

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 1 อ่างเก็บน้ำหนองนาตาล

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 15:10 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020457

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE250-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.2 (27.2°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	79.3 (27.1°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	3.8	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	7.1	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	ND	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	1.5	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	36	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	40	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	30.0	-	1.0	4.0
CHLORIDE ^c	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	ND	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.479	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.50	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.45	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	135	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 2 ห้วยหินดอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 14:45 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020458

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE250-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0002			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.8 (31.3°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	82.9 (31.0°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	170	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	5.8	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.4	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	145	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	68	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	216	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	213	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	7.9	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^b	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	2.66	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.83	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.61	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.59	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID			
SEDIMENT			BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 4 นองอีทุย

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 10:10 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020461

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE250-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0003			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	8.5 (25.3°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	259 (25.3°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	18	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	5.0	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.8	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	15.3	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	100	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	118	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	41.8	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	13.8	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	5.5	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.573	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.52	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.94	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0003			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.74	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 5 นนงภัก

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 11:05 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020463

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE250-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0004			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	8.5 (25.6°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	171 (25.6°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	13	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	4.9	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	4.4	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	124	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	57	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	77	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	26.8	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl B)	118	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	4.4	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.496	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.81	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.88	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0004			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.85	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID			
SEDIMENT			BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

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(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 6 ห้วยน้ำเค็มดอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 13:30 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020465

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE250-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0005			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.0 (26.2°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	131 (26.3°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	28	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	4.2	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.0	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	519	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	74	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	131	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	22.9	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	20.2	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^b	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	1.85	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.29	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.72	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE250-0005			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	8.98	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID			
SEDIMENT			BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Bhuchonk Panichlertumpi

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 7 ห้วยน้ำเค็มตอนล่าง

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 10:30 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020621

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE251-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.3 (24.6°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	191 (24.7°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	24	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	4.4	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.6	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	19.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	97	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	121	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	32.3	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	16.3	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	5.4	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0005	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	1.80	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.64	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.80	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	8.72	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
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(2) AGRICULTURE

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 8 ห้วยวังแสงดอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 10:45 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN AHPHATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020622

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE251-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0002			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.6 (24.4°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	179 (24.3°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	9.8	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	3.5	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.0	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	6.4	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	118	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	126	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	48.9	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	17.7	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	4.2	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0008	≤ 0.01	0.0003	-
IRON ^b	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	1.81	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.28	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.49	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	10.0	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 9 ห้วยวังแสงตอนล่าง

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 12:50 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020623

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE251-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0003			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.9 (28.0°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	214 (28.2°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	85	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	3.2	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	2.3	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	52.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	184	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	238	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	34.7	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	30.1	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0006	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	4.76	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.00	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	6.18	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0003			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	15.4	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID			
SEDIMENT			BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 10 ห้วยหมากบัว

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 12:25 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020625

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE251-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0004			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.6 (23.6°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	254 (23.6°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	70	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	3.7	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.8	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	48.4	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	175	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	225	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	42.6	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	37.0	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0007	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	3.88	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.18	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	115	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0004			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	14.0	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8,
B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY
ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24,
B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 11 ห้วยสามพาดดอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 12:10 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020628

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE251-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0005			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.4 (25.2°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	1,889 (25.2°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	14	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	4.0	≥ 4.0	0.5	-
SALINITY ^b	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	1.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	1.6	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	8.8	-	-	5.0
TOTAL DISSOLVED SOLIDS ^c	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	1,051	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	1,080	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	99.4	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	569	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	7.7	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0004	≤ 0.01	0.0003	-
IRON ^f	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	1.01	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.57	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	18.3	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0005			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	216	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pompimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 12 ห้วยสามพาดดอนล่าง (ก่อนลงหนองหาน)

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : FEBRUARY 27, 2025

SAMPLING TIME : 11:48 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS CHOMTHANAN AHPHATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020630

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE251-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0006			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.9 (26.0°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	324 (26.0°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	16	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	4.7	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.2	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	1.9	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	11.9	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	135	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	170	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	41.8	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	64.1	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0003	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.629	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.62	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.82	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AE251-0006			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	29.6	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pormpimon@appc.co.th

SAMPLING SOURCE : -

SAMPLE TYPE : BLANK (SURFACE WATER)

SAMPLING DATE : -

SAMPLING TIME : -

SAMPLING METHOD : -

SAMPLING BY : -

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 28, 2025

ANALYTICAL DATE : FEBRUARY 28 - MARCH 7, 2025

ISSUE DATE : MARCH 12, 2025

REPORT NO. : 2025-U020455

WORK NO. : 2025-001266

ANALYSIS NO. : 2025-FB0288, 2025-TB0250

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 2025-FB0288	2 2025-TB0250		
TURBIDITY	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	< 0.5	< 0.5	-	0.5
BIOCHEMICAL OXYGEN DEMAND	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	< 1.0	< 1.0	-	1.0
TOTAL SUSPENDED SOLIDS	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	< 5.0	< 5.0	-	5.0
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	< 25	< 25	-	25
TOTAL SOLIDS	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	ND	ND	25	-
TOTAL HARDNESS	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	ND	ND	1.0	4.0
CHLORIDE	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	ND	ND	0.5	2.0
PHOSPHORUS	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	ND	0.01	0.05
SULPHATE	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	ND	1.0	4.0
METALS						
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	ND	0.0003	-
IRON	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	ND	ND	0.005	0.050
MAGNESIUM	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-
POTASSIUM	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 2025-FB0288	2 2025-TB0250		
SODIUM	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -	COLOURLESS/CLEAR -		

