ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Sample Number	: 0103
Customer Name	: PT ERM Indonesia
Customer Address	: Centennial Tower, 40th Floor Suite B1 Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project Name/Activity	: Baseline ESIA
Project Address	: Desa Sempol, Bondowoso, Jawa Timur
Date of sampling	: February 23rd 2022
Date of received	: February 25th 2022
Date of analysis	: February 25th - March 24th 2022
Samples Matrix	: Ground Water Surface Water Soil
Analysis Result	: Attached

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

1. The test results relate only to the samples tested.
2. This report shall not be reproduced except in whole and upon the written approval of PT. KBL Laboratory.
3. The laboratory is not responsible for the sampling process for samples sent directly by the customer.
4. Complaints against the Test Result Report are carried out a maximum of 15 working days from the receipt of the Analytical Report by the customer.

KBL LAB
DIVISI LABORATORIUM LINGKUNGAN
PT. KARSA BUANA LESTARI

No : 31.3/FPP
Revisi : 2

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : GROUND WATER
Customer sample ID : **AT.1 = GW 01**

Sample number : 0103.1/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.58:2008

S: 08°04'21,04" E: 114°11'06,44"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AT.1	Method
A.	**Physical Properties**				
1.	Turbidity	NTU Scale	25	< 0.5	SNI 06-6989.25-2005
2.	Temperature	°C	Air temperature ± 3°C	19.0	SNI 06-6989.23-2005
3.	Conductivity	µmhos/cm	-	307	SNI 06-6989.1-2004
4.	Salinity **	‰	-	< 2	SM 2520B-2017
B.	**Chemical Properties**				
1.	pH	-	6.5 - 8.5	7.7	SNI 06-6989.11-2004
2.	BOD (5 Day 20°C) **	mg/L	-	7	SNI 6989.72:2009
3.	COD	mg/L	-	12	SNI 6989.2:2009
4.	DO **	mg/L	-	4.1	IK No : 19-90/IK (Direct Reading)
5.	Sulfur, as H_2S **	mg/L	-	< 0.005	HACH Method 8131
6.	Oxidation Reduction Potential (s)	mv	-	-12	Direct Reading
7.	Total Phosphate as P	mg/L	-	0.1	SM 4500-P.B-2017, SM 4500-P.E-2017
8.	Fluoride (F^-)	mg/L	1.5	0.2	SNI 06-6989.29-2005
9.	Nitrogen Total (s)	mg/L	-	1.6	Kjeldahl
10.	Ammonia (NH_3-N)	mg/L	-	0.02	SNI 06-6989.30-2005
11.	Cyanide (CN^-) **	mg/L	0.1	< 0.002	HACH Method 8027
12.	Free Chlorine (Cl_2) **	mg/L	-	< 0.02	HACH Method 8021
13.	Arsenic (As)	mg/L	0.05	< 0.004	SM 3030B-2017; SM 3120B-2017
14.	Total Chromium (Cr) **	mg/L	-	< 0.010	SM 3030E-2017; SM 3120B-2017
15.	Zinc (Zn)	mg/L	15	< 0.003	SM 3030B-2017; SM 3120B-2017
16.	Cadmium (Cd) **	mg/L	0.005	< 0.001	SM 3030B-2017; SM 3120B-2017
17.	Selenium (Se)	mg/L	0.01	< 0.003	SM 3030B-2017; SM 3120B-2017
18.	Lead (Pb) **	mg/L	0.05	< 0.008	SM 3030B-2017; SM 3120B-2017
19.	Copper (Cu)	mg/L	-	0.003	SM 3030B-2017; SM 3120B-2017
20.	Nickel (Ni)	mg/L	-	< 0.009	SNI 6989.18:2009
21.	Iron (Fe)	mg/L	1	< 0.016	SM 3500.Fe.B-2017
22.	Silver (Ag) **	mg/L	-	< 0.005	SM 3030E-2017; SM 3120B-2017
23.	Chromium Hexavalent (Cr^{6+})	mg/L	0.05	< 0.015	SNI 6989.71:2009
24.	Boron (B)	mg/L	-	0.03	SM 3030B-2017; SM 3120B-2017
25.	Mercury (Hg) **	mg/L	0.001	< 0.0001	IK No : 19-67/IK (ICP-OES)
26.	Phenol **	mg/L	-	< 0.002	HACH Method 8047
27.	Oil and Grease **	mg/L	-	0.3	SNI 06-6989.10-2011
C.	**Microbiological Properties**				
1.	Total Coliform **	CFU/100 mL	50	0	Membrane Filter

Information : *) = Peraturan Menteri Kesehatan RI No : 32 Tahun 2017 (Attachment I.A) Water Quality Standard for Sanitary Hygiene Purposes.
** = Parameters not accredited
(s) = Subcontracted parameters
< = Less than method detection limit
NTU = Nephelometric Turbidity Units

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7378020 (Hunting) Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : GROUND WATER
Customer sample ID : **AT.1 = GW 01**

Sample number : 0103.1/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.58:2008

S: 08°04'21,04" E: 114°11'06,44"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AT.1	Method
D.	**Others**				
1.	VOCs (s)	µg/L	-	< 2	USEPA Method 524.2
2.	SVOCs (s)	µg/L	-	< 0.01	USEPA Method 8270
3.	BTEX (s)	mg/L	-	< 0.5	USEPA Method 8260B
4.	TPH (s)	mg/L	-	< 0.1	USEPA Method 5320-F.1998
5.	PAHs (s)	µg/L	-	< 0.1	USEPA Method 8270[21]
6.	PCBs (s)	mg/L	-	< 0.1	USEPA Method 8270
7.	Organochlorine (s)	mg/L	-	< 0.001	USEPA Method 6630-1998
8.	Organophosphate (s)	mg/L	-	< 0.001	USEPA Method 8270
9.	Total Pesticides (s)	mg/L	0.1	0.001	SNI 06-2581-1991

Information : *) = Peraturan Menteri Kesehatan RI No : 32 Tahun 2017 (Attachment I.A)
Water Quality Standard for Sanitary Hygiene Purposes.
(s) = Subcontracted parameters
< = Less than method detection limit

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7378020 (Hunting) Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

KBL LAB
DIVISI LABORATORIUM LINGKUNGAN
PT. KARSA BUANA LESTARI

No : 31.3/FPP
Revisi : 2

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : GROUND WATER
Customer sample ID : **AT.2 = GW 02**

