



RECEIVED

Department of Energy  
Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221

JAN 28 2016

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Ms. Michelle Hunter, Bureau Chief  
Ground Water Quality Bureau  
New Mexico Environment Department  
P.O. Box 5469  
Santa Fe, NM 87502-5469

Subject: Semi-Annual Discharge Monitoring Report for July 1, 2015 through  
December 31, 2015, Discharge Permit 831

Dear Ms. Hunter:

The purpose of this letter is to transmit to you the Waste Isolation Pilot Plant Discharge Monitoring Report, including the required attachments on compact disk, for the period of July 1 through December 31, 2015. This report is required by Discharge Permit 831.

If you have any further questions regarding this report or require any additional information, please contact Anthony Stone at (575) 234-7475.

Sincerely,

*Anthony Stone FOR*

George T. Basabilvazo, Director  
Environmental Protection Division

Enclosure (2)

cc: w/o Enclosures

R. Maestas, NMED \*ED  
CBFO M&RC  
\*ED denotes electronic distribution



Monitoring Site	Field and General Chemistry Parameters								Other	Water-Level Monitoring (Ft AMSL)	
	Sample Date	pH (SU)	Temp. (°C)	Specific Conductivity @25 °C (µS/cm)	Nitrate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)		TKN (mg/L)	9/1/15-9/9/15
PZ-1	11/10/2015	6.4	23.76	95,550	NA	<b>1,740</b>	<b>37,100</b>	<b>75,800</b>	NA	3370.33	3370.95
PZ-2	NS	NS	NS	NS	NS	NS	NS	NS	NS	3369.75	3370.43
PZ-3	NS	NS	NS	NS	NS	NS	NS	NS	NS	3370.34	3370.81
PZ-4	NS	NS	NS	NS	NS	NS	NS	NS	NS	3364.47	3365.25
PZ-5	11/10/2015	7.08	21.55	85,790	NA	<b>917</b>	<b>7,470</b>	<b>15,200</b>	NA	3370.79	3371.33
PZ-6	11/10/2015	6.61	22.09	98,910	NA	<b>1,900</b>	<b>37,500</b>	<b>69,200</b>	NA	3368.49	3369.10
PZ-7	11/9/2015	6.22	23.05	92,120	NA	<b>2,960</b>	<b>44,900</b>	<b>114,000</b>	NA	3374.99	3375.45
PZ-8	NS	NS	NS	NS	NS	NS	NS	NS	NS	3351.66	3355.49
PZ-9	11/10/2015	6.22	21.27	100,700	NA	<b>4,390</b>	<b>84,300</b>	<b>176,000</b>	NA	3361.94	3361.93
PZ-10	11/9/2015	7.25	21.67	7,004	NA	339	<b>255</b>	<b>1,310</b>	NA	3366.77	3367.88
PZ-11	11/9/2015	6.3	22.47	93,270	NA	<b>2,770</b>	<b>59,900</b>	<b>96,400</b>	NA	3371.34	3371.55
PZ-12	11/9/2015	6.91	21.49	44,830	NA	<b>627</b>	<b>3,450</b>	<b>8,280</b>	NA	3354.70	3355.49
PZ-13	11/10/2015	Bailed			NA	<b>2,980</b>	<b>118,000</b>	<b>233,000</b>	NA	3354.91	3355.40
PZ-14	NS	NS	NS	NS	NS	NS	NS	NS	NS	3352.34	3352.51
PZ-15	NS	NS	NS	NS	NS	NS	NS	NS	NS	3382.12	3382.94
C-2811	11/9/2015	7.1	19.91	16,610	NA	451	<b>1260</b>	<b>3,300</b>	NA	3346.35	3347.04
C-2505	NS	NS	NS	NS	NS	NS	NS	NS	NS	3366.64	3364.34
C-2506	NS	NS	NS	NS	NS	NS	NS	NS	NS	3367.33	NR
C-2507	11/10/2015	7.02	20.69	38,660	NA	<b>605</b>	<b>2,800</b>	<b>6,850</b>	NA	3363.85	NR
WQSP-6A	11/11/2015	7.13	20.96	13,410	5.45	<b>1,840</b>	<b>296</b>	<b>3,290</b>	<1.0	3195.88	3196.20
Explanation:	NA: Not Analyzed, parameter not required, per permit conditions.										
	NS: Not Sampled, not required per permit conditions										
	NR: Not recurred due to the well being inaccessible										
	PZ-13 Field Parameters were not measured since a bailer was used to collect the sample due to difficulty using Low-Flow pumps										
	"Bold" concentrations exceed those listed in 20.6.2.3103 NMAC standards for ground water of less than 10,000 mg/L TDS concentration or less										
	AMSL: Above Mean Sea Level										



