Sent to Chris Ainsworth
1/25/94

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/ 6/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7-24-81
DATE STOPPED SAMPLING: 7-24-81
DATE OF ANALYSIS : 8- 4-81 801 EST
RMC SAMPLE ID. : 58076G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 81.50 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.5E 00	CE -144
CR - 51	-------	-------	-------	2.2E 00	CR - 51
RA -226	5.8E 00	5.8E-01	10	-------	RA -226
AG -110M	-------	-------	-------	2.4E-01	AG -110M
TE -129M	-------	-------	-------	8.4E 00	TE -129M
MO - 99	-------	-------	-------	2.7E 00	MO - 99
ZR - 95	-------	-------	-------	4.5E-01	ZR - 95
NB - 95	-------	-------	-------	3.5E-01	NB - 95
CS -134	-------	-------	-------	4.3E-01	CS -134
CO - 58	-------	-------	-------	2.5E-01	CO - 58
MN - 54	-------	-------	-------	2.3E-01	MN - 54
TH -232	2.6E 00	5.8E-01	22	-------	TH -232
FE - 59	-------	-------	-------	4.8E-01	FE - 59
CS -136	-------	-------	-------	4.2E-01	CS -136
ZN - 65	-------	-------	-------	8.0E-01	ZN - 65
CO - 60	-------	-------	-------	2.2E-01	CO - 60
K - 40	1.1E 01	2.4E 00	21	-------	K - 40
BA -140	-------	-------	-------	1.6E 00	BA -140
LA -140	-------	-------	-------	3.2E-01	LA -140
BE - 7	-------	-------	-------	1.9E 00	BE - 7
SB -125	-------	-------	-------	6.3E-01	SB -125
CE -141	-------	-------	-------	4.4E-01	CE -141
RU -103	-------	-------	-------	2.4E-01	RU -103
CO - 57	-------	-------	-------	1.8E-01	CO - 57
NP -239	-------	-------	-------	1.7E 01	NP -239 *
I -131	-------	-------	-------	5.3E-01	I -131
RU -106	-------	-------	-------	2.1E 00	RU -106
CS -137	-------	-------	-------	2.7E-01	CS -137

*** - ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH;BASIN #2

Signature: David Van

MSD 000972

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
9/ 2/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE RECEIVED : 8-12-81
DATE STARTED SAMPLING: 7-25-81
DATE STOPPED SAMPLING: 7-31-81
DATE OF ANALYSIS : 8-24-81 932 EST
RMC SAMPLE ID. : 58666G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 70.80 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.6E 00	CE -144
CR - 51	========	========	========	3.2E 00	CR - 51
RA -226	4.2E 00	5.2E-01	12	========	RA -226
AG -110M	========	========	========	3.1E-01	AG -110M
TE -129M	========	========	========	1.2E 01	TE -129M
ZR - 95	========	========	========	7.4E-01	ZR - 95
NB - 95	1.8E 00	3.2E-01	17	========	NB - 95
CS -134	========	========	========	4.2E-01	CS -134
CO - 58	========	========	========	3.2E-01	CO - 58
MN - 54	========	========	========	2.6E-01	MN - 54
TH -232	2.1E 00	5.9E-01	27	========	TH -232
FE - 59	========	========	========	6.6E-01	FE - 59
CS -136	========	========	========	8.6E-01	CS -136
ZN - 65	========	========	========	7.4E-01	ZN - 65
CO - 60	========	========	========	2.6E-01	CO - 60
K - 40	1.4E-01	3.4E 00	23	========	K - 40
BA -140	========	========	========	3.5E 00	BA -140
LA -140	========	========	========	1.0E 00	LA -140
BE - 7	4.0E 00	2.4E 00	59	========	BE - 7
SB -125	========	========	========	6.8E-01	SB -125
CE -141	========	========	========	5.5E-01	CE -141
RU -103	========	========	========	3.6E-01	RU -103
CO - 57	========	========	========	1.8E-01	CO - 57
I -131	========	========	========	1.9E 00	I -131
RU -106	========	========	========	2.4E 00	RU -106
CS -137	========	========	========	3.2E-01	CS -137

COMMENT : ASH #615

Signature: David Van

MSD 000973

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/26/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-8IEEELL PT.
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE RECEIVED : 8- 5-81
DATE STARTED SAMPLING: 7-16-81
DATE STOPPED SAMPLING: 7-24-81
DATE OF ANALYSIS : 8- 6-81 1421 EST
RMC SAMPLE ID. : 58375G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 74.10 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
CE -144	1.4E 00	6.8E-01	49	--------	CE -144	
CR - 51	--------	--------	--------	1.9E 00	CR - 51	
RA -226	1.9E 00	3.5E-01	18	--------	RA -226	
AG -110M	--------	--------	--------	2.2E-01	AG -110M	
TE -129M	--------	--------	--------	6.5E 00	TE -129M	
MO - 99	--------	--------	--------	2.9E 00	MO - 99	
ZR - 95	8.3E-01	2.6E-01	31	--------	ZR - 95	
NB - 95	1.7E 00	2.5E-01	14	--------	NB - 95	
CS -134	--------	--------	--------	2.6E-01	CS -134	
CO - 58	--------	--------	--------	1.9E-01	CO - 58	
MN - 54	--------	--------	--------	2.0E-01	MN - 54	
TH -232	1.2E 00	5.4E-01	45	--------	TH -232	
FE - 59	--------	--------	--------	5.2E-01	FE - 59	
CS -136	--------	--------	--------	3.3E-01	CS -136	
ZN - 65	--------	--------	--------	5.4E-01	ZN - 65	
CO - 60	--------	--------	--------	2.8E-01	CO - 60	
K - 40	1.7E 01	3.0E 00	17	--------	K - 40	
BA -140	--------	--------	--------	1.9E 00	BA -140	
LA -140	--------	--------	--------	3.8E-01	LA -140	
BE - 7	4.4E 00	1.5E 00	32	--------	BE - 7	
SB -125	--------	--------	--------	5.4E-01	SB -125	
CE -141	--------	--------	--------	2.9E-01	CE -141	
RU -103	--------	--------	--------	2.6E-01	RU -103	
CO - 57	--------	--------	--------	1.1E-01	CO - 57	
NP -239	--------	--------	--------	1.9E 01	NP -239	***
I -131	--------	--------	--------	5.3E-01	I -131	
RU -106	--------	--------	--------	1.8E 00	RU -106	
CS -137	--------	--------	--------	2.5E-01	CS -137	

*** = ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH

Signature: David Vance

MSD 000974

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/ 3/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7-11-81
DATE STOPPED SAMPLING: 7-17-81
DATE OF ANALYSIS : 7-31-81 1217 EST
RMC SAMPLE ID. : 57859G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 73.70 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	9.8E-01	6.1E-01	61	========	CE -144
CR - 51	========	========	========	1.9E 00	CR - 51
RA -226	2.3E 00	4.1E-01	17	========	RA -226
AG -110M	========	========	========	2.1E-01	AG -110M
TE -129M	========	========	========	8.2E 00	TE -129M
MO - 99	========	========	========	3.4E 00	MO - 99
ZR - 95	6.2E-01	2.5E-01	39	========	ZR - 95
NB - 95	1.6E 00	2.4E-01	15	========	NB - 95
CS -134	========	========	========	2.9E-01	CS -134
CO - 58	========	========	========	1.6E-01	CO - 58
MN - 54	========	========	========	2.0E-01	MN - 54
TH -232	1.3E 00	4.9E-01	36	========	TH -232
FE - 59	========	========	========	4.6E-01	FE - 59
CS -136	========	========	========	2.9E-01	CS -136
ZN - 65	========	========	========	7.0E-01	ZN - 65
CO - 60	========	========	========	2.6E-01	CO - 60
K - 40	1.5E 01	2.8E 00	19	========	K - 40
BA -140	========	========	========	1.8E 00	BA -140
LA -140	========	========	========	4.4E-01	LA -140
BE - 7	3.7E 00	1.4E 00	38	========	BE - 7
SB -125	========	========	========	5.7E-01	SB -125
CE -141	========	========	========	2.9E-01	CE -141
RU -103	========	========	========	2.5E-01	RU -103
CO - 57	========	========	========	1.0E-01	CO - 57
NP -239	========	========	========	5.4E 01	NP -239 ***
I -131	========	========	========	5.8E-01	I -131
RU -106	========	========	========	1.8E 00	RU -106
CS -137	========	========	========	3.1E-01	CS -137

*** - ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH

Signature: Dail Va

MSD 000975

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 8/10/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7- 1-81
DATE STOPPED SAMPLING: 7-10-81
DATE OF ANALYSIS : 7-31-81 1041 EST
RMC SAMPLE ID. : 57858G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 65.00 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.5E 00	CE -144
CR - 51	-------	-------	-------	3.0E 00	CR - 51
RA -226	3.1E 00	4.4E-01	14	-------	RA -226
AG -110M	-------	-------	-------	2.3E-01	AG -110M
TE -129M	-------	-------	-------	9.8E 00	TE -129M
MO - 99	-------	-------	-------	2.8E 01	MO - 99
ZR - 95	-------	-------	-------	5.5E-01	ZR - 95
NB - 95	1.9E 00	3.6E-01	18	-------	NB - 95
CS -134	-------	-------	-------	3.0E-01	CS -134
CO - 58	-------	-------	-------	2.5E-01	CO - 58
MN - 54	-------	-------	-------	2.3E-01	MN - 54
TH -232	1.5E 00	5.4E-01	36	-------	TH -232
FE - 59	-------	-------	-------	6.7E-01	FE - 59
CS -136	-------	-------	-------	6.7E-01	CS -136
ZN - 65	-------	-------	-------	4.1E-01	ZN - 65
CO - 60	-------	-------	-------	3.1E-01	CO - 60
K - 40	1.6E 01	2.9E 00	18	-------	K - 40
BA -140	-------	-------	-------	3.2E 00	BA -140
LA -140	-------	-------	-------	6.1E-01	LA -140
BE - 7	3.4E 00	1.7E 00	50	-------	BE - 7
SB -125	-------	-------	-------	6.6E-01	SB -125
CE -141	-------	-------	-------	4.7E-01	CE -141
RU -103	-------	-------	-------	3.4E-01	RU -103
CO - 57	-------	-------	-------	1.6E-01	CO - 57
I -131	-------	-------	-------	1.3E 00	I -131
RU -106	-------	-------	-------	1.9E 00	RU -106
CS -137	4.0E-01	1.7E-01	41	-------	CS -137

COMMENT : ASH

Signature: Dan Van

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
9/ 1/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE RECEIVED : 8-12-81
DATE STARTED SAMPLING: 7- 1-81
DATE STOPPED SAMPLING: 7-31-81
DATE OF ANALYSIS : 8-24-81 932 EST
RMC SAMPLE ID. : 58665085
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 66.30 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	2.0E 00	CE -144
CR - 51	-------	-------	-------	3.3E 00	CR - 51
RA -226	3.0E 00	4.5E-01	15	-------	RA -226
AG -110M	-------	-------	-------	3.1E-01	AG -110M
TE -129M	-------	-------	-------	1.2E 01	TE -129M
ZR - 95	-------	-------	-------	6.5E-01	ZR - 95
NB - 95	1.8E 00	3.0E-01	16	-------	NB - 95
CS -134	-------	-------	-------	3.9E-01	CS -134
CO - 58	-------	-------	-------	2.7E-01	CO - 58
MN - 54	-------	-------	-------	2.6E-01	MN - 54
TH -232	1.7E 00	5.5E-01	33	-------	TH -232
FE - 59	-------	-------	-------	5.5E-01	FE - 59
CS -136	-------	-------	-------	8.0E-01	CS -136
ZN - 65	-------	-------	-------	7.9E-01	ZN - 65
CO - 60	-------	-------	-------	2.5E-01	CO - 60
K - 40	1.6E 01	3.1E 00	19	-------	K - 40
BA -140	-------	-------	-------	3.5E 00	BA -140
LA -140	-------	-------	-------	8.1E-01	LA -140
BE - 7	4.6E 00	2.0E 00	43	-------	BE - 7
SB -125	-------	-------	-------	6.8E-01	SB -125
CE -141	-------	-------	-------	5.8E-01	CE -141
RU -103	-------	-------	-------	5.7E-01	RU -103
CO - 57	-------	-------	-------	2.0E-01	CO - 57
I -131	-------	-------	-------	1.6E 00	I -131
RU -106	-------	-------	-------	2.1E 00	RU -106
CS -137	3.1E-01	1.8E-01	59	-------	CS -137

COMMENT : ASH #615

Signature: David Van

MSD 000977

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Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
9/28/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT. DATE RECEIVED : 9-16-81
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 8- 1-81
DATE STOPPED SAMPLING: 8-31-81
DATE OF ANALYSIS : 9-23-81 1101 EST
RMC SAMPLE ID. : 60228685
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 78.40 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	1.3E 00	CE -144
CR - 51	=======	=======	=======	2.9E 00	CR - 51
RA -226	2.7E 00	4.5E-01	16	=======	RA -226
AG -110M	=======	=======	=======	2.6E-01	AG -110M
TE -129M	=======	=======	=======	1.0E 01	TE -129M
ZR - 95	=======	=======	=======	5.1E-01	ZR - 95
NB - 95	8.9E-01	3.0E-01	33	=======	NB - 95
CS -134	=======	=======	=======	3.3E-01	CS -134
CO - 58	=======	=======	=======	2.1E-01	CO - 58
MN - 54	=======	=======	=======	2.4E-01	MN - 54
TH -232	1.5E 00	5.2E-01	34	=======	TH -232
FE - 59	=======	=======	=======	4.9E-01	FE - 59
CS -136	=======	=======	=======	6.4E-01	CS -136
ZN - 65	=======	=======	=======	6.1E-01	ZN - 65
CO - 60	=======	=======	=======	2.4E-01	CO - 60
K - 40	1.3E 01	2.7E 00	20	=======	K - 40
BA -140	=======	=======	=======	3.0E 00	BA -140
LA -140	=======	=======	=======	7.8E-01	LA -140
BE - 7	=======	=======	=======	3.0E 00	BE - 7
SB -125	=======	=======	=======	6.0E-01	SB -125
CE -141	=======	=======	=======	4.8E-01	CE -141
RU -103	=======	=======	=======	3.1E-01	RU -103
CO - 57	=======	=======	=======	1.5E-01	CO - 57
I -131	=======	=======	=======	1.5E 00	I -131
RU -106	=======	=======	=======	2.0E 00	RU -106
CS -137	=======	=======	=======	4.5E-01	CS -137

COMMENT : ASH COMPOSITE

Signature: David Van

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
4/ 9/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

PURCHASE ORDER #:

CUSTOMER SAMPLE ID : SE-SLO-ASH
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 0- 0- 0
DATE STOPPED SAMPLING: 0- 0- 0
DATE OF ANALYSIS : 4- 3-81 954 EST
RMC SAMPLE ID. : 051596SS
PROCEDURE DESCRIPTION:
HELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 52.40 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
PA -234	-------	-------	-------	1.3E-00	PA -234	***
PB -214	9.1E-00	5.1E-01	12	-------	PB -214	***
BI -214	5.0E-00	5.3E-01	17	-------	BI -214	***
AC -228	1.8E-00	6.9E-01	38	-------	AC -228	***
PB -212	-------	-------	-------	8.3E-00	PB -212	***
BI -212	-------	-------	-------	3.3E-00	BI -212	***
TL -208	6.1E-01	2.1E-01	33	-------	TL -208	***
U -235	-------	-------	-------	1.3E-00	U -235	***
TH -227	-------	-------	-------	2.8E-00	TH -227	***
K -40	1.5E-01	3.0E-00	19	-------	K -40	***
BE -7	-------	-------	-------	1.1E-01	BE -7	***
SB -125	-------	-------	-------	7.4E-01	SB -125	***
CS -137	-------	-------	-------	2.2E-01	CS -137	***
CO -60	-------	-------	-------	2.8E-01	CO -60	***
ZR -95	-------	-------	-------	1.5E-00	ZR -95	***
NB -95	-------	-------	-------	3.5E-00	NB -95	***
RA -226	3.0E-00	5.2E-01	17	-------	RA -226	***
PA -234M	-------	-------	-------	4.1E-01	PA -234M	***
TH -234	-------	-------	-------	2.6E-01	TH -234	***
PA -231	-------	-------	-------	4.5E-01	PA -231	***
TH -230	-------	-------	-------	9.9E-02	TH -230	***

*** = ISOTOPE NOT DECAY-CORRECTED

COMMENT : STABULATED ASH 11/80

Signature: Dail Vance

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
4/ 9/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO. 63147
ATTN: MR. BERNARD RATNS

PURCHASE ORDER #:

CUSTOMER SAMPLE ID : SE-SLD-ASH
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING : 0- 0- 0
DATE STOPPED SAMPLING : 0- 0- 0
DATE OF ANALYSIS : 9- 3-81 1123 EST
RMC SAMPLE ID. : 45142385
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 53.50 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
PA -234	********	********	********	4.1E-00	PA -234	***
PB -214	4.5E-00	5.4E-01	12	********	PB -214	***
BI -214	3.9E-00	5.3E-01	13	********	BI -214	***
AC -228	1.5E-00	8.5E-01	55	********	AC -228	***
PB -212	********	********	********	8.9E-00	PB -212	***
BI -212	********	********	********	5.5E-00	BI -212	***
TL -208	6.1E-01	2.1E-01	34	********	TL -208	***
U -235	2.2E-00	1.1E-00	53	********	U -235	***
TH -227	********	********	********	3.8E-00	TH -227	***
K -40	1.1E-01	2.6E-00	23	********	K -40	***
BE -7	********	********	********	4.2E-00	BE -7	***
SB -125	********	********	********	7.7E-01	SB -125	***
CS -137	********	********	********	2.7E-01	CS -137	***
CO -60	********	********	********	2.2E-01	CO -60	***
ZR -95	1.9E-00	4.4E-01	22	********	ZR -95	***
NB -95	6.8E-00	5.4E-01	11	********	NB -95	***
RA -226	3.9E-00	5.5E-01	13	********	RA -226	***
PA -234M	********	********	********	3.7E-01	PA -234M	***
TH -234	********	********	********	5.5E-01	TH -234	***
PA -231	********	********	********	4.6E-01	PA -231	***
TH -230	********	********	********	1.0E-03	TH -230	***

*** = ISOTOPE NOT DECAY-CORRECTED

COMMENT : SIMULATED ASH 2/81

Signature: David Van [illegible]

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
4/20/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 S. GRAND AVE.
ST. LOUIS, MO. 63147
ATTN: MR. BERNARD RAINS

5/13/81

PURCHASE ORDER #:

CUSTOMER SAMPLE ID : SE-SLD-ASH
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 0- 0- 0
DATE STOPPED SAMPLING: 0- 0- 0
DATE OF ANALYSIS : 4- 3-81 1207 EST
RMC SAMPLE ID. : 85160585
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 46.30 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
PA -234	********	********	********	1.8E 00	PA -234	***
PB -214	4.8E 00	6.8E-01	15	********	PB -214	***
BI -214	3.9E 00	6.4E-01	16	********	BI -214	***
AC -228	********	********	********	1.8E 00	AC -228	***
PB -212	********	********	********	9.3E 00	PB -212	***
BI -212	********	********	********	5.2E 00	BI -212	***
TL -208	8.5E-01	2.9E-01	33	********	TL -208	***
U -235	********	********	********	2.3E 00	U -235	***
TH -227	********	********	********	3.3E 00	TH -227	***
K - 40	1.1E 01	4.3E 00	38	********	K - 40	***
BE - 7	********	********	********	8.5E 00	BE - 7	***
SB -125	********	********	********	9.0E-01	SB -125	***
CS -137	********	********	********	3.5E-01	CS -137	***
CD - 60	********	********	********	3.2E-01	CD - 60	***
ZR - 95	********	********	********	1.7E 00	ZR - 95	***
NB - 95	********	********	********	3.3E 00	NB - 95	***
RA -226	6.9E 00	6.4E-01	16	********	RA -226	***
PA -234M	********	********	********	5.6E 01	PA -234M	***
TH -234	********	********	********	5.2E 01	TH -234	***
PA -231	********	********	********	4.8E 01	PA -231	***
TH -230	********	********	********	1.2E 03	TH -230	***
TH -228	********	********	********	2.0E 00	TH -228	***

*** = ISOTOPE NOT DECAY-CORRECTED

COMMENT : SIMULATED ASH 12/80

Signature: Dave Van

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
11/18/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147.
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-2133 DATE RECEIVED : 11-12-81
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 9- 1-81
DATE STOPPED SAMPLING: 9-30-81
DATE OF ANALYSIS : 11-18-81 1229 EST
RMC SAMPLE ID. : 63224G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 67.10 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	9.6E-01	CE -144
CR - 51	-------	-------	-------	4.5E 00	CR - 51
RA -226	2.6E 00	5.0E-01	18	-------	RA -226
AG -110M	-------	-------	-------	2.2E-01	AG -110M
TE -129M	-------	-------	-------	1.6E 01	TE -129M
ZR - 95	-------	-------	-------	5.8E-01	ZR - 95
NB - 95	1.1E 00	4.2E-01	39	-------	NB - 95
CS -134	-------	-------	-------	3.0E-01	CS -134
CO - 58	-------	-------	-------	2.8E-01	CO - 58
MN - 54	-------	-------	-------	2.7E-01	MN - 54
TH -232	1.1E 00	4.6E-01	41	-------	TH -232
FE - 59	-------	-------	-------	7.5E-01	FE - 59
CS -136	-------	-------	-------	2.7E 00	CS -136
ZN - 65	-------	-------	-------	7.7E-01	ZN - 65
CO - 60	-------	-------	-------	2.6E-01	CO - 60
K - 40	1.0E 01	2.8E 00	26	-------	K - 40
BA -140	-------	-------	-------	1.2E 01	BA -140
LA -140	-------	-------	-------	3.4E 00	LA -140
BE - 7	2.9E 00	1.9E 00	66	-------	BE - 7
SB -125	-------	-------	-------	5.4E-01	SB -125
CE -141	-------	-------	-------	6.4E-01	CE -141
RU -103	-------	-------	-------	4.4E-01	RU -103
CO - 57	-------	-------	-------	1.2E-01	CO - 57
I -131	-------	-------	-------	1.2E 01	I -131
RU -106	-------	-------	-------	1.5E 00	RU -106
CS -137	-------	-------	-------	1.9E-01	CS -137

COMMENT : ASH

Signature: David Vance

MSD 000982

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Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
1/ 5/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147.
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT DATE RECEIVED : 12-18-81
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 11- 1-81
DATE STOPPED SAMPLING: 11-30-81
DATE OF ANALYSIS : 12-30-81 1051 EST
RMC SAMPLE ID. : 65205G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 80.50 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	9.8E-01	CE -144
CR - 51	-------	-------	-------	2.7E 00	CR - 51
RA -226	4.6E 00	4.9E-01	10	-------	RA -226
AG -110M	-------	-------	-------	2.0E-01	AG -110M
TE -129M	-------	-------	-------	1.1E 01	TE -129M
ZR - 95	-------	-------	-------	5.4E-01	ZR - 95
NB - 95	-------	-------	-------	4.4E-01	NB - 95
CS -134	-------	-------	-------	3.0E-01	CS -134
CO - 58	-------	-------	-------	2.3E-01	CO - 58
MN - 54	-------	-------	-------	2.1E-01	MN - 54
TH -232	1.5E 00	4.7E-01	31	-------	TH -232
FE - 59	-------	-------	-------	5.3E-01	FE - 59
CS -136	-------	-------	-------	8.3E-01	CS -136
ZN - 65	-------	-------	-------	7.1E-01	ZN - 65
CO - 60	-------	-------	-------	2.7E-01	CO - 60
K - 40	1.0E 01	2.7E 00	27	-------	K - 40
BA -140	-------	-------	-------	3.2E 00	BA -140
LA -140	-------	-------	-------	1.1E 00	LA -140
BE - 7	3.0E 00	1.5E 00	50	-------	BE - 7
SB -125	-------	-------	-------	5.4E-01	SB -125
CE -141	-------	-------	-------	5.0E-01	CE -141
RU -103	-------	-------	-------	2.8E-01	RU -103
CO - 57	-------	-------	-------	1.2E-01	CO - 57
I -131	-------	-------	-------	2.2E 00	I -131
RU -106	-------	-------	-------	1.6E 00	RU -106
CS -137	-------	-------	-------	2.1E-01	CS -137

COMMENT : ASH

Signature: David Vance

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
1/ 5/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147.
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT DATE RECEIVED : 12-18-81
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 11- 1-81
DATE STOPPED SAMPLING: 11-30-81
DATE OF ANALYSIS : 12-30-81 1051 EST
RMC SAMPLE ID. : 65205G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 80.50 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	9.8E-01	CE -144
CR - 51	-------	-------	-------	2.7E 00	CR - 51
RA -226	4.6E 00	4.9E-01	10	-------	RA -226
AG -110M	-------	-------	-------	2.0E-01	AG -110M
TE -129M	-------	-------	-------	1.1E 01	TE -129M
ZR - 95	-------	-------	-------	5.4E-01	ZR - 95
NB - 95	-------	-------	-------	4.4E-01	NB - 95
CS -134	-------	-------	-------	3.0E-01	CS -134
CO - 58	-------	-------	-------	2.3E-01	CO - 58
MN - 54	-------	-------	-------	2.1E-01	MN - 54
TH -232	1.5E 00	4.7E-01	31	-------	TH -232
FE - 59	-------	-------	-------	5.3E-01	FE - 59
CS -136	-------	-------	-------	8.3E-01	CS -136
ZN - 65	-------	-------	-------	7.1E-01	ZN - 65
CO - 60	-------	-------	-------	2.7E-01	CO - 60
K - 40	1.0E 01	2.7E 00	27	-------	K - 40
BA -140	-------	-------	-------	3.2E 00	BA -140
LA -140	-------	-------	-------	1.1E 00	LA -140
BE - 7	3.0E 00	1.5E 00	50	-------	BE - 7
SB -125	-------	-------	-------	5.4E-01	SB -125
CE -141	-------	-------	-------	5.0E-01	CE -141
RU -103	-------	-------	-------	2.8E-01	RU -103
CO - 57	-------	-------	-------	1.2E-01	CO - 57
I -131	-------	-------	-------	2.2E 00	I -131
RU -106	-------	-------	-------	1.6E 00	RU -106
CS -137	-------	-------	-------	2.1E-01	CS -137

COMMENT : ASH

Signature: David Vance

MSD 000984

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
1/26/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT. DATE RECEIVED : 1-18-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 12- 1-81
DATE STOPPED SAMPLING: 12-31-81
DATE OF ANALYSIS : 1-21-82 800 EST
RMC SAMPLE ID. : 66693G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 82.70 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	1.4E 00	CE -144
CR - 51	=======	=======	=======	2.7E 00	CR - 51
RA -226	5.1E 00	5.1E-01	10	=======	RA -226
AG -110M	=======	=======	=======	2.3E-01	AG -110M
TE -129M	=======	=======	=======	1.0E 01	TE -129M
MO - 99	=======	=======	=======	3.2E 01	MO - 99
ZR - 95	=======	=======	=======	4.6E-01	ZR - 95
NB - 95	=======	=======	=======	3.9E-01	NB - 95
CS -134	=======	=======	=======	4.2E-01	CS -134
CO - 58	=======	=======	=======	2.6E-01	CO - 58
MN - 54	=======	=======	=======	2.3E-01	MN - 54
TH -232	1.7E 00	4.5E-01	26	=======	TH -232
FE - 59	=======	=======	=======	4.8E-01	FE - 59
CS -136	=======	=======	=======	5.9E-01	CS -136
ZN - 65	=======	=======	=======	8.1E-01	ZN - 65
CO - 60	2.4E-01	1.6E-01	66	=======	CO - 60
K - 40	1.1E 01	2.3E 00	21	=======	K - 40
BA -140	=======	=======	=======	2.7E 00	BA -140
LA -140	=======	=======	=======	6.3E-01	LA -140
BE - 7	4.2E 00	1.9E 00	46	=======	BE - 7
SB -125	=======	=======	=======	5.8E-01	SB -125
CE -141	=======	=======	=======	5.0E-01	CE -141
RU -103	=======	=======	=======	2.6E-01	RU -103
CO - 57	=======	=======	=======	1.8E-01	CO - 57
I -131	=======	=======	=======	1.1E 00	I -131
RU -106	=======	=======	=======	2.0E 00	RU -106
CS -137	=======	=======	=======	2.4E-01	CS -137

COMMENT : ASH #3047

Signature: David Van

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Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 4/19/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-#3411 DATE RECEIVED : 2-10-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 11-25-81
DATE STOPPED SAMPLING: 1-7-82
DATE OF ANALYSIS : 2-22-82 1407 EST
RMC SAMPLE ID. : 67755G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 158.33 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	8.3E-01	CE -144
CR - 51	-------	-------	-------	3.2E 00	CR - 51
RA -226	5.0E 00	5.0E-01	10	-------	RA -226
AG -110M	-------	-------	-------	1.5E-01	AG -110M
TE -129M	-------	-------	-------	1.0E 01	TE -129M
ZR - 95	-------	-------	-------	3.3E-01	ZR - 95
NB - 95	-------	-------	-------	4.3E-01	NB - 95
CS -134	-------	-------	-------	2.3E-01	CS -134
CO - 58	-------	-------	-------	1.8E-01	CO - 58
MN - 54	-------	-------	-------	1.4E-01	MN - 54
TH -232	2.0E 00	3.7E-01	18	-------	TH -232
FE - 59	-------	-------	-------	4.4E-01	FE - 59
CS -136	-------	-------	-------	1.3E 00	CS -136
ZN - 65	-------	-------	-------	3.9E-01	ZN - 65
CO - 60	-------	-------	-------	1.4E-01	CO - 60
K - 40	9.7E 00	1.5E 00	15	-------	K - 40
BA -140	-------	-------	-------	6.3E 00	BA -140
LA -140	-------	-------	-------	1.6E 00	LA -140
BE - 7	-------	-------	-------	1.8E 00	BE - 7
SB -125	-------	-------	-------	3.8E-01	SB -125
CE -141	-------	-------	-------	5.1E-01	CE -141
RU -103	-------	-------	-------	2.6E-01	RU -103
CO - 57	-------	-------	-------	1.0E-01	CO - 57
I -131	-------	-------	-------	6.1E 00	I -131
RU -106	-------	-------	-------	1.1E 00	RU -106
CS -137	2.2E-01	1.0E-01	46	-------	CS -137

COMMENT : BISSELL POINT ASH

Signature: JW Kopek

MSD 000986

Radiation Management Corporation

LABORATORY REPORT

3506 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 4/27/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SL-SLD-4882 DATE RECEIVED : 4-15-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 3- 1-82
DATE STOPPED SAMPLING: 3-31-82
DATE OF ANALYSIS : 4-23-82 620 EST
RMC SAMPLE ID. : 71369G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 85.30 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.1E 00	CE -144
CR - 51	========	========	========	1.9E 00	CR - 51
RA -226	3.0E 00	3.6E-01	11	========	RA -226
AG -110M	========	========	========	1.2E-01	AG -110M
TE -129M	========	========	========	5.9E 00	TE -129M
ZR - 95	========	========	========	3.3E-01	ZR - 95
NB - 95	========	========	========	2.5E-01	NB - 95
CS -134	========	========	========	1.5E-01	CS -134
CO - 58	========	========	========	1.5E-01	CO - 58
MN - 54	========	========	========	1.3E-01	MN - 54
TH -232	1.2E 00	4.2E-01	35	========	TH -232
FE - 59	========	========	========	3.6E-01	FE - 59
CS -136	========	========	========	4.3E-01	CS -136
ZN - 65	========	========	========	3.8E-01	ZN - 65
CO - 60	2.7E-01	1.4E-01	52	========	CO - 60
K - 40	1.3E 01	2.2E 00	17	========	K - 40
BA -140	========	========	========	1.7E 00	BA -140
LA -140	========	========	========	4.0E-01	LA -140
BE - 7	5.6E 00	1.6E 00	27	========	BE - 7
SB -125	========	========	========	3.7E-01	SB -125
CE -141	========	========	========	3.6E-01	CE -141
RU -103	========	========	========	1.5E-01	RU -103
CO - 57	========	========	========	1.3E-01	CO - 57
I -131	========	========	========	8.9E-01	I -131
RU -106	========	========	========	1.1E 00	RU -106
CS -137	2.6E-01	1.0E-01	39	========	CS -137
CS -137	2.6E-01	1.0E-01	39	========	CS -137

COMMENT :

Signature: Royce B. [illegible]

MSD 000987

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
5/17/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-#4104 DATE RECEIVED : 5-16-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2- 1-82
DATE STOPPED SAMPLING: 2-28-82
DATE OF ANALYSIS : 5-17-82 944 EST
RMC SAMPLE ID. : 69786G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 91.40 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.1E 00	CE -144
CR - 51	========	========	========	8.1E 00	CR - 51
RA -226	2.7E 00	3.5E-01	13	========	RA -226
AG -110M	========	========	========	1.9E-01	AG -110M
TE -129M	========	========	========	2.2E 01	TE -129M
ZR - 95	========	========	========	6.6E-01	ZR - 95
NB - 95	========	========	========	9.6E-01	NB - 95
CS -134	========	========	========	2.5E-01	CS -134
CO - 58	========	========	========	3.2E-01	CO - 58
MN - 54	========	========	========	1.8E-01	MN - 54
TH -232	9.4E-01	4.4E-01	46	========	TH -232
FE - 59	========	========	========	9.3E-01	FE - 59
CS -136	========	========	========	9.8E 00	CS -136
ZN - 65	========	========	========	5.4E-01	ZN - 65
CO - 60	2.4E-01	1.4E-01	58	========	CO - 60
K - 40	1.2E 01	2.4E 00	19	========	K - 40
BA -140	========	========	========	4.3E 01	BA -140
LA -140	========	========	========	9.9E 00	LA -140
BE - 7	========	========	========	5.3E 00	BE - 7
SB -125	========	========	========	4.5E-01	SB -125
CE -141	========	========	========	1.0E 00	CE -141
RU -103	========	========	========	5.5E-01	RU -103
CO - 57	========	========	========	1.3E-01	CO - 57
RU -106	========	========	========	1.6E 00	RU -106
CS -137	========	========	========	2.0E-01	CS -137