Sample number : 0103.2/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.58:2008

S: 08°03'33,64" E: 114°10'32,80"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AT.2	Method
A.	**Physical Properties**				
1.	Turbidity	NTU Scale	25	< 0.5	SNI 06-6989.25-2005
2.	Temperature	°C	Air temperature ± 3°C	19.0	SNI 06-6989.23-2005
3.	Conductivity	µmhos/cm	-	314	SNI 06-6989.1-2004
4.	Salinity **	‰	-	< 2	SM 2520B-2017
B.	**Chemical Properties**				
1.	pH	-	6.5 - 8.5	7.9	SNI 06-6989.11-2004
2.	BOD (5 Day 20°C) **	mg/L	-	5	SNI 6989.72:2009
3.	COD	mg/L	-	10	SNI 6989.2:2009
4.	DO **	mg/L	-	4.0	IK No : 19-90/IK (Direct Reading)
5.	Sulfur, as H_2S **	mg/L	-	< 0.005	HACH Method 8131
6.	Oxidation Reduction Potential (s)	mv	-	-14	Direct Reading
7.	Total Phosphate as P	mg/L	-	0.1	SM 4500-P.B-2017, SM 4500-P.E-2017
8.	Fluoride (F^-)	mg/L	1.5	0.3	SNI 06-6989.29-2005
9.	Nitrogen Total (s)	mg/L	-	1.8	Kjeldahl
10.	Ammonia (NH_3-N)	mg/L	-	0.05	SNI 06-6989.30-2005
11.	Cyanide (CN^-) **	mg/L	0.1	0.004	HACH Method 8027
12.	Free Chlorine (Cl_2) **	mg/L	-	< 0.02	HACH Method 8021
13.	Arsenic (As)	mg/L	0.05	< 0.004	SM 3030B-2017; SM 3120B-2017
14.	Total Chromium (Cr) **	mg/L	-	< 0.010	SM 3030E-2017; SM 3120B-2017
15.	Zinc (Zn)	mg/L	15	< 0.003	SM 3030B-2017; SM 3120B-2017
16.	Cadmium (Cd) **	mg/L	0.005	< 0.001	SM 3030B-2017; SM 3120B-2017
17.	Selenium (Se)	mg/L	0.01	< 0.003	SM 3030B-2017; SM 3120B-2017
18.	Lead (Pb) **	mg/L	0.05	< 0.008	SM 3030B-2017; SM 3120B-2017
19.	Copper (Cu)	mg/L	-	0.004	SM 3030B-2017; SM 3120B-2017
20.	Nickel (Ni)	mg/L	-	< 0.009	SNI 6989.18:2009
21.	Iron (Fe)	mg/L	1	< 0.016	SM 3500.Fe.B-2017
22.	Silver (Ag) **	mg/L	-	< 0.005	SM 3030E-2017; SM 3120B-2017
23.	Chromium Hexavalent (Cr^{6+})	mg/L	0.05	< 0.015	SNI 6989.71:2009
24.	Boron (B)	mg/L	-	< 0.013	SM 3030B-2017; SM 3120B-2017
25.	Mercury (Hg) **	mg/L	0.001	< 0.0001	IK No : 19-67/IK (ICP-OES)
26.	Phenol **	mg/L	-	< 0.002	HACH Method 8047
27.	Oil and Grease **	mg/L	-	0.2	SNI 06-6989.10-2011
C.	**Microbiological Properties**				
1.	Total Coliform **	CFU/100 mL	50	53	Membrane Filter

Information : *) = Peraturan Menteri Kesehatan RI No : 32 Tahun 2017 (Attachment I.A) Water Quality Standard for Sanitary Hygiene Purposes.
** = Parameters not accredited
(s) = Subcontracted parameters
< = Less than method detection limit
NTU = Nephelometric Turbidity Units

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7378020 (Hunting), Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : GROUND WATER
Customer sample ID : **AT.2 = GW 02**

Sample number : 0103.2/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.58:2008

S: 08°03'33,64" E: 114°10'32,80"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result	Method
				AT.2	
D.	**Others**				
1.	VOCs (s)	µg/L	-	< 0.5	USEPA Method 524.2
2.	SVOCs (s)	µg/L	-	< 0.01	USEPA Method 8270
3.	BTEX (s)	mg/L	-	< 0.5	USEPA Method 8260B
4.	TPH (s)	mg/L	-	< 0.1	USEPA Method 5320-F.1998
5.	PAHs (s)	µg/L	-	< 0.1	USEPA Method 8270[21]
6.	PCBs (s)	mg/L	-	< 0.1	USEPA Method 8270
7.	Organochlorine (s)	mg/L	-	< 0.001	USEPA Method 6630-1998
8.	Organophosphate (s)	mg/L	-	< 0.001	USEPA Method 8270
9.	Total Pesticides (s)	mg/L	0.1	0.001	SNI 06-2581-1991

Information : *) = Peraturan Menteri Kesehatan RI No : 32 Tahun 2017 (Attachment I.A) Water Quality Standard for Sanitary Hygiene Purposes.
(s) = Subcontracted parameters
< = Less than method detection limit

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7378020 (Hunting) Fax. 021- 7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

KBL LAB
DIVISI LABORATORIUM LINGKUNGAN
PT. KARSA BUANA LESTARI

No : 31.3/FPP
Revisi : 2

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : GROUND WATER
Customer sample ID : **AT.3 = GW 03**

Sample number : 0103.3/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.58:2008