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

October 01, 2015

Greg Jungclaus

Waste Isolation Pilot Plant  
P.O. Box 2078  
Carlsbad, NM 88221-2078  
TEL: (575) 234-8615  
FAX

RE: T-409304-4

OrderNo.: 1508986

Dear Greg Jungclaus:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/20/2015 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 02, 2015.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

## Workorder Sample Summary

WO#: 1508986  
01-Oct-15

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**CLIENT:** Waste Isolation Pilot Plant  
**Project:** T-409304-4

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Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
1508986-001	WR-SSP1-20150819-1.1		8/19/2015 10:14:00 AM	8/20/2015 9:00:00 AM	Aqueous
1508986-002	WR-SSP2-20150819-1.1		8/19/2015 9:29:00 AM	8/20/2015 9:00:00 AM	Aqueous
1508986-003	WR-SSP3-20150819-1.1		8/19/2015 9:34:00 AM	8/20/2015 9:00:00 AM	Aqueous
1508986-004	WR-SWP1-20150819-1.1		8/19/2015 9:53:00 AM	8/20/2015 9:00:00 AM	Aqueous
1508986-005	WR-SWP2-20150819-1.1		8/19/2015 10:00:00 AM	8/20/2015 9:00:00 AM	Aqueous
1508986-006	WR-SWP3-20150819-1.2		8/19/2015 9:44:00 AM	8/20/2015 9:00:00 AM	Aqueous
1508986-007	WR-SWP3-20150819-2.2		8/19/2015 9:44:00 AM	8/20/2015 9:00:00 AM	Aqueous
1508986-008	WR-Blk-20150819-1.1		8/19/2015 10:18:00 AM	8/20/2015 9:00:00 AM	Aqueous



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## Case Narrative

WO#: 1508986  
Date: 10/1/2015

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**CLIENT:** Waste Isolation Pilot Plant  
**Project:** T-409304-4

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The anion results for the two samples below have been updated due to a laboratory error. This report replaces all other reports.

WR-SWP3-20150819-2.2

WR-Blk-20150819-1.1

All analytes reported are associated with passing CCVs.

METHOD: 300.0

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: none  
Analysis: 300.0

PREPARATION: Sample preparation proceeded normally.

### ANALYSIS:

1. Calibration: All acceptance criteria were met.
2. Blanks: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Spikes: The MS/MSD was low for sulfate due to the sample matrix. All other acceptance criteria were met.
5. Samples: All acceptance criteria were met.

METHOD: SM2540C

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: SM2540C  
Analysis: SM2540C

PREPARATION: Sample preparation proceeded normally.

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## Case Narrative

WO#: 1508986  
Date: 10/1/2015

---

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** T-409304-4

---

### ANALYSIS:

1. Blanks: All acceptance criteria were met.
2. Spikes: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Samples: All acceptance criteria were met.

Analytical Report

Lab Order: 1508986

Date Reported: 10/1/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Waste Isolation Pilot Plant
Project: T-409304-4
Lab ID: 1508986-001A

Client Sample ID: WR-SSP1-20150819-1.1
Collection Date: 8/19/2015 10:14:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, MDL, RL, Qual, Units, DF, Date Analyzed, Batch ID. Rows include EPA METHOD 300.0: ANIONS (Chloride, Sulfate) and SM2540C MOD: TOTAL DISSOLVED SOLIDS (Total Dissolved Solids).

