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DATA PACKAGE

GENERAL CHEMISTRY

PROJECT NAME : FORMER SCHLUMBERGER SITE PRINCETON NJ

JACOBS ENGINEERING GROUP, INC.

412 Mt. Kemble Ave

Downtown Building

Morristown, NJ - 07960

Phone No: 9732670555

ORDER ID : P3609

ATTENTION : Mary I. Murphy

Laboratory Certification ID # 20012

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Cover Page

Order ID : P3609

Project ID : Former Schlumberger Site Princeton NJ

Client : JACOBS Engineering Group, Inc.

Lab Sample Number	Client Sample Number
P3609-01	915-J-WS-081424
P3609-02	920-J-WS-081424
P3609-03	TB-01-081424

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : N. N. Pandya

APPROVED
Date: 8/27/2024
By Nimisha Pandya QA/QC Supervisor at 11:33 am, Sep 05, 2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

JACOBS Engineering Group, Inc.
Project Name: Former Schlumberger Site Princeton NJ
Project # N/A
Chemtech Project # P3609
Test Name: Hexavalent Chromium

A. Number of Samples and Date of Receipt:
3 Water samples were received on 08/14/2024.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Hexavalent Chromium, Mercury, Metals Group4, SVOCMS Group3, SVOCMS Group6 and VOCMS Group6. This data package contains results for Hexavalent Chromium.

C. Analytical Techniques:
The analysis of Hexavalent Chromium was based on method 7196A.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis met criteria for all samples.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 11:33 am, Sep 05, 2024

284 Sheffield Street, Mountainside NJ 07092
Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers **"P"** for ICP instrument **"PM"** for ICP when Microwave Digestion is used **"CV"** for Manual Cold Vapor AA **"AV"** for automated Cold Vapor AA **"CA"** for MIDI-Distillation Spectrophotometric **"AS"** for Semi –Automated Spectrophotometric **"C"** for Manual Spectrophotometric **"T"** for Titrimetric **"NR"** for analyte not required to be analyzed
OR	Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

QA Control # A3040961

ALLIANCE 284 Sheffield Street, Mountainside New Jersey 07092
NEW JERSEY LAB ID#: 20012: NEW YORK LAB ID#: 11376

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P3609 MATRIX: Water

METHOD: 7196A

		NA	NO	YES
1.	Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2.	Matrix Spike Duplicate Recoveries Met Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
	The Blank Spike met requirements for all samples.			
3.	Sample Duplicate Analysis Met QC Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
4.	Digestion Holding Time Met			✓
	If not met, list number of days exceeded for each sample:			

ADDITIONAL COMMENTS:

S. M. Jodhani

QA REVIEW

REVIEWED
By Sohil Jodhani, QA/QC Director at 11:00 am, Sep 05, 2024

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P3609

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: SOHIL JODHANI **Date:** 08/27/2024

2nd Level QA Review Signature: N. N. Pandya

APPROVED
By Nimisha Pandya QA/QC Supervisor at 11:34 am, Sep 05, 2024

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LAB CHRONICLE

OrderID:	P3609	**OrderDate:**	8/14/2024 12:48:00 PM
Client:	JACOBS Engineering Group, Inc.	**Project:**	Former Schlumberger Site Princeton NJ
Contact:	Mary I. Murphy	**Location:**	D21,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P3609-01	**915-J-WS-081424**	**WATER**			**08/14/24 10:25**			**08/14/24**
			Hexavalent Chromium	7196A			08/14/24 17:04	
P3609-02	**920-J-WS-081424**	**WATER**			**08/14/24 11:20**			**08/14/24**
			Hexavalent Chromium	7196A			08/14/24 17:08	

SAMPLE DATA

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	08/14/24 10:25
Project:	Former Schlumberger Site Princeton NJ	Date Received:	08/14/24
Client Sample ID:	915-J-WS-081424	SDG No.:	P3609
Lab Sample ID:	P3609-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Dissolved Hexavalent Chromium	0.0030	U	1	0.0030	0.010	mg/L		08/14/24 17:04	7196A