S: 08°03'06,93" E: 114°10'07,72"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AT.3	Method
A.	**Physical Properties**				
1.	Turbidity	NTU Scale	25	< 0.5	SNI 06-6989.25-2005
2.	Temperature	°C	Air temperature ± 3°C	19.0	SNI 06-6989.23-2005
3.	Conductivity	µmhos/cm	-	325	SNI 06-6989.1-2004
4.	Salinity **	‰	-	< 2	SM 2520B-2017
B.	**Chemical Properties**				
1.	pH	-	6.5 - 8.5	7.8	SNI 06-6989.11-2004
2.	BOD (5 Day 20°C) **	mg/L	-	7	SNI 6989.72:2009
3.	COD	mg/L	-	14	SNI 6989.2:2009
4.	DO **	mg/L	-	4.0	IK No : 19-90/IK (Direct Reading)
5.	Sulfur, as H_2S **	mg/L	-	< 0.005	HACH Method 8131
6.	Oxidation Reduction Potential (s)	mv	-	-12	Direct Reading
7.	Total Phosphate as P	mg/L	-	0.1	SM 4500-P.B-2017, SM 4500-P.E-2017
8.	Fluoride (F^-)	mg/L	1.5	0.8	SNI 06-6989.29-2005
9.	Nitrogen Total (s)	mg/L	-	1.4	Kjeldahl
10.	Ammonia (NH_3-N)	mg/L	-	0.04	SNI 06-6989.30-2005
11.	Cyanide (CN^-) **	mg/L	0.1	< 0.002	HACH Method 8027
12.	Free Chlorine (Cl_2) **	mg/L	-	< 0.02	HACH Method 8021
13.	Arsenic (As)	mg/L	0.05	0.005	SM 3030B-2017; SM 3120B-2017
14.	Total Chromium (Cr) **	mg/L	-	< 0.010	SM 3030E-2017; SM 3120B-2017
15.	Zinc (Zn)	mg/L	15	< 0.003	SM 3030B-2017; SM 3120B-2017
16.	Cadmium (Cd) **	mg/L	0.005	< 0.001	SM 3030B-2017; SM 3120B-2017
17.	Selenium (Se)	mg/L	0.01	< 0.003	SM 3030B-2017; SM 3120B-2017
18.	Lead (Pb) **	mg/L	0.05	< 0.008	SM 3030B-2017; SM 3120B-2017
19.	Copper (Cu)	mg/L	-	0.004	SM 3030B-2017; SM 3120B-2017
20.	Nickel (Ni)	mg/L	-	< 0.009	SNI 6989.18:2009
21.	Iron (Fe)	mg/L	1	< 0.016	SM 3500.Fe.B-2017
22.	Silver (Ag) **	mg/L	-	< 0.005	SM 3030E-2017; SM 3120B-2017
23.	Chromium Hexavalent (Cr^{6+})	mg/L	0.05	< 0.015	SNI 6989.71:2009
24.	Boron (B)	mg/L	-	0.03	SM 3030B-2017; SM 3120B-2017
25.	Mercury (Hg) **	mg/L	0.001	< 0.0001	IK No : 19-67/IK (ICP-OES)
26.	Phenol **	mg/L	-	< 0.002	HACH Method 8047
27.	Oil and Grease **	mg/L	-	0.3	SNI 06-6989.10-2011
C.	**Microbiological Properties**				
1.	Total Coliform **	CFU/100 mL	50	41	Membrane Filter

Information : *) = Peraturan Menteri Kesehatan RI No : 32 Tahun 2017 (Attachment I.A) Water Quality Standard for Sanitary Hygiene Purposes.
** = Parameters not accredited
(s) = Subcontracted parameters
< = Less than method detection limit
NTU = Nephelometric Turbidity Units

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7376020 (Hunting) Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : GROUND WATER
Customer sample ID : **AT.3 = GW 03**

Sample number : 0103.3/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.58:2008

S: 08°03'06,93" E: 114°10'07,72"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AT.3	Method
D.	**Others**				
1.	VOCs (s)	µg/L	-	< 0.5	USEPA Method 524.2
2.	SVOCs (s)	µg/L	-	< 0.01	USEPA Method 8270
3.	BTEX (s)	mg/L	-	< 0.5	USEPA Method 8260B
4.	TPH (s)	mg/L	-	< 0.1	USEPA Method 5320-F.1998
5.	PAHs (s)	µg/L	-	< 0.1	USEPA Method 8270[21]
6.	PCBs (s)	mg/L	-	< 0.1	USEPA Method 8270
7.	Organochlorine (s)	mg/L	-	< 0.001	USEPA Method 6630-1998
8.	Organophosphate (s)	mg/L	-	< 0.001	USEPA Method 8270
9.	Total Pesticides (s)	mg/L	0.1	0.001	SNI 06-2581-1991

Information : *) = Peraturan Menteri Kesehatan RI No : 32 Tahun 2017 (Attachment I.A) Water Quality Standard for Sanitary Hygiene Purposes.
(s) = Subcontracted parameters
< = Less than method detection limit

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7378020 (Hunting), Fax. 021-7383319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.4 = SW 01**

Sample number : 0103.4/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 07°59'11,30" E: 114°10'39,56"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result	Method
				AP.4	
A.	**Physical Properties**				
1.	Temperature	°C	Deviation 3 [a]	22.5	SNI 06-6989.23-2005
2.	Total Dissolved Solid (TDS)	mg/L	1,000	530	SNI 06-6989.27-2005
3.	Total Suspended Solid (TSS)	mg/L	50	38	SNI 06-6989.3-2004
4.	Color	Pt-Co Unit	50	< 2	SNI 6989.80:2011
B.	**Chemical Properties**				
1.	pH	-	6 - 9	8.0	SNI 06-6989.11-2004
2.	BOD (5 Day 20°C)	mg/L	3	11	SNI 6989.72:2009
3.	COD	mg/L	25	27	SNI 6989.2:2009
4.	DO	mg/L	4 [b]	4.0	IK No : 19-90/IK (Direct Reading)
5.	Sulphate (SO_4^{2-})	mg/L	300	112	SNI 6989.20:2009
6.	Chloride (Cl^-)	mg/L	300	89	SNI 6989.19:2009
7.	Nitrate as N (NO_3-N)	mg/L	10	3	SNI 6989.79:2011
8.	Nitrite as N (NO_2-N)	mg/L	0.06	0.04	SM 4500.NO_2-2017
9.	Ammonia (NH_3-N)	mg/L	0.2	0.3	SNI 06-6989.30-2005
10.	Total Phosphate as P	mg/L	0.2	0.3	SM 4500-P.B-2017, SM 4500-P.E-2017
11.	Fluoride (F^-)	mg/L	1.5	0.8	SNI 06-6989.29-2005
12.	Barium (Ba)	mg/L	-	0.02	APHA 3030B, APHA 3120B
13.	Boron (B)	mg/L	1.0	0.3	SM 3030B-2017; SM 3120B-2017
14.	Arsenic (As)	mg/L	0.05	< 0.004	SM 3030B-2017; SM 3120B-2017
15.	Selenium (Se)	mg/L	0.05	< 0.003	SM 3030B-2017; SM 3120B-2017
16.	Iron (Fe)	mg/L	-	0.03	SM 3030B-2017; SM 3120B-2017
17.	Cadmium (Cd)	mg/L	0.01	< 0.001	SM 3030B-2017; SM 3120B-2017
18.	Cobalt (Co)	mg/L	0.2	< 0.004	SM 3030B-2017; SM 3120B-2017
19.	Manganese (Mn)	mg/L	-	0.03	SM 3030B-2017; SM 3120B-2017
20.	Nickel (Ni)	mg/L	0.05	< 0.011	SM 3030B-2017; SM 3120B-2017
21.	Zinc (Zn)	mg/L	0.05	< 0.003	SM 3030B-2017; SM 3120B-2017
22.	Copper (Cu)	mg/L	0.02	0.004	SM 3030B-2017; SM 3120B-2017
23.	Chromium Hexavalent (Cr^{6+})	mg/L	0.05	< 0.016	SNI 6989.71:2009