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

RESULT 1 : FIELD BLANK

RESULT 2 : TRIP BLANK

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 1 อ่างเก็บน้ำหนองนาตาล

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 09:20 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR. KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047411

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK492-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	8.2 (29.6°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	94.9 (29.2°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	6.2	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	5.3	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	ND	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	< 1.0	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	37	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	59	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	35.2	-	1.0	4.0
CHLORIDE ^c	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	ND	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	-	0.01	0.05
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^f	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.272	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.61	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.00	-	0.005	-

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.817	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 2 ห้วยหินดอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 10:50 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN AHPHATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047412

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK492-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0002			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.4 (29.6°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	74.0 (29.2°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	160	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	3.6	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	ND	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	2.0	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	49.5	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	149	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	206	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	14.4	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	2.5	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^f	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	5.21	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.80	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.21	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.40	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 3 ห้วยหินดอนล่าง

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 09:40 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN AHPHATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047413

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK492-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0003			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.1 (27.0°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	213 (27.4°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	650	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	2.6	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	30.7	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	336	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	500	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	887	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	44.8	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	13.4	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	18.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0024	≤ 0.01	0.0003	-
IRON ^b	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	19.3	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	5.82	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	17.2	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0003			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	12.1	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			BROWN/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
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(2) AGRICULTURE

ND : NOT DETECTED.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 4 นนงอีหุย

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 11:20 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047414

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK492-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0004			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	7.8 (30.0°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	196 (30.2°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	25	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	5.7	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	2.9	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	15.9	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	107	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	129	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	45.6	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	14.4	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.668	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.40	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	8.80	-	0.005	-

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0004			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.01	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 5 หนองกุง

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 16:00 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047415

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK492-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0005			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.6 (33.8°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	159 (33.9°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	16	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	5.6	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.1	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	10.4	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	75	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	99	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	30.4	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	13.9	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0004	≤ 0.01	0.0003	-
IRON ^b	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.704	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.84	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	5.50	-	0.005	-

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0005			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.40	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 6 ห้วยน้ำเค็มดอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 11:50 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047416

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK492-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0006			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	7.7 (30.5°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	162 (30.1°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	55	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	4.2	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	1.7	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	215	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	94	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	132	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	16.8	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	27.6	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	2.76	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	1.71	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	5.96	-	0.005	-

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK492-0006			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	8.75	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

ND : NOT DETECTED.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 7 ห้วยน้ำเค็มดอนล่าง

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 13:00 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN AHPHATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047418

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK491-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.5 (31.6°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	209 (31.6°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	31	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	4.8	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	1.7	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	22.7	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	102	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	142	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	30.4	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	26.8	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	7.3	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0004	≤ 0.01	0.0003	-
IRON ^b	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	1.51	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.78	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.86	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	12.0	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Wilailak Srisuk

(MISS WILAILAK SRISUK)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 8 ห้วยวังแสงตอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 14:05 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047419

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK491-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0002			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.4 (34.8°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	202 (34.5°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	60	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	6.2	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.1	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	319	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	138	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	151	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	49.6	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	8.9	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	13.1	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0005	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	2.45	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.72	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.27	-	0.005	-

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.24	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Wilailak Srisuk.

(MISS WILAILAK SRISUK)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 9 ห้วยวังแสงตอนล่าง

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 12:10 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047420

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK491-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0003			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.5 (30.7°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	258 (30.9°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	100	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	5.4	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.1	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	2.6	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	59.9	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	193	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	229	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	20.0	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	38.7	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	4.8	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0005	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	5.33	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.52	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	8.05	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0003			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	13.4	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Wilailak Srisuk

(MISS WILAILAK SRISUK)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 10 ห้วยหมากบัว

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 14:25 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047421

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK491-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0004			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	7.5 (31.1°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	401 (30.7°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	340	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	3.4	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.2	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	8.2	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	136	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	386	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	531	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	56.8	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	516	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	5.6	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0006	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	19.2	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.73	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	24.6	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0004			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	15.4	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			BROWN/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

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(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Wilailak Srisuk

(MISS WILAILAK SRISUK)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 11 ห้วยสามพาดตอนบน

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 14:40 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047422

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK491-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0005			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.4 (31.4°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	1,280 (31.2°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	60	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	5.4	≥ 4.0	0.5	-
SALINITY ^b	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.6	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.0	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	33.4	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	631	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	689	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	88.1	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl ⁻ B)	323	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	6.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	127	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	6.11	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	16.0	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0005			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	104	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID			
SEDIMENT			BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Wilailak Srisuk

(MISS WILAILAK SRISUK)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 12 ห้วยสามพาดตอนล่าง (ก่อนลงหนองหาน)

SAMPLE TYPE : SURFACE WATER

SAMPLING DATE : MAY 15, 2025

SAMPLING TIME : 15:10 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR KANAPON KIRANON