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Table with columns: Qualifiers, \* Value exceeds Maximum Contaminant Level, D Sample Diluted Due to Matrix, H Holding times for preparation or analysis exceeded, ND Not Detected at the Reporting Limit, R RPD outside accepted recovery limits, S % Recovery outside of range due to dilution or matrix, B Analyte detected in the associated Method Blank, E Value above quantitation range, J Analyte detected below quantitation limits, P Sample pH Not In Range, RL Reporting Detection Limit.

Analytical Report

Lab Order: 1508986

Date Reported: 10/1/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Waste Isolation Pilot Plant
Project: T-409304-4
Lab ID: 1508986-002A

Client Sample ID: WR-SSP2-20150819-1.1
Collection Date: 8/19/2015 9:29:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, MDL, RL, Qual, Units, DF, Date Analyzed, Batch ID. Rows include EPA METHOD 300.0: ANIONS (Chloride, Sulfate) and SM2540C MOD: TOTAL DISSOLVED SOLIDS (Total Dissolved Solids).

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Analytical Report

Lab Order: 1508986

Date Reported: 10/1/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Waste Isolation Pilot Plant
Project: T-409304-4
Lab ID: 1508986-003A

Client Sample ID: WR-SSP3-20150819-1.1
Collection Date: 8/19/2015 9:34:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, MDL, RL, Qual, Units, DF, Date Analyzed, Batch ID. Rows include EPA METHOD 300.0: ANIONS (Chloride, Sulfate) and SM2540C MOD: TOTAL DISSOLVED SOLIDS (Total Dissolved Solids).

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Lab Order: 1508986

Date Reported: 10/1/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Waste Isolation Pilot Plant
Project: T-409304-4
Lab ID: 1508986-004A

Client Sample ID: WR-SWP1-20150819-1.1
Collection Date: 8/19/2015 9:53:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, MDL, RL, Qual, Units, DF, Date Analyzed, Batch ID. Rows include EPA METHOD 300.0: ANIONS (Chloride, Sulfate) and SM2540C MOD: TOTAL DISSOLVED SOLIDS (Total Dissolved Solids).

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Client Sample ID: WR-SWP2-20150819-1.1
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Analytical Report

Lab Order: 1508986

Date Reported: 10/1/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Waste Isolation Pilot Plant
Project: T-409304-4
Lab ID: 1508986-006A

Client Sample ID: WR-SWP3-20150819-1.2
Collection Date: 8/19/2015 9:44:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, MDL, RL, Qual, Units, DF, Date Analyzed, Batch ID. Rows include EPA METHOD 300.0: ANIONS (Chloride, Sulfate) and SM2540C MOD: TOTAL DISSOLVED SOLIDS (Total Dissolved Solids).

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Table with columns: Qualifiers, \* Value exceeds Maximum Contaminant Level, D Sample Diluted Due to Matrix, H Holding times for preparation or analysis exceeded, ND Not Detected at the Reporting Limit, R RPD outside accepted recovery limits, S % Recovery outside of range due to dilution or matrix, B Analyte detected in the associated Method Blank, E Value above quantitation range, J Analyte detected below quantitation limits, P Sample pH Not In Range, RL Reporting Detection Limit.

Analytical Report

Lab Order: 1508986

Date Reported: 10/1/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Waste Isolation Pilot Plant
Project: T-409304-4
Lab ID: 1508986-007A

Client Sample ID: WR-SWP3-20150819-2.2
Collection Date: 8/19/2015 9:44:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, MDL, RL, Qual, Units, DF, Date Analyzed, Batch ID. Rows include EPA METHOD 300.0: ANIONS (Chloride, Sulfate) and SM2540C MOD: TOTAL DISSOLVED SOLIDS (Total Dissolved Solids).

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Table with columns: Qualifiers, \* Value exceeds Maximum Contaminant Level, D Sample Diluted Due to Matrix, H Holding times for preparation or analysis exceeded, ND Not Detected at the Reporting Limit, R RPD outside accepted recovery limits, S % Recovery outside of range due to dilution or matrix, B Analyte detected in the associated Method Blank, E Value above quantitation range, J Analyte detected below quantitation limits, P Sample pH Not In Range, RL Reporting Detection Limit.