COMMENT : BISSELL POINT

Signature: Roger B. Gill

MSD 000988

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
6/ 4/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-5656 DATE RECEIVED : 5-18-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 4- 1-82
DATE STOPPED SAMPLING: 4-30-82
DATE OF ANALYSIS : 6- 3-82 956 EST
RMC SAMPLE ID. : 73447G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 101.70 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.0E 00	CE -144
CR - 51	========	========	========	2.1E 00	CR - 51
RA -226	3.4E 00	3.4E-01	10	========	RA -226
AG -110M	========	========	========	1.3E-01	AG -110M
TE -129M	========	========	========	7.4E 00	TE -129M
ZR - 95	========	========	========	3.1E-01	ZR - 95
NB - 95	========	========	========	3.1E-01	NB - 95
CS -134	========	========	========	1.8E-01	CS -134
CO - 58	========	========	========	1.4E-01	CO - 58
MN - 54	========	========	========	1.4E-01	MN - 54
TH -232	1.4E 00	3.4E-01	24	========	TH -232
FE - 59	========	========	========	3.5E-01	FE - 59
CS -136	========	========	========	7.0E-01	CS -136
ZN - 65	========	========	========	3.6E-01	ZN - 65
CO - 60	4.8E-01	1.4E-01	29	========	CO - 60
K - 40	1.1E 01	2.0E 00	19	========	K - 40
BA -140	========	========	========	3.3E 00	BA -140
LA -140	========	========	========	8.3E-01	LA -140
BE - 7	4.6E 00	1.4E 00	29	========	BE - 7
SB -125	========	========	========	3.4E-01	SB -125
CE -141	========	========	========	4.6E-01	CE -141
RU -103	========	========	========	2.0E-01	RU -103
CO - 57	========	========	========	1.2E-01	CO - 57
I -131	========	========	========	2.3E 00	I -131
RU -106	========	========	========	9.5E-01	RU -106
CS -137	========	========	========	1.5E-01	CS -137

COMMENT :

Signature: Royce B. Hill

MSD 000989

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Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 7/ 7/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-6135 DATE RECEIVED : 6-18-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 5- 1-82
DATE STOPPED SAMPLING: 5-31-82
DATE OF ANALYSIS : 7- 2-82 825 EST
RMC SAMPLE ID. : 75170G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 83.80 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	8.4E-01	CE -144
CR - 51	=======	=======	=======	2.5E 00	CR - 51
RA -226	2.8E 00	3.8E-01	13	=======	RA -226
AG -110M	=======	=======	=======	1.8E-01	AG -110M
TE -129M	=======	=======	=======	9.2E 00	TE -129M
ZR - 95	=======	=======	=======	3.2E-01	ZR - 95
NB - 95	=======	=======	=======	3.5E-01	NB - 95
CS -134	=======	=======	=======	1.8E-01	CS -134
CO - 58	=======	=======	=======	2.1E-01	CO - 58
MN - 54	=======	=======	=======	1.6E-01	MN - 54
TH -232	1.3E 00	4.1E-01	31	=======	TH -232
FE - 59	=======	=======	=======	3.5E-01	FE - 59
CS -136	=======	=======	=======	7.1E-01	CS -136
ZN - 65	=======	=======	=======	4.5E-01	ZN - 65
CO - 60	=======	=======	=======	2.6E-01	CO - 60
K - 40	=======	=======	=======	5.3E 00	K - 40
BA -140	=======	=======	=======	3.6E 00	BA -140
LA -140	=======	=======	=======	9.0E-01	LA -140
BE - 7	4.5E 00	1.9E 00	40	=======	BE - 7
SB -125	=======	=======	=======	4.0E-01	SB -125
CE -141	=======	=======	=======	3.7E-01	CE -141
RU -103	=======	=======	=======	2.0E-01	RU -103
CO - 57	=======	=======	=======	1.0E-01	CO - 57
I -131	=======	=======	=======	2.1E 00	I -131
RU -106	=======	=======	=======	1.3E 00	RU -106
CS -137	=======	=======	=======	2.3E-01	CS -137

COMMENT :

Signature: Royce B. Gill

MSD 000990

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 8/25/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-741 DATE RECEIVED : 8-13-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 6- 1-82
DATE STOPPED SAMPLING: 6-30-82
DATE OF ANALYSIS : 8-23-82 1620 EST
RMC SAMPLE ID. : 78526685
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 160.00 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	8.9E-01	CE -144
CR - 51	=======	=======	=======	4.1E 00	CR - 51
RA -226	2.0E 00	3.5E-01	18	=======	RA -226
AG -110M	=======	=======	=======	1.8E-01	AG -110M
TE -129M	=======	=======	=======	1.3E 01	TE -129M
ZR - 95	=======	=======	=======	3.8E-01	ZR - 95
NB - 95	=======	=======	=======	4.7E-01	NB - 95
CS -134	=======	=======	=======	2.3E-01	CS -134
CO - 58	=======	=======	=======	2.4E-01	CO - 58
MN - 54	=======	=======	=======	1.3E-01	MN - 54
TH -232	9.5E-01	3.4E-01	35	=======	TH -232
FE - 59	=======	=======	=======	5.8E-01	FE - 59
CS -136	=======	=======	=======	2.2E 00	CS -136
ZN - 65	=======	=======	=======	4.5E-01	ZN - 65
CO - 60	3.0E-01	1.4E-01	46	=======	CO - 60
K - 40	1.2E 01	2.0E 00	17	=======	K - 40
BA -140	=======	=======	=======	1.1E 01	BA -140
LA -140	=======	=======	=======	2.8E 00	LA -140
BE - 7	3.7E 00	1.7E 00	45	=======	BE - 7
SB -125	=======	=======	=======	3.6E-01	SB -125
CE -141	=======	=======	=======	5.9E-01	CE -141
RU -103	=======	=======	=======	3.0E-01	RU -103
CO - 57	=======	=======	=======	1.1E-01	CO - 57
I -131	=======	=======	=======	1.4E 01	I -131
RU -106	=======	=======	=======	1.3E 00	RU -106
CS -137	=======	=======	=======	1.9E-01	CS -137

COMMENT : BISSELL POINT ASH

Signature: Roger B. Gill

MSD 000991

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/25/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Mains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-742 DATE RECEIVED : 6-13-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7- 1-82
DATE STOPPED SAMPLING: 7-31-82
DATE OF ANALYSIS : 8-24-82 614 EST
RMC SAMPLE ID. : 78527GBS
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 160.00 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.0E 00	CE -144
CR - 51	-------	-------	-------	2.4E 00	CR - 51
RA -226	4.3E 00	5.4E-01	12	-------	RA -226
AG -110M	-------	-------	-------	2.2E-01	AG -110M
TE -129M	-------	-------	-------	8.4E 00	TE -129M
ZR - 95	-------	-------	-------	3.7E-01	ZR - 95
NB - 95	-------	-------	-------	3.1E-01	NB - 95
CS -134	-------	-------	-------	3.0E-01	CS -134
CO - 58	-------	-------	-------	1.9E-01	CO - 58
MN - 54	-------	-------	-------	1.9E-01	MN - 54
TH -232	1.8E 00	4.8E-01	25	-------	TH -232
FE - 59	-------	-------	-------	4.1E-01	FE - 59
CS -136	-------	-------	-------	5.6E-01	CS -136
ZN - 65	-------	-------	-------	5.2E-01	ZN - 65
CO - 60	1.6E-01	1.2E-01	72	-------	CO - 60
K - 40	1.7E 01	2.4E 00	14	-------	K - 40
BA -140	-------	-------	-------	2.4E 00	BA -140
LA -140	-------	-------	-------	6.0E-01	LA -140
BE - 7	6.2E 00	1.4E 00	22	-------	BE - 7
SB -125	-------	-------	-------	4.8E-01	SB -125
CE -141	-------	-------	-------	3.7E-01	CE -141
RU -103	-------	-------	-------	2.2E-01	RU -103
CO - 57	-------	-------	-------	1.3E-01	CO - 57
I -131	-------	-------	-------	1.3E 00	I -131
RU -106	-------	-------	-------	1.3E 00	RU -106
CS -137	3.6E-01	1.4E-01	40	-------	CS -137

COMMENT : BISSELL POINT ASH

Signature: [illegible]

MSD 000992

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 11/10/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-1684 DATE RECEIVED : 10-22-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 9- 1-82
DATE STOPPED SAMPLING: 9-30-82
DATE OF ANALYSIS : 11- 2-82 1546 EST
RMC SAMPLE ID. : 83050G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 71.10 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.1E 00	CE -144
CR - 51	-------	-------	-------	3.4E 00	CR - 51
RA -226	2.8E 00	4.1E-01	14	-------	RA -226
AG -110M	-------	-------	-------	2.0E-01	AG -110M
TE -129M	-------	-------	-------	1.1E 01	TE -129M
ZR - 95	-------	-------	-------	4.4E-01	ZR - 95
NB - 95	-------	-------	-------	4.3E-01	NB - 95
CS -134	-------	-------	-------	1.8E-01	CS -134
CO - 58	-------	-------	-------	2.5E-01	CO - 58
MN - 54	-------	-------	-------	2.0E-01	MN - 54
TH -232	1.2E 00	4.9E-01	41	-------	TH -232
FE - 59	-------	-------	-------	6.3E-01	FE - 59
CS -136	-------	-------	-------	1.1E 00	CS -136
ZN - 65	-------	-------	-------	3.6E-01	ZN - 65
CO - 60	-------	-------	-------	2.6E-01	CO - 60
K - 40	1.3E 01	2.7E 00	20	-------	K - 40
BA -140	-------	-------	-------	4.4E 00	BA -140
LA -140	-------	-------	-------	1.1E 00	LA -140
BE - 7	-------	-------	-------	3.8E 00	BE - 7
SB -125	-------	-------	-------	5.2E-01	SB -125
CE -141	-------	-------	-------	5.4E-01	CE -141
RU -103	-------	-------	-------	2.9E-01	RU -103
CO - 57	-------	-------	-------	1.5E-01	CO - 57
I -131	-------	-------	-------	3.0E 00	I -131
RU -106	-------	-------	-------	1.4E 00	RU -106
CS -137	-------	-------	-------	2.1E-01	CS -137

COMMENT : ASH

Signature: Roger B. Gill

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
10/15/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-1401 DATE RECEIVED : 9-27-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 8- 1-82
DATE STOPPED SAMPLING: 8-31-82
DATE OF ANALYSIS : 9-30-82 1512 EST
RMC SAMPLE ID. : 01176G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 80.20 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	********	********	********	1.2E 00	CE -144
CR - 51	********	********	********	2.8E 00	CR - 51
RA -226	2.2E 00	4.5E-01	20	********	RA -226
AG -110M	********	********	********	1.8E-01	AG -110M
TE -129M	********	********	********	1.1E 01	TE -129M
ZR - 95	********	********	********	8.2E-01	ZR - 95
NB - 95	********	********	********	3.8E-01	NB - 95
CS -134	********	********	********	2.0E-01	CS -134
CO - 58	********	********	********	2.4E-01	CO - 58
MN - 54	********	********	********	1.9E-01	MN - 54
TH -232	1.6E 00	4.8E-01	28	********	TH -232
FE - 59	********	********	********	5.8E-01	FE - 59
CS -136	********	********	********	8.2E-01	CS -136
ZN - 65	********	********	********	4.6E-01	ZN - 65
CO - 60	********	********	********	2.6E-01	CO - 60
K - 40	1.4E 01	2.8E 00	19	********	K - 40
BA -140	********	********	********	2.9E 00	BA -140
LA -140	********	********	********	1.0E 00	LA -140
BE - 7	********	********	********	2.8E 00	BE - 7
SB -125	********	********	********	5.0E-01	SB -125
CE -141	********	********	********	8.1E-01	CE -141
RU -103	********	********	********	2.4E-01	RU -103
CO - 57	********	********	********	1.5E-01	CO - 57
I -131	********	********	********	2.2E 00	I -131
RU -106	********	********	********	1.9E 00	RU -106
CS -137	********	********	********	2.0E-01	CS -137

COMMENT :

Signature: Roger B. Gill

MSD 000994

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
1/12/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-3109 DATE RECEIVED : 1- 5-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 11- 1-82
DATE STOPPED SAMPLING: 11-30-82
DATE OF ANALYSIS : 1-11-83 1508 EST
RMC SAMPLE ID. : 91871G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 42.40 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	2.0E 00	CE -144
CR - 51	=======	=======	=======	5.6E 00	CR - 51
RA -226	2.9E 00	5.4E-01	18	=======	RA -226
AG -110M	=======	=======	=======	3.1E-01	AG -110M
TE -129M	=======	=======	=======	1.7E 01	TE -129M
ZR - 95	=======	=======	=======	6.6E-01	ZR - 95
NB - 95	=======	=======	=======	6.1E-01	NB - 95
CS -134	=======	=======	=======	3.4E-01	CS -134
CO - 58	=======	=======	=======	3.2E-01	CO - 58
MN - 54	=======	=======	=======	2.7E-01	MN - 54
TH -232	1.7E 00	6.0E-01	35	=======	TH -232
FE - 59	=======	=======	=======	1.1E 00	FE - 59
CS -136	=======	=======	=======	1.9E 00	CS -136
ZN - 65	=======	=======	=======	7.2E-01	ZN - 65
CO - 60	=======	=======	=======	3.6E-01	CO - 60
K - 40	1.8E 01	4.1E 00	23	=======	K - 40
BA -140	=======	=======	=======	8.5E 00	BA -140
LA -140	=======	=======	=======	3.1E 00	LA -140
BE - 7	4.5E 00	2.6E 00	58	=======	BE - 7
SB -125	=======	=======	=======	6.6E-01	SB -125
CE -141	=======	=======	=======	1.0E 00	CE -141
RU -103	=======	=======	=======	4.8E-01	RU -103
CO - 57	=======	=======	=======	2.3E-01	CO - 57
I -131	=======	=======	=======	9.2E 00	I -131
RU -106	=======	=======	=======	1.9E 00	RU -106
CS -137	=======	=======	=======	2.9E-01	CS -137

COMMENT : ASH

Signature: Gregg R. Gill

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Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
2/16/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SC-SLD-2312
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 10- 1-82
DATE STOPPED SAMPLING: 10-31-82
DATE OF ANALYSIS : 12-22-82 1042 EST
RMC SAMPLE ID. : 85060GBS
DATE RECEIVED : 11-30-82
COMPOSITE

PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 36.20 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	2.2E 00	CE -144
CR - 51	-------	-------	-------	9.6E 00	CR - 51
RA -226	4.2E 00	9.4E-01	22	-------	RA -226
AG -110M	-------	-------	-------	3.7E-01	AG -110M
TE -129M	-------	-------	-------	3.4E 01	TE -129M
ZR - 95	-------	-------	-------	1.1E 00	ZR - 95
NB - 95	-------	-------	-------	1.2E 00	NB - 95
CS -134	-------	-------	-------	3.2E-01	CS -134
CO - 58	-------	-------	-------	5.5E-01	CO - 58
MN - 54	-------	-------	-------	3.6E-01	MN - 54
TH -232	1.5E 00	8.5E-01	55	-------	TH -232
FE - 59	-------	-------	-------	1.5E 00	FE - 59
CS -136	-------	-------	-------	4.6E 00	CS -136
ZN - 65	-------	-------	-------	7.6E-01	ZN - 65
CO - 60	-------	-------	-------	4.7E-01	CO - 60
K - 40	1.6E 01	7.1E 00	45	-------	K - 40
BA -140	-------	-------	-------	2.3E 01	BA -140
LA -140	-------	-------	-------	6.7E 00	LA -140
BE - 7	-------	-------	-------	5.8E 00	BE - 7
SB -125	-------	-------	-------	8.9E-01	SB -125
CE -141	-------	-------	-------	1.4E 00	CE -141
RU -103	-------	-------	-------	7.8E-01	RU -103
CO - 57	-------	-------	-------	2.8E-01	CO - 57
I -131	-------	-------	-------	2.6E 01	I -131
RU -106	-------	-------	-------	5.3E 00	RU -106
CS -137	-------	-------	-------	5.9E-01	CS -137

