disposal works were reconstructed in the autumn, and for the first time for many years satisfactory effluent was produced. The sewage works at Easton-on-the-Hill are to be modernised as the effluent is deteriorating.

The sewage from seventeen council houses at Upper Benefield is treated at the old airfield sewage disposal works, and the final effluent soaks away satisfactorily.

Peterborough Municipal Borough

Final effluent from Peterborough sewage disposal works continued to be of good quality. Several oil pollutions occurred in the City, mostly as a result of misconnections or improper discharges to the surface water sewerage system. The City Engineer's Department afforded the utmost co-operation in tracing and eliminating several sources of contamination.

Oil pollution of the Werrington Brook occurred in October when a burner jet of a boiler was accidently extinguished and the automatic fuel cut-out system failed. A device has since been fitted so that when the burner jet is extinguished the valve from the oil storage tank closes.

Oil from an engineering works was found to be polluting the Edgerley Drain, and the Company are to provide a concrete base surrounded by a low retaining wall for storing waste oil drums from which the spillages had occurred.

Peterborough Rural District

Trade waste from a paper mill at Helpston has caused serious pollution in the adjoining Fenland drains, and the effect was noticeable in the River Welland for many years.

The Company carried out investigations which may have revealed the cause of much of the pollution and remedial measures are being completed in stages, but it may be another year before the full effect will be apparent.

Raunds Urban District

Following discussions with the Ministry of Housing and Local Government, Raunds Urban District Council applied for section 7 consents in respect of new sewage disposal works at Raunds and at Stanwick. The existing discharges continued to be unsatisfactory, and the County Planning Authority were advised that pending the completion of new sewage disposal works no further development should be allowed which would aggravate the present unsatisfactory conditions.

Rutland County

Discussion took place with the Rutland County Planning Officer on the difficulty in finding suitable sites for domestic refuse disposal tips. Three possible sites were examined, but two of these were on the Lincolnshire limestone and there was a danger that seepage might pollute the ground water aquifer. The Council were advised that there was no objection to the third site.

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South Kesteven Rural District

Development in Uffington was restricted pending completion of South Kesteven Rural District Council's scheme to pump sewage from Uffington to Stamford Borough Council's sewage disposal works.

Following investigations, the Ministry of Housing and Local Government deferred the following Schemes for 12 months:

Castle Bytham, Little Bytham, Creeton, Swayfield and Swinstead, Market Deeping, Deeping St. James Langtoft and Baston, Edenham, Grimsthorpe and Scottlethorpe

and it is hoped that work will proceed in the summer of 1969.

The Council submitted a Scheme to sewer West Deeping and Tallington to the new Deeping St. James works, but at the suggestion of the Ministry a new Scheme is to be prepared for a new works to deal with the two villages.

The proposal to sewer Carlby to the Ryhall sewage disposal works was deferred.

The County Planning Authority were asked to restrict further development which would aggravate the overload conditions at the Deeping St. James sewage disposal works.

Spalding Rural District

There was a great improvement in the effluent from the new Pinchbeck sewage disposal works where a broken sludge return pipe which had allowed activated sludge to pass to the land irrigation area along with the final effluent, leaving insufficient activated sludge in the aeration tank to provide effective treatment, was rectified.

Pollution of a dyke in the Deeping Fen Internal Drainage District by the discharge from a small private slaughter-house at Pinchbeck was remedied when the discharge was connected to the new Pinchbeck sewage disposal works.

Spalding Urban District

Gross pollution of the Cemetery Drain in Spalding by drainage from waste fruit and vegetables was referred to in the Second Annual Report. The Company installed a waste disposal plant and is to discontinue dumping waste on the land. Some initial trouble was experienced with the elevator used for transporting waste vegetables to the press.

Spalding Urban District Council instructed Consultants to prepare a comprehensive scheme of sewerage and sewage disposal for the town.

Stamford Municipal Borough

A new sewerage scheme for Stamford was completed, and the Council hope to proceed with the construction of a new sewage disposal works.

Thorney Rural District

In approving in principle a sewerage and sewage disposal scheme for Thorney, the Ministry suggested reducing the sludge drying area by one-third and replacing the storm tanks by an earth lagoon. It is hoped that work will be started at an early date.

Towcester Rural District

Pollution at Blisworth was remedied when a broken seal on a disused storm overflow was repaired.

Wisbech Rural District

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Uppingham Rural District

Uppingham Rural District Council authorised the construction of a lagoon at Belton sewage disposal works.

Wellingborough Urban District

Effluent from Wellingborough sewage disposal works almost invariably complies with the prescribed conditions of 20 milligrams per litre suspended solids and 15 milligrams per litre biochemical oxygen demand. The Council propose to construct a new sewage disposal works to provide for an increase in population from 35/40,000 to 90,000 and were informed that a 15 solids/15 B.O.D. condition would probably be prescribed. The Council suggested that a 30 solids/20 B.O.D. should be imposed, and the matter was discussed informally with representatives of the Ministry of Housing and Local Government.