Information : *) = Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
< = Less than method detection limit
- = Not listed in regulation limit
a = Temperature deviation from natural conditions
b = Minimum value

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

33774
KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya Kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45 A, Bintaro Jakarta Selatan 12330.
Telp. 021-7378020 (Hunting). Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketingtab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.4 = SW 01**

Sample number : 0103.4/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 07°59'11,30" E: 114°10'39,56"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AP.4	Method
A.	**Physical Properties**				
1.	Debit **	m^3/s	-	0.27	SNI 8066:2015
2.	Floating Debris **	-	Nil	Exist	Visual
B.	**Chemical Properties**				
1.	Nitrogen Total (s)	mg/L	15	3.6	Kjeldahl
2.	Sulfur, as H_2S **	mg/L	0.002	0.005	HACH Method 8131
3.	Cyanide (CN^-) **	mg/L	0.02	0.004	HACH Method 8027
4.	Free Chlorine (Cl_2) **	mg/L	0.03	0.03	HACH Method 8021
5.	Mercury (Hg) **	mg/L	0.002	< 0.0001	IK No : 19-67/IK (ICP-OES)
6.	Lead (Pb) **	mg/L	0.03	< 0.009	SM 3030B-2017; SM 3120B-2017
7.	Oil and Grease **	mg/L	1	1	SNI 06-6989.10-2011
8.	Surfactant Anionic (MBAS) **	mg/L	0.2	< 0.013	SNI 06-6989.51-2005
9.	Phenol **	mg/L	0.005	< 0.002	HACH Method 8047
10.	Aldrin/ Dieldrin (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
11.	BHC (s)	µg/L	210	7.6	USEPA 8081B (2007)
12.	Chlordane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
13.	DDT (s)	µg/L	2	< 0.02	USEPA 8081B (2007)
14.	Endrin (s)	µg/L	4	< 0.01	USEPA 8081B (2007)
15.	Heptachlor (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
16.	Lindane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
17.	Methocychlor (s)	µg/L	-	< 0.02	USEPA 8081B (2007)
18.	Toxaphane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
C.	**Microbiological Properties**				
1.	Fecal Coliform **	MPN/100mL	1,000	39,980	IK No : 19-167/IK (Colilert)
2.	Total Coliform **	MPN/100mL	5,000	86,220	IK No : 19-167/IK (Colilert)
D.	**Radioactivity**				
1.	Gross - A (s)	Bq/ L	0.1	< 0.002	SNI 9696.2017
2.	Gross - B (s)	Bq/ L	1	< 0.005	SNI 9697.2017

Information : *) = Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
** = Parameters not accredited
< = Less than method detection limit
- = Not listed in regulation limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No 15A, Bintaro, Jakarta Selatan 12330
Telp. 021-7376020 (Hunting), Fax: 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.5 = SW 02**

Sample number : 0103.5/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 08°03'36,32" E: 114°12'31,11"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AP.5	Method
A.	**Physical Properties**				
1.	Temperature	°C	Deviation 3 [a]	20.5	SNI 06-6989.23-2005
2.	Total Dissolved Solid (TDS)	mg/L	1,000	52,124	SNI 06-6989.27-2005
3.	Total Suspended Solid (TSS)	mg/L	50	116	SNI 06-6989.3-2004
4.	Color	Pt-Co Unit	50	23	SNI 6989.80:2011
B.	**Chemical Properties**				
1.	pH	-	6 - 9	< 0.01	SNI 06-6989.11-2004
2.	BOD (5 Day 20°C)	mg/L	3	858	SNI 6989.72:2009
3.	COD	mg/L	25	1,785	SNI 6989.2:2009
4.	DO	mg/L	4 [b]	2.2	IK No : 19-90/IK (Direct Reading)
5.	Sulphate (SO_4^{2-})	mg/L	300	614	SNI 6989.20:2009
6.	Chloride (Cl^-)	mg/L	300	10,998	SNI 6989.19:2009
7.	Nitrate as N (NO_3-N)	mg/L	10	0.04	SNI 6989.79:2011
8.	Nitrite as N (NO_2-N)	mg/L	0.06	0.01	SM 4500.NO_2-2017
9.	Ammonia (NH_3-N)	mg/L	0.2	2.8	SNI 06-6989.30-2005
10.	Total Phosphate as P	mg/L	0.2	0.01	SM 4500-P.B-2017, SM 4500-P.E-2017
11.	Fluoride (F^-)	mg/L	1.5	0.9	SNI 06-6989.29-2005
12.	Barium (Ba)	mg/L	-	0.04	APHA 3030B, APHA 3120B
13.	Boron (B)	mg/L	1.0	16	SM 3030B-2017; SM 3120B-2017
14.	Arsenic (As)	mg/L	0.05	1	SM 3030B-2017; SM 3120B-2017
15.	Selenium (Se)	mg/L	0.05	0.03	SM 3030B-2017; SM 3120B-2017
16.	Iron (Fe)	mg/L	-	0.3	SM 3030B-2017; SM 3120B-2017
17.	Cadmium (Cd)	mg/L	0.01	0.1	SM 3030B-2017; SM 3120B-2017
18.	Cobalt (Co)	mg/L	0.2	0.3	SM 3030B-2017; SM 3120B-2017
19.	Manganese (Mn)	mg/L	-	15	SM 3030B-2017; SM 3120B-2017
20.	Nickel (Ni)	mg/L	0.05	0.1	SM 3030B-2017; SM 3120B-2017
21.	Zinc (Zn)	mg/L	0.05	2	SM 3030B-2017; SM 3120B-2017
22.	Copper (Cu)	mg/L	0.02	0.4	SM 3030B-2017; SM 3120B-2017
23.	Chromium Hexavalent (Cr^{6+})	mg/L	0.05	0.04	SNI 6989.71:2009