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	08/14/24 11:20
Project:	Former Schlumberger Site Princeton NJ	Date Received:	08/14/24
Client Sample ID:	920-J-WS-081424	SDG No.:	P3609
Lab Sample ID:	P3609-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Dissolved Hexavalent Chromium	0.0030	U	1	0.0030	0.010	mg/L		08/14/24 17:08	7196A

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

QC RESULT SUMMARY

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Initial and Continuing Calibration Verification

Client:	JACOBS Engineering Group, Inc.	**SDG No.:**	P3609
Project:	Former Schlumberger Site Princeton NJ	**RunNo.:**	LB132016

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Hexavalent Chromium	mg/L	0.497	0.5	99	90-110	08/14/2024
Sample ID: CCV1						
Hexavalent Chromium	mg/L	0.500	0.5	100	90-110	08/14/2024
Sample ID: CCV2						
Hexavalent Chromium	mg/L	0.500	0.5	100	90-110	08/14/2024

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Initial and Continuing Calibration Blank Summary

Client:	JACOBS Engineering Group, Inc.	**SDG No.:**	P3609
Project:	Former Schlumberger Site Princeton NJ	**RunNo.:**	LB132016

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	08/14/2024
Sample ID: CCB1							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	08/14/2024
Sample ID: CCB2							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	08/14/2024

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Preparation Blank Summary

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3609

Project: Former Schlumberger Site Princeton NJ

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB132016BL							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.003	0.01	08/14/2024

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Matrix Spike Summary

Client: JACOBS Engineering Group, Inc.
SDG No.: P3609
Project: Former Schlumberger Site Princeton NJ
Sample ID: P3609-01
Client ID: 915-J-WS-081424MS
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/L	90-111	1.00		0.0030	U	1.0	2	100		08/14/2024

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Matrix Spike Summary

Client: JACOBS Engineering Group, Inc.
SDG No.: P3609
Project: Former Schlumberger Site Princeton NJ
Sample ID: P3609-01
Client ID: 915-J-WS-081424MSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/L	90-111	0.99		0.0030	U	1.0	2	99		08/14/2024

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Duplicate Sample Summary

Client: JACOBS Engineering Group, Inc.
SDG No.: P3609
Project: Former Schlumberger Site Princeton NJ
Sample ID: P3609-01
Client ID: 915-J-WS-081424DUP
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/L	+/-20	0.0030	U	0.0030	U	1	0		08/14/2024

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Duplicate Sample Summary

Client: JACOBS Engineering Group, Inc.
SDG No.: P3609
Project: Former Schlumberger Site Princeton NJ
Sample ID: P3609-01
Client ID: 915-J-WS-081424MSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/L	+/-20	1.00		0.99		2	0.4		08/14/2024

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Laboratory Control Sample Summary

Client:	JACOBS Engineering Group, Inc.	**SDG No.:**	P3609
Project:	Former Schlumberger Site Princeton NJ	**Run No.:**	LB132016

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB132016BS								
Hexavalent Chromium	mg/L	0.5	0.51		102	1	90-111	08/14/2024

RAW DATA

Analytical Summary Report

Analysis Method: ~~7196A~~

Parameter: ~~Hexavalent Chromium~~

Run Number: ~~LB132016~~

ANALYST: rubina

SUPERVISOR REVIEW BY: Iwona

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
Calibration Std. hexchrome 0.1 ppm	WP109234
Calibration Std. hexchrome 0.05 ppm	WP109233
calibration std. hexchrome 0.01 ppm	WP109231
calibration std. hexchrome 0 ppm	WP109230
hexavalent chromium color reagent	WP109114
5N sulfuric acid	WP107791
Calibration Std Hexachrome 0.025 ppm	WP109232
Hexavalent Chromium ICV-LCS Std	
Calibration and CCV std HexChrome 0.5PPM	WP109235
Calibration std HexChrome 1.0PPM	WP109236

