

H4 Sediment Analysis

NATIONAL IRRIGATION ADMINISTRATION
Systems Management Department
Soils and Water Laboratory Services
EDSA, Quezon City

DATE: August 2, 2001

SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
KEIYO CONSTRUCTION

NAME OF RIVER : AGOS RIVER

LAB. NO.	Date of Sample	Time of Sampling	Gage Height cm	Location of Sampling		Sediment mg/l
				Top	Bottom	
01-82	5/20/01	12:35 p.m.	88	x		0.2
01-83	5/20/01	12:35 p.m.	88		x	1.5
01-84	5/27/01	3:30 p.m.	89	x		2.0
01-99	5/27/01	3:30 p.m.	89		x	3.2
01-100	5/28/01	3:30 p.m.	88		x	6.5
01-101	5/29/01	3:15 p.m.	17		x	2.0
01-102	5/29/01	3:15 p.m.	17	x		1.6
01-103	5/31/01	12:30 p.m.	70	x		1.6
01-104	5/31/01	12:30 p.m.	70		x	1.6
01-105	6/8/01	11:15 a.m.	62	x		0.3
10-106	6/8/01	11:15 a.m.	62		x	1.8
01-107	6/9/01	3:10 p.m.	61		x	7.2
01-108	6/9/01	3:10 p.m.	61	x		5.3
01-109	6/11/01	11:00 a.m.	58	x		1.0
01-110	6/11/01	11:00 a.m.	58		x	2.1
01-115	6/18/01	12:00 p.m.	78	x		4.5
01-116	6/18/01	12:00 p.m.	78		x	3.9
01-118	6/21/01	3:40 p.m.	55	x		3.1
01-119	6/21/01	3:40 p.m.	55		x	2.2
01-120	6/22/01	1:00 p.m.	66	x		4.7
01-121	6/22/01	1:00 p.m.	66		x	3.6
01-134	6/28/01	10:20 a.m.	100	x		5.7
01-135	6/28/01	10:20 a.m.	100		x	5.8
01-136	6/29/01	9:00 a.m.	220		x	93.4
01-137	6/29/01	9:00 a.m.	220	x		48.1
01-138	7/3/01	10:40 a.m.	138		x	303.1
01-139	7/3/01	10:40 a.m.	138	x		268.0
01-140	7/4/01	12:25 p.m.	120	x		24.7
01-141	7/4/01	12:25 p.m.	120		x	19.4
01-142	7/5/01	3:35 p.m.	188	x		97.1
01-143	7/5/01	3:35 p.m.	188		x	1070.9
01-144	7/7/01	6:30 p.m.	140	x		9.7
01-145	7/7/01	6:30 p.m.	140		x	7.2

Noted:


ROSITA M. GREGORIO
Supvg. Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
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 Soils and Water Laboratory Services
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SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEIYO CONSTRUCTION

NAME OF RIVER : AGOS RIVER

LAB. NO.	Date of Sample	Time of Sampling	Gage Height	Location of Sampling		Sediment mg/l
			cm	Top	Bottom	
01-146	7/8/01	3:30 p.m.	124	x		3.3
01-147	7/8/01	3:30 p.m.	124		x	4.3
01-148	7/11/01	4:40 p.m.	107	x		4.3
01-149	7/11/01	4:40 p.m.	107		x	3.7
01-150	7/13/01	2:10 p.m.	98	x		2.3
01-151	7/13/01	2:10 p.m.	98		x	1.6
01-152	7/14/01	2:55 p.m.	99	x		2.9
01-153	7/14/01	2:55 p.m.	99		x	2.7
01-154	7/16/01	4:30 p.m.	89	x		4.8
01-155	7/16/01	4:30 p.m.	89		x	3.3
01-156	7/17/01	12:55 p.m.	103		x	28.6
01-157	7/17/01	12:55 p.m.	103	x		6.1
01-221	7/19/01	4:20 p.m.	100	x		22.5
01-222	7/19/01	4:20 p.m.	100		x	21.5
01-223	7/21/01	11:15 a.m.	100	x		15.2
01-224	7/21/01	11:15 a.m.	100		x	15.6
01-225	7/21/01	2:20 p.m.	98	x		8.9
01-226	7/21/01	2:20 p.m.	98		x	7.4
01-227	7/22/01	12:55 p.m.	98	x		16.7
01-228	7/22/01	12:55 p.m.	98		x	18.3

NOTED:


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Soils and Water Laboratory Services
EDSA, Quezon City

DATE: April 12, 2002

SEDIMENT ANALYSIS

PROJECT: WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
KEYYO CONSTRUCTION

NAME OF RIVER: AGOS RIVER

LAB. NO.	Date of Sampling	Time	Gage Height	Location		Sediment mg/l
				Top	Bottom	
02-07	2/23/02	10:20 a.m.	36	x		2.0
02-08	2/23/02	10:20 a.m.	36		x	2.9
02-09	2/24/02	9:45 a.m.	24	x		2.6
02-10	2/24/02	9:45 a.m.	24		x	2.1
02-11	2/24/02	6:23 p.m.	22	x		1.8
02-12	2/24/02	6:23 p.m.	22		x	5.2
02-13	2/26/02	9:43 a.m.	28	x		3.5
02-14	2/26/02	9:43 a.m.	28		x	3.8
02-15	2/26/02	6:00 p.m.	29	x		4.5
02-16	2/26/02	6:00 p.m.	29		x	3.9
02-17	2/27/02	2:10 p.m.	14	x		3.2
02-18	2/27/02	2:10 p.m.	14		x	4.2
02-49	3/5/02	7:09 p.m.	108	x		0.9
02-50	3/5/02	7:09 p.m.	108		x	1.2
02-51	3/6/02	8:26 a.m.	104	x		1.1
02-52	3/6/02	8:26 a.m.	104		x	1.1
02-53	3/7/02	2:57 p.m.	157	x		4.3
02-54	3/7/02	2:57 p.m.	157		x	4.1
02-55	3/10/02	12:45 p.m.	124	x		0.4
02-56	3/10/02	12:45 p.m.	124		x	2.2
02-57	3/15/02	10:07 a.m.	137	x		1.6
02-58	3/15/02	10:07 a.m.	137		x	1.0
02-59	3/16/02	3:28 p.m.	122	x		1.6
02-60	3/16/02	3:23 p.m.	122		x	1.7
02-61	3/17/02	11:50 a.m.	116	x		0.6
02-62	3/17/02	11:50 a.m.	116		x	1.2

Notes:


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Systems Management Department
Soils and Water Laboratory Services
EDSA, Quezon City