The Council intend to provide filter capacity sufficient to serve a population of 120,000 and at least 7 acres of land irrigation beds, as it is anticipated that the works will eventually be extended to serve the adjoining districts. Their Consultant considers that, although a 15/15 effluent should be generally possible it should not be obligatory.

As the present effluent derived from a population of between 35,000 and 40,000 complies with a 15 solids/20 B.O.D. standard, it is considered that it would be a retrograde step to accept a discharge from a population of 60,000 of a 30 solids/20 B.O.D. standard, and contrary to the preamble to the Rivers (Prevention of Pollution) Act 1951.

The Ministry expressed the hope that agreement could be reached with the Council.

Wellingborough Rural Council

The new sewage works at Earls Barton and at Wollaston failed to produce discharges to comply with the prescribed conditions, and the Council submitted to the Ministry proposals to rectify the situation.

The Ministry considered that the problem at Wollaston was not sufficiently urgent to justify immediate action in view of the economic restrictions, and they asked for further evidence to support the need for improvement at Earls Barton. The Council are thus in contravention of section 7 of the 1951 Act in respect of two newly commissioned works, and so liable to a penalty of £200 but they are precluded from meeting their statutory obligations. It poses the question as to the extent to which a Government Department should be able to intervene when the right of appeal has been lost and the only competent tribunal is a court of law.

At Little Irchester sewage disposal works the land irrigation area is to be recultivated and seeded to improve the effluent.

West Kesteven Rural District

The Council prepared a sewerage and sewage disposal scheme for Lenton and Ingoldsby, and it is hoped that the Ministry will approve it so that work may be started in the near future.

At Burton Coggles sewage disposal works there was frequent blocking of the media support tiles in the upward flow clarifier, and consideration is being given to replacing them with some other material.

Upward flow clarifiers were installed at the Ropsley sewage disposal works.

Wisbech Municipal Borough

A section 7 consent was granted in respect of a new sewage disposal works for Wisbech Borough and adjacent parts of Wisbech and Marshland Rural Districts.

The Council are responsible for the maintenance and operation of some twenty small sewage disposal plants, many of which discharge unsatisfactory effluent causing very localised pollution in the fen drainage system. But in the second half of the year there were definite signs of improvement. On completion of the sewage disposal works at Wisbech several of the works will be abandoned which should enable better maintenance of those remaining and an overall improvement.

The installation of upward flow clarifiers at Guyhirne and at Wisbech St. Mary Works resulted in substantial improvement in the effluent from extended aeration plants.

5. REMEDIAL ACTION

In the past few years there have been several pollutions, and curiously all in Northampton, caused by fuel oil deliveries to schools or industrial premises being permitted to overflow from the storage tanks to surface water sewers and thence to a stream. Following a spillage of some 600 gallons of oil at a factory on the 25th November it was decided that a prosecution might serve a salutary purpose, and Counsel's Opinion was taken on the principles arising and whether summonses against those taking delivery of the oil would be likely to be successful, as it was thought that would be more effective than proceedings against either the driver of the tanker waggon or his employers.

In view of Counsel's advice an information was laid against the driver of the oil tanker waggon in respect of an offence under section 2 of the 1951 Act.

On the facts as found by the Court it appeared that the pollution was due to circumstances beyond the defendant's control, and as there was no culpability on his part the case was dismissed. The defendant's applications for costs was refused.

In 1964 the Nene River Board granted a section 7 consent in respect of a discharge to a fenland drain of effluent from a private sewage disposal plant serving a permanent residential caravan park. The plant has never produced an effluent in accordance with the prescribed (Royal Commission) conditions, and the Company have been warned on a number of occasions of the need to comply with their statutory obligations. In May 1966 they were finally informed that if no improvement was quickly achieved then statutory samples of the effluent would be taken with a view to prosecution. There was no indication of any remedial works. Five statutory samples were taken which had a B.O.D. varying from 350 p.p.m., to 65 p.p.m., and a suspended solids content varying from 150 p.p.m. to 110 p.p.m., and were the subject of summonses against the Company for contraventions of sections 2(1) (b) and 7 of the Rivers (Prevention of Pollution) Act 1951 heard by Peterborough Justices on 5th October. Similar summonses against the managing director were withdrawn in view of the Company's plea of "guilty". The Court was asked to deal with summonses relating to only one of the five statutory samples, and were told that the Company would be given a reasonable time to remedy the position, failing which further informations would be laid. The Company were fined £20 in respect of each offence, and were informed by the Court that if further proceedings had to be taken then the penalties would be very severe indeed.

It is not known whether the Company will decide to extend the sewage plant, or remove the discharge to the public sewer some distance away, but in either event the solution to this problem will involve expenditure.