Intercept: -0.0002 **Slope:** 0.7858 **Regression:** 0.999995

Seq	Lab ID	True Value (mg/l)	DF	Initial Vol (ml)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at 540nm		Absorbance Difference	Result (mg/L)	%D	Anal Date	Anal Time
								Backgrnd	Color					
1	CAL1	0	1	100	100		1.78	0.000	0.000	0.000	0.000		08/14/2024	16:50
2	CAL2	0.01	1	100	100		1.85	0.000	0.007	0.007	0.009	-10	08/14/2024	16:51
3	CAL3	0.025	1	100	100		1.87	0.000	0.018	0.018	0.023	-8	08/14/2024	16:52
4	CAL4	0.05	1	100	100		1.88	0.000	0.040	0.040	0.051	2	08/14/2024	16:53
5	CAL5	0.1	1	100	100		1.90	0.000	0.079	0.079	0.100	0	08/14/2024	16:54
6	CAL6	0.5	1	100	100		1.88	0.000	0.394	0.394	0.501	0.2	08/14/2024	16:55
7	CAL7	1	1	100	100		1.84	0.000	0.785	0.785	0.999	-0.1	08/14/2024	16:56

CHEMTECH

Analytical Summary Report

Analysis Method: 7196A
ANALYST: rubina
Parameter: Hexavalent Chromium
SUPERVISOR REVIEW BY: Iwona
Run Number: LB132016
pH Meter ID: WC pH Meter-1

Seq	Lab ID	True Value	DF	Initial Vol (ml/gm)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at540nm		Absorbance Difference	Intermediate Result (mg/L)	Anal Date	Anal Time
								Backgrnd	Color				
1	ICV	0.5	1	100	100		1.92	0.000	0.390	0.390	0.497	08/14/2024	16:57
2	ICB		1	100	100		1.79	0.000	0.000	0.000	0.000	08/14/2024	16:58
3	CCV1	0.5	1	100	100		1.94	0.000	0.393	0.393	0.500	08/14/2024	16:59
4	CCB1		1	100	100		1.76	0.000	0.001	0.001	0.002	08/14/2024	17:00
5	RL Check	0.01	1	100	100		1.90	0.000	0.008	0.008	0.010	08/14/2024	17:01
6	LB132016BL		1	100	100		1.77	0.000	0.000	0.000	0.000	08/14/2024	17:02
7	LB132016BS	0.5	1	100	100		1.92	0.000	0.400	0.400	0.509	08/14/2024	17:03
8	P3609-01		1	100	100		2.06	0.000	0.000	0.000	0.000	08/14/2024	17:04
9	P3609-01DU		1	100	100		2.04	0.000	0.000	0.000	0.000	08/14/2024	17:05
10	P3609-01MS	1	2	100	100		2.08	0.000	0.392	0.392	0.499	08/14/2024	17:06
11	P3609-01MS	1	2	100	100		2.06	0.000	0.390	0.390	0.497	08/14/2024	17:07
12	P3609-02		1	100	100		2.04	0.000	0.000	0.000	0.000	08/14/2024	17:08
13	CCV2	0.5	1	100	100		1.94	0.000	0.393	0.393	0.500	08/14/2024	17:09
14	CCB2		1	100	100		1.74	0.000	0.000	0.000	0.000	08/14/2024	17:10

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Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB132016

Review By	rubina	Review On	8/14/2024 5:21:23 PM
Supervise By	Iwona	Supervise On	8/15/2024 9:24:58 AM
SubDirectory	LB132016	Test	Hexavalent Chromium

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	WP109234,WP109233,WP109231,WP109230,WP109114,WP107791,WP109232,WP109235,WP109236