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** T-409304-4  
**Lab ID:** 1508986-008A

**Client Sample ID:** WR-Blk-20150819-1.1  
**Collection Date:** 8/19/2015 10:18:00 AM  
**Matrix:** Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>SRM</b>	
Chloride	ND	2.67	10.0		mg/L	20	9/10/2015 10:30:37 PM	R28773
Sulfate	ND	2.28	10.0		mg/L	20	9/10/2015 10:30:37 PM	R28773
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	ND	14.5	20.0		mg/L	1	8/26/2015 3:30:00 PM	20956

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		



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# DATES REPORT

WO#: 1508986  
 01-Oct-15

**Client:** Waste Isolation Pilot Plant  
**Project:** T-409304-4

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1508986-001A	WR-SSP1-20150819-1.1	8/19/2015 10:14:00 AM	Aqueous	EPA Method 300.0: Anions			8/25/2015 4:43:58 PM
				EPA Method 300.0: Anions			8/25/2015 4:31:34 PM
				EPA Method 300.0: Anions			8/26/2015 8:55:56 PM
				EPA Method 300.0: Anions			9/10/2015 7:49:18 PM
				EPA Method 300.0: Anions			9/10/2015 7:36:53 PM
				SM2540C MOD: Total Dissolved Solids	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM	
1508986-002A	WR-SSP2-20150819-1.1	8/19/2015 9:29:00 AM		EPA Method 300.0: Anions			8/26/2015 9:08:20 PM
				EPA Method 300.0: Anions			8/25/2015 5:08:48 PM
				EPA Method 300.0: Anions			9/10/2015 8:14:06 PM
				EPA Method 300.0: Anions			9/10/2015 8:01:42 PM
				EPA Method 300.0: Anions			8/25/2015 4:56:23 PM
				SM2540C MOD: Total Dissolved Solids	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM	
1508986-003A	WR-SSP3-20150819-1.1	8/19/2015 9:34:00 AM		EPA Method 300.0: Anions			8/25/2015 5:21:12 PM
				EPA Method 300.0: Anions			8/25/2015 5:33:36 PM
				EPA Method 300.0: Anions			8/26/2015 9:45:32 PM
				EPA Method 300.0: Anions			9/10/2015 9:03:45 PM
				EPA Method 300.0: Anions			9/10/2015 8:51:19 PM
				SM2540C MOD: Total Dissolved Solids	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM	
1508986-004A	WR-SWP1-20150819-1.1	8/19/2015 9:53:00 AM		EPA Method 300.0: Anions			8/25/2015 5:58:25 PM
				EPA Method 300.0: Anions			9/10/2015 9:16:09 PM
				EPA Method 300.0: Anions			9/10/2015 9:28:34 PM
				EPA Method 300.0: Anions			8/25/2015 5:46:01 PM
				SM2540C MOD: Total Dissolved Solids	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM	