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047423

WORK NO. : 2025-001266

ANALYSIS NO. : T25AK491-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0006			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	8.4 (34.6°C)	5.0-9.0	-	-
ELECTRICAL CONDUCTIVITY ^b	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	678 (35.1°C)	-	0.1	-
TURBIDITY ^c	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	75	-	-	0.5
DISSOLVED OXYGEN ^c	mg/L	AZIDE MODIFICATION METHOD (AT SITE) SM: PART 4500-O C	8.2	≥ 4.0	0.5	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.3	-	0.1	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	6.0	≤ 2.0	-	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	33.9	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	244	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	306	-	25	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	60.0	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500 -Cl- B)	121	-	0.5	2.0
PHOSPHORUS ^c	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	< 0.05	-	0.01	0.05
SULPHATE ^a	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	8.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0003	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	0.840	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.72	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.00	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			SURFACE WATER T25AK491-0006			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	37.6	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH AN ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

Wilailak Sriruk

(MISS WILAILAK SRISUK)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : -

SAMPLE TYPE : BLANK (SURFACE WATER)

SAMPLING DATE : -

SAMPLING TIME : -

SAMPLING METHOD : -

SAMPLING BY : -

ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MAY 16, 2025

ANALYTICAL DATE : MAY 16-26, 2025

ISSUE DATE : MAY 29, 2025

REPORT NO. : 2025-U047410

WORK NO. : 2025-001266

ANALYSIS NO. : 2025-FB0724, 2025-TB0614

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 2025-FB0724	2 2025-TB0614		
TURBIDITY	NTU	NEPHELOMETRIC METHOD (SM: PART 2130 B)	< 0.5	< 0.5	-	0.5
BIOCHEMICAL OXYGEN DEMAND	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	< 1.0	< 1.0	-	1.0
TOTAL SUSPENDED SOLIDS	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	< 5.0	-	5.0
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	< 25	< 25	-	25
TOTAL SOLIDS	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	ND	ND	25	-
TOTAL HARDNESS	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	ND	ND	1.0	4.0
CHLORIDE	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	ND	ND	0.5	2.0
PHOSPHORUS	mg/L P	ASCORBIC ACID METHOD (SM: PART 4500-P E)	ND	ND	0.01	0.05
SULPHATE	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	ND	1.0	4.0
METALS						
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	ND	0.0003	-
IRON	mg/L Fe	UAE.TP.HEM.005 BASED ON SM: PART 3030 E AND PART 3111 B	ND	ND	0.005	0.050
MAGNESIUM	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-
POTASSIUM	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 2025-FB0724	2 2025-TB0614		
SODIUM	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -	COLOURLESS/CLEAR -		

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

RESULT 1 : FIELD BLANK

RESULT 2 : TRIP BLANK

ND : NOT DETECTED.

Benjawan V.

(MISS BENJAWAN VIRIYOTHA)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME	: ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)					
CUSTOMER NAME	: ASIA PACIFIC POTASH CORPORATION LIMITED					
ADDRESS	: 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330					
CONTACT INFORMATION	: TEL : 084 227 3245 e-mail : pornpimon@appc.co.th					
SAMPLING SOURCE	: สถานีที่ 1 MW-6(25) บริเวณบ้านหนองตะโกเหนือ (BH96-16D)					
SAMPLE TYPE	: GROUNDWATER	RECEIVED DATE	: FEBRUARY 28, 2025			
SAMPLING DATE	: FEBRUARY 27, 2025	ANALYTICAL DATE	: FEBRUARY 28 - MARCH 7, 2025			
SAMPLING TIME	: 09:55 HOUR	ISSUE DATE	: MARCH 12, 2025			
SAMPLING METHOD	: SUBMERSIBLE PUMP*	REPORT NO.	: 2025-U020660			
SAMPLING BY	: MR ANUSART SUAYDEE	WORK NO.	: 2025-001266			
ANALYZED BY	: MISS KEWALEE SUKHAREE	ANALYSIS NO.	: T25AE252-0001			

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE252-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	7.7 (28.8°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	3,421 (28.9°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	2.0	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	5.01	-	-	-
TOTAL DISSOLVED SOLIDS ^c	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	2,227	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	2,277	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	7.3	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	441	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	813	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	129	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	414	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0026	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.832	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	16.7	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	6.74	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE252-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	348	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 08 5058 7333 e-mail : supaporn@appc.co.th

SAMPLING SOURCE : สถานีที่ 2 MW-5(25) บริเวณบ้านหนองตะโกเหนือ (BH96-16S)

SAMPLE TYPE : GROUNDWATER

SAMPLING DATE : MARCH 25, 2025

SAMPLING TIME : 13:35 HOUR

SAMPLING METHOD : SUBMERSIBLE PUMP*

SAMPLING BY : MR CHOKCHAI PHUMSAWAI

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : MARCH 26, 2025

ANALYTICAL DATE : MARCH 26 - APRIL 4, 2025

ISSUE DATE : APRIL 8, 2025

REPORT NO. : 2025-U029780

WORK NO. : 2025-001266

ANALYSIS NO. : T25AG472-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AG472-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	7.4 (29.2°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	1,469 (29.2°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1080 B	0.7	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	7.2	-	-	-
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	962	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	1,138	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	144	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	165	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	189	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	309	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	191	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0025	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	3.28	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	8.35	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	5.22	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AG472-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	219	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			BROWN/TURBID			
SEDIMENT			BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 3 MW-16 (OW-8(24)) บริเวณบ้านหนองตะโก (BH96-30D)

SAMPLE TYPE : GROUNDWATER

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 13:35 HOUR

SAMPLING METHOD ° : SUBMERSIBLE PUMP*

SAMPLING BY ° : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : FEBRUARY 27, 2025