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	08/14/24 16:50		rubina	OK
2	CAL2	CAL2	CAL	08/14/24 16:51		rubina	OK
3	CAL3	CAL3	CAL	08/14/24 16:52		rubina	OK
4	CAL4	CAL4	CAL	08/14/24 16:53		rubina	OK
5	CAL5	CAL5	CAL	08/14/24 16:54		rubina	OK
6	CAL6	CAL6	CAL	08/14/24 16:55		rubina	OK
7	CAL7	CAL7	CAL	08/14/24 16:56		rubina	OK
8	ICV	ICV	ICV	08/14/24 16:57		rubina	OK
9	ICB	ICB	ICB	08/14/24 16:58		rubina	OK
10	CCV1	CCV1	CCV	08/14/24 16:59		rubina	OK
11	CCB1	CCB1	CCB	08/14/24 17:00		rubina	OK
12	RL Check	RL Check	SAM	08/14/24 17:01		rubina	OK
13	LB132016BL	LB132016BL	MB	08/14/24 17:02		rubina	OK
14	LB132016BS	LB132016BS	LCS	08/14/24 17:03		rubina	OK
15	P3609-01	915-J-WS-081424	SAM	08/14/24 17:04		rubina	OK
16	P3609-01DUP	915-J-WS-081424DUI	DUP	08/14/24 17:05		rubina	OK
17	P3609-01MS	915-J-WS-081424MS	MS	08/14/24 17:06	1ML WP108658+99.0ML SAMPLE	rubina	OK
18	P3609-01MSD	915-J-WS-081424MS	MSD	08/14/24 17:07	1ML WP108658+99.0ML SAMPLE	rubina	OK

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Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB132016

Review By	rubina	Review On	8/14/2024 5:21:23 PM
Supervise By	lwona	Supervise On	8/15/2024 9:24:58 AM
SubDirectory	LB132016	Test	Hexavalent Chromium

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	WP109234,WP109233,WP109231,WP109230,WP109114,WP107791,WP109232,WP109235,WP109236

19	P3609-02	920-J-WS-081424	SAM	08/14/24 17:08		rubina	OK
20	CCV2	CCV2	CCV	08/14/24 17:09		rubina	OK
21	CCB2	CCB2	CCB	08/14/24 17:10		rubina	OK

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Prep Standard - Chemical Standard Summary

Order ID : P3609

Test : Hexavalent Chromium

Prepbatch ID :

Sequence ID/Qc Batch ID: LB132016,

Standard ID :
WP107791,WP108658,WP109114,WP109229,WP109230,WP109231,WP109232,WP109233,WP109234,WP109235,WP109236,

Chemical ID :
E3772,M5211,W2606,W2651,W2979,W3112,

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
126	5N sulfuric acid	WP107791	05/07/2024	10/24/2024	Niha Farheen Shaik	None	None	Iwona Zarych 05/07/2024

FROM 140.00000ml of M5211 + 860.00000ml of W2606 = Final Quantity: 1.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	WP108658	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/09/2024

FROM 0.14140gram of W2651 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
114	hexavalent chromium color reagent	WP109114	08/09/2024	08/16/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Mohan Bera 08/09/2024

FROM 0.25000gram of W2979 + 50.00000ml of E3772 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1103	HEX CHROME INTERMEDIATE STD SOURCE 1 (5PPM)	WP109229	08/14/2024	08/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 9.00000ml of W3112 + 1.00000ml of WP108658 = Final Quantity: 10.000 ml

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
110	calibration std. hexchrome 0 ppm	WP109230	08/14/2024	08/15/2024	Rubina Mughal	None	None	Mohan Bera 08/16/2024

FROM 100.00000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
109	calibration std. hexchrome 0.01 ppm	WP109231	08/14/2024	08/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 99.80000ml of W3112 + 0.20000ml of WP109229 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3800	Calibration Std Hexachrome 0.025 ppm	WP109232	08/14/2024	08/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 99.50000ml of W3112 + 0.50000ml of WP109229 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
108	Calibration Std. hexchrome 0.05 ppm	WP109233	08/14/2024	08/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 99.00000ml of W3112 + 1.00000ml of WP109229 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
107	Calibration Std. hexchrome 0.1 ppm	WP109234	08/14/2024	08/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 99.80000ml of W3112 + 0.20000ml of WP108658 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3808	Calibration and CCV std HexChrome 0.5PPM	WP109235	08/14/2024	08/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 99.00000ml of W3112 + 1.00000ml of WP108658 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3809	Calibration std HexChrome 1.0PPM	WP109236	08/14/2024	08/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 98.00000ml of W3112 + 2.00000ml of WP108658 = Final Quantity: 100.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	22L2862006	02/01/2025	08/01/2024 / Rajesh	07/19/2024 / Rajesh	E3772