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# DATES REPORT

WO#: 1508986  
 01-Oct-15

**Client:** Waste Isolation Pilot Plant  
**Project:** T-409304-4

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1508986-005A	WR-SWP2-20150819-1.1	8/19/2015 10:00:00 AM	Aqueous	EPA Method 300.0: Anions			9/10/2015 9:40:59 PM
				EPA Method 300.0: Anions			9/10/2015 9:53:23 PM
				EPA Method 300.0: Anions			8/25/2015 7:12:53 PM
				EPA Method 300.0: Anions			8/25/2015 7:00:29 PM
				SM2540C MOD: Total Dissolved Solu	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM	
1508986-006A	WR-SWP3-20150819-1.2	8/19/2015 9:44:00 AM		EPA Method 300.0: Anions			8/29/2015 1:20:12 AM
				EPA Method 300.0: Anions			9/10/2015 10:05:48 PM
				EPA Method 300.0: Anions			8/25/2015 7:37:42 PM
				EPA Method 300.0: Anions			8/25/2015 7:25:17 PM
				SM2540C MOD: Total Dissolved Solu	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM	
1508986-007A	WR-SWP3-20150819-2.2			EPA Method 300.0: Anions			9/10/2015 10:18:13 PM
				EPA Method 300.0: Anions			8/29/2015 1:32:36 AM
				EPA Method 300.0: Anions			8/25/2015 8:02:32 PM
				EPA Method 300.0: Anions			8/25/2015 7:50:07 PM
				SM2540C MOD: Total Dissolved Solu	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM	
1508986-008A	WR-Blk-20150819-1.1	8/19/2015 10:18:00 AM		EPA Method 300.0: Anions			8/25/2015 8:14:57 PM
				EPA Method 300.0: Anions			8/25/2015 8:27:22 PM
				EPA Method 300.0: Anions			9/10/2015 10:43:02 PM
				EPA Method 300.0: Anions			8/26/2015 10:22:46 PM
				EPA Method 300.0: Anions			9/9/2015 12:53:09 PM
				EPA Method 300.0: Anions			9/9/2015 1:05:34 PM
				EPA Method 300.0: Anions			9/10/2015 10:30:37 PM
SM2540C MOD: Total Dissolved Solu	8/25/2015 8:47:53 AM	8/26/2015 3:30:00 PM					

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508986

01-Oct-15

**Client:** Waste Isolation Pilot Plant

**Project:** T-409304-4

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R28467</b>		RunNo: <b>28467</b>							
Prep Date:	Analysis Date: <b>8/25/2015</b>		SeqNo: <b>860418</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.500								
Sulfate	ND	0.500								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R28467</b>		RunNo: <b>28467</b>							
Prep Date:	Analysis Date: <b>8/25/2015</b>		SeqNo: <b>860419</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.73	0.500	5.000	0	94.6	90	110			
Sulfate	9.46	0.500	10.00	0	94.6	90	110			

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R28485</b>		RunNo: <b>28485</b>							
Prep Date:	Analysis Date: <b>8/26/2015</b>		SeqNo: <b>861110</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R28485</b>		RunNo: <b>28485</b>							
Prep Date:	Analysis Date: <b>8/26/2015</b>		SeqNo: <b>861111</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.5	90	110			

Sample ID <b>1508986-004AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>WR-SWP1-20150819</b>	Batch ID: <b>R28467</b>		RunNo: <b>28485</b>							
Prep Date:	Analysis Date: <b>8/26/2015</b>		SeqNo: <b>861147</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	135	5.00	100.0	33.34	102	84.2	113			

Sample ID <b>1508986-004AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>WR-SWP1-20150819</b>	Batch ID: <b>R28467</b>		RunNo: <b>28485</b>							
Prep Date:	Analysis Date: <b>8/26/2015</b>		SeqNo: <b>861148</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	136	5.00	100.0	33.34	103	84.2	113	0.553	20	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508986

01-Oct-15

**Client:** Waste Isolation Pilot Plant

**Project:** T-409304-4

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R28543</b>		RunNo: <b>28543</b>							
Prep Date:	Analysis Date: <b>8/28/2015</b>		SeqNo: <b>863412</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R28543</b>		RunNo: <b>28543</b>							
Prep Date:	Analysis Date: <b>8/28/2015</b>		SeqNo: <b>863413</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.1	0.50	5.000	0	102	90	110			
Sulfate	10	0.50	10.00	0	104	90	110			

Sample ID <b>MB</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R28773</b>		RunNo: <b>28773</b>							
Prep Date:	Analysis Date: <b>9/10/2015</b>		SeqNo: <b>872680</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R28773</b>		RunNo: <b>28773</b>							
Prep Date:	Analysis Date: <b>9/10/2015</b>		SeqNo: <b>872681</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.7	90	110			
Sulfate	9.9	0.50	10.00	0	99.2	90	110			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508986