Information : *) = Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
< = Less than method detection limit
- = Not listed in regulation limit
a = Temperature deviation from natural conditions
b = Minimum value

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

33775
KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya Kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45 A, Bintaro Jakarta Selatan 12330.
Telp. 021-7378020 (Hunting). Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.5 = SW 02**

Sample number : 0103.5/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 08°03'36,32" E: 114°12'31,11"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AP.5	Method
A.	**Physical Properties**				
1.	Debit **	m^3/s	-	0.04	SNI 8066:2015
2.	Floating Debris **	-	Nil	Nil	Visual
B.	**Chemical Properties**				
1.	Nitrogen Total (s)	mg/L	15	2.9	Kjeldahl
2.	Sulfur, as H_2S **	mg/L	0.002	0.004	HACH Method 8131
3.	Cyanide (CN^-) **	mg/L	0.02	< 0.002	HACH Method 8027
4.	Free Chlorine (Cl_2) **	mg/L	0.03	< 0.02	HACH Method 8021
5.	Mercury (Hg) **	mg/L	0.002	0.01	IK No : 19-67/IK (ICP-OES)
6.	Lead (Pb) **	mg/L	0.03	1	SM 3030B-2017; SM 3120B-2017
7.	Oil and Grease **	mg/L	1	4	SNI 06-6989.10-2011
8.	Surfactant Anionic (MBAS) **	mg/L	0.2	3.1	SNI 06-6989.51-2005
9.	Phenol **	mg/L	0.005	0.009	HACH Method 8047
10.	Aldrin/ Dieldrin (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
11.	BHC (s)	µg/L	210	8.8	USEPA 8081B (2007)
12.	Chlordane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
13.	DDT (s)	µg/L	2	< 0.02	USEPA 8081B (2007)
14.	Endrin (s)	µg/L	4	< 0.01	USEPA 8081B (2007)
15.	Heptachlor (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
16.	Lindane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
17.	Methocychlor (s)	µg/L	-	< 0.02	USEPA 8081B (2007)
18.	Toxaphane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
C.	**Microbiological Properties**				
1.	Fecal Coliform **	MPN/100mL	1,000	14,775	IK No : 19-167/IK (Colilert)
2.	Total Coliform **	MPN/100mL	5,000	32,340	IK No : 19-167/IK (Colilert)
D.	**Radioactivity**				
1.	Gross - A (s)	Bq/ L	0.1	< 0.002	SNI 9696.2017
2.	Gross - B (s)	Bq/ L	1	< 0.005	SNI 9697.2017

Information : *) = Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
** = Parameters not accredited
< = Less than method detection limit
- = Not listed in regulation limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7376020 (Hunting), Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.6 = SW 03**

Sample number : 0103.6/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 08°03'44,59" E: 114°12'57,78"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AP.6	Method
A.	**Physical Properties**				
1.	Temperature	°C	Deviation 3 [a]	20.0	SNI 06-6989.23-2005
2.	Total Dissolved Solid (TDS)	mg/L	1,000	52,324	SNI 06-6989.27-2005
3.	Total Suspended Solid (TSS)	mg/L	50	170	SNI 06-6989.3-2004
4.	Color	Pt-Co Unit	50	27	SNI 6989.80:2011
B.	**Chemical Properties**				
1.	pH	-	6 - 9	< 0.01	SNI 06-6989.11-2004
2.	BOD (5 Day 20°C)	mg/L	3	1,093	SNI 6989.72:2009
3.	COD	mg/L	25	2,332	SNI 6989.2:2009
4.	DO	mg/L	4 [b]	2.2	IK No : 19-90/IK (Direct Reading)
5.	Sulphate (SO_4^{2-})	mg/L	300	330	SNI 6989.20:2009
6.	Chloride (Cl^-)	mg/L	300	10,998	SNI 6989.19:2009
7.	Nitrate as N (NO_3-N)	mg/L	10	0.1	SNI 6989.79:2011
8.	Nitrite as N (NO_2-N)	mg/L	0.06	0.01	SM 4500.NO_2-2017
9.	Ammonia (NH_3-N)	mg/L	0.2	1.4	SNI 06-6989.30-2005
10.	Total Phosphate as P	mg/L	0.2	0.01	SM 4500-P.B-2017, SM 4500-P.E-2017
11.	Fluoride (F^-)	mg/L	1.5	1.1	SNI 06-6989.29-2005
12.	Barium (Ba)	mg/L	-	0.04	APHA 3030B, APHA 3120B
13.	Boron (B)	mg/L	1.0	18	SM 3030B-2017; SM 3120B-2017
14.	Arsenic (As)	mg/L	0.05	1	SM 3030B-2017; SM 3120B-2017
15.	Selenium (Se)	mg/L	0.05	0.05	SM 3030B-2017; SM 3120B-2017
16.	Iron (Fe)	mg/L	-	0.3	SM 3030B-2017; SM 3120B-2017
17.	Cadmium (Cd)	mg/L	0.01	0.1	SM 3030B-2017; SM 3120B-2017
18.	Cobalt (Co)	mg/L	0.2	0.3	SM 3030B-2017; SM 3120B-2017
19.	Manganese (Mn)	mg/L	-	17	SM 3030B-2017; SM 3120B-2017
20.	Nickel (Ni)	mg/L	0.05	0.1	SM 3030B-2017; SM 3120B-2017
21.	Zinc (Zn)	mg/L	0.05	2	SM 3030B-2017; SM 3120B-2017
22.	Copper (Cu)	mg/L	0.02	0.5	SM 3030B-2017; SM 3120B-2017
23.	Chromium Hexavalent (Cr^{6+})	mg/L	0.05	0.1	SNI 6989.71:2009

Information : *) = Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
< = Less than method detection limit
- = Not listed in regulation limit
a = Temperature deviation from natural conditions
b = Minimum value

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

33776
KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya Kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45 A, Bintaro Jakarta Selatan 12330.
Telp. 021-7378020 (Hunting). Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.6 = SW 03**