COMMENT : ASH

Signature: David Vance

MSD 000996

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Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 3/30/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147.
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-3541 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 12- 1-82
DATE STOPPED SAMPLING: 12-31-82
DATE OF ANALYSIS : 3-24-83 1336 EST
RMC SAMPLE ID. : 94731GB5
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 41.50 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	2.0E 00	CE -144
CR - 51	-------	-------	-------	1.8E 01	CR - 51
RA -226	4.8E 00	6.8E-01	14	-------	RA -226
AG -110M	-------	-------	-------	4.3E-01	AG -110M
TE -129M	-------	-------	-------	5.5E 01	TE -129M
ZR - 95	-------	-------	-------	1.3E 00	ZR - 95
NB - 95	-------	-------	-------	1.8E 00	NB - 95
CS -134	-------	-------	-------	4.7E-01	CS -134
CO - 58	-------	-------	-------	6.1E-01	CO - 58
MN - 54	-------	-------	-------	3.8E-01	MN - 54
TH -232	2.7E 00	8.3E-01	30	-------	TH -232
FE - 59	-------	-------	-------	2.0E 00	FE - 59
CS -136	-------	-------	-------	6.3E 01	CS -136
ZN - 65	-------	-------	-------	8.6E-01	ZN - 65
CO - 60	-------	-------	-------	5.9E-01	CO - 60
K - 40	1.8E 01	4.0E 00	22	-------	K - 40
BA -140	-------	-------	-------	1.2E 02	BA -140
LA -140	-------	-------	-------	2.8E 01	LA -140
BE - 7	-------	-------	-------	7.1E 00	BE - 7
SB -125	-------	-------	-------	8.2E-01	SB -125
CE -141	-------	-------	-------	2.4E 00	CE -141
RU -103	-------	-------	-------	1.1E 00	RU -103
CO - 57	-------	-------	-------	2.7E-01	CO - 57
RU -106	-------	-------	-------	2.9E 00	RU -106
CS -137	-------	-------	-------	4.1E-01	CS -137

COMMENT : B.P. STP. ASH

Signature: David Vann

MSD 000997

Radiation Management Corporation

LABORATORY REPORT

3500 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/85

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4335 DATE RECEIVED : 3- 9-85
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 1- 1-85
DATE STOPPED SAMPLING: 1-31-85
DATE OF ANALYSIS : 3-24-85 1337 EST
RMC SAMPLE ID. : 94732G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 35.00 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	1.8E 00	CE -144
CR - 51	=======	=======	=======	9.5E 00	CR - 51
RA -226	7.8E 00	8.5E-01	10	=======	RA -226
AG -110M	=======	=======	=======	3.6E-01	AG -110M
TE -129M	=======	=======	=======	3.0E 01	TE -129M
ZR - 95	=======	=======	=======	9.9E-01	ZR - 95
NB - 95	=======	=======	=======	1.2E 00	NB - 95
CS -134	=======	=======	=======	5.6E-01	CS -134
CO - 58	=======	=======	=======	5.7E-01	CO - 58
MN - 54	=======	=======	=======	4.8E-01	MN - 54
TH -232	2.0E 00	8.7E-01	44	=======	TH -232
FE - 59	=======	=======	=======	1.8E 00	FE - 59
CS -136	=======	=======	=======	5.3E 00	CS -136
ZN - 65	=======	=======	=======	1.4E 00	ZN - 65
CO - 60	=======	=======	=======	4.9E-01	CO - 60
K - 40	1.5E 01	4.6E 00	31	=======	K - 40
BA -140	=======	=======	=======	2.3E 01	BA -140
LA -140	=======	=======	=======	7.7E 00	LA -140
BE - 7	=======	=======	=======	6.3E 00	BE - 7
SB -125	=======	=======	=======	9.1E-01	SB -125
CE -141	=======	=======	=======	1.3E 00	CE -141
RU -103	=======	=======	=======	7.9E-01	RU -103
CO - 57	=======	=======	=======	2.2E-01	CO - 57
I -131	=======	=======	=======	2.5E 01	I -131
RU -106	=======	=======	=======	3.0E 00	RU -106
CS -137	=======	=======	=======	4.0E-01	CS -137

COMMENT : D.P. STP. ASH

Signature: David Van

MSD 000998

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Kains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4336 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2- 1-83
DATE STOPPED SAMPLING: 2-28-83
DATE OF ANALYSIS : 3-24-83 1330 EST
RMC SAMPLE ID. : 94733685
PROCEDURE DESCRIPTION:
GEL1 GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 35.00 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	3.0E 00	CE -144
CR - 51	=======	=======	=======	6.0E 00	CR - 51
RA -226	5.6E 00	8.2E-01	14	=======	RA -226
AG -110M	=======	=======	=======	4.4E-01	AG -110M
TE -129M	=======	=======	=======	2.1E 01	TE -129M
ZR - 95	=======	=======	=======	9.0E-01	ZR - 95
NB - 95	=======	=======	=======	7.5E-01	NB - 95
CS -134	=======	=======	=======	6.9E-01	CS -134
CO - 58	=======	=======	=======	5.2E-01	CO - 58
MN - 54	=======	=======	=======	4.0E-01	MN - 54
TH -232	2.3E 00	8.6E-01	37	=======	TH -232
FE - 59	=======	=======	=======	1.0E 00	FE - 59
CS -136	=======	=======	=======	1.5E 00	CS -136
ZN - 65	=======	=======	=======	1.2E 00	ZN - 65
CO - 60	=======	=======	=======	4.3E-01	CO - 60
K - 40	1.5E 01	3.7E 00	25	=======	K - 40
BA -140	=======	=======	=======	6.5E 00	BA -140
LA -140	=======	=======	=======	1.4E 00	LA -140
BE - 7	=======	=======	=======	4.9E 00	BE - 7
SB -125	=======	=======	=======	1.1E 00	SB -125
CE -141	=======	=======	=======	1.0E 00	CE -141
RU -103	=======	=======	=======	5.3E-01	RU -103
CO - 57	=======	=======	=======	3.6E-01	CO - 57
I -131	=======	=======	=======	3.3E 00	I -131
RU -106	=======	=======	=======	3.3E 00	RU -106
CS -137	=======	=======	=======	4.7E-01	CS -137

COMMENT : B.P. STP. ASH

Signature: [signature]

MSD 000999

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 5/ 6/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-5309 DATE RECEIVED : 4-27-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 3- 1-83
DATE STOPPED SAMPLING: 3-31-83
DATE OF ANALYSIS : 5- 2-83 815 EST
RMC SAMPLE ID. : 96671685
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 68.60 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	8.9E-01	CE -144
CR - 51	-------	-------	-------	2.6E 00	CR - 51
RA -226	2.9E 00	4.3E-01	14	-------	RA -226
AG -110M	-------	-------	-------	2.2E-01	AG -110M
TE -129M	-------	-------	-------	1.1E 01	TE -129M
ZR - 95	-------	-------	-------	4.8E-01	ZR - 95
NB - 95	-------	-------	-------	4.1E-01	NB - 95
CS -134	-------	-------	-------	2.8E-01	CS -134
CO - 58	-------	-------	-------	2.1E-01	CO - 58
MN - 54	-------	-------	-------	2.2E-01	MN - 54
TH -232	1.4E 00	4.8E-01	35	-------	TH -232
FE - 59	-------	-------	-------	5.8E-01	FE - 59
CS -136	-------	-------	-------	8.5E-01	CS -136
ZN - 65	-------	-------	-------	6.8E-01	ZN - 65
CO - 60	-------	-------	-------	2.0E-01	CO - 60
K - 40	1.4E 01	3.0E 00	21	-------	K - 40
BA -140	-------	-------	-------	3.5E 00	BA -140
LA -140	-------	-------	-------	1.2E 00	LA -140
BE - 7	-------	-------	-------	2.3E 00	BE - 7
SB -125	-------	-------	-------	4.3E-01	SB -125
CE -141	-------	-------	-------	4.2E-01	CE -141
RU -103	-------	-------	-------	2.9E-01	RU -103
CO - 57	-------	-------	-------	1.1E-01	CO - 57
I -131	-------	-------	-------	2.5E 00	I -131
RU -106	-------	-------	-------	1.7E 00	RU -106
CS -137	-------	-------	-------	2.2E-01	CS -137

COMMENT : ASH

Signature: David Van

MSD 001000

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
4/20/81

5/13/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO. 63147
ATTN: MR. BERNARD RAINS

PURCHASE ORDER #:

CUSTOMER SAMPLE ID : SC-SLD-ASH
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING : 0- 0- 0
DATE STOPPED SAMPLING : 0- 0- 0
DATE OF ANALYSIS : 4- 3-81 1208 EST
RMC SAMPLE ID. : 45161885
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 49.20 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
PA -234	********	********	********	1.7E 00	PA -234	***
PB -214	5.6E 00	7.1E-01	12	********	PB -214	***
BI -214	4.3E 00	7.1E-01	16	********	BI -214	***
AC -228	2.7E 00	1.1E 00	39	********	AC -228	***
PB -212	********	********	********	9.8E 00	PB -212	***
BI -212	********	********	********	5.2E 00	BI -212	***
TL -208	8.9E-01	2.9E-01	32	********	TL -208	***
U -235	********	********	********	2.0E 00	U -235	***
TH -227	********	********	********	3.3E 00	TH -227	***
K - 40	1.2E 01	3.4E 00	27	********	K - 40	***
BE - 7	********	********	********	6.1E 00	BE - 7	***
SB -125	********	********	********	9.1E-01	SB -125	***
CS -137	********	********	********	3.8E-01	CS -137	***
CO - 60	********	********	********	3.1E-01	CO - 60	***
ZR - 95	********	********	********	1.2E 00	ZR - 95	***
NB - 95	********	********	********	1.8E 00	NB - 95	***
RA -226	4.3E 00	7.1E-01	16	********	RA -226	***
PA -234M	********	********	********	5.6E 01	PA -234M	***
TH -234	********	********	********	4.5E 01	TH -234	***
PA -231	********	********	********	6.0E 01	PA -231	***
TH -230	********	********	********	1.2E 03	TH -230	***
TH -228	********	********	********	1.5E 00	TH -228	***

*** = ISOTOPE NOT DECAY-CORRECTED

COMMENT : SIMULATED ASH 1/81

Signature: David Va

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
4/20/81

HL 5/13/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 S. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD BAINS

PURCHASE ORDER # :

CUSTOMER SAMPLE ID : SE-SLD-SA
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 0-0-0
DATE STOPPED SAMPLING: 0-0-0
DATE OF ANALYSIS : 3-3-81 1200 EST
RMC SAMPLE ID. : +5161635
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 49.20 GRAMS

	ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
Protactinium	PA -234	-------	-------	-------	1.7E 00	PA -234	***
Lead	PB -214	3.6E 00	7.1E-01	12	-------	PB -214	***
Bismuth	BI -214	4.3E 00	7.1E-01	16	-------	BI -214	**
Actinium	AC -228	2.7E 00	1.1E 00	39	-------	AC -228	***
Lead	PB -212	-------	-------	-------	9.8E 00	PB -212	***
Bismuth	BI -212	-------	-------	-------	5.2E 00	BI -212	***
Thallium	TL -208	8.9E-01	2.9E-01	32	-------	TL -208	**
Uranium	U -235	-------	-------	-------	2.0E 00	U -235	***
Thorium	TH -227	-------	-------	-------	3.3E 00	TH -227	***
Potassium	K - 40	1.2E 01	3.4E 00	27	-------	K - 40	***
Beryllium	BE - 7	-------	-------	-------	6.1E 00	BE - 7	**
Antimony	SB -125	-------	-------	-------	9.1E-01	SB -125	***
Cesium	CS -137	-------	-------	-------	3.9E-01	CS -137	***
Cobalt	CO - 60	-------	-------	-------	3.1E-01	CO - 60	***
Zirconium	ZR - 95	-------	-------	-------	1.2E 00	ZR - 95	**
Niobium	NB - 95	-------	-------	-------	1.8E 00	NB - 95	***
Radium	RA -226	4.5E 01	7.1E-01	16	-------	RA -226	***
Protactinium	PA -234M	-------	-------	-------	5.6E 01	PA -234M	***
Thorium	TH -234	-------	-------	-------	4.5E 01	TH -234	**
Protactinium	PA -231	-------	-------	-------	5.0E 01	PA -231	***
Thorium	TH -230	-------	-------	-------	1.2E 03	TH -230	***
Thorium	TH -228	-------	-------	-------	1.5E 00	TH -228	***

270 total emission

*** = ISOTOPE WITH DECAY-CORRECTED

COMMENTS : SIMULATED ASH 1/81

Signature: David Va

MSD 001002

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 07/15/83

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-3217	LTR 10-13-80	06/03/83	07/06/83

MR BERNARD RAINS
METROPOLITAN ST LOUIS SEWER DIST
10 EAST GRAND AVE
ST LOUIS MO 63147

S O L I D S

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (pCi/gm DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
52834	5656 BISSELL PT FLTCK	ASHE	04/01		04/30		BE-7	L.T. 5. E 00		06/07			4
							K-40	L.T. 8. E 00		06/07			4
							MN-54	L.T. 3. E-01		06/07			4
							CO-58	L.T. 5. E-01		06/07			4
							FE-59	L.T. 2. E 00		06/07			4
							CO-60	L.T. 3. E-01		06/07			4
							ZN-65	L.T. 1. E 00		06/07			4
							ZR-95	L.T. 7. E-01		06/07			4
							RU-103	L.T. 8. E-01		06/07			4
							RU-106	L.T. 3. E 00		06/07			4
							I-131	L.T. 7. E 01		06/07			4
							CS-134	L.T. 3. E-01		06/07			4
							CS-137	L.T. 3. E-01		06/07			4
							BA-140	L.T. 1. E 01		06/07			4
							CE-141	L.T. 1. E 00		06/07			4
							CE-144	L.T. 1. E 00		06/07			4
							RA-226	5.51+-3.11E 00		06/07			4
							TH-228	1.71+-0.26E 00		06/07			4

LAST PAGE OF REPORT

APPROVED BY H. KING 07/15/83

SEND 1 COPIES TO ME803S MR BERNARD RAINS

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - Ge(Li) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 08/09/83

PAGE 1

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-3664	LTR 10-13-80	07/07/83	08/09/83

MR BERNARD RAINS
METROPOLITAN ST LOUIS SEWER DIST
10 EAST GRAND AVE
ST LOUIS MO 63147

S O L I D S

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (pCi/gm DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
56024	6231 BSL PT FLTCK ASH		05/01		05/31		BE-7	6.16+-1.05E 00		07/20			4
							K-40	1.75+-0.18E 01		07/20			4
							MN-54	L.T. 9. E-02		07/20			4
							CO-58	L.T. 1. E-01		07/20			4
							FE-59	L.T. 3. E-01		07/20			4
							CO-60	L.T. 9. E-02		07/20			4
							ZN-65	L.T. 2. E-01		07/20			4
							ZR-95	L.T. 2. E-01		07/20			4
							RU-103	L.T. 2. E-01		07/20			4
							RU-106	L.T. 7. E-01		07/20			4
							I-131	L.T. 6. E 00		07/20			4
							CS-134	L.T. 1. E-01		07/20			4
							CS-137	2.07+-0.51E-01		07/20			4
							BA-140	L.T. 1. E 00		07/20			4
							CE-141	L.T. 3. E-01		07/20			4
							CE-144	L.T. 5. E-01		07/20			4
							RA-226	8.10+-1.22E 00		07/20			4
							TH-228	1.55+-0.16E 00		07/20			4

LAST PAGE OF REPORT

APPROVED BY H. KING 08/09/83

SEND 1 COPIES TO ME803S MR BERNARD RAINS

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - Ge(Li) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB.

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 09/13/83

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE
3-3982	LTR 10-13-80	08/01/83	09/03/83

MR BERNARD RAINS
METROPOLITAN ST LOUIS SEWER DIST
10 EAST GRAND AVE
ST LOUIS MO 63147

S O L I D S

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	START TIME	STOP DATE	STOP TIME	NUCLIDE	ACTIVITY (pCi/gm DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	MID-COUNT TIME TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
58238	83-446 B.PT SIMLT ASH	ASH	06/01		06/30		BE-7	5.44+-0.75E 00		08/30			4
							K-40	1.68+-0.17E 01		08/30			4
							MN-54	L.T. 5. E-02		08/30			4
							CO-58	L.T. 7. E-02		08/30			4
							FE-59	L.T. 2. E-01		08/30			4
							CO-60	L.T. 4. E-02		08/30			4
							ZN-65	L.T. 1. E-01		08/30			4
							ZR-95	L.T. 1. E-01		08/30			4
							RU-103	L.T. 1. E-01		08/30			4
							RU-106	L.T. 4. E-01		08/30			4
							I-131	L.T. 8. E 00		08/30			4
							CS-134	L.T. 6. E-02		08/30			4
							CS-137	2.07+-0.30E-01		08/30			4
							BA-140	L.T. 1. E 00		08/30			4
							CE-141	L.T. 3. E-01		08/30			4
							CE-144	L.T. 4. E-01		08/30			4
							RA-226	L.T. 1. E 00		08/30			4
							TH-228	1.56+-0.16E 00		08/30			4
							PB-214	3.09+-0.31E 00		08/30			4
							PB-212	1.61+-0.16E 00		08/30			4

LAST PAGE OF REPORT

APPROVED BY H. KING H. King 09/13/83

SEND 1 COPIES TO ME803S MR BERNARD RAINS

2 - GAS LAB. 3 - RADIO CHEMISTRY LAB. 4 - Ge(Li) GAMMA SPEC LAB. 5 - TRITIUM GAS/L.S. LAB.