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6. STATISTICS RELATING TO POLLUTION CONTROL

DISCHARGES INTO STREAMS REQUIRING CONSENT UNDER SECTION 7 OF THE 1951 ACT

(a)	Effluents from local a works and other dome			
(b)	Effluents from storm storm sewage tanks	sewage	overflows	and
(c)	Effluents from trade p	remises	***	
(d)	Farm effluents			

Consents and notices issued during year	Refusals during year
27	nil
nil	nil
2	nil
2	nil
31	nil

DISCHARGES INTO TIDAL WATER REQUIRING CONSENT UNDER SECTION 7 OF THE 1951 ACT AS EXTENDED BY SECTION 1 OF THE 1960 ACT

(a)	Effluents from local au works and other domes			
(b)	Effluents from storm storm sewage tanks	sewage 	overflows	and
(c)	Effluents from trade pr	emises	6 F	
(d)	Farm effluents		10.0	
		Totals		

Consents and notices issued during year	Refusals during year
nil	nil

REVIEWS OF CONDITIONS OF CONSENT UNDER SECTION 5 OF THE 1961 ACT

(a)	Effluents from local au works and other domes	thority s	sewage disp ge effluents	oosal
(b)	Effluents from storm storm sewage tanks	sewage	overflows	and
(c)	Effluents from trade pr	remises		
d)	Farm effluents	•0•	***	
		Totals		

Consents reviewed during year	Consents varied during year
3	nil
nil	nil
rnil	nil
nil	nil
3	nil

DISCHARGES INTO UNDERGROUND STRATA REQUIRING CONSENT UNDER SECTION 72 OF THE 1963 ACT

			Consents issued during year	Refusals during year
(a)	Effluents from local authority sewage disp works and other domestic sewage effluents		27	nil
(b)	Effluents from storm sewage overflows storm sewage tanks	and 	nil	nil
(c)	Effluents from trade premises		2	nil
d)	Farm effluents		nil	nil
e)	Other miscellaneous discharges		nil	nil /
	Totals		29	nil

7. RESEARCH

No research work was carried out.

RIVER NENE—ANALYTICAL RESULTS

Sampling Point	Miles from Source		pH	Sus- pended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O. % Satura- tion	Water Temp. °C	Flow m.g.d.
 Non Tidal Sampli Dodford Road Bridge 	ng Points 5	Average Values Maximum Values Minimum Values	8.45 7.55	14 33 5	23 24 21	0.09 0.30 trace	3.9 4.9 2.0	2.4 4.4 1.2	2.05 2.8 1.1	111.0 132.5 96.0	9.5 15.5 5.0	
Weedon A.45 Road Bridge	-	Average Values Maximum Values Minimum Values	8.75 7.6	14 30 5	40 44 36	0.2 0.35 trace	5.0 5.7 3.4	3.4 5.4 2.0	2.8 3.9 1.1	114.1 161.5 92.5	9.5 15.5 5.0	12.4 189.0 2.8
Kislingbury	12	Average Values Maximum Values Minimum Values	8.7 7.7	16 45 trace	40 52 34	0.4 0.6 0.1	4.85 5.9 2.3	3.1 5.8 1.2	3.3 4.3 2.4	102.9 131.0 90.0	9.5 16.5 5.5	29.8 (e) 269.0 7.6
Boughton Crossing	_	Average Values Maximum Values Minimum Values	8.0 7.3	20 35 5	37 43 32	0.4 0.85 trace	8.3 9.3 7.6	3.3 5.6 0.8	2.9 3.8 1.8	98.1 114.5 86.5	9.5 15.5 5.5	23.1 430.0 5.2
Nunn Mills		Average Values Maximum Values Minimum Values	8.45 7.65	16 46 10	40 43 34	0.35 0.45 0.15	6.2 8.0 4.0	3.4 6.4 1.8	2.3 3.4 1.7	98.0 109.0 89.0	8.0 17.5 6.0	
Billing Bridge	22	Average Values Maximum Values Minimum Values		15 65 trace	43 50 34	0.25 0.45 0.10	5.6 9.1 2.3	3.1 6.2 0.8	2.8 4.4 1.4	95.0 108.0 84.0	15.0 21.5 6.5	
White Mills	25	Average Values Maximum Values Minimum Values	8.2 7.45	12 63 trace	59 79 40	3.8 7.25 0.25	7.5 9.4 4.1	4.7 6.8 2.4	5.8 9.2 1.4	71.0 97.0 40.5	14.0 20.5 6.5	
Hardwater Mill	27	Average Values Maximum Values Minimum Values	8.15 7.3	15 85 trace	60 84 44	3.5 8.15 0.70	7.5 12.2 4.4	5.2 8.0 3.4	7.6 11.0 3.7	69.0 102.5 25.0	14.0 21.0 6.5	
Wollaston Mill		Average Values Maximum Values Minimum Values	8.2 7.45	11 80 trace	52 78 43	2.3 6.15 0.2	7.0 11.2 4.6	4.6 8.4 3.6	5.8 10.0 3.5	66.5 98.0 42.0	13.0 21.0 7.0	74.9(<i>e</i>) 989. 18.1
Wellingborough Road Bridge	30	Average Values Maximum Values Minimum Values	8.2 7.45	16 65 5	60 75 44	3.9 8.15 0.25	7.9 10.8 4.7	5.1 8.2 3.6	7.25 12.0 2.5	79.0 101.5 42.0	14.0 20.5 7.5	
River Ise Wellingborough	_	Average Values Maximum Values Minimum Values		32 87 5	54 74 42	0.7 1.9 0.1	8.2 9.7 6.9	6.0 9.2 3.4	5.75 8.8 3.4	89.0 113.5 65.0	10.0 17.0 6.0	25.7 338.0 5.0
Ditchford Mill	32	Average Values Maximum Values Minimum Values	8.15 7.6	19 45 trace	55 70 48	2.45 4.3 0.2	7.6 10.1 5.3	5.0 6.4 4.4	7.6 14.0 2.5	86.5 93.5 80.5	11.0 18.0 6.0	
Irthlingborough Old A.6 Bridge	34½	Average Values Maximum Values Minimum Values	8.1 7.6	26 85 5	62 86 50	2.55 4.0 0.45	8.25 10.8 5.2	6.1 9.8 4.4	7.4 9.8 3.9	87.0 98.5 71.0	10.5 18.0 6.0	
Ringstead Lower Lock	38	Average Values Maximum Values Minimum Values	- s 8.85	14 72 trace	70 100 44	1.45 3.9 0.25	8.25 10.9 6.0	5.1 10.0 3.2	6.8 8.9 3.9	83.0 148.5 51.0	13.5 21.0 6.0	
Thrapston	42	Average Values Maximum Value Minimum Values	s 8.25	21	64 90 54	1.55 2.85 0.5	8.5 9.8 6.3	5.3 7.6 3.8	6.9 9.4 3.1	94.5 122.0 81.5	10.0 18.0 6.0	
Oundle New Bridge	e 55	Average Values Maximum Value Minimum Values	s 8.4	10 20 5	65 95 40	0.7 2.9 trace	7.5 9.4 5.3	4.4 6.8 3.2	8.5	95.0 129.0 78.5	13.5 21.0 5.5	