ANALYTICAL DATE : FEBRUARY 27 - MARCH 7, 2025

ISSUE DATE : MARCH 11, 2025

REPORT NO. : 2025-U019773

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE140-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE140-0001			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	6.9 (28.9°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	665 (29.0°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.4	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	19.05	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	403	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	417	-	25	-
CHLORIDE ^c	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	ND	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	397	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	308	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0007	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.085	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	17.8	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.95	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE140-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	20.7	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR YELLOW			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 5 MW-1(24) บริเวณบ้านหนองตะโก (BH97-06)

SAMPLE TYPE : GROUNDWATER

SAMPLING DATE : FEBRUARY 28, 2025

SAMPLING TIME : 13:00 HOUR

SAMPLING METHOD : SUBMERSIBLE PUMP*

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : MARCH 1, 2025

ANALYTICAL DATE : MARCH 1-10, 2025

ISSUE DATE : MARCH 13, 2025

REPORT NO. : 2025-U020753

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE391-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE391-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	7.3 (30.1°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	560 (30.1°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.4	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	15.15	-	-	-
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	352	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	366	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	8.2	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	182	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	3.0	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	324	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0010	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.298	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	10.1	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.77	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE391-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	44.8	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 6 MW-2(25) บริเวณบ้านหนองไฟ (BH97-13)

SAMPLE TYPE : GROUNDWATER

SAMPLING DATE : FEBRUARY 28, 2025

SAMPLING TIME : 16:00 HOUR

SAMPLING METHOD ° : BAILER

SAMPLING BY ° : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : MARCH 1, 2025

ANALYTICAL DATE : MARCH 1-10, 2025

ISSUE DATE : MARCH 13, 2025

REPORT NO. : 2025-U020754

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE391-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE391-0002			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	6.5 (28.9°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	253 (28.9°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.2	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	9.65	-	-	-
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	191	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	325	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	111	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	87.5	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	19.7	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	98.4	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	9.2	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0044	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	4.36	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.79	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	5.40	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE391-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	17.0	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543)
ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 7 MW-17 (OW-10(24)) บริเวณบ้านหนองตะไกรน้อย (BH9803)

SAMPLE TYPE : GROUNDWATER **RECEIVED DATE** : MARCH 1, 2025

SAMPLING DATE : FEBRUARY 28, 2025 **ANALYTICAL DATE** : MARCH 1-10, 2025

SAMPLING TIME : 11:00 HOUR **ISSUE DATE** : MARCH 13, 2025

SAMPLING METHOD : SUBMERSIBLE PUMP* **REPORT NO.** : 2025-U020771

SAMPLING BY : MR ANUSART SUAYDEE **WORK NO.** : 2025-001266

ANALYZED BY : MISS KEWALEE SUKHAREE **ANALYSIS NO.** : T25AE392-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE392-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	7.2 (30.1°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	290 (30.1°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.2	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	23.50	-	-	-
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	155	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	198	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	27.1	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	129	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	3.0	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	150	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	7.9	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0006	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.885	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.33	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.12	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE392-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.88	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID			
SEDIMENT			BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543)
ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535,
PUBLISHED IN THE ROYAL GOVERNMENT GAZZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 08 5058 7333 e-mail : supaporn@appc.co.th

SAMPLING SOURCE : สถานีที่ 8 MW-3(25) บริเวณบ้านหนองตะไกรเหนือ (BH98-10)

SAMPLE TYPE : GROUNDWATER

SAMPLING DATE : MARCH 25, 2025

SAMPLING TIME : 12:15 HOUR

SAMPLING METHOD : SUBMERSIBLE PUMP*

SAMPLING BY : MR CHOKCHAI PHUMSAWAI

ANALYZED BY : MISS PANTIPA ANONAM

RECEIVED DATE : MARCH 26, 2025

ANALYTICAL DATE : MARCH 26 - APRIL 4, 2025

ISSUE DATE : APRIL 8, 2025

REPORT NO. : 2025-U029756

WORK NO. : 2025-001266

ANALYSIS NO. : T25AG473-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AG473-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	6.8 (30.1°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	412 (30.1°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.2	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	18.6	-	-	-
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	280	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	288	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	164	-	1.0	4.0
CHLORIDE ^c	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	ND	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	239	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0015	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.082	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	6.33	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.84	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AG473-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	17.4	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR YELLOW			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543)
ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 9 MW-15 (OW-2(24)) บริเวณบ้านหนองนาเจริญ (BH98-11)

SAMPLE TYPE : GROUNDWATER

SAMPLING DATE : FEBRUARY 28, 2025

SAMPLING TIME : 12:20 HOUR

SAMPLING METHOD : SUBMERSIBLE PUMP*

SAMPLING BY : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : MARCH 1, 2025

ANALYTICAL DATE : MARCH 1-10, 2025

ISSUE DATE : MARCH 13, 2025

REPORT NO. : 2025-U020772

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE392-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE392-0002			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	7.0 (30.3°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	520 (30.3°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.3	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	11.35	-	-	-
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	307	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	330	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	243	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	< 2.0	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	309	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0009	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.276	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	10.9	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.51	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AE392-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	14.6	-	0.005	-
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/CLEAR			
SEDIMENT			YELLOW			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543)
ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535,
PUBLISHED IN THE ROYAL GOVERNMENT GAZZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

ND : NOT DETECTED.