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 8/ 6/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7-24-81
DATE STOPPED SAMPLING: 7-24-81
DATE OF ANALYSIS : 8- 4-81 801 EST
RMC SAMPLE ID. : 58076G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

BK 8/25/81

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 81.50 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.5E 00	CE -144
CR - 51	-------	-------	-------	2.2E 00	CR - 51
RA -226	5.8E 00	5.8E-01	10	-------	RA -226
AG -110M	-------	-------	-------	2.4E-01	AG -110M
TE -129M	-------	-------	-------	8.4E 00	TE -129M
MO - 99	-------	-------	-------	2.7E 00	MO - 99
ZR - 95	-------	-------	-------	4.5E-01	ZR - 95
NB - 95	-------	-------	-------	3.5E-01	NB - 95
CS -134	-------	-------	-------	4.3E-01	CS -134
CO - 58	-------	-------	-------	2.5E-01	CO - 58
MN - 54	-------	-------	-------	2.3E-01	MN - 54
TH -232	2.6E 00	5.8E-01	22	-------	TH -232
FE - 59	-------	-------	-------	4.8E-01	FE - 59
CS -136	-------	-------	-------	4.2E-01	CS -136
ZN - 65	-------	-------	-------	8.0E-01	ZN - 65
CO - 60	-------	-------	-------	2.2E-01	CO - 60
K - 40	1.1E 01	2.4E 00	21	-------	K - 40
BA -140	-------	-------	-------	1.6E 00	BA -140
LA -140	-------	-------	-------	3.2E-01	LA -140
BE - 7	-------	-------	-------	1.9E 00	BE - 7
SB -125	-------	-------	-------	6.3E-01	SB -125
CE -141	-------	-------	-------	4.4E-01	CE -141
RU -103	-------	-------	-------	2.4E-01	RU -103
CO - 57	-------	-------	-------	1.8E-01	CO - 57
NP -239	-------	-------	-------	1.7E 01	NP -239 ***
I -131	-------	-------	-------	5.3E-01	I -131
RU -106	-------	-------	-------	2.1E 00	RU -106
CS -137	-------	-------	-------	2.7E-01	CS -137

*** - ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH;BASIN #2

Signature: David Van

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
9/ 2/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE RECEIVED : 8-12-81
DATE STARTED SAMPLING: 7-25-81 } 4TH wk July
DATE STOPPED SAMPLING: 7-31-81
DATE OF ANALYSIS : 8-24-81 932 EST
RMC SAMPLE ID. : 58666G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

BK 9/6/81

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 70.80 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.6E 00	CE -144
CR - 51	-------	-------	-------	3.2E 00	CR - 51
RA -226	4.2E 00	5.2E-01	12	--------	RA -226
AG -110M	-------	-------	-------	3.1E-01	AG -110M
TE -129M	-------	-------	-------	1.2E 01	TE -129M
ZR - 95	-------	-------	-------	7.4E-01	ZR - 95
NB - 95	1.8E 00	3.2E-01	17	--------	NB - 95
CS -134	-------	-------	-------	4.2E-01	CS -134
CO - 58	-------	-------	-------	3.2E-01	CO - 58
MN - 54	-------	-------	-------	2.6E-01	MN - 54
TH -232	2.1E 00	5.9E-01	27	--------	TH -232
FE - 59	-------	-------	-------	6.6E-01	FE - 59
CS -136	-------	-------	-------	8.6E-01	CS -136
ZN - 65	-------	-------	-------	7.4E-01	ZN - 65
CO - 60	-------	-------	-------	2.6E-01	CO - 60
K - 40	1.4E 01	3.4E 00	23	--------	K - 40
BA -140	-------	-------	-------	3.5E 00	BA -140
LA -140	-------	-------	-------	1.0E 00	LA -140
BE - 7	4.0E 00	2.4E 00	59	--------	BE - 7
SB -125	-------	-------	-------	6.8E-01	SB -125
CE -141	-------	-------	-------	5.5E-01	CE -141
RU -103	-------	-------	-------	3.6E-01	RU -103
CO - 57	-------	-------	-------	1.8E-01	CO - 57
I -131	-------	-------	-------	1.9E 00	I -131
RU -106	-------	-------	-------	2.4E 00	RU -106
CS -137	-------	-------	-------	3.2E-01	CS -137

COMMENT : ASH #615

Signature: [signature]

MSD 001007

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/28/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BIEEELL PT.
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE RECEIVED : 8- 5-81
DATE STARTED SAMPLING: 7-18-81 3rd wk July
DATE STOPPED SAMPLING: 7-24-81
DATE OF ANALYSIS : 8- 6-81 1421 EST
RMC SAMPLE ID. : 58375G05
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 74.10 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
CE -144	1.4E 00	6.8E-01	49	=======	CE -144	
CR - 51	=======	=======	=======	1.9E 00	CR - 51	
RA -226	1.9E 00	3.5E-01	18	=======	RA -226	
AG -110M	=======	=======	=======	2.2E-01	AG -110M	
TE -129M	=======	=======	=======	8.5E 00	TE -129M	
MO - 99	=======	=======	=======	2.9E 00	MO - 99	
ZR - 95	8.3E-01	2.6E-01	31	=======	ZR - 95	
NB - 95	1.7E 00	2.5E-01	14	=======	NB - 95	
CS -134	=======	=======	=======	2.6E-01	CS -134	
CO - 58	=======	=======	=======	1.9E-01	CO - 58	
MN - 54	=======	=======	=======	2.0E-01	MN - 54	
TH -232	1.2E 00	5.4E-01	45	=======	TH -232	
FE - 59	=======	=======	=======	5.2E-01	FE - 59	
CS -136	=======	=======	=======	3.3E-01	CS -136	
ZN - 65	=======	=======	=======	5.4E-01	ZN - 65	
CO - 60	=======	=======	=======	2.8E-01	CO - 60	
K - 40	1.7E 01	3.0E 00	17	=======	K - 40	
BA -140	=======	=======	=======	1.9E 00	BA -140	
LA -140	=======	=======	=======	3.8E-01	LA -140	
BE - 7	4.4E 00	1.5E 00	32	=======	BE - 7	
SB -125	=======	=======	=======	5.4E-01	SB -125	
CE -141	=======	=======	=======	2.9E-01	CE -141	
RU -103	=======	=======	=======	2.6E-01	RU -103	
CO - 57	=======	=======	=======	1.1E-01	CO - 57	
NP -239	=======	=======	=======	1.9E 01	NP -239	***
I -131	=======	=======	=======	5.3E-01	I -131	
RU -106	=======	=======	=======	1.8E 00	RU -106	
CS -137	=======	=======	=======	2.5E-01	CS -137	

*** = ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH

Signature: David Vance

MSD 001008

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/ 3/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7-11-81 3 2nd week July
DATE STOPPED SAMPLING: 7-17-81
DATE OF ANALYSIS : 7-31-81 1217 EST
RMC SAMPLE ID. : 57859G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

AHR 8/12/81

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 73.70 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
CE -144	9.8E-01	6.1E-01	61	-------	CE -144	
CR - 51	-------	-------	-------	1.9E 00	CR - 51	
RA -226	2.3E 00	4.1E-01	17	-------	RA -226	
AG -110M	-------	-------	-------	2.1E-01	AG -110M	
TE -129M	-------	-------	-------	8.2E 00	TE -129M	
MO - 99	-------	-------	-------	3.4E 00	MO - 99	
ZR - 95	6.2E-01	2.5E-01	39	-------	ZR - 95	
NB - 95	1.6E 00	2.4E-01	15	-------	NB - 95	
CS -134	-------	-------	-------	2.9E-01	CS -134	
CO - 58	-------	-------	-------	1.6E-01	CO - 58	
MN - 54	-------	-------	-------	2.0E-01	MN - 54	
TH -232	1.3E 00	4.9E-01	36	-------	TH -232	
FE - 59	-------	-------	-------	4.6E-01	FE - 59	
CS -136	-------	-------	-------	2.9E-01	CS -136	
ZN - 65	-------	-------	-------	7.0E-01	ZN - 65	
CO - 60	-------	-------	-------	2.6E-01	CO - 60	
K - 40	1.5E 01	2.8E 00	19	-------	K - 40	
BA -140	-------	-------	-------	1.8E 00	BA -140	
LA -140	-------	-------	-------	4.4E-01	LA -140	
BE - 7	3.7E 00	1.4E 00	38	-------	BE - 7	
SB -125	-------	-------	-------	5.7E-01	SB -125	
CE -141	-------	-------	-------	2.9E-01	CE -141	
RU -103	-------	-------	-------	2.5E-01	RU -103	
CO - 57	-------	-------	-------	1.0E-01	CO - 57	
NP -239	-------	-------	-------	2.4E 01	NP -239	***
I -131	-------	-------	-------	5.8E-01	I -131	
RU -106	-------	-------	-------	1.8E 00	RU -106	
CS -137	-------	-------	-------	3.1E-01	CS -137	

*** - ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH

Signature: Dail Va

MSD 001009

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 8/10/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT.
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7- 1-81 1ST wk of July
DATE STOPPED SAMPLING: 7-10-81
DATE OF ANALYSIS : 7-31-81 1041 EST
RMC SAMPLE ID. : 57858G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 65.00 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	1.5E 00	CE -144
CR - 51	=======	=======	=======	3.0E 00	CR - 51
RA -226	3.1E 00	4.4E-01	14	=======	RA -226
AG -110M	=======	=======	=======	2.3E-01	AG -110M
TE -129M	=======	=======	=======	9.5E 00	TE -129M
MO - 99	=======	=======	=======	2.8E 01	MO - 99
ZR - 95	=======	=======	=======	5.5E-01	ZR - 95
NB - 95	1.9E 00	3.6E-01	18	=======	NB - 95
CS -134	=======	=======	=======	3.0E-01	CS -134
CO - 58	=======	=======	=======	2.5E-01	CO - 58
MN - 54	=======	=======	=======	2.3E-01	MN - 54
TH -232	1.5E 00	5.4E-01	36	=======	TH -232
FE - 59	=======	=======	=======	6.7E-01	FE - 59
CS -136	=======	=======	=======	6.7E-01	CS -136
ZN - 65	=======	=======	=======	4.1E-01	ZN - 65
CO - 60	=======	=======	=======	3.1E-01	CO - 60
K - 40	1.6E 01	2.9E 00	18	=======	K - 40
BA -140	=======	=======	=======	3.2E 00	BA -140
LA -140	=======	=======	=======	6.1E-01	LA -140
BE - 7	3.4E 00	1.7E 00	50	=======	BE - 7
SB -125	=======	=======	=======	6.6E-01	SB -125
CE -141	=======	=======	=======	4.7E-01	CE -141
RU -103	=======	=======	=======	3.4E-01	RU -103
CO - 57	=======	=======	=======	1.6E-01	CO - 57
I -131	=======	=======	=======	1.3E 00	I -131
RU -106	=======	=======	=======	1.9E 00	RU -106
CS -137	4.0E-01	1.7E-01	41	=======	CS -137

COMMENT : ASH

Signature: Dan Van

MSD 001010

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
9/ 1/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

SAR 9/29/81

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE RECEIVED : 8-12-81
DATE STARTED SAMPLING: 7- 1-81 } July
DATE STOPPED SAMPLING: 7-31-81 }
DATE OF ANALYSIS : 8-24-81 932 EST
RMC SAMPLE ID. : 58665685
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 66.30 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	2.0E 00	CE -144
CR - 51	========	========	========	3.3E 00	CR - 51
RA -226	3.0E 00	4.5E-01	15	========	RA -226
AG -110M	========	========	========	3.1E-01	AG -110M
TE -129M	========	========	========	1.2E 01	TE -129M
ZR - 95	========	========	========	6.5E-01	ZR - 95
NB - 95	1.8E 00	3.0E-01	16	========	NB - 95
CS -134	========	========	========	3.9E-01	CS -134
CO - 58	========	========	========	2.7E-01	CO - 58
MN - 54	========	========	========	2.6E-01	MN - 54
TH -232	1.7E 00	5.5E-01	33	========	TH -232
FE - 59	========	========	========	5.5E-01	FE - 59
CS -136	========	========	========	8.0E-01	CS -136
ZN - 65	========	========	========	7.9E-01	ZN - 65
CO - 60	========	========	========	2.5E-01	CO - 60
K - 40	1.6E 01	3.1E 00	19	========	K - 40
BA -140	========	========	========	3.5E 00	BA -140
LA -140	========	========	========	8.1E-01	LA -140
BE - 7	4.6E 00	2.0E 00	43	========	BE - 7
SB -125	========	========	========	6.8E-01	SB -125
CE -141	========	========	========	5.8E-01	CE -141
RU -103	========	========	========	3.7E-01	RU -103
CO - 57	========	========	========	2.0E-01	CO - 57
I -131	========	========	========	1.6E 00	I -131
RU -106	========	========	========	2.1E 00	RU -106
CS -137	3.1E-01	1.8E-01	59	========	CS -137

COMMENT : ASH #615

Signature: David Van

MSD 001011

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
9/28/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT. DATE RECEIVED : 9-16-81
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 8- 1-81 August
DATE STOPPED SAMPLING: 8-31-81
DATE OF ANALYSIS : 9-23-81 1101 EST
RMC SAMPLE ID. : 60228G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 78.40 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.3E 00	CE -144
CR - 51	-------	-------	-------	2.9E 00	CR - 51
RA -226	2.7E 00	4.5E-01	16	-------	RA -226
AG -110M	-------	-------	-------	2.6E-01	AG -110M
TE -129M	-------	-------	-------	1.9E 01	TE -129M
ZR - 95	-------	-------	-------	5.1E-01	ZR - 95
NB - 95	8.9E-01	3.0E-01	33	-------	NB - 95
CS -134	-------	-------	-------	3.3E-01	CS -134
CO - 58	-------	-------	-------	3.1E-01	CO - 58
MN - 54	-------	-------	-------	2.4E-01	MN - 54
TH -232	1.5E 00	5.2E-01	34	-------	TH -232
FE - 59	-------	-------	-------	4.9E-01	FE - 59
CS -136	-------	-------	-------	6.4E-01	CS -136
ZN - 65	-------	-------	-------	6.1E-01	ZN - 65
CO - 60	-------	-------	-------	2.4E-01	CO - 60
K - 40	1.3E 01	2.7E 00	20	-------	K - 40
BA -140	-------	-------	-------	5.0E 00	BA -140
LA -140	-------	-------	-------	7.8E-01	LA -140
BE - 7	-------	-------	-------	3.0E 00	BE - 7
SB -125	-------	-------	-------	6.0E-01	SB -125
CE -141	-------	-------	-------	4.8E-01	CE -141
RU -103	-------	-------	-------	3.1E-01	RU -103
CO - 57	-------	-------	-------	1.5E-01	CO - 57
I -131	-------	-------	-------	1.5E 00	I -131
RU -106	-------	-------	-------	2.0E 00	RU -106
CS -137	-------	-------	-------	4.5E-01	CS -137

COMMENT : ASH COMPOSITE

Signature: David Van

MSD 001012

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
6/15/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO. 63147
ATTN: MR. BERNARD RAINS

PURCHASE ORDER # :

CUSTOMER SAMPLE ID : SE-SLD-PTL. 8
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING : 5- 8-81 1215 EST
DATE STOPPED SAMPLING : 5- 8-81 1215 EST
DATE OF ANALYSIS : 5-26-81 1202 EST
RMC SAMPLE ID : S6022885
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 92.50 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
PA -234	*******	*******	*******	1.2E 00	PA -234	***
PB -214	3.1E 00	4.1E-01	13	*******	PB -214	***
BI -214	3.3E 00	4.5E-01	13	*******	BI -214	***
AC -228	8.1E 00	8.8E-01	14	*******	AC -228	***
PB -212	5.6E 00	1.9E 00	33	*******	PB -212	***
BI -212	8.8E 00	2.8E 00	40	*******	BI -212	***
TL -208	1.7E 00	2.2E-01	12	*******	TL -208	***
U -235	*******	*******	*******	1.1E 00	U -235	***
TH -227	*******	*******	*******	1.7E 00	TH -227	***
K - 40	1.2E 01	2.4E 00	19	*******	K - 40	
BE - 7	*******	*******	*******	1.8E 00	BE - 7	
SB -125	*******	*******	*******	5.0E-01	SB -125	
CS -137	*******	*******	*******	2.6E-01	CS -137	
CO - 60	*******	*******	*******	2.4E-01	CO - 60	
ZR - 95	*******	*******	*******	4.4E-01	ZR - 95	
NB - 95	*******	*******	*******	5.4E-01	NB - 95	
RA -226	5.3E 00	4.6E-01	13	*******	RA -226	
PA -234M	*******	*******	*******	5.1E 01	PA -234M	***
TH -234	*******	*******	*******	2.2E 01	TH -234	***
PA -231	*******	*******	*******	2.8E 01	PA -231	***
TH -230	*******	*******	*******	6.1E 02	TH -230	***
TH -228	*******	*******	*******	9.7E-01	TH -228	***

*** = ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH HALL ST. LANDFILL

Signature: Don Vann

MSD 001013

Radiation Management Corporation

LABORATORY REPORT

5508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
5/27/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO. 63147
ATTN: MR. BERNARD MAINS

PURCHASE ORDER # :

CUSTOMER SAMPLE ID. : SE-SLD-PT. A
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 5- 8-81 1145 EST
DATE STOPPED SAMPLING: 5- 8-81 1145 EST
DATE OF ANALYSIS : 5-26-81 1201 EST
RMC SAMPLE ID. : 55021585
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 128.30 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE	
PA -234	-------	-------	-------	4.7E-01	PA -234	***
PB -214	-------	-------	-------	3.2E-01	PB -214	***
BI -214	7.5E-01	1.3E-01	19	-------	BI -214	***
AC -228	-------	-------	-------	4.3E-01	AC -228	***
PB -212	-------	-------	-------	2.2E 00	PB -212	***
BI -212	-------	-------	-------	1.4E 00	BI -212	***
TL -208	-------	-------	-------	1.4E-01	TL -208	***
U -235	-------	-------	-------	3.5E-01	U -235	***
TH -227	-------	-------	-------	8.7E-01	TH -227	***
K - 40	8.7E 00	1.4E 00	16	-------	K - 40	
BE - 7	-------	-------	-------	8.3E-01	BE - 7	
SB -125	-------	-------	-------	2.1E-01	SB -125	
CS -137	-------	-------	-------	9.5E-02	CS -137	
CO - 60	-------	-------	-------	7.5E-02	CO - 60	
ZR - 95	-------	-------	-------	1.9E-01	ZR - 95	
NB - 95	-------	-------	-------	1.4E-01	NB - 95	
RA -226	7.5E-01	1.5E-01	19	-------	RA -226	
PA -234M	-------	-------	-------	1.7E 01	PA -234M	***
TH -234	-------	-------	-------	1.4E 01	TH -234	***
PA -231	-------	-------	-------	1.3E 01	PA -231	***
TH -230	-------	-------	-------	5.1E 02	TH -230	***
TH -228	-------	-------	-------	4.3E-01	TH -228	***

*** - ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH/HALL ST. LANDFILL

Signature: Dan Van

MSD 001014

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
11/18/81

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-2134 DATE RECEIVED : 11-12-81
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 10- 1-81
DATE STOPPED SAMPLING: 10-31-81
DATE OF ANALYSIS : 11-18-81 1229 EST
RMC SAMPLE ID. : 63225G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 62.90 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	1.3E 00	CE -144
CR - 51	-------	-------	-------	2.6E 00	CR - 51
RA -226	3.4E 00	4.8E-01	14	-------	RA -226
AG -110M	-------	-------	-------	2.5E-01	AG -110M
TE -129M	-------	-------	-------	9.9E 00	TE -129M
MO - 99	-------	-------	-------	1.4E 01	MO - 99
ZR - 95	-------	-------	-------	4.6E-01	ZR - 95
NB - 95	5.2E-01	2.5E-01	47	-------	NB - 95
CS -134	-------	-------	-------	3.2E-01	CS -134
CO - 58	-------	-------	-------	2.6E-01	CO - 58
MN - 54	-------	-------	-------	2.3E-01	MN - 54
TH -232	1.3E 00	5.4E-01	43	-------	TH -232
FE - 59	-------	-------	-------	4.7E-01	FE - 59
CS -136	-------	-------	-------	4.7E-01	CS -136
ZN - 65	-------	-------	-------	5.9E-01	ZN - 65
CO - 60	-------	-------	-------	3.6E-01	CO - 60
K - 40	1.3E 01	2.8E 00	21	-------	K - 40
BA -140	-------	-------	-------	2.3E 00	BA -140
LA -140	-------	-------	-------	4.5E-01	LA -140
BE - 7	-------	-------	-------	2.8E 00	BE - 7
SB -125	-------	-------	-------	6.2E-01	SB -125
CE -141	-------	-------	-------	4.1E-01	CE -141
RU -103	-------	-------	-------	3.8E-01	RU -103
CO - 57	-------	-------	-------	1.5E-01	CO - 57
NP -239	-------	-------	-------	1.2E 02	NP -239 ***
I -131	-------	-------	-------	1.0E 00	I -131
RU -106	-------	-------	-------	1.7E 00	RU -106
CS -137	3.9E-01	1.6E-01	41	-------	CS -137

*** - ISOTOPE NOT DECAY-CORRECTED

COMMENT : ASH

Signature: David Kan

MSD 001015

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
1/26/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT. DATE RECEIVED : 1-18-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 12- 1-81
DATE STOPPED SAMPLING: 12-31-81
DATE OF ANALYSIS : 1-21-82 800 EST
RMC SAMPLE ID. : 66693G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 82.70 GRAMS

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	--------	--------	--------	1.4E 00	CE -144
CR - 51	--------	--------	--------	2.7E 00	CR - 51
RA -226	5.1E 00	5.1E-01	10	--------	RA -226
AG -110M	--------	--------	--------	2.3E-01	AG -110M
TE -129M	--------	--------	--------	1.0E 01	TE -129M
MO - 99	--------	--------	--------	5.2E 01	MO - 99
ZR - 95	--------	--------	--------	4.6E-01	ZR - 95
NB - 95	--------	--------	--------	3.9E-01	NB - 95
CS -134	--------	--------	--------	4.2E-01	CS -134
CO - 58	--------	--------	--------	2.6E-01	CO - 58
MN - 54	--------	--------	--------	2.3E-01	MN - 54
TH -232	1.7E 00	4.5E-01	26	--------	TH -232
FE - 59	--------	--------	--------	4.8E-01	FE - 59
CS -136	--------	--------	--------	5.9E-01	CS -136
ZN - 65	--------	--------	--------	8.1E-01	ZN - 65
CO - 60	2.4E-01	1.6E-01	66	--------	CO - 60
K - 40	1.1E 01	2.3E 00	21	--------	K - 40
BA -140	--------	--------	--------	2.7E 00	BA -140
LA -140	--------	--------	--------	6.3E-01	LA -140
BE - 7	4.2E 00	1.9E 00	46	--------	BE - 7
SB -125	--------	--------	--------	5.8E-01	SB -125
CE -141	--------	--------	--------	5.0E-01	CE -141
RU -103	--------	--------	--------	2.6E-01	RU -103
CO - 57	--------	--------	--------	1.8E-01	CO - 57
I -131	--------	--------	--------	1.1E 00	I -131
RU -106	--------	--------	--------	2.0E 00	RU -106
CS -137	--------	--------	--------	2.4E-01	CS -137

COMMENT : ASH #3047

Signature: David Van

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Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
4/19/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147.
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-#3511 DATE RECEIVED : 2-17-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 2-11-82
DATE STOPPED SAMPLING: 2-11-82
DATE OF ANALYSIS : 2-23-82 848 EST
RMC SAMPLE ID. : 68033G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 131.20 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	7.3E-01	CE -144
CR - 51	-------	-------	-------	1.5E 00	CR - 51
RA -226	2.5E 00	2.7E-01	10	-------	RA -226
AG -110M	-------	-------	-------	1.4E-01	AG -110M
TE -129M	-------	-------	-------	5.9E 00	TE -129M
ZR - 95	-------	-------	-------	2.5E-01	ZR - 95
NB - 95	-------	-------	-------	2.3E-01	NB - 95
CS -134	-------	-------	-------	1.6E-01	CS -134
CO - 58	-------	-------	-------	1.3E-01	CO - 58
MN - 54	-------	-------	-------	1.3E-01	MN - 54
TH -232	7.6E-01	3.1E-01	41	-------	TH -232
FE - 59	-------	-------	-------	2.9E-01	FE - 59
CS -136	-------	-------	-------	3.9E-01	CS -136
ZN - 65	-------	-------	-------	3.3E-01	ZN - 65
CO - 60	2.1E-01	1.0E-01	49	-------	CO - 60
K - 40	9.2E 00	1.5E 00	16	-------	K - 40
BA -140	-------	-------	-------	1.7E 00	BA -140
LA -140	-------	-------	-------	4.6E-01	LA -140
BE - 7	-------	-------	-------	1.7E 00	BE - 7
SB -125	-------	-------	-------	3.4E-01	SB -125
CE -141	-------	-------	-------	2.7E-01	CE -141
RU -103	-------	-------	-------	1.5E-01	RU -103
CO - 57	-------	-------	-------	9.2E-02	CO - 57
I -131	-------	-------	-------	8.2E-01	I -131
RU -106	-------	-------	-------	1.1E 00	RU -106
CS -137	1.5E-01	8.9E-02	61	-------	CS -137

COMMENT : BISSELL POINT ASH

Signature: J.W. Kopcha

MSD 001017

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 4/27/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4882 DATE RECEIVED : 4-15-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 3- 1-82
DATE STOPPED SAMPLING: 3-31-82
DATE OF ANALYSIS : 4-23-82 620 EST
RMC SAMPLE ID. : 71369G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 85.30 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	1.1E 00	CE -144
CR - 51	=======	=======	=======	1.9E 00	CR - 51
RA -226	3.0E 00	3.6E-01	11	=======	RA -226
AG -110M	=======	=======	=======	1.2E-01	AG -110M
TE -129M	=======	=======	=======	5.9E 00	TE -129M
ZR - 95	=======	=======	=======	3.3E-01	ZR - 95
NB - 95	=======	=======	=======	2.5E-01	NB - 95
CS -134	=======	=======	=======	1.5E-01	CS -134
CO - 58	=======	=======	=======	1.5E-01	CO - 58
MN - 54	=======	=======	=======	1.3E-01	MN - 54
TH -232	1.2E 00	4.2E-01	35	=======	TH -232
FE - 59	=======	=======	=======	3.6E-01	FE - 59
CS -136	=======	=======	=======	4.3E-01	CS -136
ZN - 65	=======	=======	=======	3.0E-01	ZN - 65
CO - 60	2.7E-01	1.4E-01	52	=======	CO - 60
K - 40	1.3E 01	2.2E 00	17	=======	K - 40
BA -140	=======	=======	=======	1.7E 00	BA -140
LA -140	=======	=======	=======	4.0E-01	LA -140
BE - 7	5.6E 00	1.6E 00	27	=======	BE - 7
SB -125	=======	=======	=======	3.7E-01	SB -125
CE -141	=======	=======	=======	3.6E-01	CE -141
RU -103	=======	=======	=======	1.0E-01	RU -103
CO - 57	=======	=======	=======	1.3E-01	CO - 57
I -131	=======	=======	=======	8.9E-01	I -131
RU -106	=======	=======	=======	1.1E 00	RU -106
CS -137	2.6E-01	1.0E-01	39	=======	CS -137
CS -137	2.6E-01	1.0E-01	39	=======	CS -137

COMMENT :

Signature: Roger B. Hall

MSD 001018

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
5/17/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-#4104 DATE RECEIVED : 3-16-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2- 1-82
DATE STOPPED SAMPLING: 2-28-82
DATE OF ANALYSIS : 5-17-82 944 EST
RMC SAMPLE ID. : 69786G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 91.40 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.1E 00	CE -144
CR - 51	========	========	========	8.1E 00	CR - 51
RA -226	2.7E 00	3.5E-01	13	========	RA -226
AG -110M	========	========	========	1.9E-01	AG -110M
TE -129M	========	========	========	2.2E 01	TE -129M
ZR - 95	========	========	========	6.6E-01	ZR - 95
NB - 95	========	========	========	9.6E-01	NB - 95
CS -134	========	========	========	2.5E-01	CS -134
CO - 58	========	========	========	3.2E-01	CO - 58
MN - 54	========	========	========	1.8E-01	MN - 54
TH -232	9.4E-01	4.4E-01	46	========	TH -232
FE - 59	========	========	========	9.3E-01	FE - 59
CS -136	========	========	========	9.8E 00	CS -136
ZN - 65	========	========	========	5.4E-01	ZN - 65
CO - 60	2.4E-01	1.4E-01	58	========	CO - 60
K - 40	1.2E 01	2.4E 00	19	========	K - 40
BA -140	========	========	========	4.3E 01	BA -140
LA -140	========	========	========	9.9E 00	LA -140
BE - 7	========	========	========	5.3E 00	BE - 7
SB -125	========	========	========	4.5E-01	SB -125
CE -141	========	========	========	1.0E 00	CE -141
RU -103	========	========	========	5.5E-01	RU -103
CO - 57	========	========	========	1.3E-01	CO - 57
RU -106	========	========	========	1.6E 00	RU -106
CS -137	========	========	========	2.0E-01	CS -137

COMMENT : BISSELL POINT

Signature: Bryan B. Gill

MSD 001019

Radiation Management Corporation

LABORATORY REPORT

SAR 6/22/82

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
6/ 4/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Reins

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-3636 DATE RECEIVED : 5-18-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 4- 1-82 April
DATE STOPPED SAMPLING: 4-30-82
DATE OF ANALYSIS : 6- 3-82 956 EST
RMC SAMPLE ID. : 73447G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 101.70 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	1.0E 00	CE -144
CR - 51	=======	=======	=======	2.1E 00	CR - 51
RA -226	3.4E 00	3.4E-01	10	=======	RA -226
AG -110M	=======	=======	=======	1.3E-01	AG -110M
TE -129M	=======	=======	=======	7.4E 00	TE -129M
ZR - 95	=======	=======	=======	3.1E-01	ZR - 95
NB - 95	=======	=======	=======	3.1E-01	NB - 95
CS -134	=======	=======	=======	1.8E-01	CS -134
CO - 58	=======	=======	=======	1.4E-01	CO - 58
MN - 54	=======	=======	=======	1.4E-01	MN - 54
TH -232	1.4E 00	3.4E-01	24	=======	TH -232
FE - 59	=======	=======	=======	3.5E-01	FE - 59
CS -136	=======	=======	=======	7.0E-01	CS -136
ZN - 65	=======	=======	=======	3.6E-01	ZN - 65
CO - 60	4.8E-01	1.4E-01	29	=======	CO - 60
K - 40	1.1E 01	2.0E 00	19	=======	K - 40
BA -140	=======	=======	=======	3.3E 00	BA -140
LA -140	=======	=======	=======	8.3E-01	LA -140
BE - 7	4.6E 00	1.4E 00	29	=======	BE - 7
SB -125	=======	=======	=======	3.4E-01	SB -125
CE -141	=======	=======	=======	4.6E-01	CE -141
RU -103	=======	=======	=======	2.0E-01	RU -103
CO - 57	=======	=======	=======	1.2E-01	CO - 57
I -131	=======	=======	=======	2.3E 00	I -131
RU -106	=======	=======	=======	7.5E-01	RU -106
CS -137	=======	=======	=======	1.5E-01	CS -137

COMMENT :

Signature: Roger B. Gill

MSD 001020

Radiation Management Corporation

LABORATORY REPORT

1508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
7/ 7/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-6135 DATE RECEIVED : 6-18-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 5- 1-82
DATE STOPPED SAMPLING: 5-31-82
DATE OF ANALYSIS : 7- 2-82 625 EST
RMC SAMPLE ID. : 75170GB5
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 83.80 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	********	********	********	8.4E-01	CE -144
CR - 51	********	********	********	2.5E 00	CR - 51
RA -226	2.8E 00	3.8E-01	13	********	RA -226
AG -110M	********	********	********	1.8E-01	AG -110M
TE -129M	********	********	********	9.2E 00	TE -129M
ZR - 95	********	********	********	3.2E-01	ZR - 95
NB - 95	********	********	********	3.5E-01	NB - 95
CS -134	********	********	********	1.8E-01	CS -134
CO - 58	********	********	********	2.1E-01	CO - 58
MN - 54	********	********	********	1.6E-01	MN - 54
TH -232	1.3E 00	4.1E-01	31	********	TH -232
FE - 59	********	********	********	3.5E-01	FE - 59
CS -136	********	********	********	7.1E-01	CS -136
ZN - 65	********	********	********	4.5E-01	ZN - 65
CO - 60	********	********	********	2.6E-01	CO - 60
K - 40	********	********	********	5.3E 00	K - 40
BA -140	********	********	********	3.6E 00	BA -140
LA -140	********	********	********	9.0E-01	LA -140
BE - 7	4.5E 00	1.9E 00	40	********	BE - 7
SB -125	********	********	********	4.0E-01	SB -125
CE -141	********	********	********	3.7E-01	CE -141
RU -103	********	********	********	2.0E-01	RU -103
CO - 57	********	********	********	1.0E-01	CO - 57
I -131	********	********	********	2.1E 00	I -131
RU -106	********	********	********	1.3E 00	RU -106
CS -137	********	********	********	2.3E-01	CS -137