DATE: July 22, 2002

SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
KEYYO CONSTRUCTION

NAME OF RIVER : AGOS RIVER

LAB. NO.	Date of Sampling	Time	Gage Height	Location		Sediment mg/l
				Top	Bottom	
02-219	3/22/02	3:03 P.M.	0.9	x		18.6
02-220	3/22/02	3:03 P.M.	0.9		x	2.9
02-221	3/23/02	3:35 P.M.	0.91	x		4.7
02-222	3/23/02	3:35 P.M.	0.91		x	4.4
02-223	3/24/02	9:55 A.M.	1.41	x		17.0
02-224	3/24/02	9:55 A.M.	1.41		x	32.1
02-225	4/30/02	3:05 P.M.	0.97	x		10.7
02-226	4/30/02	3:05 P.M.	0.97		x	1.9
02-227	5/3/02	1:40 P.M.	8.5	x		2.5
02-228	5/3/02	1:40 P.M.	8.5		x	2.0

Noted:

[Signature]
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 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

DATE: August 2, 2001

SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEIYO CONSTRUCTION

NAME OF RIVER : KANAN RIVER

LAB. NO.	Date of Sample	Time of Sampling	Gage Height	Location of Sampling		Sediment mg/l
			cm	Top	Bottom	
01-111	6/1/01	3:40 p.m.	20			1.1
01-112	6/6/01	2:20 p.m.	13		x	60.8
01-117	6/19/01	1:20 p.m.	9		x	1.9
01-122	6/19/01	1:20 p.m.	9	x		2.3
01-123	6/20/01	3:30 p.m.	7	x		2.1
01-124	6/20/01	3:30 p.m.	7		x	1.9
01-158	7/3/01	3:30 p.m.	48	x		7.7
01-159	7/3/01	3:30 p.m.	48		x	7.7
01-160	7/7/01	2:55 p.m.	64	x		8.9
01-161	7/7/01	2:55 p.m.	64		x	4.1
10-162	7/9/01	3:00 p.m.	48	x		5.4
01-163	7/9/01	3:00 p.m.	48		x	6.4
01-164	7/10/01	2:05 p.m.	42	x		2.9
01-165	7/10/01	2:05 p.m.	42		x	3.0
01-166	7/11/01	1:55 p.m.	36	x		3.4
01-167	7/11/01	1:55 p.m.	36		x	3.2
01-168	7/12/01	1:30 p.m.	32	x		3.1
01-169	7/12/01	1:30 p.m.	32		x	2.5
01-170	7/14/01	11:25 a.m.	31	x		3.7
01-171	7/14/01	11:25 a.m.	31		x	4.4
01-229	7/16/01	8:05 a.m.	25			245.5
01-230	7/17/01	7:35 a.m.	28			148.8
01-205	7/18/01	1:20 p.m.	22	x		4.3
01-206	7/18/01	1:20 a.m.	22		x	3.3
01-207	7/19/01	11:20 a.m.	29	x		4.3
01-208	7/19/01	11:20 a.m.	29		x	2.9
01-209	7/19/01	12:45 p.m.	32	x		2.8
01-210	7/19/01	12:45 p.m.	32		x	1.4
01-231	7/20/01	9:35 a.m.	26			80.3

NOTED:


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SEDIMENT ANALYSIS

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 KEIYO CONSTRUCTION

NAME OF RIVER : KANAN RIVER

LAB. NO.	Date of Sample	Time of Sampling	Gage Height	Location of Sampling		Sediment
			cm	Top	Bottom	mg/l
01-232	7/21/01	7:35 a.m.	28		x	119.6
01-233	7/22/01	8:35 a.m.	14		x	103.3
01-234	7/25/01	12:25 p.m.	20	x		3.9
01-235	7/25/01	12:25 p.m.	20		x	4.0
01-236	7/25/01	3:05 p.m.	19	x		2.5
01-237	7/25/01	3:05 p.m.	19		x	2.8
01-238	7/26/01	10:05 a.m.	17	x		2.7
01-239	7/26/01	10:05 a.m.	17		x	2.1
01-240	7/26/01	1:40 p.m.	16	x		1.7
01-241	7/26/01	1:40 p.m.	16		x	2.2
01-242	7/27/01	8:40 a.m.	35	x		452.9
01-243	7/27/01	8:40 a.m.	35		x	151.5
01-244	7/27/01	12:05 p.m.	30	x		120.5
01-245	7/27/01	12:05 p.m.	30		x	150.8

NOTED:


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Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City


DATE: April 12, 2002

SEDIMENT ANALYSIS

PROJECT: WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEYO CONSTRUCTION

NAME OF RIVER: KANAN RIVER

CAB. NO.	Date of Sample	Time of Sampling	Cage Height cm	Location of Sampling		Sediment mg/l
				Top	Bottom	
02-19	2/15/02	4:10 p.m.	143	x		3.4
02-20	2/15/02	4:10 p.m.	143		x	5.0
02-21	2/16/02	3:10 p.m.	122	x		3.4
02-22	2/16/02	3:10 p.m.	122		x	3.0
02-23	2/23/02	3:35 p.m.	90	x		2.9
02-24	2/23/02	3:35 p.m.	90		x	1.8
02-25	2/24/02	2:45 p.m.	81	x		2.3
02-26	2/24/02	2:45 p.m.	81		x	3.3
02-27	2/25/02	4:00 p.m.	78	x		2.7
02-28	2/25/02	4:00 p.m.	78		x	3.1
02-29	2/26/02	2:06 p.m.	86	x		3.6
02-30	2/26/02	2:06 p.m.	86		x	3.1
02-72	3/2/02	3:00 p.m.	61	x		0.9
02-73	3/2/02	2:05 p.m.	61		x	1.7
02-75	3/5/02	2:05 p.m.	68	x		1.3
02-76	3/5/02	1:55 p.m.	68		x	1.4
02-77	3/7/02	1:55 p.m.	115	x		4.2
02-78	3/7/02	1:30 p.m.	115		x	3.9
02-79	3/11/02	1:30 p.m.	73	x		1.3
02-80	3/11/02	11:25 a.m.	73		x	3.3

NOTED:

 ROSE A. M. GREGORIO
 Deputy Soil Tech

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

DATE: July 22, 2002


SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEIYO CONSTRUCTION

NAME OF RIVER : KANAN RIVER

LAB. NO.	Date of Sample	Time of Sampling	Gage Height	Location of Sampling		Sediment mg/l
			cm	Top	Bottom	
02-229	3/22/02	12:18 N	0.43	x		2.9
02-230	3/22/02	12:18 N	0.43		x	1.4
02-231	3/24/02	12:45 N	0.86	x		20.6
02-232	3/24/02	12:45 N	0.86		x	13.4
02-233	4/30/02	11:30 AM	0.55	x		1.9
02-234	4/30/02	11:30 AM	0.55		x	1.4
02-235	5/3/02	11:08 AM	0.43	x		2.2
02-236	5/3/02	11:08 AM	0.43		x	2.5

NOTED.