Sampling Point	Miles from Source		pH	Sus- pended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)		5 day B.O.D.		Water Temp. °C	Flow m.g.a
Fotheringhay	59	Average Values Maximum Values Minimum Values		10 15 5	62 74 58	0.85 2.1 trace	7.4 8.9 5.6	3.9 5.6 2.0	4.5 7.6 2.1	100.0 140.0 81.5	10.0 18.5 5.5	
Elton Lock	_	Average Values Maximum Values Minimum Values		9 19 5	60 85 37	0.6 1.9 trace	7.4 9.2 5.0	4.0 5.0 3.2	4.2 6.8 1.9	100.0 130.0 86.5	14.0 21.0 5.0	
Willow Brook, Fotheringhay	-	Average Values Maximum Values Minimum Values		12 20 trace	118 150 104	1.25 2.4 0.15	9.5 10.4 8.4	4.2 6.8 0.8	6.0 11.0 1.9	105.5 138.0 86.0	10.0 15.5 5.5	18.2 149.0 7.8
Elton/Nassington Road Bridge	-	Average Values Maximum Values Minimum Values		9 20 5	71 94 40	0.7 2.15 trace	7.8 9.5 5.0	3.9 5.2 3.2	4.7 7.7 2.3	100.0 124.5 90.5	13.5 20.5 5.5	
Wansford Old A.1 Bridge	66	Average Values Maximum Values Minimum Values		9 15 5	74 91 62	1.15 1.95 trace	7.8 9.5 4.7	3.9 5.4 2.0	5.2 6.9 3.2	100.0 121.0 90.0	9.5 18.0 5.0	/
Peterborough Bridge	77	Average Values Maximum Values Minimum Values		12 20 5	68 77 59	0.6 1.4 0.25	7.0 9.8 3.6	4.5 5.2 3.8	5.2 7.1 4.3	115.0 149.0 98.5	13.5 23.0 1 7.0	194.1 1791. 19.9
Dog-in-a-Doublet Upstream of Sluice	82	Average Values Maximum Values Minimum Values		9 15 5	65 73 59	0.7 1.3 trace	7.5 9.7 3.7	4.0 4.4 3.0	4.9 7.9 2.4	96.5 105.5 85.0	11.0 19.0 6.0	
Tidal Sampling Points Dog-in-a-Doublet Road Bridge	82	Average Values Maximum Values Minimum Values		16 30 5	65 76 54	0.4 0.80 0.15	8.3 9.5 5.9	3.7 4.8 2.6	6.7 10.5 2.3	115.5 164.0 89.5	10.0 19.0 0.5	
Guyhirn Road Bridge	91	Average Values Maximum Values Minimum Values		74 185 24	75 90 66	0.72 1.00 0.40	8.2 9.9 6.2	5.6 8.8 3.0	7.5 15.0 3.9	102.0 130.0 84.0	10.5 19.0 2.0	
Wisbech Town Bridge	97	Average Values Maximum Values Minimum Values		121 235 45	93 112 80	0.78 1.30 0.25	8.2 9.7 6.0	6.8 9.6 5.0	7.6 14.0 3.3	92.0 132.0 75.5	10.5 19.0 1.0	
Sutton Bridge	105	Average Values Maximum Values Minimum Values		175 455 23	393 580 222	0.60 0.95 0.25	8.1 9.5 6.9	8.1 13.6 5.0	8.5 14.0 4.2	78.5 93.5 60.5	10.0 18.0 1.5	