Sample number : 0103.6/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 08°03'44,59" E: 114°12'57,78"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AP.6	Method
A.	**Physical Properties**				
1.	Debit **	m^3/s	-	0.04	SNI 8066:2015
2.	Floating Debris **	-	Nil	Nil	Visual
B.	**Chemical Properties**				
1.	Nitrogen Total (s)	mg/L	15	3.4	Kjeldahl
2.	Sulfur, as H_2S **	mg/L	0.002	< 0.002	HACH Method 8131
3.	Cyanide (CN^-) **	mg/L	0.02	< 0.002	HACH Method 8027
4.	Free Chlorine (Cl_2) **	mg/L	0.03	< 0.02	HACH Method 8021
5.	Mercury (Hg) **	mg/L	0.002	0.01	IK No : 19-67/IK (ICP-OES)
6.	Lead (Pb) **	mg/L	0.03	1	SM 3030B-2017; SM 3120B-2017
7.	Oil and Grease **	mg/L	1	4	SNI 06-6989.10-2011
8.	Surfactant Anionic (MBAS) **	mg/L	0.2	3.2	SNI 06-6989.51-2005
9.	Phenol **	mg/L	0.005	0.011	HACH Method 8047
10.	Aldrin/ Dieldrin (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
11.	BHC (s)	µg/L	210	8.1	USEPA 8081B (2007)
12.	Chlordane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
13.	DDT (s)	µg/L	2	< 0.02	USEPA 8081B (2007)
14.	Endrin (s)	µg/L	4	< 0.01	USEPA 8081B (2007)
15.	Heptachlor (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
16.	Lindane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
17.	Methocychlor (s)	µg/L	-	< 0.02	USEPA 8081B (2007)
18.	Toxaphane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
C.	**Microbiological Properties**				
1.	Fecal Coliform **	MPN/100mL	1,000	18,450	IK No : 19-167/IK (Colilert)
2.	Total Coliform **	MPN/100mL	5,000	40,400	IK No : 19-167/IK (Colilert)
D.	**Radioactivity**				
1.	Gross - A (s)	Bq/ L	0.1	< 0.002	SNI 9696.2017
2.	Gross - B (s)	Bq/ L	1	< 0.005	SNI 9697.2017

Information : *) = Peraturan Pemerintah Republik Indonensia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
** = Parameters not accredited
< = Less than method detection limit
- = Not listed in regulation limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-2378020 (Hunting), Fax. 021- 7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.7 = SW 04**

Sample number : 0103.7/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 08°10'52,26" E: 114°20'16,95"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AP.7	Method
A.	**Physical Properties**				
1.	Temperature	°C	Deviation 3 [a]	25.0	SNI 06-6989.23-2005
2.	Total Dissolved Solid (TDS)	mg/L	1,000	122	SNI 06-6989.27-2005
3.	Total Suspended Solid (TSS)	mg/L	50	18	SNI 06-6989.3-2004
4.	Color	Pt-Co Unit	50	< 2	SNI 6989.80:2011
B.	**Chemical Properties**				
1.	pH	-	6 - 9	7.1	SNI 06-6989.11-2004
2.	BOD (5 Day 20°C)	mg/L	3	9	SNI 6989.72:2009
3.	COD	mg/L	25	20	SNI 6989.2:2009
4.	DO	mg/L	4 [b]	4.1	IK No : 19-90/IK (Direct Reading)
5.	Sulphate (SO_4^{2-})	mg/L	300	68	SNI 6989.20:2009
6.	Chloride (Cl^-)	mg/L	300	5	SNI 6989.19:2009
7.	Nitrate as N (NO_3-N)	mg/L	10	1	SNI 6989.79:2011
8.	Nitrite as N (NO_2-N)	mg/L	0.06	0.01	SM 4500.NO_2-2017
9.	Ammonia (NH_3-N)	mg/L	0.2	0.2	SNI 06-6989.30-2005
10.	Total Phosphate as P	mg/L	0.2	0.01	SM 4500-P.B-2017, SM 4500-P.E-2017
11.	Fluoride (F^-)	mg/L	1.5	0.8	SNI 06-6989.29-2005
12.	Barium (Ba)	mg/L	-	0.01	APHA 3030B, APHA 3120B
13.	Boron (B)	mg/L	1.0	0.05	SM 3030B-2017; SM 3120B-2017
14.	Arsenic (As)	mg/L	0.05	< 0.004	SM 3030B-2017; SM 3120B-2017
15.	Selenium (Se)	mg/L	0.05	< 0.003	SM 3030B-2017; SM 3120B-2017
16.	Iron (Fe)	mg/L	-	0.3	SM 3030B-2017; SM 3120B-2017
17.	Cadmium (Cd)	mg/L	0.01	< 0.001	SM 3030B-2017; SM 3120B-2017
18.	Cobalt (Co)	mg/L	0.2	< 0.004	SM 3030B-2017; SM 3120B-2017
19.	Manganese (Mn)	mg/L	-	0.1	SM 3030B-2017; SM 3120B-2017
20.	Nickel (Ni)	mg/L	0.05	< 0.011	SM 3030B-2017; SM 3120B-2017
21.	Zinc (Zn)	mg/L	0.05	0.02	SM 3030B-2017; SM 3120B-2017
22.	Copper (Cu)	mg/L	0.02	0.004	SM 3030B-2017; SM 3120B-2017
23.	Chromium Hexavalent (Cr^{6+})	mg/L	0.05	0.01	SNI 6989.71:2009

Information : *) = Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
< = Less than method detection limit
- = Not listed in regulation limit
a = Temperature deviation from natural conditions
b = Minimum value

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

33777
KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya Kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45 A, Bintaro Jakarta Selatan 12330.
Telp. 021-7378020 (Hunting). Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SURFACE WATER
Customer sample ID : **AP.7 = SW 04**

Sample number : 0103.7/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022
Sampling method : SNI 6989.57:2008

S: 08°10'52,26" E: 114°20'16,95"