 ROSITA M. GREGORIO
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Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

DATE: AUGUST 2, 2001


SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEYIO CONSTRUCTION

NAME OF RIVER : KALIWA RIVER

LAB. NO.	Date of Sample	Time of Sampling	Gage Height cm	Location of Sampling		Sediment mg/l
				Top	Bottom	
01-81	5/22/01	1:55 p.m.	26		x	100.7
01-125	6/13/01	12:25p.m.	21		x	3.0
01-113	6/21/01	10:25 a.m.	21		x	2.2
01-114	6/13/01	2:25 p.m.	21	Near Confluence		55.6
01-126	6/23/01	9:40 a.m.	34		x	2.1
01-172	6/24/01	10:00 a.m.	27			4.5
01-173	6/25/01	10:10 a.m.	30			4.2
01-174	6/26/01	9:55 a.m.	41	x		72.5
01-175	6/26/01	9:55 a.m.	41		x	72.1
01-176	6/27/01	10:30 a.m.	36.5	x		15.3
10-177	6/27/01	10:30 a.m.	36.5		x	13.2
01-178	6/28/01	2:35 p.m.	44	x		16.7
01-179	6/28/01	2:35 p.m.	44		x	23.9
01-180	6/30/01	2:20 p.m.	53	x		15.1
01-181	6/30/01	2:20 p.m.	53		x	13.7
01-182	7/3/01	11:10 a.m.	79	x		38.4
01-183	7/3/01	11:10 a.m.	79		x	74.5
01-184	7/9/01	9:45 a.m.	70	x		6.7
01-185	7/9/01	9:45 a.m.	70		x	5.7
01-186	7/10/01	10:10 a.m.	80	x		21.5
01-187	7/10/01	10:10 a.m.	80		x	28.7
01-188	7/11/01	4:10 p.m.	69	x		3.3
01-189	7/11/01	4:10 p.m.	69		x	10.2
01-190	7/12/01	10:50 a.m.	64	x		7.6
01-191	7/12/01	10:50 a.m.	64		x	9.0
10-192	7/13/01	4:35 p.m.	60	x		6.4
01-193	7/13/01	4:35 p.m.	60		x	17.7
01-194	7/14/01	3:55 p.m.	62	x		7.9
01-195	7/14/01	3:55 p.m.	62		x	6.3

NOTED:


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DATE: AUGUST 2, 2001


SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEIYO CONSTRUCTION

NAME OF RIVER : KALIWA RIVER

LAB. NO.	Date of Sample	Time of Sampling	Gage Height cm	Location of Sampling		Sediment mg/l
				Top	Bottom	
01-196	7/15/01	3:40 p.m.	58	x		8.9
01-197	7/15/01	3:40 p.m.	58		x	6.0
01-198	7/16/01	4:05 p.m.	54	x		2.7
01-199	7/16/01	4:05 p.m.	54		x	27.1
01-200	7/17/01	10:55 a.m.	66	x		61.5
01-201	7/17/01	10:55 a.m.	66		x	70.1
01-211	7/18/01	3:35 a.m.	58	x		6.2
01-212	7/18/01	3:35 a.m.	58		x	6.6
01-213	7/19/01	12:15 p.m.	76	x		40.3
01-214	7/19/01	12:15 p.m.	76		x	33.8
01-215	7/20/01	11:00 a.m.	116	x		218.4
01-216	7/20/01	11:00 a.m.	116		x	228.1
01-217	7/20/01	1:45 p.m.	100	x		230.9
01-218	7/20/01	1:45 p.m.	100		x	237.5
01-219	7/24/01	10:50 a.m.	72	x		55.1
01-220	7/24/01	10:50 a.m.	72		x	53.6

NOTED:


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 EDSA, Quezon City

DATE: April 12, 2002

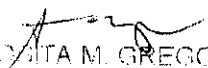
SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEIYO CONSTRUCTION

NAME OF RIVER : KALIWA RIVER, DARAEATAN

LAB. NO.	Date of Sample	Time of Sampling	Gage Height cm	Location of Sampling		Sediment mg/l
				Top	Bottom	
02-31	2/26/02	10:30 a.m.	43	x		3.0
02-32	2/26/02	10:30 a.m.	43		x	3.4
02-33	2/24/02	5:15 p.m.	42	x		3.4
02-34	2/24/02	5:15 p.m.	42		x	3.4
02-35	2/22/02	5:05 p.m.	40	x		4.0
02-36	2/22/02	5:05 p.m.	40		x	4.3
02-37	2/22/02	10:45 a.m.	40	x		6.8
02-38	2/22/02	10:45 a.m.	40		x	8.3
02-39	2/28/02	4:10 p.m.	34	x		6.7
02-40	2/28/02	4:10 p.m.	34		x	5.7
02-41	3/1/02	4:15 p.m.	34	x		2.8
02-42	3/1/02	4:15 p.m.	34		x	4.7
02-63	3/12/02	4:50 p.m.	31	x		2.1
02-64	3/12/02	4:50 p.m.	31		x	1.5
02-65	3/13/02	10:04 a.m.	42	x		2.5
02-66	3/13/02	10:04 a.m.	42		x	7.9
02-67	3/13/02	2:36 p.m.	61	x		6.4
02-68	3/13/02	2:36 p.m.	61		x	7.3
02-69	3/14/02	9:33 a.m.	44	x		1.2
02-70	3/14/02	9:33 a.m.	44		x	2.4
02-71	3/14/02	3:13 p.m.	42	x		4.7
02-72	3/14/02	3:13 p.m.	42		x	1.8

NOTED.


 ROMITA M. GREGORIO
 Insp. Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

DATE: April 12, 2002

SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEYIO CONSTRUCTION

NAME OF RIVER : KALIWA RIVER, DARAEATAN

LAB. NO.	Date of Sample	Time of Sampling	Gage Height	Location of Sampling		Sediment
			cm	Top	Bottom	mg/l
02-237	3/18/02	3:45 P.M.	31	x		3.7
02-238	3/18/02	3:45 P.M.	31		x	6.9
02-239	3/19/02	10:55 A.M.	29	x		1.6
02-240	3/19/02	10:55 A.M.	29		x	2.8
02-241	3/20/02	4:45 P.M.	27	x		3.4
02-242	3/20/02	4:45 P.M.	27		x	2.9
02-243	3/21/02	3:00 P.M.	0.33	x		7.0
02-244	3/21/02	3:00 P.M.	0.33		x	4.2

NOTED:


 ROSITA M. GREGORIO
 Supvg Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

DATE: April 12, 2002

SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEIYO CONSTRUCTION

NAME OF RIVER : PINAGSANGAHAN, SGS #4

LAB. NO.	Date of Sampling	Time	Gage Height	Location		Sediment
			cm	Top	Bottom	mg/l
02-43	2/26/02	12:20 p.m.	25	x		3.8
02-44	2/26/02	12:20 p.m.	25		x	5.2
02-45	2/23/02	5:30 p.m.	28	x		6.2
02-46	2/23/02	5:30 p.m.	28		x	3.6
02-47	2/24/02	11:45 a.m.	26	x		1.4
02-48	2/24/02	11:45 a.m.	26		x	2.3
02-81	3/2/02	11:45 a.m.	20	x		1.0
02-82	3/2/02	11:45 a.m.	20		x	0.8
02-83	3/5/02	3:30 p.m.	68	x		0.5
02-84	3/5/02	3:30 p.m.	68		x	3.6
02-85	3/7/02	10:00 a.m.	32	x		1.3
02-86	3/7/02	10:00 a.m.	32		x	1.0
02-87	3/11/02	9:44 a.m.	18	x		2.9
02-88	3/11/02	9:44 a.m.	18		x	1.3
02-89	3/16/02	10:37 a.m.	25	x		0.5
02-90	3/16/02	10:37 a.m.	25		x	0.2
02-91	3/16/02	1:39 p.m.	24	x		0.6
02-92	3/16/02	1:39 p.m.	24		x	0.7

NOTED:


 ROSITA M. GREGORIO
 Supvg. Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

DATE: July 22, 2002

SEDIMENT ANALYSIS

PROJECT : WATER RESOURCES DEVELOPMENT PROJECT FOR METRO MANILA
 KEIYO CONSTRUCTION

NAME OF RIVER : PINAGSANGAHAN, SGS #4

LAB. NO.	Date of Sampling	Time	Gage Height cm	Location		Sediment mg/l
				Top	Bottom	
02-245	3/22/02	10:43 A.M.	0.13	x		2.9
02-246	3/22/02	10:43 A.M.	0.13		x	1.8
02-247	3/23/02	10:43 A.M.	0.13	x		1.2
02-248	3/23/02	10:43 A.M.	0.13		x	0.8
02-258	3/24/02	2:04 P.M.	0.45	x		12.5
02-259	3/24/02	2:04 P.M.	0.45		x	11.7
02-260	4/10/02	9:47 A.M.	0.2	x		1.6
02-261	4/10/02	9:47 A.M.	0.2		x	3.3
02-262	4/30/02	10:00 A.M.	0.1	x		3.7
02-263	4/30/02	10:00 A.M.	0.1		x	2.5
02-264	5/3/02	9:38 A.M.	0.32	x		2.4
02-265	5/3/02	9:38 A.M.	0.32		x	3.5
02-266	5/9/02	10:33 A.M.	0.52	x		2.2
02-267	5/9/02	10:33 A.M.	0.52		x	3.9

NOTED:


 ROSITA M. GREGORIO
 Supvg. Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

SIEVE ANALYSIS

6-Aug-01

PROJECT: WATER RESOURCES DEV. PROJECT FOR METRO MANILA
 Keiyo Construction Co.

AGOS RIVER

Sieve No.	Sieve Opening mm	Wt. Sieve + Soil gm	Wt. Sieve gm	Wt Retained gm	Percent Retained	Remarks
#50	0.30	88.3659	88.3659	0.0000	0.00	
#60	0.25	90.4253	90.4253	0.0000	0.00	
#140	0.106	84.1797	84.1797	0.0000	0.00	
#300	0.045	83.1106	83.0764	0.0342	8.15	
PAN		64.0269	63.6413	0.3856	91.85	
TOTAL				0.4198		

AGOS RIVER

Sieve No.	Sieve Opening mm	Wt. Sieve + Soil gm	Wt. Sieve gm	Wt Retained gm	Percent Retained	Remarks
#50	0.30	88.3857	88.3857	0.0000	0.00	
#60	0.25	90.4728	90.4728	0.0000	0.00	
#140	0.106	84.1807	84.1807	0.0000	0.00	
#300	0.045	83.0979	83.0765	0.0214	7.87	
PAN		63.3921	63.6415	0.2506	92.13	
TOTAL				0.272		

NOTED:


 ROSITA M. GREGORIO
 Supvg. Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

SIEVE ANALYSIS

6-Aug-01

PROJECT: WATER RESOURCES DEV. PROJECT FOR METRO MANILA
 Keiyo Construction Co.

KALIWA RIVER

Sieve No.	Sieve Opening mm	Wt. Sieve + Soil gm	Wt. Sieve gm	Wt Retained gm	Percent Retained	Remarks
#50	0.300	88.3680	88.368	0.0000	0.00	
#60	0.250	90.4411	90.4411	0.0000	0.00	
#140	0.106	84.1883	84.1811	0.0072	1.21	
#300	0.045	83.1413	83.0817	0.0596	10.04	
PAN		64.1701	63.6431	0.5270	88.75	
TOTAL				0.5938		

KALIWA RIVER

Sieve No.	Sieve Opening mm	Wt. Sieve + Soil gm	Wt. Sieve gm	Wt Retained gm	Percent Retained	Remarks
#50	0.30	88.3736	88.3736	0.0000	0.00	
#60	0.25	90.4457	90.4457	0.0000	0.00	
#140	0.106	84.188	84.1818	0.0062	1.18	
#300	0.045	83.1269	83.0836	0.0433	8.23	
PAN		64.1199	63.6432	0.4767	90.59	
TOTAL				0.5262		

NOTED:


 ROSITA M. GREGORIO
 Supvgr. Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Systems Management Department
 Soils and Water Laboratory Services
 EDSA, Quezon City

SIEVE ANALYSIS

6-Aug-01

PROJECT: WATER RESOURCES DEV. PROJECT FOR METRO MANILA
 Keiyo Construction Co.

KANAN RIVER

Sieve No.	Sieve Opening mm	Wt. Sieve + Soil gm	Wt. Sieve gm	Wt Retained gm	Percent Retained	Remarks
#50	0.30	88.3674	88.3674	0.0000	0.00	
#60	0.25	90.4232	90.4282	0.0000	0.00	
#140	0.106	84.3738	84.1811	0.1927	16.64	
#300	0.045	83.9485	83.0821	0.8664	74.80	
PAN		63.7415	63.6423	0.0992	8.56	
TOTAL				1.1583		

KANAN RIVER

Sieve No.	Sieve Opening mm	Wt. Sieve + Soil gm	Wt. Sieve gm	Wt Retained gm	Percent Retained	Remarks
#50	0.30	88.3857	88.3857	0.0000	0.00	
#60	0.25	90.4728	90.4728	0.0000	0.00	
#140	0.106	84.3334	84.1807	0.1527	16.28	
#300	0.045	83.7649	83.0821	0.6828	72.80	
PAN		63.7460	63.6436	0.1024	10.92	
TOTAL				0.9379		

NOTED:



 ROSITA M. GREGORIO
 Supvg. Soil Tech.