COMMENT :

Signature: Roger B. Gill

MSD 001021

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/25/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-741 DATE RECEIVED : 8-13-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 6- 1-82
DATE STOPPED SAMPLING: 6-30-82
DATE OF ANALYSIS : 8-23-82 1620 EST
RMC SAMPLE ID. : 78526G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 160.00 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	6.9E-01	CE -144
CR - 51	=======	=======	=======	4.1E 00	CR - 51
RA -226	2.0E 00	3.5E-01	18	=======	RA -226
AG -110M	=======	=======	=======	1.8E-01	AG -110M
TE -129M	=======	=======	=======	1.3E 01	TE -129M
ZR - 95	=======	=======	=======	3.4E-01	ZR - 95
NB - 95	=======	=======	=======	4.7E-01	NB - 95
CS -134	=======	=======	=======	2.5E-01	CS -134
CO - 58	=======	=======	=======	2.4E-01	CO - 58
MN - 54	=======	=======	=======	1.3E-01	MN - 54
TH -232	9.5E-01	3.4E-01	35	=======	TH -232
FE - 59	=======	=======	=======	5.8E-01	FE - 59
CS -136	=======	=======	=======	2.2E 00	CS -136
ZN - 65	=======	=======	=======	4.5E-01	ZN - 65
CO - 60	3.0E-01	1.4E-01	46	=======	CO - 60
K - 40	1.2E 01	2.0E 00	17	=======	K - 40
BA -140	=======	=======	=======	1.1E 01	BA -140
LA -140	=======	=======	=======	2.8E 00	LA -140
BE - 7	3.7E 00	1.7E 00	45	=======	BE - 7
SB -125	=======	=======	=======	3.6E-01	SB -125
CE -141	=======	=======	=======	5.9E-01	CE -141
RU -103	=======	=======	=======	3.0E-01	RU -103
CO - 57	=======	=======	=======	1.1E-01	CO - 57
I -131	=======	=======	=======	1.4E 01	I -131
RU -106	=======	=======	=======	1.3E 00	RU -106
CS -137	=======	=======	=======	1.9E-01	CS -137

COMMENT : BISSELL POINT ASH

Signature: Roger B. Gill

MSD 001022

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
8/25/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-742 DATE RECEIVED : 8-13-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 7- 1-82
DATE STOPPED SAMPLING: 7-31-82
DATE OF ANALYSIS : 8-24-82 814 EST
RMC SAMPLE ID. : 78527G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 160.00 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.0E 00	CE -144
CR - 51	========	========	========	2.4E 00	CR - 51
RA -226	4.3E 00	5.4E-01	12	========	RA -226
AG -110M	========	========	========	2.2E-01	AG -110M
TE -129M	========	========	========	8.4E 00	TE -129M
ZR - 95	========	========	========	3.7E-01	ZR - 95
NB - 95	========	========	========	3.1E-01	NB - 95
CS -134	========	========	========	3.0E-01	CS -134
CO - 58	========	========	========	1.9E-01	CO - 58
MN - 54	========	========	========	1.9E-01	MN - 54
TH -232	1.8E 00	4.8E-01	25	========	TH -232
FE - 59	========	========	========	4.1E-01	FE - 59
CS -136	========	========	========	5.6E-01	CS -136
ZN - 65	========	========	========	5.2E-01	ZN - 65
CO - 60	1.6E-01	1.2E-01	72	========	CO - 60
K - 40	1.7E 01	2.4E 00	14	========	K - 40
BA -140	========	========	========	2.4E 00	BA -140
LA -140	========	========	========	6.0E-01	LA -140
BE - 7	6.2E 00	1.4E 00	22	========	BE - 7
SB -125	========	========	========	4.8E-01	SB -125
CE -141	========	========	========	3.7E-01	CE -141
RU -103	========	========	========	2.2E-01	RU -103
CO - 57	========	========	========	1.3E-01	CO - 57
I -131	========	========	========	1.3E 00	I -131
RU -106	========	========	========	1.3E 00	RU -106
CS -137	3.6E-01	1.4E-01	40	========	CS -137

COMMENT : BISSELL POINT ASR

Signature: Roger D. Gill

MSD 001023

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
11/10/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-1684 DATE RECEIVED : 10-22-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 9- 1-82
DATE STOPPED SAMPLING: 9-30-82
DATE OF ANALYSIS : 11- 2-82 1546 EST
RMC SAMPLE ID. : 83050685
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 71.10 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.1E 00	CE -144
CR - 51	========	========	========	3.4E 00	CR - 51
RA -226	2.8E 00	4.1E-01	14	========	RA -226
AG -110M	========	========	========	2.0E-01	AG -110M
TE -129M	========	========	========	1.1E 01	TE -129M
ZR - 95	========	========	========	4.8E-01	ZR - 95
NB - 95	========	========	========	4.3E-01	NB - 95
CS -134	========	========	========	1.8E-01	CS -134
CD - 58	========	========	========	2.5E-01	CD - 58
MN - 54	========	========	========	2.0E-01	MN - 54
TH -232	1.2E 00	4.9E-01	41	========	TH -232
FE - 59	========	========	========	6.3E-01	FE - 59
CS -136	========	========	========	1.1E 00	CS -136
ZN - 65	========	========	========	3.6E-01	ZN - 65
CO - 60	========	========	========	2.6E-01	CO - 60
K - 40	1.3E 01	2.7E 00	20	========	K - 40
BA -140	========	========	========	4.4E 00	BA -140
LA -140	========	========	========	1.1E 00	LA -140
BE - 7	========	========	========	3.8E 00	BE - 7
SB -125	========	========	========	5.2E-01	SB -125
CE -141	========	========	========	5.4E-01	CE -141
RU -103	========	========	========	2.9E-01	RU -103
CO - 57	========	========	========	1.5E-01	CO - 57
I -131	========	========	========	3.0E 00	I -131
RU -106	========	========	========	1.4E 00	RU -106
CS -137	========	========	========	2.1E-01	CS -137

COMMENT : ASH

Signature: [illegible]

MSD 001024

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
10/15/82

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Mains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-1441 DATE RECEIVED : 9-27-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 8- 1-82
DATE STOPPED SAMPLING: 8-31-82
DATE OF ANALYSIS : 9-30-82 1912 EST
RMC SAMPLE ID. : 81176685
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 80.20 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.2E 00	CE -144
CR - 51	========	========	========	2.8E 00	CR - 51
RA -226	2.2E 00	4.5E-01	20	========	RA -226
AG -110M	========	========	========	1.8E-01	AG -110M
TE -129M	========	========	========	1.1E 01	TE -129M
ZR - 95	========	========	========	4.2E-01	ZR - 95
NB - 95	========	========	========	3.6E-01	NB - 95
CS -134	========	========	========	2.0E-01	CS -134
CO - 58	========	========	========	2.4E-01	CO - 58
MN - 54	========	========	========	1.9E-01	MN - 54
TH -232	1.0E 00	4.8E-01	28	========	TH -232
FE - 59	========	========	========	5.8E-01	FE - 59
CS -136	========	========	========	6.2E-01	CS -136
ZN - 65	========	========	========	4.6E-01	ZN - 65
CO - 60	========	========	========	2.6E-01	CO - 60
K - 40	1.4E 01	2.8E 00	19	========	K - 40
BA -140	========	========	========	2.9E 00	BA -140
LA -140	========	========	========	1.0E 00	LA -140
BE - 7	========	========	========	2.8E 00	BE - 7
SB -125	========	========	========	5.0E-01	SB -125
CE -141	========	========	========	5.1E-01	CE -141
RU -103	========	========	========	2.4E-01	RU -103
CO - 57	========	========	========	1.5E-01	CO - 57
I -131	========	========	========	2.2E 00	I -131
RU -106	========	========	========	1.9E 00	RU -106
CS -137	========	========	========	2.0E-01	CS -137

COMMENT :

Signature: [illegible]

MSD 001025

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
1/12/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Kains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-3109 DATE RECEIVED : 1- 5-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 11- 1-82
DATE STOPPED SAMPLING: 11-30-82
DATE OF ANALYSIS : 1-11-83 1508 EST
RMC SAMPLE ID. : 91871G05
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 42.40 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	2.0E 00	CE -144
CR - 51	=======	=======	=======	5.6E 00	CR - 51
RA -226	2.9E 00	5.8E-01	18	=======	RA -226
AG -110M	=======	=======	=======	3.1E-01	AG -110M
TE -129M	=======	=======	=======	1.7E 01	TE -129M
ZR - 95	=======	=======	=======	6.6E-01	ZR - 95
NB - 95	=======	=======	=======	6.1E-01	NB - 95
CS -134	=======	=======	=======	3.4E-01	CS -134
CO - 58	=======	=======	=======	3.2E-01	CO - 58
MN - 54	=======	=======	=======	2.7E-01	MN - 54
TH -232	1.7E 00	6.0E-01	35	=======	TH -232
FE - 59	=======	=======	=======	1.1E 00	FE - 59
CS -136	=======	=======	=======	1.9E 00	CS -136
ZN - 65	=======	=======	=======	7.2E-01	ZN - 65
CO - 60	=======	=======	=======	3.6E-01	CO - 60
K - 40	1.8E 01	4.1E 00	23	=======	K - 40
BA -140	=======	=======	=======	8.5E 00	BA -140
LA -140	=======	=======	=======	3.1E 00	LA -140
BE - 7	4.5E 00	2.6E 00	58	=======	BE - 7
SB -125	=======	=======	=======	6.6E-01	SB -125
CE -141	=======	=======	=======	1.0E 00	CE -141
RU -103	=======	=======	=======	4.8E-01	RU -103
CO - 57	=======	=======	=======	2.3E-01	CO - 57
I -131	=======	=======	=======	9.2E 00	I -131
RU -106	=======	=======	=======	1.9E 00	RU -106
CS -137	=======	=======	=======	2.9E-01	CS -137

COMMENT : ASH

Signature: [signature]

MSD 001026

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
2/16/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147.
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-2312 DATE RECEIVED : 11-30-82
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 10- 1-82
DATE STOPPED SAMPLING: 10-31-82
DATE OF ANALYSIS : 12-22-82 1042 EST
RMC SAMPLE ID. : 85060GBS
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 36.20 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	-------	-------	-------	2.2E 00	CE -144
CR - 51	-------	-------	-------	9.6E 00	CR - 51
RA -226	4.2E 00	9.4E-01	22	-------	RA -226
AG -110M	-------	-------	-------	3.7E-01	AG -110M
TE -129M	-------	-------	-------	3.4E 01	TE -129M
ZR - 95	-------	-------	-------	1.1E 00	ZR - 95
NB - 95	-------	-------	-------	1.2E 00	NB - 95
CS -134	-------	-------	-------	3.2E-01	CS -134
CO - 58	-------	-------	-------	5.5E-01	CO - 58
MN - 54	-------	-------	-------	5.6E-01	MN - 54
TH -232	1.5E 00	8.5E-01	55	-------	TH -232
FE - 59	-------	-------	-------	1.5E 00	FE - 59
CS -136	-------	-------	-------	4.6E 00	CS -136
ZN - 65	-------	-------	-------	7.6E-01	ZN - 65
CO - 60	-------	-------	-------	4.7E-01	CO - 60
K - 40	1.6E 01	7.1E 00	45	-------	K - 40
BA -140	-------	-------	-------	2.3E 01	BA -140
LA -140	-------	-------	-------	6.7E 00	LA -140
BE - 7	-------	-------	-------	5.8E 00	BE - 7
SB -125	-------	-------	-------	8.9E-01	SB -125
CE -141	-------	-------	-------	1.4E 00	CE -141
RU -103	-------	-------	-------	7.8E-01	RU -103
CO - 57	-------	-------	-------	2.8E-01	CO - 57
I -131	-------	-------	-------	2.9E 01	I -131
RU -106	-------	-------	-------	3.3E 00	RU -106
CS -137	-------	-------	-------	3.9E-01	CS -137

COMMENT : ASH

Signature: David Vance

MSD 001027

Radiation Management Corporation

LABORATORY REPORT

5508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Reins

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4190 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2-23-81
DATE STOPPED SAMPLING: 1- 7-83
DATE OF ANALYSIS : 3-24-83 1512 LST
RMC SAMPLE ID. : 94735G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 39.10 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	2.9E 00	CE -144
CR - 51	========	========	========	6.7E 00	CR - 51
RA -226	1.9E 01	1.9E 00	10	========	RA -226
AG -110M	========	========	========	4.2E-01	AG -110M
TE -129M	========	========	========	2.3E 01	TE -129M
ZR - 95	========	========	========	8.9E-01	ZR - 95
NB - 95	========	========	========	1.0E 00	NB - 95
CS -134	========	========	========	6.5E-01	CS -134
CO - 58	========	========	========	4.8E-01	CO - 58
MN - 54	========	========	========	4.3E-01	MN - 54
TH -232	5.1E 00	1.1E 00	20	========	TH -232
FE - 59	========	========	========	1.2E 00	FE - 59
CS -136	========	========	========	1.7E 00	CS -136
ZN - 65	========	========	========	1.8E 00	ZN - 65
CO - 60	========	========	========	4.6E-01	CO - 60
K - 40	1.1E 01	3.7E 00	34	========	K - 40
BA -140	========	========	========	8.9E 00	BA -140
LA -140	========	========	========	2.3E 00	LA -140
BE - 7	========	========	========	5.0E 00	BE - 7
SB -125	========	========	========	1.2E 00	SB -125
CE -141	========	========	========	1.2E 00	CE -141
RU -103	========	========	========	6.2E-01	RU -103
CO - 57	========	========	========	3.5E-01	CO - 57
I -131	========	========	========	5.0E 00	I -131
RU -106	========	========	========	3.6E 00	RU -106
CS -137	========	========	========	5.2E-01	CS -137

COMMENT : MALLINCKRODT-WEST

Signature: Dave Vann

MSD 001028

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Kains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4189 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2-23-81
DATE STOPPED SAMPLING: 1- 7-83
DATE OF ANALYSIS : 3-24-83 1339 EST
RMC SAMPLE ID. : 94734685
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 41.40 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	3.9E 00	CE -144
CR - 51	========	========	========	8.4E 00	CR - 51
RA -226	2.2E 01	2.2E 00	10	========	RA -226
AG -110M	========	========	========	5.3E-01	AG -110M
TE -129M	========	========	========	3.1E 01	TE -129M
ZR - 95	========	========	========	1.2E 00	ZR - 95
NB - 95	========	========	========	1.2E 00	NB - 95
CS -134	========	========	========	9.0E-01	CS -134
CO - 58	========	========	========	5.9E-01	CO - 58
MN - 54	========	========	========	6.4E-01	MN - 54
TH -232	5.4E 00	1.3E 00	24	========	TH -232
FE - 59	========	========	========	1.5E 00	FE - 59
CS -136	========	========	========	2.5E 00	CS -136
ZN - 65	========	========	========	6.1E 00	ZN - 65
CO - 60	========	========	========	5.8E-01	CO - 60
K - 40	7.4E 00	2.6E 00	34	========	K - 40
BA -140	========	========	========	1.1E 01	BA -140
LA -140	========	========	========	2.9E 00	LA -140
BE - 7	========	========	========	6.4E 00	BE - 7
SB -125	========	========	========	1.7E 00	SB -125
CE -141	========	========	========	1.6E 00	CE -141
RU -103	========	========	========	8.1E-01	RU -103
CO - 57	========	========	========	4.8E-01	CO - 57
I -131	========	========	========	6.3E 00	I -131
RU -106	========	========	========	4.9E 00	RU -106
CS -137	========	========	========	5.7E-01	CS -137