RIVER WELLAND—ANALYTICAL RESULTS

Lubenham/Marston	4	Average Values	_	10	32	0.18	3.5	2.7	3.1	105.0	8.5
Trussel Road		Maximum Values	8.1	15	42	0.35	5.0	4.4	6.5	118.0	17.5
Bridge		Minimum Values	7.75	5	26	trace	trace	2.0	0.7	94.0	4.0
A.427 Road Bridge	71/2	Average Values	_	6	43	0.24	4.2	3.0	3.3	132.5	9.5
downstream of		Maximum Values	8.4	10	62	0.60	6.9	4.0	4.8	192.0	19.0
Market Harborough		Minimum Values	7.65	5	35	trace	trace	2.0	1.5	97.0	4.5
Welham	12	Average Values		9	45	1.07	5.7	4.9	5.2	74.0	11.0
		Maximum Values	8.35	15	64	1.90	10.8	7.2	8.5	140.0	19.0
		Minimum Values	7.35	trace	28	trace	3.1	1.8	2.6	18.5	4.5
Ashley	15	Average Values	_	10	40	0.67	5.9	3.4	3.7	119.0	9.5
•		Maximum Values	8.4	15	46	1.40	6.5	4.8	6.6	166.0	19.5
		Minimum Values	7.7	5	35	0.20	5.3	2.4	1.8	94.0	4.5
Rockingham	211	Average Values	_	9	41	0.35	6.4	3.2	3.3	116.0	9.0
	-	Maximum Values	8.5	15	50	0.55	7.4	4.2	4.3	144.0	19.0
		Minimum Values	7.7	5	34	0.20	5.1	2.4	2.6	94.0	4.0

Sampling Point	Miles from Source		pH	Sus- pended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O. % Satura- tion	Water Temp. °C	Flow m.g.d.
Eyebrook at Caldecote	-	Average Values Maximum Values Minimum Values	8.05 7.65	7 15 5	31 34 26	0.14 0.25 trace	1.9 3.2 trace	2.8 4.0 1.6	2.4 2.9 1.2	101.0 110.0 89.0	9.5 19.0 4.0	
Gretton, Upstream of Sluice	24½	Average Values Maximum Values Minimum Values	8.55 7.7	9 20 5	40 48 34	0.26 0.70 trace	5.2 7.0 trace	3.4 4.8 2.2	3.3 4.5 2.4	101.0 126.5 88.5	10.5 19.0 4.0	
Wakerley/ Barrowden	_	Average Values Maximum Values Minimum Values	8.75 7.40	10 25 5	41 48 28	0.22 0.65 trace	4.9 7.5 trace	3.2 5.2 2.0	3.2 10.0 1.6	102.0 121.0 76.5	11.5 18.5 4.0	
Collyweston Bridge	39	Average Values Maximum Values Minimum Values	8.4 7.65	12 15 5	39 43 37	0.14 0.45 trace	6.0 7.8 4.7	2.4 2.6 2.0	2.5 2.9 1.8	121. 149. 94.5	9.0 17.5 4.0	
Chater at Station Road, Ketton	_	Average Values Maximum Values Minimum Values	8.25 7.70	10 15 5	32 38 29	0.02 0.10 trace	7.4 7.9 6.8	1.8 2.2 1.2	2.0 2.6 1.3	112.0 135.0 96.0	8.5 16.0 4.0	
Stamford Swimming Baths	43 3/4	Average Values Maximum Values Minimum Values	8.35 7.6	13 25 5	37 42 34	0.14 0.30 trace	6.8 7.8 6.3	2.2 2.4 1.8	2.9 3.7 1.8	118.5 138.0 97.5	9.5 18.0 4.5	
Gwash, Upstream of confluence with Welland	_	Average Values Maximum Values Minimum Values	8.35 7.8	14 15 10	33 36 30	0.14 0.25 trace	7.4 8.7 5.8	2.3 3.6 1.6	2.4 4.6 0.5	111.5 123.5 101.0	9.0 18.0 4.0	
Uffington	461/4	Average Values Maximum Values Minimum Values	8.4 7.7	9 25 trace	39 52 28	0.15 0.40 trace	6.1 8.1 2.9	2.5 4.0 1.6	3.6 5.7 2.1	105.5 137.5 77.0	11.0 17.5 4.0	
Deeping St. James Crown and Ancho	53 or	Average Values Maximum Values Minimum Values	8.15 7.7	17 25 10	37 45 32	0.32 0.60 0.15	7.8 10.1 7.0	2.6 3.4 1.6	3.5 5.5 2.7	110.0 126.5 99.0	9.0 17.5 4.5	
Deeping St. James Railway Bridge		Average Values Maximum Values Minimum Values		13 30 5	39 45 30	0.19 0.55 trace	5.9 9.7 3.4	2.7 3.8 1.2	3.5 6.3 1.9	110.0 122.5 95.5	11.5 18.5 4.0	
Crowland Bridge	59	Average Values Maximum Values Minimum Values	8.7 7.65	14 40 5	40 47 34	0.2 0.6 trace	5.4 7.4 2.5	2.9 5.0 1.6	4.3 9.5 2.3	112.0 170.0 90.5	11.5 20.0 4.0	
Inlet to Coronation Channel	67½	Average Values Maximum Values Minimum Values	s 8.55 7.6	26 30 23	39 46 32	0.40 0.55 0.20	5.1 7.0 2.4	2.8 4.0 1.6	4.1 7.8 2.3	105.0 123.5 86.0	9.0 18.5 4.0	
Tidal Sluice Coronation Channel	70	Average Values Maximum Values Minimum Values	s 8.6 5 7.3	28 40 10	43 49 39	0.62 1.35 0.15	5.3 7.9 1.5	3.6 4.4 2.2	5.7 >11.0 2.8	90.5 137.0 41.0	9.5 19.5 4.0	
Fosdyke Bridge (Tidal Section)	_	Average Values Maximum Value Minimum Values	s 8.33 5 7.30	97 5 165 0 20	786 2340 228	0.43 0.70 0.35	5.4 7.5 2.7	6.2 8.4 4.4	7.8 >11.0 6.0	91.5 120.0 56.0	10.0 20.0 5.0	
		RIVE	R IS	SE—AN	VALYTIC	CAL RES	SULTS					
Clipston and Oxendon Station	3	Average Values Maximum Value Minimum Values	s 8.2 s 8.0	10 10 10	32 38 25	0.32 0.55 trace	3.3 3.7 2.7	2.8 3.2 2.6	4.5 7.3 2.0	114.0 127.5 93.0	10.0 14.0 7.5	
Arthingworth		Average Values Maximum Value Minimum Value	s 8.2	10 10	29 36 22	0.17 0.50 trace	1.5 2.4 trace	3.1 3.8 2.6		102.0 117.5 88.5	10.5 15.0 8.0	