01-Oct-15

**Client:** Waste Isolation Pilot Plant

**Project:** T-409304-4

Sample ID	<b>MB-20956</b>	SampType:	<b>MBLK</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>PBW</b>	Batch ID:	<b>20956</b>	RunNo:	<b>28476</b>					
Prep Date:	<b>8/25/2015</b>	Analysis Date:	<b>8/26/2015</b>	SeqNo:	<b>860768</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	<b>LCS-20956</b>	SampType:	<b>LCS</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>LCSW</b>	Batch ID:	<b>20956</b>	RunNo:	<b>28476</b>					
Prep Date:	<b>8/25/2015</b>	Analysis Date:	<b>8/26/2015</b>	SeqNo:	<b>860769</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Sample ID	<b>1508986-004AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>WR-SWP1-20150819</b>	Batch ID:	<b>20956</b>	RunNo:	<b>28476</b>					
Prep Date:	<b>8/25/2015</b>	Analysis Date:	<b>8/26/2015</b>	SeqNo:	<b>860774</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	3050	40.0	2000	980.0	104	80	120			D

Sample ID	<b>1508986-004AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>WR-SWP1-20150819</b>	Batch ID:	<b>20956</b>	RunNo:	<b>28476</b>					
Prep Date:	<b>8/25/2015</b>	Analysis Date:	<b>8/26/2015</b>	SeqNo:	<b>860775</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	3040	40.0	2000	980.0	103	80	120	0.394	5	D

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: WIPP Work Order Number: 1508986 RcptNo: 1

Received by/date: LM/A 08/20/15

Logged By: Anne Thorne 8/20/2015 9:00:00 AM *Anne Thorne*

Completed By: Anne Thorne 8/20/2015 *Anne Thorne*

Reviewed By: *[Signature]* 08/20/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? FedEx

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

- 16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good	Yes			

# CHAIN-OF-CUSTODY RECORD

No 09788

C of C Control

WASTE ISOLATION PILOT PLANT  
P.O. BOX 2078  
CARLSBAD, NM 88221-2078



No 09788

RFA Control

SAMPLING PROGRAM ENV-Monit (DP-831) LAB DESTINATION Hall Envicoment (HEAL)  
 SAMPLE TEAM MEMBERS J Hernandez MR. Eggleston CARRIER/WAYBILL NO. FedEx # 8739-5711-7374 HEAL # 150802

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
WR-SSP1-20150819-1.1	Salt Storage Pond 1	8-19-15	water Run-off	500 mL		-001
SSP2		0929				-002
SSP3		0934				-003
SWP1	storm water Pond 1	0953				-004
SWP2		1000				-005
SWP3		0944				-006
SWP3		0944				-007
BIK	Blank	1018	Blank			208
<del>N/A</del>						

Special Instructions: If need use SWP1 for ms/msp QC sample, 7 day maximum Hold time.

Possible Sample Hazards:  Radiological  Bio-Hazard N/A  
 SIGNATURES: (Name, Company, Date and Time)

- Relinquished By: J Hernandez NWP 819-15 1300  
 Received By: J Hernandez 08/15/15 3:9c
- Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_
- Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_
- Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_



WASTE ISOLATION PILOT PLANT  
P.O. BOX 2078  
CARLSBAD, NM 88221-2078

**REQUEST FOR ANALYSIS**

Nº 09788

RFA Control

DATE SAMPLES SHIPPED 8-19-15

LAB DESTINATION Hall Environment

LABORATORY CONTACT Andy Freeman

SEND LAB REPORT TO NWP

P.O. Box 2078 M/S 452-09

Carlsbad, N.Mex 88221

DATE REPORT REQUIRED Per S.O.W

PROJECT CONTACT clo Greg Jung claus

PROJECT CONTACT PHONE NO. (575) 234-8615

#HEAL #1508986

SAMPLING PROGRAM ENV-Monit (DP-831)

PURCHASE ORDER NO. T 409 304-4

Sample Number	Sample Type	Sample Quantity	Preservative	Req't. Testing Program	Special Instructions
WR-SSPI-20150819-1.1	Water - Run-off	500 mL	≤ 4°C	Per S.O.W	7 day hold time
SSP2					
SSP3					
SWP1					
SWP2					
SWP3					Use for MS/MSD AC sample
SWP3					7 day hold time
BLK	Blank				
<del>N/A</del>					

TURNAROUND TIME REQUIRED: (Rush must be approved by appropriate Manager) NORMAL  RUSH  (Subject in rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