Test Results

No.	Parameter	Unit	Regulation Limit *)	Result AP.7	Method
A.	**Physical Properties**				
1.	Debit **	m^3/s	-	0.05	SNI 8066:2015
2.	Floating Debris **	-	Nil	Exist	Visual
B.	**Chemical Properties**				
1.	Nitrogen Total (s)	mg/L	15	3.6	Kjeldahl
2.	Sulfur, as H_2S **	mg/L	0.002	0.006	HACH Method 8131
3.	Cyanide (CN^-) **	mg/L	0.02	< 0.002	HACH Method 8027
4.	Free Chlorine (Cl_2) **	mg/L	0.03	0.02	HACH Method 8021
5.	Mercury (Hg) **	mg/L	0.002	< 0.0001	IK No : 19-67/IK (ICP-OES)
6.	Lead (Pb) **	mg/L	0.03	< 0.009	SM 3030B-2017; SM 3120B-2017
7.	Oil and Grease **	mg/L	1	1	SNI 06-6989.10-2011
8.	Surfactant Anionic (MBAS) **	mg/L	0.2	0.1	SNI 06-6989.51-2005
9.	Phenol **	mg/L	0.005	< 0.002	HACH Method 8047
10.	Aldrin/ Dieldrin (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
11.	BHC (s)	µg/L	210	7.5	USEPA 8081B (2007)
12.	Chlordane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
13.	DDT (s)	µg/L	2	< 0.02	USEPA 8081B (2007)
14.	Endrin (s)	µg/L	4	< 0.01	USEPA 8081B (2007)
15.	Heptachlor (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
16.	Lindane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
17.	Methocychlor (s)	µg/L	-	< 0.02	USEPA 8081B (2007)
18.	Toxaphane (s)	µg/L	-	< 0.01	USEPA 8081B (2007)
C.	**Microbiological Properties**				
1.	Fecal Coliform **	MPN/100mL	1,000	38,790	IK No : 19-167/IK (Colilert)
2.	Total Coliform **	MPN/100mL	5,000	84,500	IK No : 19-167/IK (Colilert)
D.	**Radioactivity**				
1.	Gross - A (s)	Bq/ L	0.1	< 0.002	SNI 9696.2017
2.	Gross - B (s)	Bq/ L	1	< 0.005	SNI 9697.2017

Information : *) = Peraturan Pemerintah Republik Indonensia Nomor 22 Tahun 2021 (Attachment VI.I, Class II) National Water Quality Standards
** = Parameters not accredited
< = Less than method detection limit
- = Not listed in regulation limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 15A, Bintaro, Jakarta Selatan 12330
Telp. 021-7378029 (Hunting), Fax. 021- 7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SOIL
Customer sample ID : **T.8 = Soil 01**

Sample number : 0103.8/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022

S: 08°04'04,79" E: 114°10'29,59"

Test Results

No.	Parameter	Unit	Result	Method
1.	Total Chromium (Cr)	mg/L	1	IK No : 19-101/IK (Spectrophotometry)
2.	Cadmium (Cd)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
3.	Arsenic (As)	mg/L	2	USEPA 1311; SM 3030E-2017; SM 3120B-2017
4.	Lead (Pb)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
5.	Mercury (Hg)	mg/L	5	IK No : 19-120/IK (ICP-OES)
6.	Copper (Cu)	mg/L	17	USEPA 1311; SM 3030E-2017; SM 3120B-2017
7.	Iron (Fe) **	mg/L	7,815	USEPA 1311; SM 3030E-2017; SM 3120B-2017
8.	Manganese (Mn)	mg/L	246	USEPA 1311; SM 3030E-2017; SM 3120B-2017
9.	VCOs (s)	mg/kg	< 0.01	USEPA Methode 1653
10.	SVOCs (s)	mg/kg	< 0.01	USEPA Methode 1653
11.	BTEX (s)	mg/kg	< 0.01	USEPA Methode 1653
12.	Phenol **	mg/kg	< 0.02	HACH Method 8047
13.	TPH (s)	mg/kg	< 0.02	USEPA Methode 8260
14.	PAHs (s)	mg/kg	< 0.02	USEPA Methode 8260
15.	PCBs (s)	mg/kg	< 0.001	USEPA Methode 8260
16.	Organochlorine (s)	mg/kg	< 0.001	USEPA Methode 8270
17.	OrganoPhosphate (s)	mg/kg	< 0.001	USEPA Methode 8270
18.	Pestiside (s)	mg/kg	< 0.001	USEPA Methode 8270

Information : ** = Parameters not accredited
< = Less than method detection limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 35A, Bintaro, Jakarta Selatan 12330
Telp. 021-7379020 (Hunting) Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SOIL
Customer sample ID : **T.9 = Soil 02**

Sample number : 0103.9/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022

S: 08°03'55,48" E: 114°10'19,89"

Test Results

No.	Parameter	Unit	Result	Method
1.	Total Chromium (Cr)	mg/L	1	IK No : 19-101/IK (Spectrophotometry)
2.	Cadmium (Cd)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
3.	Arsenic (As)	mg/L	4	USEPA 1311; SM 3030E-2017; SM 3120B-2017
4.	Lead (Pb)	mg/L	3	USEPA 1311; SM 3030E-2017; SM 3120B-2017
5.	Mercury (Hg)	mg/L	1	IK No : 19-120/IK (ICP-OES)
6.	Copper (Cu)	mg/L	26	USEPA 1311; SM 3030E-2017; SM 3120B-2017
7.	Iron (Fe) **	mg/L	9,616	USEPA 1311; SM 3030E-2017; SM 3120B-2017
8.	Manganese (Mn)	mg/L	197	USEPA 1311; SM 3030E-2017; SM 3120B-2017
9.	VCOs (s)	mg/kg	< 0.01	USEPA Methode 1653
10.	SVOCs (s)	mg/kg	< 0.01	USEPA Methode 1653
11.	BTEX (s)	mg/kg	< 0.01	USEPA Methode 1653
12.	Phenol **	mg/kg	< 0.02	HACH Method 8047
13.	TPH (s)	mg/kg	< 0.02	USEPA Methode 8260
14.	PAHs (s)	mg/kg	< 0.02	USEPA Methode 8260
15.	PCBs (s)	mg/kg	< 0.001	USEPA Methode 8260
16.	Organochlorine (s)	mg/kg	< 0.001	USEPA Methode 8270
17.	OrganoPhosphate (s)	mg/kg	< 0.001	USEPA Methode 8270
18.	Pestiside (s)	mg/kg	< 0.001	USEPA Methode 8270

Information : ** = Parameters not accredited
< = Less than method detection limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7317 6020 (Hunting) Fax. 021- 7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SOIL
Customer sample ID : **T.10 = Soil 03**

Sample number : 0103.10/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022

S: 08°03'48,94" E: 114°09'22,08"