Sampling Point	Miles from Source		pН	Sus- pended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)		5 day B.O.D.	D.O. % Satura- tion	Water Temp. °C	Flow m.g.d.
Newbottle Bridge	6	Average Values Maximum Values Minimum Values		12 25 5	31 40 24	0.10 0.30 trace	2.1 3.6 nil	3.6 4.0 3.0	3.3 5.1 1.6	93.0 136.0 51.0	10.5 15.0 8.0	
Rothwell/Desborough Road Bridge	h 8	Average Values Maximum Values Minimum Values		3 5 trace	31 38 24	0.10 0.30 trace	1.9 4.1 trace	2.9 4.0 2.0	2.5 3.9 1.3	104.0 138.0 84.5	10.5 15.5 8.0	
Rushton Bridge	10	Average Values Maximum Values Minimum Values		5 5 5	39 46 34	0.22 0.35 trace	5.2 6.8 2.8	2.9 3.6 2.4	2.8 4.5 1.6	103.5 130. 90.0	10.5 14.5 8.0	
Barford Bridge	11½	Average Values Maximum Values Minimum Values		5 5 5	39 46 34	0.22 0.40 trace	5.5 7.3 3.1	2.7 3.6 2.2	3.3 5.9 2.0	107.5 142.0 89.0	10.5 14.5 8.0	
Geddington A.43 Road Bridge	13½	Average Values Maximum Values Minimum Values		8 15 trace	38 42 36	0.07 0.20 nil	5.9 7.6 3.9	2.9 4.4 2.0	3.5 6.8 1.8	128.0 179.5 96.0	11.0 15.0 8.5	
Warkton Bridge	15	Average Values Maximum Values Minimum Values		7 10 5	37 44 32	0.08 0.25 nil	5.6 7.8 3.2	3.1 4.8 1.6	3.3 6.2 1.8	120.5 151.0 96.5	10.5 14.5 8.5	
Barton Seagrave	17	Average Values Maximum Values Minimum Values		7 15 trace	38 42 36	0.10 0.30 trace	5.6 7.9 2.7	2.9 4.2 2.0	3.6 5.5 2.2	121.5 137.5 94.0	10.5 15.5 8.0	
Slade Brook Pytchley Road A.504	_	Average Values Maximum Values Minimum Values		8 15 5	47 50 44	0.43 0.55 0.30	7.6 9.5 6.3	2.3 3.6 1.4	3.2 4.5 2.0	113.5 125.0 92.0	10.5 14.5 8.0	
Burton Latimer	18½	Average Values Maximum Values Minimum Values		17 30 5	41 45 37	0.18 0.30 trace	6.4 8.2 4.1	3.7 6.2 2.4	3.2 3.9 2.6	107.0 125.0 92.0	11.0 16.0 8.0	£ 1
Finedon Station	19½	Average Values Maximum Values Minimum Values		18 35 5	39 46 36	0.12 0.35 trace	6.2 8.2 3.2	3.2 5.8 1.8	3.6 4.1 3.1	113.0 137.5 89.0	11.0 15.5 8.5	
Harrowden Road	21	Average Values Maximum Values Minimum Values		27 35 20	52 60 44	1.35 1.95 0.40	6.8 10.3 2.8	5.5 7.6 3.6	7.8 11.0 4.3	105.0 135.0 81.5	11.5 16.0 8.5	25.7 338.0 5.0
Finedon Road	22	Average Values Maximum Values Minimum Values		22 35 10	49 55 44	0.87 1.85 0.55	6.9 10.1 3.3	4.5 6.0 3.0	5.6 9.0 3.5	110.0 148.0 87.5	11.5 16.5 8.5	4,,
Morris Motors, Wellingborough	22½	Average Values Maximum Values Minimum Values		19 30 10	52 64 44	0.69 1.4 0.35	7.3 9.5 4.8	4.3 5.8 3.2	5.1 7.5 2.7	101.0 121.5 86.5	13.0 20.0 8.0	