Republic of the Philippines
 NATIONAL IRRIGATION ADMINISTRATION
 Research and Development Division
 SOILS & WATER LABORATORY SERVICES
 EDSA, QUEZON CITY

SPECIFIC GRAVITY TEST

	AGOS 1	AGOS 2	KANAN 1	KANAN 2	KALIWA 1	KALIWA 2
LAB. NO. / PYCNOMETER NO.						
1. Wt. Pycnometer empty	49.76	49.782	51.7286	51.8290	52.0753	47.784
2. Pycnometer full water + cover	152.8844	152.9044	153.4451	153.4051	159.488	151.164
3. Vol Pycnometer = (2-1/ D)	103.4342	103.3293	101.9205	101.7799	107.6262	103.5874
T = 21 °C						
D = 0.997998						
4. Wt. Pycnometer half full water	89.7359	89.7606	90.3153	90.4153	94.1172	92.3697
5. Pycnometer Half full water + soil	90.1529	90.0265	91.4433	91.2423	94.6805	92.8344
6. Wt. Of Soil Used (5-4)	0.417	0.2859	1.128	0.827	0.5633	0.4647
7. Pycnometer + Soil filled with water	153.2226	153.0455	154.119	153.893	159.8099	151.4293
8. Wt. Water in Pycnometer + Soil (7-1-6)	103.0456	102.9976	101.2624	101.237	107.1713	103.1806
9. Volume of water with Soil in Pycn (8/D water, T= 22 °C D= 0.997766)	103.2763	103.2282	101.4891	101.4637	107.4113	103.4116
10. Volume of Water Displaced (3-9)	0.157831	0.101053	0.431418	0.316193	0.214911	0.17576
11. Specific Gravity of Soil (6/10)	2.642071	2.631283	2.614632	2.615487	2.621087	2.643941

NOTED:


 ROSTA M. GREGORIO
 Supvg. Soil Technologist

H5 Water Quality



SGS Philippines, Inc.

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Makati City, Philippines
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Fax: (0632) 750.29.46 - 47

Manila, 09 August 2001
L-01/3004

LABORATORY TEST REPORT NO. 69221

RESULTS OF ANALYSIS

CLIENT : KEYO CONSTRUCTION, CO.
ADDRESS : 1 February, Congressional Village, Quezon City
SAMPLE/S SUBMITTED AS : *River Water*
DATE RECEIVED : 27 July 2001
DATE REPORTED : 09 August 2001
LABORATORY NO. : 072701 - 08689 to 08691

Analysis based on sample(s) submitted by KEYO CONSTRUCTION, CO. SGS Philippines, Inc. does not guarantee that sample(s) submitted is (are) representative of the whole bulk from where it/they was (were) taken.

<u>ANALYSIS</u>	<u>River Water</u> <u>(Kallwa River -</u> <u>27/7/01 12:30°C)</u> <u>072701 - 08689</u>	<u>River Water</u> <u>(Agos River -</u> <u>27/7/01 10:00 28.8°C)</u> <u>(072701 - 08690)</u>	<u>River Water</u> <u>(Kanan River -</u> <u>27/7/01 9:15</u> <u>28.2°C)</u> <u>(072701 - 08691)</u>
Ammonia (NH ₃), mg/L	0.57	0.75	<0.01
COD mg/L	5.0	<5.0	<5.0
BOD (5 Days, 20°C), mg/L	2.5	2.4	1.0
Cyanide (CN ⁻), mg/L	0.002	0.002	0.002
Total Alkalinity as CaCO ₃ , mg/L	110	92.5	60.9
Phosphate as P, mg/L	0.28	0.23	<0.01

Methodology: Based on Standard Methods for the Examination of Water and Wastewater.

This report cancels and supersedes Laboratory Test Report No. 69172 and will be kept on file for only six months from the date of issue.

Approved Signatory:

Catherine E. Ravelo
CATHERINE E. RAVELO
Section Coordinator

Priscila P. Tongco
PRISCILA P. TONGCO
Technical Manager
(PTR NO. 7763738 MAKATI CITY 01/19/2001)
SGS Philippines, Inc.

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UNIVERSITY OF THE PHILIPPINES
NATURAL SCIENCES RESEARCH INSTITUTE
Research and Analytical Services Laboratory
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Tel. Nos.: 920 7731; 920-5301 to 99 local 6667; Fax No.: (632) 928 6868
E-Mail: rasl@nsri.upd.edu.ph

Service Report

Analytical ___ Consultancy ___ Information ___ Training

Report No.: 02-119 Date: 15 August 2002
Requesting Agency: Keiyo Construction
Address: Congressional Village, Project 8, Quezon City
Service Requested: Chromium, Copper, Arsenic, Cadmium, and Lead in river water samples
Date of Request: 2 August 2002

RESULTS OF ANALYSIS:

Parameter	Agos River 2 August 2002 9:48 a.m.	Kaliwa River 2 August 2002 2:30 p.m.	Kanan River 2 August 2002 8:35 a.m.	Method of Analysis
Chromium, mg/L	< 0.05	< 0.05	< 0.05	*AAS, Flame (Ref. 1)
Copper, mg/L	< 0.02	< 0.02	< 0.02	AAS, Flame (Ref. 1)
Arsenic, mg/L	0.0021	0.0015	0.00060	AAS, Hydride Generation (Ref. 1)
Cadmium, mg/L	< 0.002	< 0.002	< 0.002	**ASV (Ref. 2)
Lead, mg/L	< 0.005	< 0.005	< 0.005	ASV (Ref. 2)

* AAS - Atomic Absorption Spectrophotometry
** ASV - Anodic Stripping Voltammetry

References: (1) Standard Methods for Examination of Water and Wastewater, 16th Edition, American Public Health Association.
(2) PDV 2000 Instruction Manual, Chemtronics Bentley, Western Australia, 1986.

Service done by:

Analysts	Signature	Date
M.R. R. Agustin		15 Aug 02
F. B. B. Bello		15 Aug 02
A. E. Pascual		15 AUG 02
I.A. Umacob		15 Aug 2002

Checked by:

Supervisors	Signature	Date
C. R. Africa		15 Aug 02
E. C. Santiago		Aug 15/02

Certified by:

The results are certified true only for the samples as received by the laboratory.

Evangeline C. Santiago, Ph.D. Aug 15/02



F.A.S.T. LABORATORIES
First Analytical Services and Technical Cooperative

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Cubao, Quezon City
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E-mail: fast@pacific.net.ph
• Malarayat Rural Bank Bldg.
Maharlika Highway
Sto. Tomas, Batangas
Telefax: (043) 778-4014

Date : 03 August 2001

Laboratory Analysis Report No. CQ0701-3294

CLIENT : KEIYO CONSTRUCTION
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: KALIWA RIVER (CQ0701-3294-00)
DATE /TIME OF SAMPLING: 27 JULY 2001 / 12:30 PM
DATE RECEIVED : 27 JULY 2001
DATE ANALYZED : 27 JULY - 01 AUGUST 2001
DATE REPORTED : 03 AUGUST 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Color, PCU	35	5	Visual Comparison
KmnO ₄ Oxidizable Matter, mg/L O ₂	0.7	N.S.*	Titrimetric

* N.S. - No Standard was provided by the DOH.