Test Results

No.	Parameter	Unit	Result	Method
1.	Total Chromium (Cr)	mg/L	1	IK No : 19-101/IK (Spectrophotometry)
2.	Cadmium (Cd)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
3.	Arsenic (As)	mg/L	2	USEPA 1311; SM 3030E-2017; SM 3120B-2017
4.	Lead (Pb)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
5.	Mercury (Hg)	mg/L	1	IK No : 19-120/IK (ICP-OES)
6.	Copper (Cu)	mg/L	15	USEPA 1311; SM 3030E-2017; SM 3120B-2017
7.	Iron (Fe) **	mg/L	7,502	USEPA 1311; SM 3030E-2017; SM 3120B-2017
8.	Manganese (Mn)	mg/L	246	USEPA 1311; SM 3030E-2017; SM 3120B-2017
9.	VCOs (s)	mg/kg	< 0.01	USEPA Methode 1653
10.	SVOCs (s)	mg/kg	< 0.01	USEPA Methode 1653
11.	BTEX (s)	mg/kg	< 0.01	USEPA Methode 1653
12.	Phenol **	mg/kg	< 0.02	HACH Method 8047
13.	TPH (s)	mg/kg	< 0.02	USEPA Methode 8260
14.	PAHs (s)	mg/kg	< 0.02	USEPA Methode 8260
15.	PCBs (s)	mg/kg	< 0.001	USEPA Methode 8260
16.	Organochlorine (s)	mg/kg	< 0.001	USEPA Methode 8270
17.	OrganoPhosphate (s)	mg/kg	< 0.001	USEPA Methode 8270
18.	Pestiside (s)	mg/kg	< 0.001	USEPA Methode 8270

Information : ** = Parameters not accredited
< = Less than method detection limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-73778020 (Hunting) Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SOIL
Customer sample ID : **T.11 = Soil 04**

Sample number : 0103.11/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022

S: 08°03'33,36" E: 114°10'04,26"

Test Results

No.	Parameter	Unit	Result	Method
1.	Total Chromium (Cr)	mg/L	1	IK No : 19-101/IK (Spectrophotometry)
2.	Cadmium (Cd)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
3.	Arsenic (As)	mg/L	2	USEPA 1311; SM 3030E-2017; SM 3120B-2017
4.	Lead (Pb)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
5.	Mercury (Hg)	mg/L	1	IK No : 19-120/IK (ICP-OES)
6.	Copper (Cu)	mg/L	15	USEPA 1311; SM 3030E-2017; SM 3120B-2017
7.	Iron (Fe) **	mg/L	9,429	USEPA 1311; SM 3030E-2017; SM 3120B-2017
8.	Manganese (Mn)	mg/L	229	USEPA 1311; SM 3030E-2017; SM 3120B-2017
9.	VCOs (s)	mg/kg	< 0.01	USEPA Methode 1653
10.	SVOCs (s)	mg/kg	< 0.01	USEPA Methode 1653
11.	BTEX (s)	mg/kg	< 0.01	USEPA Methode 1653
12.	Phenol **	mg/kg	< 0.02	HACH Method 8047
13.	TPH (s)	mg/kg	< 0.02	USEPA Methode 8260
14.	PAHs (s)	mg/kg	< 0.02	USEPA Methode 8260
15.	PCBs (s)	mg/kg	< 0.001	USEPA Methode 8260
16.	Organochlorine (s)	mg/kg	< 0.001	USEPA Methode 8270
17.	OrganoPhosphate (s)	mg/kg	< 0.001	USEPA Methode 8270
18.	Pestiside (s)	mg/kg	< 0.001	USEPA Methode 8270

Information : ** = Parameters not accredited
< = Less than method detection limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7376020 (Hunting) Fax. 021- 7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com

ANALYTICAL REPORT

Number : 0103/LHP/II/2022

Customer name : **PT ERM Indonesia**
Customer address : Centennial Tower, 40th Floor Suite B1
Jl. Gatot Subroto Kav. 24-25, Jakarta Selatan
Project name/activity : **Baseline ESIA**
Project address : Desa Sempol, Bondowoso,
Jawa Timur
Sample matrix : SOIL
Customer sample ID : **T.12 = Soil 05**

Sample number : 0103.12/II/2022
Date of sampling : February 23rd 2022
Date of received : February 25th 2022
Date of analysis : February 25th - March 24th 2022

S: 08°03'26,11" E: 114°09'53,02"

Test Results

No.	Parameter	Unit	Result	Method
1.	Total Chromium (Cr)	mg/L	1	IK No : 19-101/IK (Spectrophotometry)
2.	Cadmium (Cd)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
3.	Arsenic (As)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
4.	Lead (Pb)	mg/L	1	USEPA 1311; SM 3030E-2017; SM 3120B-2017
5.	Mercury (Hg)	mg/L	1	IK No : 19-120/IK (ICP-OES)
6.	Copper (Cu)	mg/L	22	USEPA 1311; SM 3030E-2017; SM 3120B-2017
7.	Iron (Fe) **	mg/L	10,607	USEPA 1311; SM 3030E-2017; SM 3120B-2017
8.	Manganese (Mn)	mg/L	325	USEPA 1311; SM 3030E-2017; SM 3120B-2017
9.	VCOs (s)	mg/L	< 0.01	USEPA Methode 1653
10.	SVOCs (s)	mg/L	< 0.01	USEPA Methode 1653
11.	BTEX (s)	mg/L	< 0.01	USEPA Methode 1653
12.	Phenol **	mg/L	< 0.02	HACH Method 8047
13.	TPH (s)	mg/L	< 0.02	USEPA Methode 8260
14.	PAHs (s)	mg/L	< 0.02	USEPA Methode 8260
15.	PCBs (s)	mg/L	< 0.001	USEPA Methode 8260
16.	Organochlorine (s)	mg/L	< 0.001	USEPA Methode 8270
17.	OrganoPhosphate (s)	mg/L	< 0.001	USEPA Methode 8270
18.	Pestiside (s)	mg/L	< 0.001	USEPA Methode 8270

Information : ** = Parameters not accredited
< = Less than method detection limit
(s) = Subcontracted parameters

Jakarta, March 25th 2022

Drs. E. U. Harahap, M. Sc
Director Laboratory

KANTOR I : Perkantoran Bintaro 8, Jl. Bintaro Permai Raya kav. 8/III Bintaro Jakarta Selatan 12330
KANTOR II : Jl. Kesehatan IV No. 45A, Bintaro, Jakarta Selatan 12330
Telp. 021-7378020 (Hunting), Fax. 021-7353319 website : www.ptkarsabuanalestari.com email : marketing@ptkarsabuanalestari.com - marketinglab@ptkarsabuanalestari.com