Bhuchonk P.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 10 MW-14(NONG TAKAI) บริเวณบ่อน้ำดินบ้านหนองตะไก้ (วัดศรีวัฒนาาราม)

SAMPLE TYPE : UNDERGROUNDWATER **RECEIVED DATE** : FEBRUARY 27, 2025

SAMPLING DATE : FEBRUARY 26, 2025 **ANALYTICAL DATE** : FEBRUARY 27 - MARCH 7, 2025

SAMPLING TIME : 11:45 HOUR **ISSUE DATE** : MARCH 11, 2025

SAMPLING METHOD ° : GRAB **REPORT NO.** : 2025-U019777

SAMPLING BY ° : MR ANUSART SUAYDEE **WORK NO.** : 2025-001266

ANALYZED BY : MISS KEWALEE SUKHAREE **ANALYSIS NO.** : T25AE142-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0001			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.1 (25.5°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	1,459 (25.5°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.8	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	943	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	1,026	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	370	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	28.9	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	138	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	250	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0012	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE:TP:HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	< LOQ	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	9.32	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	6.38	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	142	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR YELLOW			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543)
ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

< LOQ : < LIMIT OF QUANTITATION (IRON \geq 0.005 AND < 0.050 mg/L).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 08 5058 7333 e-mail : supaporn@appc.co.th

SAMPLING SOURCE : สถานีที่ 11 MW-4 (25) (บ่อบำบัดน้ำทิ้ง)

SAMPLE TYPE : GROUNDWATER

SAMPLING DATE : MARCH 25, 2025

SAMPLING TIME : 15:35 HOUR

SAMPLING METHOD : SUBMERSIBLE PUMP*

SAMPLING BY : MR CHOKCHAI PHUMSAWAI

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : MARCH 26, 2025

ANALYTICAL DATE : MARCH 26 - APRIL 4, 2025

ISSUE DATE : APRIL 8, 2025

REPORT NO. : 2025-U029784

WORK NO. : 2025-001266

ANALYSIS NO. : T25AG474-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AG474-0001			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B	7.7 (30.1°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	931 (30.1°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.4	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	22.4	-	-	-
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	508	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	541	-	25	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	29.5	-	-	5.0
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	308	-	1.0	4.0
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	76.8	-	0.5	2.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	308	-	-	-
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	219	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0009	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.580	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	13.8	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	6.54	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			GROUNDWATER T25AG474-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	34.3	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

* ประกาศกรมโรงงานอุตสาหกรรม เรื่อง คู่มือการเก็บตัวอย่างดินและน้ำใต้ดิน ลงวันที่ 20 เมษายน 2560

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 12 MW-7(NONG HWA) บริเวณบ่อน้ำดินบ้านหนองหว้า

SAMPLE TYPE : UNDERGROUNDWATER

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 15:20 HOUR

SAMPLING METHOD^c : GRAB

SAMPLING BY^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : FEBRUARY 27, 2025

ANALYTICAL DATE : FEBRUARY 27 - MARCH 7, 2025

ISSUE DATE : MARCH 11, 2025

REPORT NO. : 2025-U019778

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE142-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0002			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	6.9 (27.1°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	785 (27.1°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.4	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	470	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	484	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	53.2	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	16.3	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	305	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	300	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0012	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	< LOQ	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	15.4	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.19	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	24.4	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

< LOQ : < LIMIT OF QUANTITATION (IRON \geq 0.005 AND < 0.050 mg/L).

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 13 MW-8(NONG PHAI) บริเวณบ่อน้ำต้นบ้านหนองไผ่

SAMPLE TYPE : UNDERGROUNDWATER

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 15:05 HOUR

SAMPLING METHOD ^c : GRAB

SAMPLING BY ^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : FEBRUARY 27, 2025

ANALYTICAL DATE : FEBRUARY 27 - MARCH 7, 2025

ISSUE DATE : MARCH 11, 2025

REPORT NO. : 2025-U019779

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE142-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0003			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H* B AND 1060 B	7.0 (27.6°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	839 (27.6°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.5	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	516	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	560	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	53.7	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	16.4	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	397	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	412	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0007	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	3.59	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	28.7	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.88	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0003			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	17.0	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

Bhuchonk Panichlertumpi

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 14 MW-9(WAT PAH) บริเวณบ่อน้ำต้นน้ำวัดป่าศรีรัตนนิมิต

SAMPLE TYPE : UNDERGROUNDWATER **RECEIVED DATE** : FEBRUARY 27, 2025

SAMPLING DATE : FEBRUARY 26, 2025 **ANALYTICAL DATE** : FEBRUARY 27 - MARCH 7, 2025

SAMPLING TIME : 14:40 HOUR **ISSUE DATE** : MARCH 11, 2025

SAMPLING METHOD : GRAB **REPORT NO.** : 2025-U019780

SAMPLING BY : MR ANUSART SUAYDEE **WORK NO.** : 2025-001266

ANALYZED BY : MISS KEWALEE SUKHAREE **ANALYSIS NO.** : T25AE142-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0004			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.4 (26.8°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	618 (26.8°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.4	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	388	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	397	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	3.4	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	368	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	250	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0009	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.081	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	14.6	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.33	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE142-0004			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	29.8	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR YELLOW			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

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PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 15 MW-10 (NONG LAEM) บริเวณบ่อน้ำบาดาลบ้านหนองแหลม

SAMPLE TYPE : UNDERGROUNDWATER

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 14:15 HOUR

SAMPLING METHOD ^c : GRAB

SAMPLING BY ^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : FEBRUARY 27, 2025

ANALYTICAL DATE : FEBRUARY 27 - MARCH 7, 2025

ISSUE DATE : MARCH 11, 2025

REPORT NO. : 2025-U019841

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE141-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0001			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.3 (25.5°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	913 (25.5°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.5	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	553	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	591	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	106	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	363	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	157	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0013	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	< LOQ	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.63	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	5.55	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0001			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	96.8	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR YELLOW			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543) ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15, B.E. 2543 (2000).