Ref. : American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.


P. B. PARALES
Chem. Reg No. 08372

APPROVED SIGNATORY :


R. D. GAYANG
Laboratory Manager

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TECHNICAL EXCELLENCE INTEGRITY SERVICE * SOCIAL RESPONSIBILITY

ACCREDITATIONS/RECOGNITIONS: Dept. of Environment and Natural Resources (DENR) • Dept. of Health (DOH) • Dept. of Agriculture • Bureau of Animal Industry (DA-BAI)



F.A.S.T. LABORATORIES
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Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: KALIWA RIVER (CQ0601-2546-02)
DATE /TIME OF SAMPLING: 13 JUNE 2001/12:25 PM
DATE RECEIVED : 13 JUNE 2001
DATE ANALYZED : 13 - 22 JUNE 2001
DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Analysis	Sample as received	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Temperature, °C	32	N.S.**	Used of Mercury Filled Thermometer
Total Alkalinity as CaCO ₃ , mg/L	91	N.S.**	Titrimetric
Conductivity, μhos/cm	221	N.S.**	Conductivity Meter
Bicarbonate as CaCO ₃ , mg/L	111	N.S.**	Titrimetric
Phosphate, mg/L	N.D.*	N.S.**	Colorimetric
BOD ₅ , mg/L	2.4	N.S.**	Azide Modification
COD, mg/L	40	N.S.**	Open Reflux Dichromate
KMnO ₄ consumed, mg/L O ₂	0.1	N.S.**	Titrimetric
Ammonia, mg/L	N.D.*	N.S.**	Titrimetric

* N.D. - Not Detectable ** N.S. - No standard was provided by the DOH.
Detection Limit (mg/L) = Ammonia = 0.01, Phosphate = 0.01

Ref.: American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample(s) tested.

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Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: KALIWA RIVER (CQ0601-2546-02)
DATE /TIME OF SAMPLING: 13 JUNE 2001/12:25 PM
DATE RECEIVED : 13 JUNE 2001
DATE ANALYZED : 13 - 22 JUNE 2001
DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis (Inorganic Constituents)	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Arsenic, mg/L	N.D.*	0.01	Colorimetric
Cadmium, mg/L	N.D.*	0.003	AAS
Chromium, mg/L	N.D.*	0.05	AAS
Cyanide, mg/L	N.D.*	0.07	Colorimetric
Fluoride, mg/L	N.D.*	1.0	Colorimetric
Lead, mg/L	N.D.*	0.01	AAS
Mercury, mg/L	N.D.*	0.001	AAS
Nitrate, mg/L	N.D.*	50	Colorimetric

*N.D. - Not detectable

Detection limit (mg/L), Arsenic = 0.01, Cadmium = 0.003, Chromium = 0.05, Cyanide = 0.07,
Fluoride = 0.5, Lead = 0.01, Mercury = 0.0002, Nitrate = 0.40,

Ref.: American Public Health Association, American Water Works Association, and Water
Environment Federation. 1998. Standard Methods for the Examination of Water and
Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.

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Laboratory Manager

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Laboratory Analysis Report No. CQ0601-2546

Date : 23 June 2001

CLIENT : KEIYO CONSTRUCTION COMPANY
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: KALIWA RIVER (CQ0601-2546-02)
DATE /TIME OF SAMPLING: 13 JUNE 2001/12:25 PM
DATE RECEIVED : 13 JUNE 2001
DATE ANALYZED : 13 - 22 JUNE 2001
DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS


Physico-Chemical Analysis	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
pH	8.06	6.5-8.5	Glass Electrode
Color, PCU	5	5	Visual Comparison
Turbidity, NTU	0.60	5	Nephelometric
Chloride, mg/L	0.94	250	Titrimetric
Copper, mg/L	N.D.*	1	AAS
Total Hardness as CaCO ₃ , mg/L	158	300	Titrimetric
Iron, mg/L	N.D.*	1	AAS
Manganese, mg/L	N.D.*	0.5	AAS
Sodium, mg/L	8.6	200	AAS
Sulfate, mg/L	10.4	250	Colorimetric
Zinc, mg/L	N.D.*	5	AAS

*N.D. - Not detectable

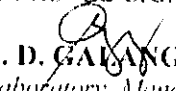
Detection limit (mg/L) : Copper = 0.04, Iron = 0.06, Manganese = 0.02, Zinc = 0.02

Ref. : American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.


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Laboratory Manager

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ACCREDITATIONS/RECOGNITIONS: Dept. of Environment and Natural Resources (DENR) • Dept. of Health (DOH) • Dept. of Agriculture • Bureau of Animal Industry (DA-BAI)



Laboratory Analysis Report No. CQ0802-3446

Date : 15 August 2002

CLIENT : KEIYO CONSTRUCTION CO.
ADDRESS : CONGRESSIONAL VILLAGE, QUEZON CITY
SAMPLE(S) SUBMITTED AS: KALIWA RIVER (CQ0802-3446-00)
DATE /TIME OF SAMPLING: 02 AUGUST 2002/2:30 PM
DATE RECEIVED : 02 AUGUST 2002
DATE ANALYZED : 02 - 13 AUGUST 2002
DATE REPORTED : 15 AUGUST 2002

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Test Method
BOD ₅ , mg/L	4	Azide Modification
COD, mg/L	17	Open Reflux Dichromate
Color, PCU	5	Visual Comparison
Conductivity, μ S/cm	215	Conductivity Meter
Nitrate, mg/L	0.49	Colorimetric
Chloride, mg/L	0.94	Titrimetric
Total Hardness as CaCO ₃ , mg/L	150	Titrimetric
Total Alkalinity as CaCO ₃ , mg/L	150.8	Titrimetric
Bicarbonate, mg/L	184	Titrimetric
Sulfate, mg/L	2.7	Colorimetric
Ammonia, mg/L	0.048	Titrimetric
Cyanide, mg/L	Less than 0.001	Colorimetric
Phosphate, mg/L	6.95	Colorimetric
Iron, mg/L	0.58	AAS
Manganese, mg/L	0.03	AAS
Sodium, mg/L	6.47	AAS
Fluoride, mg/L	0.062	Colorimetric
Calcium, mg/L	42.2	AAS
Zinc, mg/L	Less than 0.02	AAS
KmnO ₄ as O ₂ , mg/L	0.9	Titrimetric
Mercury, mg/L	Less than 0.0002	Cold Vapor - AAS

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• Maharayat Rural Bank Bldg.
Maharika Highway
Sta. Tomas, Batangas
Telefax: (043) 778-4014

Date : 03 August 2001

Laboratory Analysis Report No. CQ0701-3294

CLIENT : KEIYO CONSTRUCTION
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: AGOS RIVER (CQ0701-3294-02)
DATE /TIME OF SAMPLING: 27 JULY 2001 / 10:00 AM
DATE RECEIVED : 27 JULY 2001
DATE ANALYZED : 27 JULY – 01 AUGUST 2001
DATE REPORTED : 03 AUGUST 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Color, PCU	40	5	Visual Comparison
KmnO ₄ Oxidizable Matter, mg/L O ₂	1.9	N.S.*	Titrimetric

* N.S. – No Standard was provided by the DOH.