COMMENT : MALLINCKRODT-EAST

Signature: David Kan

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 3/30/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-3541 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 12- 1-82
DATE STOPPED SAMPLING: 12-31-82
DATE OF ANALYSIS : 3-24-83 1336 EST
RMC SAMPLE ID. : 94731G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 41.50 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	=======	=======	=======	2.0E 00	CE -144
CR - 51	=======	=======	=======	1.8E 01	CR - 51
RA -226	4.8E 00	6.8E-01	14	=======	RA -226
AG -110M	=======	=======	=======	4.3E-01	AG -110M
TE -129M	=======	=======	=======	5.5E 01	TE -129M
ZR - 95	=======	=======	=======	1.5E 00	ZR - 95
NB - 95	=======	=======	=======	1.8E 00	NB - 95
CS -134	=======	=======	=======	4.7E-01	CS -134
CO - 58	=======	=======	=======	6.1E-01	CO - 58
MN - 54	=======	=======	=======	3.8E-01	MN - 54
TH -232	2.7E 00	8.3E-01	30	=======	TH -232
FE - 59	=======	=======	=======	2.0E 00	FE - 59
CS -136	=======	=======	=======	2.3E 01	CS -136
ZN - 65	=======	=======	=======	8.6E-01	ZN - 65
CO - 60	=======	=======	=======	5.9E-01	CO - 60
K - 40	1.8E 01	4.0E 00	22	=======	K - 40
BA -140	=======	=======	=======	1.2E 02	BA -140
LA -140	=======	=======	=======	2.8E 01	LA -140
BE - 7	=======	=======	=======	7.1E 00	BE - 7
SB -125	=======	=======	=======	8.2E-01	SB -125
CE -141	=======	=======	=======	2.4E 00	CE -141
RU -103	=======	=======	=======	1.1E 00	RU -103
CO - 57	=======	=======	=======	2.7E-01	CO - 57
RU -106	=======	=======	=======	2.9E 00	RU -106
CS -137	=======	=======	=======	4.1E-01	CS -137

COMMENT : D.P. STP. ASH

Signature: David Vann

MSD 001030

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4335 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 1- 1-83
DATE STOPPED SAMPLING: 1-31-83
DATE OF ANALYSIS : 3-24-83 1337 EST
RMC SAMPLE ID. : 94732665
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 35.60 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	1.8E 00	CE -144
CR - 51	========	========	========	9.5E 00	CR - 51
RA -226	7.8E 00	8.5E-01	10	========	RA -226
AG -110M	========	========	========	3.6E-01	AG -110M
TE -129M	========	========	========	3.0E 01	TE -129M
ZR - 95	========	========	========	9.0E-01	ZR - 95
NB - 95	========	========	========	1.3E 00	NB - 95
CS -134	========	========	========	5.6E-01	CS -134
CO - 58	========	========	========	9.7E-01	CO - 58
MN - 54	========	========	========	4.8E-01	MN - 54
TH -232	2.0E 00	8.7E-01	44	========	TH -232
FE - 59	========	========	========	1.8E 00	FE - 59
CS -136	========	========	========	5.3E 00	CS -136
ZN - 65	========	========	========	1.0E 00	ZN - 65
CO - 60	========	========	========	4.9E-01	CO - 60
K - 40	1.5E 01	4.6E 00	31	========	K - 40
BA -140	========	========	========	2.3E 01	BA -140
LA -140	========	========	========	7.7E 00	LA -140
BE - 7	========	========	========	6.5E 00	BE - 7
SB -125	========	========	========	9.1E-01	SB -125
CE -141	========	========	========	1.5E 00	CE -141
RU -103	========	========	========	7.9E-01	RU -103
CO - 57	========	========	========	2.2E-01	CO - 57
I -131	========	========	========	2.5E-01	I -131
RU -106	========	========	========	3.0E 00	RU -106
CS -137	========	========	========	4.0E-01	CS -137

COMMENT : D.P. STP. ASH

Signature: David Van

MSD 001031

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4336 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2- 1-83
DATE STOPPED SAMPLING: 2-28-83
DATE OF ANALYSIS : 3-24-83 1338 EST
RMC SAMPLE ID. : 94733505
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 35.00 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	3.0E 00	CE -144
CR - 51	========	========	========	6.0E 00	CR - 51
RA -226	5.6E 00	8.2E-01	14	========	RA -226
AG -110M	========	========	========	4.4E-01	AG -110M
TE -129M	========	========	========	2.1E 01	TE -129M
ZR - 95	========	========	========	9.0E-01	ZR - 95
NB - 95	========	========	========	7.5E-01	NB - 95
CS -134	========	========	========	8.9E-01	CS -134
CO - 58	========	========	========	5.2E-01	CO - 58
MN - 54	========	========	========	4.0E-01	MN - 54
TH -232	2.3E 00	8.6E-01	37	========	TH -232
FE - 59	========	========	========	1.0E 00	FE - 59
CS -136	========	========	========	1.5E 00	CS -136
ZN - 65	========	========	========	1.1E 00	ZN - 65
CO - 60	========	========	========	4.3E-01	CO - 60
K - 40	1.5E 01	3.7E 00	25	========	K - 40
BA -140	========	========	========	6.5E 00	BA -140
LA -140	========	========	========	1.4E 00	LA -140
BE - 7	========	========	========	4.9E 00	BE - 7
SB -125	========	========	========	1.1E 00	SB -125
CE -141	========	========	========	1.0E 00	CE -141
RU -103	========	========	========	5.0E-01	RU -103
CO - 57	========	========	========	3.0E-01	CO - 57
I -131	========	========	========	1.3E 00	I -131
RU -106	========	========	========	2.3E 00	RU -106
CS -137	========	========	========	4.7E-01	CS -137

COMMENT : S.P. STP. ASH

Signature: [signature]

MSD 001032

Radiation Management Corporation

LABORATORY REPORT

3506 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4159 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2-23-81
DATE STOPPED SAMPLING: 1- 7-83
DATE OF ANALYSIS : 3-24-83 1339 EST
RMC SAMPLE ID. : 94734G85
PROCEDURE DESCRIPTION:
GEL1 GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 41.40 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	3.9E 00	CE -144
CR - 51	========	========	========	8.4E 00	CR - 51
RA -226	2.2E 01	2.2E 00	10	========	RA -226
AG -110M	========	========	========	5.3E-01	AG -110M
TE -129M	========	========	========	3.1E 01	TE -129M
ZR - 95	========	========	========	1.2E 00	ZR - 95
NB - 95	========	========	========	1.2E 00	NB - 95
CS -134	========	========	========	9.8E-01	CS -134
CO - 58	========	========	========	5.9E-01	CO - 58
MN - 54	========	========	========	6.4E-01	MN - 54
TH -232	5.4E 00	1.3E 00	24	========	TH -232
FE - 59	========	========	========	1.5E 00	FE - 59
CS -136	========	========	========	2.5E 00	CS -136
ZN - 65	========	========	========	2.1E 00	ZN - 65
CO - 60	========	========	========	5.8E-01	CO - 60
K - 40	7.4E 00	2.6E 00	34	========	K - 40
BA -140	========	========	========	1.1E 01	BA -140
LA -140	========	========	========	2.9E 00	LA -140
BE - 7	========	========	========	6.4E 00	BE - 7
SB -125	========	========	========	1.7E 00	SB -125
CE -141	========	========	========	1.8E 00	CE -141
RU -103	========	========	========	1.1E-01	RU -103
CO - 57	========	========	========	4.8E-01	CO - 57
I -131	========	========	========	9.3E 00	I -131
RU -106	========	========	========	5.9E 00	RU -106
CS -137	========	========	========	5.7E-01	CS -137

COMMENT : MALLINCKRODT-EAST

Signature: David Van

MSD 001033

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
3/29/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-4190 DATE RECEIVED : 3- 9-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID COMPOSITE
DATE STARTED SAMPLING: 2-23-81
DATE STOPPED SAMPLING: 1- 7-83
DATE OF ANALYSIS : 3-24-83 1512 EST
RMC SAMPLE ID. : 94735G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 39.10 GRAMS DRY

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	2.9E 00	CE -144
CR -51	========	========	========	6.7E 00	CR -51
RA -226	1.9E 01	1.9E 00	10	========	RA -226
AG -110M	========	========	========	4.2E -01	AG -110M
TE -129M	========	========	========	2.3E -01	TE -129M
ZR -95	========	========	========	6.9E -01	ZR -95
NB -95	========	========	========	1.0E 00	NB -95
CS -134	========	========	========	6.5E -01	CS -134
CD -109	========	========	========	1.0E 01	CD -109
EU -152	========	========	========	4.3E -01	EU -152
TH -232	5.1E 00	1.1E 00	20	========	TH -232
FE -59	========	========	========	1.2E 00	FE -59
CS -136	========	========	========	1.7E 00	CS -136
ZN -65	========	========	========	3.3E 00	ZN -65
CO -60	========	========	========	4.6E -01	CO -60
K -40	1.1E 01	3.7E 00	34	========	K -40
BA -140	========	========	========	8.5E 00	BA -140
LA -140	========	========	========	5.5E 00	LA -140
BE -7	========	========	========	5.0E 00	BE -7
SB -125	========	========	========	1.2E 00	SB -125
CE -141	========	========	========	1.2E 00	CE -141
RU -103	========	========	========	9.1E -01	RU -103
CO -57	========	========	========	3.5E -01	CO -57
I -131	========	========	========	5.0E 00	I -131
RU -106	========	========	========	9.6E 00	RU -106
CS -137	========	========	========	5.2E -01	CS -137

COMMENT : MALLINCKRODT-WEST

Signature: David Vance

MSD 001034

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report:
5/ 6/83

Metropolitan St. Louis Sewer District
10 E. Grand Avenue
St. Louis, MO 63147
Attn: Mr. Bernard Rains

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-5309 DATE RECEIVED : 4-27-83
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 3- 1-83
DATE STOPPED SAMPLING: 3-31-83
DATE OF ANALYSIS : 5- 2-83 815 EST
RMC SAMPLE ID. : 96671G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM ASH

ALIQUOT SIZE : 68.60 GRAMS ASH

ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
CE -144	========	========	========	8.9E-01	CE -144
CR - 51	========	========	========	2.6E 00	CR - 51
RA -226	2.9E 00	4.3E-01	14	========	RA -226
AG -110M	========	========	========	2.2E-01	AG -110M
TE -129M	========	========	========	1.1E 01	TE -129M
ZR - 95	========	========	========	4.8E-01	ZR - 95
NB - 95	========	========	========	4.1E-01	NB - 95
CS -134	========	========	========	2.8E-01	CS -134
CO - 58	========	========	========	2.1E-01	CO - 58
MN - 54	========	========	========	2.2E-01	MN - 54
TH -232	1.4E 00	4.8E-01	35	========	TH -232
FE - 59	========	========	========	5.8E-01	FE - 59
CS -136	========	========	========	8.5E-01	CS -136
ZN - 65	========	========	========	6.8E-01	ZN - 65
CO - 60	========	========	========	2.0E-01	CO - 60
K - 40	1.4E 01	3.0E 00	21	========	K - 40
BA -140	========	========	========	3.5E 00	BA -140
LA -140	========	========	========	1.2E 00	LA -140
BE - 7	========	========	========	2.3E 00	BE - 7
SB -125	========	========	========	4.3E-01	SB -125
CE -141	========	========	========	4.2E-01	CE -141
RU -103	========	========	========	2.9E-01	RU -103
CO - 57	========	========	========	1.1E-01	CO - 57
I -131	========	========	========	2.5E 00	I -131
RU -106	========	========	========	1.7E 00	RU -106
CS -137	========	========	========	2.2E-01	CS -137

COMMENT : ASH

Signature: David Van

MSD 001035

curie 3.7×10^{10} disintegrations/sec

millicurie 3.7×10^{7} disintegrations/sec

microcurie 3.7×10^{4} disintegrations/sec

picocurie 3.7×10^{-2} disintegrations/sec

0.005 microcurie contamination

Radiation Management Corporation

LABORATORY REPORT

3508 Market Street
Philadelphia, Pa. 19104
(215) 243-2950

Date of Report: 7/ 8/81

METROPOLITAN ST. LOUIS SEWER DISTRICT
10 E. GRAND AVE.
ST. LOUIS, MO 63147
ATTN: MR. BERNARD RAINS

Purchase Order # : LTR-10-13-80

CUSTOMER SAMPLE ID : SE-SLD-BISSELL PT.
SAMPLE DESCRIPTION : MISCELLANEOUS SOLID
DATE STARTED SAMPLING: 6- 7-81
DATE STOPPED SAMPLING: 6-11-81
DATE OF ANALYSIS : 6-30-81 935 EST
RMC SAMPLE ID. : 56470G85
PROCEDURE DESCRIPTION:
GELI GAMMA SPECTROSCOPY OF DRIED SOLID SAMPLES

REPORT UNITS : PICOCURIES/GRAM DRY

ALIQUOT SIZE : 78.70 GRAMS

	ISOTOPE	ACTIVITY	ERROR	%ERROR	LLD	ISOTOPE
Cerium	CE -144	4.1E 00	9.3E-01	22	-------	CE -144
Chromium	CR - 51	-------	-------	-------	2.8E 00	CR - 51
Radium	RA -226	2.8E 00	4.4E-01	15	-------	RA -226
Silver	AG -110M	-------	-------	-------	2.5E-01	AG -110M
Tellurium	TE -129M	-------	-------	-------	8.6E 00	TE -129M
Molybdenum	MO - 99	-------	-------	-------	1.6E 01	MO - 99
Zirconium	ZR - 95	2.4E 00	3.9E-01	16	-------	ZR - 95
Niobium	NB - 95	7.1E 00	7.1E-01	10	-------	NB - 95
Cesium	CS -134	-------	-------	-------	3.2E-01	CS -134
Cobalt	CO - 58	-------	-------	-------	2.1E-01	CO - 58
Manganese	MN - 54	-------	-------	-------	2.3E-01	MN - 54
Thorium	TH -232	-------	-------	-------	9.4E-01	TH -232
Iron	FE - 59	-------	-------	-------	5.1E-01	FE - 59
Cesium	CS -136	-------	-------	-------	3.0E-01	CS -136
Zinc	ZN - 65	-------	-------	-------	3.2E-01	ZN - 65
Cobalt	CO - 60	-------	-------	-------	2.7E-01	CO - 60
Potassium	K - 40	1.2E 01	2.5E 00	20	-------	K - 40
Barium	BA -140	-------	-------	-------	3.1E 00	BA -140
Lanthanum	LA -140	-------	-------	-------	5.3E-01	LA -140
Beryllium	BE - 7	7.3E 00	1.9E 00	26	-------	BE - 7
Antimony	SB -125	-------	-------	-------	6.7E-01	SB -125
Cerium	CE -141	4.7E-01	2.8E-01	60	-------	CE -141
Ruthenium	RU -103	7.2E-01	2.2E-01	30	-------	RU -103
Cobalt	CO - 57	-------	-------	-------	1.6E-01	CO - 57
Iodine	I -131	-------	-------	-------	1.0E 00	I -131
Ruthenium	RU -106	-------	-------	-------	2.5E 00	RU -106
Cesium	CS -137	3.0E-01	1.6E-01	53	-------	CS -137

39.8 total emission

COMMENT : ASH;COMPOSITE

~~picocurie~~ ~~dps/picocurie~~

$(39.8)(3.7\times10^{-2}) = 1.47\times10^{0}$ dps

$\frac{1.47\times10^{0}\text{ dps}}{3.7\times10^{4}\text{ dps/microcurie}} = 0.397\times10^{-4} = 3.97\times10^{-5}$ microcuries

Signature: David Vaughn

dscn. required ≥ 5.0×10^{-3} microcurie

BMR 5/10/81

MSD 001037

REPORT OF ANALYSIS

JULY 15, 1983

AR 7/28/83

TELEDYNE ISOTOPES
50 Van Buren Ave., Westwood, New Jersey 07675
Phone: 201-664-7070 Telex 134474

REPORT OF ANALYSIS

AUGUST 10, 1983

TELEDYNE ISOTOPES
50 Van Buren Ave., Westwood, New Jersey 07675
Phone: 201-664-7070 Telex 134474

REPORT OF ANALYSIS

SEPTEMBER 14, 1983

BAK 10/3/83

TELEDYNE ISOTOPES
50 Van Buren Ave., Westwood, New Jersey 07675
Phone: 201-664-7070 Telex 134474

ALBUQUERQUE LABORATORY

REPORT OF ANALYSIS

CUSTOMER: Metropolitan St. Louis Sewer District
ATTENTION: 10 East Grand Ave.
ADDRESS: St. Louis, MO 63147
CITY: Attn: Bernard A. Rains
S.O. NO.: E-2840

Radiochemical analyses of ash.
TYPE OF ANALYSIS

P-5331 WLO
CUSTOMER ORDER NUMBER

SAMPLES RECEIVED 9/2/83

Customer Identification	Date Collected	Type of Analysis	pCi/g	Total Wt. (g)
January Ash Comp. BPSTP		Ra-226	0.6±0.2	200
May Ash Comp. BPSTP		Ra-226	2.4±0.7	200

☐ REPORTED VIA TELEPHONE
☐ REPORTED VIA TWX

Eberline
A DIVISION OF Thermo Electron CORPORATION
P. O. BOX 3874 ALBUQUERQUE, NEW MEXICO 87190
PHONE (505) 345-3461 twx: 910-985-0678

APPROVED BY Chandrasekaran
Chandrasekaran, E.S. Manager

10/10/83
DATE