WILLOW BROOK—ANALYTICAL RESULTS

Northern Stream Weldon Lodge		Average Values Maximum Values Minimum Values		8 15 5	377 510 268	28.0 52.5 11.6	1.3 3.4 nil	12.6 16.8 7.2	31.0 57.0 4.5	67.5 110.0 43.0	9.0 12.0 6.0	
Central Stream Water Lane		Average Values Maximum Values Minimum Values		12 15 5	96 137 75	9.4 17.1 4.9	5.9 10.8 3.0	6.3 9.6 3.2	6.4 8.1 5.1	48.0 86.5 13.0	24.0 30.0 21.0	
Southern Stream Great Weldon Road Bridge	5	Average Values Maximum Values Minimum Values	7.9 7.3	22 36 15	168 236 113	8.6 17.2 3.65	20.8 25.5 15.8	8.0 8.8 6.8	13.8 23.0 5.4	71.0 86.0 46.5	15.0 19.0 10.0	B .

14:1. C.

Sampling Point	Miles from Source		pH	Sus- pended Solids	Chloride (Cl.)	F & S Ammonia (N.)	Nitrates (N.)	4 hrs. P.V.	5 day B.O.D.	D.O. % Satura- tion	Water Temp. °C	
Deene Lake Downstream Bridge	8	Average Values Maximum Values Minimum Values	7.85 7.3	11 25 5	133 172 112	6.25 7.35 4.05	11.3 14.5 9.2	5.9 7.0 3.6	12. 19. 7.5	74.5 95.0 45.0	15.5 20.0 10.5	
Bulwick A.43 Road Bridge	9	Average Values Maximum Values Minimum Values	8.0 7.45	9 10 5	129 169 109	4.5 6.4 2.05	10.1 11.1 8.7	5.7 6.8 3.6	11.0 13.0 7.5	85.0 110.0 59.5	14.5 20.5 10.0	
Blatherwycke Bridge	10½	Average Values Maximum Values Minimum Values	7.85 7.4	11 15 5	127 165 104	3.9 5.6 1.15	10.4 11.4 9.0	5.4 6.6 3.6	11.8 14.0 7.5	68.5 88.5 48.5	14.0 19.5 10.0	
Kingscliffe Bridge	13½	Average Values Maximum Values Minimum Values	8.05 7.55	11 15 5	118 133 104	2.10 4.45 0.4	10.7 11.7 10.0	5.2 6.6 4.0	11.1 14.0 7.5	88.5 97.5 78.5	13.5 19.5 8.0	
Apethorpe Bridge	15	Average Values Maximum Values Minimum Values	8.1 7.5	9 15 5	109 118 98	1.4 3.6 0.2	10.6 11.2 9.9	4.5 5.2 3.6	8.4 11.0 6.0	95.0 108.5 70.0	13.5 19.5 8.0	
Woodnewton Bridge	17	Average Values Maximum Values Minimum Values	8.15 7.45	8 10 5	105 112 94	1.05 3.00 0.15	10.4 10.6 10.1	4.2 4.8 3.6	7.8 11.0 5.3	110.0 127.0 89.0	13.5 20.0 8.0	
Fotheringhay Bridge	19	Average Values Maximum Values Minimum Values	8.4 7.5	9 10 5	105 112 96	0.75 2.15 0.15	10.3 10.8 9.8	3.9 4.8 3.0	6.7 9.1 3.5	124.5 143.0 94.5	13.0 19.5 7.0	18.2 149.0 7.8