Ref. : American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.


P.B. PARALES
Chem. Reg No. 08372

APPROVED SIGNATORY :


R. D. GALANG
Laboratory Manager

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Sta. Tomas, Batangas
Telefax: (043) 773-4014

Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: AGOS RIVER (CQ0601-2546-00)
DATE /TIME OF SAMPLING: 13 JUNE 2001/7:35 AM
DATE RECEIVED : 13 JUNE 2001
DATE ANALYZED : 13 - 22 JUNE 2001
DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Physico - Chemical Analysis	Sample as received	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Temperature, °C	30.5	N.S.**	Used of Mercury filled Thermometer
Total Alkalinity as CaCO ₃ , mg/L	76	N.S.**	Titrimetric
Conductivity, μhos/cm	149.7	N.S.**	Conductivity Meter
Bicarbonate as CaCO ₃ , mg/L	92	N.S.**	Titrimetric
Phosphate, mg/L	N.D.*	N.S.**	Colorimetric
BOD ₅ , mg/L	3.0	N.S.**	Azide Modification
COD, mg/L	12	N.S.**	Open Reflux Dichromate
KMnO ₄ consumed, mg/L O ₂	0.1	N.S.**	Titrimetric
Ammonia, mg/L	N.D.*	N.S.**	Titrimetric

* N.D. - Not Detectable **N.S. - No Standard was provided by the DOH.
Detection Limit (mg/L): Ammonia = 0.01, Phosphate = 0.01

Ref.: American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample(s) tested.

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Laboratory Manager

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 Telefax: (043) 778-4014

Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
 ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
 SAMPLE(S) SUBMITTED AS: AGOS RIVER (CQ0601-2546-00)
 DATE /TIME OF SAMPLING: 13 JUNE 2001/7:35 AM
 DATE RECEIVED : 13 JUNE 2001
 DATE ANALYZED : 13 - 22 JUNE 2001
 DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis (Inorganic Constituents)	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Arsenic, mg/L	N.D.*	0.01	Colorimetric
Cadmium, mg/L	N.D.*	0.003	AAS
Chromium, mg/L	N.D.*	0.05	AAS
Cyanide, mg/L	N.D.*	0.07	Colorimetric
Fluoride, mg/L	N.D.*	1.0	Colorimetric
Lead, mg/L	N.D.*	0.01	AAS
Mercury, mg/L	N.D.*	0.001	AAS
Nitrate, mg/L	N.D.*	50	Colorimetric

*N.D. - Not detectable

Detection limit (mg/L), Arsenic = 0.01, Cadmium = 0.003, Chromium = 0.05, Cyanide = 0.07,
 Fluoride = 0.5, Lead = 0.01, Mercury = 0.0002, Nitrate = 0.40.

Ref. : American Public Health Association, American Water Works Association, and Water
 Environment Federation. 1998. Standard Methods for the Examination of Water and
 Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.

P. B. PARALES
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 Chem. Reg No. 08372

APPROVED SIGNATORY :

R. D. GALANG
R. D. GALANG
 Laboratory Manager

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Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: AGOS RIVER (CQ0601-2546-00)
DATE /TIME OF SAMPLING: 13 JUNE 2001/7:35 AM
DATE RECEIVED : 13 JUNE 2001
DATE ANALYZED : 13 - 22 JUNE 2001
DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
pH	7.60	6.5-8.5	Glass Electrode
Color, PCU	5	5	Visual Comparison
Turbidity, NTU	0.21	5	Nephelometric
Chloride, mg/L	3.3	250	Titrimetric
Copper, mg/L	N.D.*	1	AAS
Total Hardness as CaCO ₃ , mg/L	122	300	Titrimetric
Iron, mg/L	0.12	1	AAS
Manganese, mg/L	N.D.*	0.5	AAS
Sodium, mg/L	6.4	200	AAS
Sulfate, mg/L	7.6	250	Colorimetric
Zinc, mg/L	N.D.*	5	AAS

*N.D. - Not detectable

Detection limit (mg/L) : Copper = 0.04, Manganese = 0.02, Zinc = 0.02

Ref. : American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.

P.B. PARALES
Chem. Reg No. 08372

APPROVED SIGNATORY :

R. D. G. JANG
Laboratory Manager



Laboratory Analysis Report No. CQ0802-3446

Date : 15 August 2002

CLIENT : KEIYO CONSTRUCTION CO.
ADDRESS : CONGRESSIONAL VILLAGE, QUEZON CITY
SAMPLE(S) SUBMITTED AS: AGOS RIVER (CQ0802-3446-01)
DATE /TIME OF SAMPLING: 02 AUGUST 2002/9:48 AM
DATE RECEIVED : 02 AUGUST 2002
DATE ANALYZED : 02 - 13 AUGUST 2002
DATE REPORTED : 15 AUGUST 2002

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Test Method
BOD ₅ , mg/L	3	Azide Modification
COD, mg/L	19	Open Reflux Dichromate
Color, PCU	10	Visual Comparison
Conductivity, μ S/cm	182.7	Conductivity Meter
Nitrate, mg/L	0.51	Colorimetric
Chloride, mg/L	7.5	Titrimetric
Total Hardness as CaCO ₃ , mg/L	88	Titrimetric
Total Alkalinity as CaCO ₃ , mg/L	87.2	Titrimetric
Bicarbonate, mg/L	106	Titrimetric
Sulfate, mg/L	13.2	Colorimetric
Ammonia, mg/L	0.058	Titrimetric
Cyanide, mg/L	Less than 0.001	Colorimetric
Phosphate, mg/L	8.07	Colorimetric
Iron, mg/L	0.78	AAS
Manganese, mg/L	0.28	AAS
Sodium, mg/L	6.0	AAS
Fluoride, mg/L	0.076	Colorimetric
Calcium, mg/L	31.2	AAS
Zinc, mg/L	Less than 0.02	AAS
KmnO ₄ as O ₂ , mg/L	0.6	Titrimetric
Mercury, mg/L	Less than 0.0002	Cold Vapor - AAS

Page 3 of 6

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Malarayat Rural Bank Bldg.
Maharika Highway
Sto. Tomas, Batangas
Telefax: (043) 778-4014

Date : 03 August 2001

Laboratory Analysis Report No. CQ0701-3294

CLIENT : KEIYO CONSTRUCTION
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: KANAN RIVER (CQ0701-3294-01)
DATE /TIME OF SAMPLING: 27 JULY 2001 / 9:15 AM
DATE RECEIVED : 27 JULY 2001
DATE ANALYZED : 27 JULY - 01 AUGUST 2001
DATE REPORTED : 03 AUGUST 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Color, PCU	15	5	Visual Comparison
KmnO ₄ Oxidizable Matter, mg/L O ₂	1.1	N.S.*	Titrimetric

* N.S. - No Standard was provided by the DOH.