< LOQ : < LIMIT OF QUANTITATION (IRON \geq 0.005 AND < 0.050 mg/L).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 16 MW-11 (NA CHAROEN1) บริเวณบ้านหนองนาเจริญ (1)

SAMPLE TYPE : UNDERGROUNDWATER

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 15:30 HOUR

SAMPLING METHOD ^c : GRAB

SAMPLING BY ^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : FEBRUARY 27, 2025

ANALYTICAL DATE : FEBRUARY 27 - MARCH 7, 2025

ISSUE DATE : MARCH 11, 2025

REPORT NO. : 2025-U019842

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE141-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0002			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.2 (26.8°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	592 (26.8°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.3	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	344	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	363	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	< 2.0	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	310	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	252	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0013	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	0.129	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	13.5	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	2.43	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0002			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	13.9	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR YELLOW			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543)
ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

ND : NOT DETECTED.

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 17 MW-12 (NA CHAROEN2) บริเวณบ้านหนองนาเจริญ (2)

SAMPLE TYPE : UNDERGROUNDWATER **RECEIVED DATE** : FEBRUARY 27, 2025

SAMPLING DATE : FEBRUARY 26, 2025 **ANALYTICAL DATE** : FEBRUARY 27 - MARCH 7, 2025

SAMPLING TIME : 15:50 HOUR **ISSUE DATE** : MARCH 11, 2025

SAMPLING METHOD ° : GRAB **REPORT NO.** : 2025-U019843

SAMPLING BY ° : MR ANUSART SUAYDEE **WORK NO.** : 2025-001266

ANALYZED BY : MISS KEWALEE SUKHAREE **ANALYSIS NO.** : T25AE141-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0003			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.0 (26.0°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	436 (26.1°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.2	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	271	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	301	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	4.9	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	< 4.0	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	247	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	141	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0013	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	< LOQ	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	7.88	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	4.87	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0003			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	25.4	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

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PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

< LOQ : < LIMIT OF QUANTITATION (IRON \geq 0.005 AND < 0.050 mg/L).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : สถานีที่ 18 MW-13 (NA CHAROEN3) บริเวณบ้านหนองนาเจริญ (3)

SAMPLE TYPE : UNDERGROUNDWATER

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 16:00 HOUR

SAMPLING METHOD ^c : GRAB

SAMPLING BY ^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : FEBRUARY 27, 2025

ANALYTICAL DATE : FEBRUARY 27 - MARCH 7, 2025

ISSUE DATE : MARCH 11, 2025

REPORT NO. : 2025-U019844

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE141-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0004			
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.4 (25.8°C)	-	-	-
ELECTRICAL CONDUCTIVITY ^c	µS/cm	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2510 B AND 1060 B	516 (25.9°C)	-	0.1	-
SALINITY ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD (AT SITE) SM: PART 2520 B AND 1060 B	0.3	-	0.1	-
WATER LEVEL ^c	m	WATER LEVEL METER	-	-	-	-
TOTAL SUSPENDED SOLIDS ^c	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	< 5.0	-	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	314	-	-	25
TOTAL SOLIDS ^c	mg/L	TOTAL SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 B)	339	-	25	-
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	7.4	-	0.5	2.0
SULPHATE ^c	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500-SO ₄ ²⁻ E)	ND	-	1.0	4.0
TOTAL ALKALINITY ^c	mg/L as CaCO ₃	TITRATION METHOD (SM: PART 2320 B)	295	-	-	-
TOTAL HARDNESS ^a	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	162	-	1.0	4.0
METALS						
ARSENIC ^c	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0012	≤ 0.01	0.0003	-
IRON ^a	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	< LOQ	-	0.005	0.050
MAGNESIUM ^c	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	12.2	-	0.005	-
POTASSIUM ^c	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	3.41	-	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			UNDERGROUND WATER T25AE141-0004			
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	35.7	-	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : GROUNDWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD NO.20 (B.E. 2543)
ISSUED UNDER THE ENHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT B.E. 2535,
PUBLISHED IN THE ROYAL GOVERNMENT GAZZETTE, VOL. 117, SPECIAL PART 95D, DATED SEPTEMBER 15,
B.E. 2543 (2000).

ND : NOT DETECTED.

< LOQ : < LIMIT OF QUANTITATION (IRON ≥ 0.005 AND < 0.050 mg/L).

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED (HEAD OFFICE)

ADDRESS : 2034/159 ITALTHAI TOWER, 42ND FLOOR, SUITE 159 NEW PETCHBURI ROAD BANG KAPI HUAI KHWANG BANGKOK 10310

CONTACT INFORMATION : TEL : 02 716 0297-8 e-mail : wipha@appc.co.th

SAMPLING SOURCE : -

SAMPLE TYPE : BLANK (GROUNDWATER)