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	22D0862014	01/20/2025	08/22/2022 / mohan	04/26/2022 / mohan	M5211

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA13450-36 / Potassium Dichromate, 500g(NEW)	T15F019	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2651

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	31390 / 1,5-Diphenylcarbazide	MKCR6636	12/09/2027	12/09/2022 / Iwona	12/09/2022 / Iwona	W2979

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

ThermoFisher SCIENTIFIC

Certificate of Analysis

Product No.: 13450

Product: Potassium dichromate, ACS, 99.0% min

Lot No.: T15F019

Test	Limits	Results
Appearance	Orange-red crystals	Orange-red crystals
Identification	To Pass	Passes
Purity	99.0 % min	99.67 %
Insoluble matter	0.005 % max	0.004 %
Loss on drying	0.05 % max	0.03 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	< 0.001 %
Calcium	0.003 % max	0.0012 %
Sodium	0.02 % max	0.0047 %

This document has been electronically generated and does not require a signature.

This is to certify that units of the lot number above were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the purchaser, formulator or those performing further manufacturing to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The above information is the actual analytical results obtained.

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker®

Material No.: 9254-03
Batch No.: 22L2862006
Manufactured Date: 2022-12-19
Expiration Date: 2025-12-18
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	≤ 0.3	0.1
Titrable Base (µeq/g)	≤ 0.6	< 0.1
Water (H_2O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	4

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Recd by RP on 7/19/24

E3772

James T Ethier

Jamie Ethier
Vice President Global Quality

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M5210 - M5215
MB

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 22D0862014
Manufactured Date: 2022-02-23
Retest Date: 2027-02-22
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_2SO_4)	95.0 - 98.0 %	96.5 %
Appearance	Passes Test	Passes Test
ACS - Color (APHA)	≤ 10	5
ACS - Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS - Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	< 1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities - Aluminum (Al)	≤ 30.0 ppb	1.7 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities - Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities - Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities - Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities - Gold (Au)	≤ 10.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities - Iron (Fe)	≤ 50.0 ppb	2.0 ppb
Trace Impurities - Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities - Magnesium (Mg)	≤ 7.0 ppb	0.6 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities - Nickel (Ni)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities - Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se)	≤ 50.0 ppb	12.1 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	4.4 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 22D0862014

Test	Specification	Result
Trace Impurities - Sodium (Na)	≤ 500.0 ppb	6.2 ppb
Trace Impurities - Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.6 ppb

For Laboratory,Research,or Manufacturing Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Sigma-Aldrich.

W 2979

Rec: 12/09/22

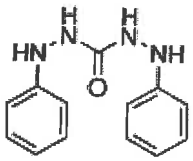
exp. 12/09/27

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
1,5-Diphenylcarbazide - ACS reagent

Product Number:	**259225**
Batch Number:	**MKCR6636**
Brand:	SIAL
CAS Number:	140-22-7
MDL Number:	MFCD00003013
Formula:	C13H14N4O
Formula Weight:	242.28 g/mol
Quality Release Date:	02 JUN 2022



Test	Specification	Result
Appearance (Color) Off-White to Pink, Light Purple or Tan	Conforms to Requirements	Pink
Appearance (Form)	Powder or Chunks	Powder
Melting Point	173.0 - 176.0 °C	173.0 °C
Infrared Spectrum	Conforms to Structure	Conforms
Residue on ignition (Ash) 15 minutes, 800 Degrees Celsius	≤ 0.05 %	0.01 %
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms

Larry Coers, Director
Quality Control
Milwaukee, WI US

SHIPPING DOCUMENTS

CHEMTECH

CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. P3609
QUOTE NO.
COC Number 2041350

CLIENT INFORMATION	CLIENT PROJECT INFORMATION	CLIENT BILLING INFORMATION
REPORT TO BE SENT TO:		
COMPANY: Jacobs	PROJECT NAME: STC PTC	BILL TO: Mary Murphy PO#:
ADDRESS: 412 Mt Kemble Ave Suite #100	PROJECT NO.: D3779922 LOCATION: Princeton Junction	ADDRESS:
CITY Morristown STATE: NJ ZIP: 07960	PROJECT MANAGER: Mary Murphy	CITY STATE: ZIP:
ATTENTION: John Yufank	e-mail: Mary.Murphy@Jacobs.com	ATTENTION: PHONE:
PHONE: (281) 414-1719 FAX:	PHONE: (201) 936-0586 FAX:	

DATA TURNAROUND INFORMATION

FAX (RUSH) Standard TAT DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ☐ Level 1 (Results Only)
- ☐ Level 2 (Results + QC)
- ☒ Level 3 (Results + QC + Raw Data)
- ☐ EDD FORMAT
- ☐ Level 4 (QC + Full Raw Data)
- ☐ NJ Reduced ☐ US EPA CLP
- ☐ NYS ASP A ☐ NYS ASP B
- ☐ Other

ANALYSIS

1. VOCs 8260D
2. SVOCs + PAHs 8270E,
3. 8270E SIM
4. Metals 6020B, Hg 7470A
5. Cr(VI) 7196A SW 3060A
6.
7.
8.
9.

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1 (A/E)	2 (E)	3 (B/E)	4 (E)	5	6	7	8	9	COMMENTS
1.	915-J-WS-081424	WS		X	8-14-24	1025	8	2	4	1	1						
2.	920-J-WS-081424	WS		X	8-14-24	1120	8	2	4	1	1						
3.	TB-01-081424	DI		X	8-14-24	1125	1	1									
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

PRESERVATIVES — ← Specify Preservatives: A-HCl, B-HN03, C-H2SO4, D-NaOH, E-ICE, F-OTHER

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	8-14-24 1227	1. [signature]
2.		2.
3. [signature]	8-14-2024 1415	3. [signature]

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☒ COOLER TEMP 2.9°c °C

Comments: See attached table for required analytes list ~~of ECO VOCs, ECO SVOCs, and ECO metals~~ (initials)
2L of extra volume for SVOCs + PAH analysis

Page 1 of 1

CLIENT: ☐ Hand Delivered ☐ Other
CHEMTECH: ☐ Picked Up ☐ Field Sampling

Shipment Complete ☐ YES ☐ NO

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (L-A-B)	L2219
Maine	2024021
Maryland	296
New Hampshire	255423
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P3609 JACO05
Client Name : JACOBS Engineering Grou
Client Contact : Mary I. Murphy
Invoice Name : JACOBS Engineering Grou
Invoice Contact : Mary I. Murphy

Order Date : 8/14/2024 12:48:00 PM
Project Name : Former Schlumberger Site I
Receive DateTime : 8/14/2024 2:15:00 PM
Purchase Order :

Project Mgr : Yazmeen
Report Type : Level 4
EDD Type : CH2MHILL
Hard Copy Date :
Date Signoff : 8/14/2024 4:40:21 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P3609-01	915-J-WS-081424	Water	08/14/2024	10:25					
					VOCMS Group6		8260-Low		10 Bus. Days
P3609-02	920-J-WS-081424	Water	08/14/2024	11:20					
					VOCMS Group6		8260-Low		10 Bus. Days
P3609-03	TB-01-081424	Water	08/14/2024	11:25					
					VOCMS Group6		8260-Low		10 Bus. Days

Relinguished By :
Date / Time : 8/14/24

Received By :
Date / Time : 8/14/24
Storage Area : VOA Refridgerator Room