Ref. : American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. 'Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.


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Telefax: (043) 778-4014

Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: KANAN RIVER (CQ0601-2546-01)
DATE /TIME OF SAMPLING: 13 JUNE 2001/6:05 AM
DATE RECEIVED : 13 JUNE 2001
DATE ANALYZED : 13 - 22 JUNE 2001
DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Physico - Chemical Analysis	Sample as received	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Temperature, °C	29	N.S.**	Used of Mercury Filled Thermometer
Total Alkalinity as CaCO ₃ , mg/L	66	N.S.**	Titrimetric
Conductivity, μhos/cm	123.8	N.S.**	Conductivity Meter
Bicarbonate as CaCO ₃ , mg/L	80	N.S.**	Titrimetric
Phosphate, mg/L	N.D.*	N.S.**	Colorimetric
BOD ₅ , mg/L	4	N.S.**	Azide Modification
COD, mg/L	44	N.S.**	Open Reflux Dichromate
KMnO ₄ consumed, mg/L O ₂	0.2	N.S.**	Titrimetric
Ammonia, mg/L	N.D.*	N.S.**	Titrimetric

* N.D. - Not Detectable

** N.S. - No Standard was provided by the DOH


Detection Limit (mg/L) : Ammonia = 0.01, Phosphate = 0.01

Ref. : American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

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Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
 ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
 SAMPLE(S) SUBMITTED AS: KANAN RIVER (CQ0601-2546-01)
 DATE /TIME OF SAMPLING: 13 JUNE 2001/6:05 AM
 DATE RECEIVED : 13 JUNE 2001
 DATE ANALYZED : 13 - 22 JUNE 2001
 DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis (Inorganic Constituents)	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
Arsenic, mg/L	N.D.*	0.01	Colorimetric
Cadmium, mg/L	N.D.*	0.003	AAS
Chromium, mg/L	N.D.*	0.05	AAS
Cyanide, mg/L	N.D.*	0.07	Colorimetric
Fluoride, mg/L	N.D.*	1.0	Colorimetric
Lead, mg/L	N.D.*	0.01	AAS
Mercury, mg/L	N.D.*	0.001	AAS
Nitrate, mg/L	N.D.*	50	Colorimetric

*N.D. - Not detectable

Detection limit (mg/L), Arsenic = 0.01, Cadmium = 0.003, Chromium = 0.05, Cyanide = 0.07,
 Fluoride = 0.5, Lead = 0.01, Mercury = 0.0002, Nitrate = 0.40.

Ref.: American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.

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 Chem. Reg No. 08372

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Telefax: (043) 778-4014

Date : 23 June 2001

Laboratory Analysis Report No. CQ0601-2546

CLIENT : KEIYO CONSTRUCTION COMPANY
ADDRESS : CONGRESSIONAL AVE., PROJECT 8 QUEZON CITY
SAMPLE(S) SUBMITTED AS: KANAN RIVER (CQ0601-2546-01)
DATE /TIME OF SAMPLING: 13 JUNE 2001/6:05 AM
DATE RECEIVED : 13 JUNE 2001
DATE ANALYZED : 13 - 22 JUNE 2001
DATE REPORTED : 23 JUNE 2001

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Phil. National Standards for Drinking Water DOH, 1993	Test Method
pH	7.52	6.5-8.5	Glass Electrode
Color, PCU	5	5	Visual Comparison
Turbidity, NTU	0.18	5	Nephelometric
Chloride, mg/L	2.8	250	Titrimetric
Copper, mg/L	N.D.*	1	AAS
Total Hardness as CaCO ₃ , mg/L	Zero	300	Titrimetric
Iron, mg/L	0.14	1	AAS
Manganese, mg/L	N.D.*	0.5	AAS
Sodium, mg/L	5.7	200	AAS
Sulfate, mg/L	5.4	250	Colorimetric
Zinc, mg/L	N.D.*	5	AAS

*N.D. - Not detectable

Detection limit (mg/L) : Copper = 0.04, Manganese = 0.02, Zinc = 0.02

Ref. : American Public Health Association, American Water Works Association, and Water Environment Federation, 1998. Standard Methods for the Examination of Water and Wastewater, 20th ed., American Public Health Assoc., Washington D.C.

Results are those obtained at time of examination and relate only to the sample/s tested.

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Laboratory Analysis Report No. CQ0802-3446

Date : 15 August 2002

CLIENT : KEIYO CONSTRUCTION CO.
ADDRESS : CONGRESSIONAL VILLAGE, QUEZON CITY
SAMPLE(S) SUBMITTED AS: KANAN RIVER (CQ0802-3446-02)
DATE /TIME OF SAMPLING: 02 AUGUST 2002/8:35 AM
DATE RECEIVED : 02 AUGUST 2002
DATE ANALYZED : 02 - 13 AUGUST 2002
DATE REPORTED : 15 AUGUST 2002

RESULTS OF ANALYSIS

Physico-Chemical Analysis	Sample (as received)	Test Method
BOD ₅ , mg/L	5	Azide Modification
COD, mg/L	30	Open Reflux Dichromate
Color, PCU	5	Visual Comparison
Conductivity, μ S/cm	122.3	Conductivity Meter
Nitrate, mg/L	0.45	Colorimetric
Chloride, mg/L	3.7	Titrimetric
Total Hardness as CaCO ₃ , mg/L	46	Titrimetric
Total Alkalinity as CaCO ₃ , mg/L	55.7	Titrimetric
Bicarbonate, mg/L	68	Titrimetric
Sulfate, mg/L	11.6	Colorimetric
Ammonia, mg/L	Less than 0.01	Titrimetric
Cyanide, mg/L	Less than 0.001	Colorimetric
Phosphate, mg/L	9.81	Colorimetric
Iron, mg/L	Less than 0.06	AAS
Manganese, mg/L	0.22	AAS
Sodium, mg/L	5.66	AAS
Fluoride, mg/L	0.28	Colorimetric
Calcium, mg/L	17.3	AAS
Zinc, mg/L	0.02	AAS
KmnO ₄ as O ₂ , mg/L	0.6	Titrimetric
Mercury, mg/L	Less than 0.0002	Cold Vapor - AAS

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