NONHAZARD  RADIOLOGICAL  FLAMMABLE  SKIN IRRITANT  HIGHLY TOXIC  BIOLOGICAL  OTHER  (Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis.) RETURN TO CLIENT  DISPOSAL BY LAB

FOR LAB USE ONLY RECEIVED BY  DATE/TIME 08/20/15 0900 3.90

ISSUED

WP 02-EM1001

Rev. 17

Page 19 of 19

Attachment 2 - Infiltration Controls Sample Data Work Sheet

AEAL# 1508986

Attachment 2 - Infiltration Controls Sample Data Work Sheet

INFILTRATION CONTROL PONDS SAMPLE DATA WORK SHEET

Sample Data Work Sheet No. 001

Pond	SSP1	SSP2	SSP3	SWP1	SWP2	SWP3
Depth (ft)	2"	5'0"	9'6"	2'1"	5'3"	3'5"
SAMPLE CODES	LOCATION	SIZE	ANALYSIS	PRESERVATIVE	DATE/TIME	
WR-SSP1-20150819-1.1	Salt Storage Pond 1	500mL	Sulfate/Chloride TDS	≤ 4°C	8-19-15 1014-001	
SSP2	↓	2			0929-002	
SSP3	↓	3			0934-003	
SWP1	Storm Water Pond 1				0953-004	
SWP2	↓	2			1000-005	
SWP3	↓	3			0944-004	
SWP3	↓	3			0944-007	
BLK	Blank (MS/MSD QC sample)				1018-008	

TO CONTRACT LAB

Personnel: Jerome Hernandez, Ricky Eggleston

Comments: Use storm water Pond 1 For MS/MSD QC sample  
Pre-job held: Slips & Falls

Collected by: Jerome Hernandez Env-Spec Title 8-19-15 Date

Reviewed by: Rick Eggleston Env-Spec Title 8/19/15 Date

REFERENCE USE



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

December 02, 2015

Brett Seal

Waste Isolation Pilot Plant  
P.O. Box 2078  
Carlsbad, NM 88221-2078  
TEL: (575) 234-8966  
FAX

RE: SSW Sampling R24

OrderNo.: 1511512

Dear Brett Seal:

Hall Environmental Analysis Laboratory received 16 sample(s) on 11/12/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

**Workorder**  
**Sample Summary**  
WO#: 1511512  
02-Dec-15

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** SSW Sampling R24

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
1511512-001	SSWC2811R24N1		11/9/2015 8:57:00 AM	11/12/2015 8:00:00 AM	Aqueous
1511512-002	SSWPZ12R24N1		11/9/2015 10:43:00 AM	11/12/2015 8:00:00 AM	Aqueous
1511512-003	SSWPZ10R24N1		11/9/2015 12:12:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-004	SSWPZ9R24N1		11/10/2015 8:53:00 AM	11/12/2015 8:00:00 AM	Aqueous
1511512-005	SSWPZ7R24N1		11/9/2015 1:33:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-006	SSWPZ13R24N1		11/10/2015 7:40:00 AM	11/12/2015 8:00:00 AM	Aqueous
1511512-007	SSWPZ11R24N1		11/9/2015 3:03:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-008	SSWPZ11R24N1EB		11/9/2015 3:11:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-009	SSWC2507R24N1		11/10/2015 10:27:00 AM	11/12/2015 8:00:00 AM	Aqueous
1511512-010	SSWPZ1R24N1		11/10/2015 11:53:00 AM	11/12/2015 8:00:00 AM	Aqueous
1511512-011	SSWPZ5R24N1		11/10/2015 3:32:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-012	SSWPZ5R24N1D		11/10/2015 3:34:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-013	SSWPZ5R24N1EB		11/10/2015 3:41:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-014	SSWPZ6R24N1		11/10/2015 1:52:00 PM	11/12/2015 8:00:00 AM	Aqueous
1511512-015	SSWWQSP6AR24N1		11/11/2015 8:43:00 AM	11/12/2015 8:00:00 AM	Aqueous
1511512-016	SSWWQSP6AR24N2		11/11/2015 8:47:00 AM	11/12/2015 8:00:00 AM	Aqueous



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Albuquerque, NM 87109  
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## Case Narrative

WO#: 1511512  
Date: 12/2/2015

---

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** SSW Sampling R24

---

All analytes reported are associated with passing CCVs.