SAMPLING DATE : -

SAMPLING TIME : -

SAMPLING METHOD : -

SAMPLING BY : -

ANALYZED BY : MISS KEWALEE SUKHAREE

RECEIVED DATE : MARCH 1, 2025

ANALYTICAL DATE : MARCH 1-10, 2025

ISSUE DATE : MARCH 13, 2025

REPORT NO. : 2025-U020770

WORK NO. : 2025-001266

ANALYSIS NO. : 2025-FB0292, 2025-TB0252

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 2025-FB0292	2 2025-TB0252		
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	< 25	< 25	-	25
TOTAL SOLIDS	mg/L	TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B)	ND	ND	25	-
TOTAL SUSPENDED SOLIDS	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103 -105 °C (SM: PART 2540 D)	< 5.0	< 5.0	-	5.0
TOTAL HARDNESS	mg/L as CaCO ₃	EDTA TITRIMETRIC METHOD (SM: PART 2340 C)	ND	ND	1.0	4.0
CHLORIDE	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: 4500-Cl ⁻ B)	ND	ND	0.5	2.0
SULPHATE	mg/L SO ₄ ²⁻	TURBIDIMETRIC METHOD (SM: PART 4500 -SO ₄ ²⁻ E)	ND	ND	1.0	4.0
METALS						
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	ND	0.0003	-
IRON	mg/L Fe	UAE.TP.HEM.003 BASED ON SM: PART 3030 E AND PART 3111 B	ND	ND	0.005	0.050
MAGNESIUM	mg/L Mg	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-
POTASSIUM	mg/L K	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 2025-FB0292	2 2025-TB0252		
SODIUM	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.005	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -	COLOURLESS/CLEAR -		

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

RESULT 1 : FIELD BLANK

RESULT 2 : TRIP BLANK

ND : NOT DETECTED.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : ชุดดินอัน- 1 (ON-1)

SAMPLE TYPE : SOIL

SAMPLING DATE : FEBRUARY 25, 2025

SAMPLING TIME : 14:00 HOUR

SAMPLING METHOD ^c : UNDISTURBED

SAMPLING BY ^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025

ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025

ISSUE DATE : APRIL 24, 2025

REPORT NO. : 2025-U033269

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE406-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0001		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	8.2 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	92.7 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	1.19	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	8,794	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	3.23	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	122	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	661	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	0	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	11.4	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	11,085	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	315	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0001		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	7.4	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	2.8	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	39.5	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	50.3	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty CLAY	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NOT DETECTED.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินสติก-1 (SUK-1)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 25, 2025
SAMPLING TIME : 14:25 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG
RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033270
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE406-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0002		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.0 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	4.8 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.43	-	0.05
AVAILABLE CALCIUM ^f	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	316	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	1.80	-	0.73
AVAILABLE POTASSIUM ^f	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	22.4	-	0.100
AVAILABLE MAGNESIUM ^f	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	24.8	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	624	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	0.975	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	238	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	42.4	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0002		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.0	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	58.9	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	26.5	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	14.6	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty SAND	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NOT DETECTED.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR. BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินสกลและเพ็ญ-1 (SK&PN-1)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 25, 2025
SAMPLING TIME : 14:55 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033271
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE406-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0003		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	7.6 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	107 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	1.60	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	849	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	3.49	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	48.2	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	163	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART 3 : 1990	0.02	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	0	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	4.92	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	748	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	279	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0003		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	6.9	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	36.4	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	33.3	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	23.4	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty SAND	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินร่อยเอ็ด-1 (RE-1)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 25, 2025
SAMPLING TIME : 11:45 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG
RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033272
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE406-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0004		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	7.9 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	160 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	1.87	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	2,088	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	25.9	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	39.3	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	110	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	0.01	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	0	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	4.43	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	705	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	248	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0004		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	14.0	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	39.9	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	27.6	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	18.5	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty SAND	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินโพนพิสัย-2 (PP-2)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 25, 2025
SAMPLING TIME : 16:00 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033273
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE406-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0005		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.3 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	6.6 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.55	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	40.5	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	1.94	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	11.0	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	10.4	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	468	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	0.276	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	69.3	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	20.5	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0005		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.0	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	70.6	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	17.9	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	11.5	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty SAND	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NOT DETECTED.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินร่อยเย็ด-2 (RE-2)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 25, 2025
SAMPLING TIME : 16:20 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033274
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE406-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0006		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	6.0 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	17.4 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	2.49	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	1,450	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	3.22	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	39.7	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	165	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	0.01	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	0	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	1.24	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	1,434	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	130	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE406-0006		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	2.3	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	22.1	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	32.5	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	43.1	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty CLAY	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.

Bhuchonk p.

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินเพ็ญ-2 (PN-2)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 26, 2025
SAMPLING TIME : 15:40 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033275
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE407-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0001		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.1 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	7.9 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.78	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	182	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	1.67	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	14.0	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	25.2	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	624	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	7.12	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	572	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	50.9	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0001		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	71.1	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	20.7	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	8.2	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.0	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Sandy GRAVEL	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NOT DETECTED.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : ชุดดินเพื่อ-3 (PN-3)

SAMPLE TYPE : SOIL

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 16:40 HOUR

SAMPLING METHOD ^c : UNDISTURBED

SAMPLING BY ^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025

ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025

ISSUE DATE : APRIL 21, 2025

REPORT NO. : 2025-U033276

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE407-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0002		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.2 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	12.5 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.72	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	40.9	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	5.79	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	23.7	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	16.7	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	0.01	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	468	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	0.289	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	112	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	38.7	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0002		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	83.8	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	10.7	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	5.5	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.0	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Sandy GRAVEL	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