HARPER'S BROOK-ANALYTICAL RESULTS 4.0 3.4 4.4 2.8 2.2 5.4 90.0 128.5 7.0 9.0 15.11.67 13.3.68 7.9 7.9 5 10 35 42 trace 0.45 $2\frac{1}{2}$ Pipewell 7.0 7.0 3.6 2.6 92.5 136.0 15 5 5.2 2.4 0.6 0.15 trace 3.4 7.95 8.0 37 40 15.11.67 13.3.68 Spread Eagle A.6003 Road Bridge 4.8 > 10.0 1.2 2.9 90.0 117.5 7.0 8.0 3.2 2.6 0.15 0.1 7.85 10 7.8 trace 36 45 15.11.67 13.3.68 Little Oakley Bridge 6 2.4 1.5 1.6 89.5 108.0 7.0 8.0 2.8 3.3 7.7 7.7 40 44 Brigstock, Grafton Road Bridge 15.11.67 13.3.68 trace 0.1 10 3.4 1.6 1.2 1.7 3.2 3.8 91.0 15.11.67 13.3.68 7.95 7.9 40 43 trace 0.2 12 Sudborough 115.5 3.2 4.1 3.6 2.0 2.5 4.0 90.0 104.5 7.0 8.0 0.25 0.15 7.9 15 7.75 trace 38 41 15.11.67 13.3.68 Lowick $13\frac{1}{2}$ 93.5 101.0 3.2 1.6 2.0 2.6 7.0 8.0 3.8 5.15 15.11.67 13.3.68 7.9 7.8 38 44 A.6116 Road Bridge $14\frac{1}{2}$

SOUTH HOLLAND MAIN DRAIN—ANALYTICAL RESULTS

	Miles from confluence							_			
Shell Bridge	93	19.6.67	7.9	25	1480	nil	nil	9.2	4.7	74.0	18.0
Cliftons Bridge	61/2	19.6.67	8.05	25	1360	nil	nil	7.6	4.8	97.0	18.0
Foremans Bridge	41/2	19.6.67	8.1	20	1960	nil	nil	8.2	6.8	146.0	18.0
A.1101 Road Bridge	e 2	19.6.67	8.2	15	2220	nil	nil	6.8	4.7	145.0	18.0

	Miles		Sus-		F & S				D.O. %		
	from		pended	Chloride	Ammonia	Nitrates	4 hrs.	5 day	Satura-	Temp.	Flow
Sampling Point	Source	pH	Solids	(Cl.)	(N.)	(N.)	P.V.	B.O.D.	tion	$^{\circ}C$	m.g.d.

RIVER GWASH—ANALYTICAL RESULTS

	les from If luence											
Manton, A.6003 Road Bridge (S. Gwash)	_	30.11.67	8.25	15	45	trace	trace	3.0	2.3	89.5	6.0	
Normanton Park (S. Gwash)		30.11.67	8.15	10	56	0.45	3.9	2.2	3.1	80.5	6.0	
Fox Bridge (N. Gwash)	14	30.11.67	8.3	15	55	trace	4.0	2.0	2.2	94.5	6.0	
Bull Bridge (N. Gwash)	12	30.11.67	8.3	10	52	trace	4.2	2.8	3.0	93.5	6.0	
Church Bridge, Empingham	10	30.11.67	8.2	5	44	trace	4.2	2.2	2.1	88.5	6.0	
North Brook at Empingham	_	30.11.67	8.2	20	29	trace	6.8	0.8	2.2	97.5	8.0	
Great Casterton	6	30.11.67	8.2	10	33	trace	5.7	1.2	1.8	92.5	7.0	Single-
Upstream of Ryhall Village	3	30.11.67	8.2	5	34	trace	5.6	0.8	1.4	96.5	7.0	
Downstream of Village	2	30.11.67	8.4	5	36	0.15	5.7	1.2	2.0	107.0	7.0	8.4
Upstream of con- fluence with Welland	_	30.11.67	8.35	5	37	trace	5.5	1.2	2.5	104.5	7.0	

RAM DYKE—ANALYTICAL RESULTS

Helpston	$4\frac{1}{4}$	Average Values Maximum Values	8.5	58 185	45 107	1.15 2.65	_	25.0 110.4	91.0 320.0	81.5 110.0	15.0 20.5
		Minimum Values	6.9	7	28	trace	_	5.4	20.0	55.5	8.5
Helpston Road Glinton	21/2	Average Values Maximum Values Minimum Values		50 3665 8	49 70 30	0.8 4.8 nil	3.5 15.8 nil	12.9 240.0 2.4	43. 600. 4.9	62.0 94.5 nil	12.5 23.0 4.0
Deeping Gate Road Peakirk	34	Average Values Maximum Values Minimum Values		19 75 5	62 84 38	0.6 2.1 trace	4.8 14.4 nil	7.8 19.2> 2.2	25.0 -155.0 4.0	63.0 95.0 23.0	12.0 25.5 4.5

One sample from Helpston Road, Glinton was excessively abnormal and the analytical figures for this were omitted for the purposes of obtaining average values.