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SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินโคราช-3 (KT-3)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 26, 2025
SAMPLING TIME : 09:30 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG
RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033277
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE407-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0003		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.0 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	14.4 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.51	-	0.05
AVAILABLE CALCIUM ^f	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	103	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	1.80	-	0.73
AVAILABLE POTASSIUM ^f	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	34.0	-	0.100
AVAILABLE MAGNESIUM ^f	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	26.9	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	0.01	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	312	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	1.51	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	240	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	37.2	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0003		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	62.9	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	26.0	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	11.1	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.0	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Sandy GRAVEL	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)

CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED

ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330

CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th

SAMPLING SOURCE : ชุดดินโพนพิสัย-3 (PP-3)

SAMPLE TYPE : SOIL

SAMPLING DATE : FEBRUARY 26, 2025

SAMPLING TIME : 10:00 HOUR

SAMPLING METHOD^c : UNDISTURBED

SAMPLING BY^c : MR ANUSART SUAYDEE

ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025

ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025

ISSUE DATE : APRIL 21, 2025

REPORT NO. : 2025-U033278

WORK NO. : 2025-001266

ANALYSIS NO. : T25AE407-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0004		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	4.2 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	34.3 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.39	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	74.6	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	14.8	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	20.8	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	13.3	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	624	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	0.969	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	189	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	38.8	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0004		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	1.1	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	10.5	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	36.4	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	52.0	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty CLAY	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NOT DETECTED.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pornpimon@appc.co.th
SAMPLING SOURCE : ชุดดินเพื่อ-4 (PN-4)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 26, 2025
SAMPLING TIME : 10:20 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 21, 2025
REPORT NO. : 2025-U033279
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE407-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0005		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.2 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	7.6 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.77	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	230	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	2.06	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	35.1	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	40.4	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	624	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	2.49	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	624	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	52.1	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0005		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.6	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	17.6	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	33.9	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	47.9	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty CLAY	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

REGULATORY STANDARD : NOTIFICATION OF THE NATIONAL ENVIRONMENTAL BOARD CLASS 2,

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 54 D, DATED MARCH 11, 2021.

CLASS 2 : SOIL QUALITY STANDARDS FOR COMMERCE, AGRICULTURE AND OTHER PURPOSES

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ND : NOT DETECTED.

SC : THE TEST WAS SUBCONTRACTED TO THE ANOTHER LABORATORY.



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LABORATORY SUPERVISOR

ANALYSIS REPORT

PROJECT NAME : ENVIRONMENTAL QUALITY MONITORING FOR POTASH MINING PROJECT, MUEANG DISTRICT AND PRACHAKSINLAPAKHOM DISTRICT, UDON THANI PROVINCE. 2025 (CONSTRUCTION PREPARATION PHASE)
CUSTOMER NAME : ASIA PACIFIC POTASH CORPORATION LIMITED
ADDRESS : 67 MOO 4 NONG PHAI MUEANG UDON THANI UDON THANI 41330
CONTACT INFORMATION : TEL : 084 227 3245 e-mail : pompimon@appc.co.th
SAMPLING SOURCE : ชุดดินโพนพิสัย-4 (PP-4)
SAMPLE TYPE : SOIL
SAMPLING DATE : FEBRUARY 26, 2025
SAMPLING TIME : 10:50 HOUR
SAMPLING METHOD ^c : UNDISTURBED
SAMPLING BY ^c : MR ANUSART SUAYDEE
ANALYZED BY : MISS APHORN ONKONG

RECEIVED DATE : MARCH 3, 2025
ANALYTICAL DATE : MARCH 3 - APRIL 17, 2025
ISSUE DATE : APRIL 24, 2025
REPORT NO. : 2025-U033280
WORK NO. : 2025-001266
ANALYSIS NO. : T25AE407-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0006		
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.0 (25°C)	-	-
ELECTRICAL CONDUCTIVITY ^c	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD	5.3 (25°C)	-	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	< 0.1	-	0.1
ORGANIC MATTER ^c	% w/w	WALKLEY AND BLACK, 1947	0.32	-	0.05
AVAILABLE CALCIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	21.7	-	0.100
AVAILABLE PHOSPHORUS ^c	mg/kg	COLOURIMETRIC (OLSEN) METHOD	0.90	-	0.73
AVAILABLE POTASSIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	9.51	-	0.100
AVAILABLE MAGNESIUM ^c	mg/kg	AMMONIUM ACETATE EXTRACTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD	33.6	-	0.100
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	-	0.01
LIME REQUIREMENT (SC) ^c	kg/rai	WOODRUFF BUFFER METHOD	312	-	-
METALS					
ARSENIC (As) ^c	mg/kg	DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	0.458	≤ 25	0.100
MAGNESIUM (Mg) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	716	-	0.500
SODIUM (Na) ^c	mg/kg	DIGESTION AND INDUCTIVELY COUPLED PLASMA METHOD (US EPA METHOD 3050B REVISION 2 : 1996 AND 6010D REVISION 5 : 2018)	23.7	-	0.500



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SOIL T25AE407-0006		
PARTICLE SIZE (SC)					
GRAVEL (>2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.0	-	-
SAND (0.063-2.00 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	0.2	-	-
SILT (0.002-0.063 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	38.2	-	-
CLAY (< 0.002 mm) ^c	%	SIEVE ANALYSIS AND HYDROMETER METHOD	61.6	-	-
SOIL TEXTURE (SC)					
SOIL TEXTURE ^c	-	SIEVE ANALYSIS AND HYDROMETER METHOD	Silty CLAY	-	-
SAMPLE CONDITION			BROWN SOIL		

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

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