METHOD: 300.0

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: none  
Analysis: 300.0

PREPARATION: Sample preparation proceeded normally.

### ANALYSIS:

1. Calibration: All acceptance criteria were met.
2. Blanks: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Spikes: All acceptance criteria were met.
5. Samples: All acceptance criteria were met.

METHOD: SM2540C

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: SM2540C  
Analysis: SM2540C

PREPARATION: Sample preparation proceeded normally.

### ANALYSIS:

1. Blanks: All acceptance criteria were met.
2. Spikes: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Samples: All acceptance criteria were met.



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## Case Narrative

WO#: 1511512  
Date: 12/2/2015

---

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** SSW Sampling R24

---

METHOD: SM4500 NorgC

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: SM4500 NorgC  
Analysis: SM4500 NorgC

PREPARATION: Sample preparation proceeded normally.

### ANALYSIS:

1. Blanks: All acceptance criteria were met.
2. Spikes: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Samples: All acceptance criteria were met.

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWC2811R24N1**Project:** SSW Sampling R24**Collection Date:** 11/9/2015 8:57:00 AM**Lab ID:** 1511512-001**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	1260	67.9	100		mg/L	200	11/12/2015 4:25:34 PM	R30217
Sulfate	451	64.2	100		mg/L	200	11/12/2015 4:25:34 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	3300	29.0	40.0	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ12R24N1**Project:** SSW Sampling R24**Collection Date:** 11/9/2015 10:43:00 AM**Lab ID:** 1511512-002**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	3450	170	250		mg/L	500	11/12/2015 6:04:50 PM	R30217
Sulfate	627	32.1	50.0		mg/L	100	11/12/2015 5:52:26 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	8280	72.4	100	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ10R24N1**Project:** SSW Sampling R24**Collection Date:** 11/9/2015 12:12:00 PM**Lab ID:** 1511512-003**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	255	34.0	50.0		mg/L	100	11/12/2015 5:15:12 PM	R30217
Sulfate	339	3.21	5.00		mg/L	10	11/12/2015 4:37:59 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	1310	29.0	40.0	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ9R24N1**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 8:53:00 AM**Lab ID:** 1511512-004**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	84300	3400	5000		mg/L	1E+0	11/12/2015 6:29:39 PM	R30217
Sulfate	4390	64.2	100		mg/L	200	11/12/2015 6:17:15 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	176000	1450	2000	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ7R24N1**Project:** SSW Sampling R24**Collection Date:** 11/9/2015 1:33:00 PM**Lab ID:** 1511512-005**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	44900	17000	25000		mg/L	5E+0	11/12/2015 6:54:29 PM	R30217
Sulfate	2960	64.2	100		mg/L	200	11/12/2015 6:42:04 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	114000	1450	2000	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ13R24N1**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 7:40:00 AM**Lab ID:** 1511512-006**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	118000	3400	5000		mg/L	1E+0	11/12/2015 7:19:18 PM	R30217
Sulfate	2980	32.1	50.0		mg/L	100	11/12/2015 7:06:54 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	233000	1450	2000	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ11R24N1**Project:** SSW Sampling R24**Collection Date:** 11/9/2015 3:03:00 PM**Lab ID:** 1511512-007**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	59900	3400	5000		mg/L	1E+0	11/12/2015 7:44:07 PM	R30217
Sulfate	2770	32.1	50.0		mg/L	100	11/12/2015 7:31:43 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	96400	1450	2000	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ11R24N1EB**Project:** SSW Sampling R24**Collection Date:** 11/9/2015 3:11:00 PM**Lab ID:** 1511512-008**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	85.2	6.79	10.0		mg/L	20	11/12/2015 8:33:45 PM	R30217
Sulfate	3.93	0.321	0.500		mg/L	1	11/12/2015 8:21:21 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	169	14.5	20.0		mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWC2507R24N1**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 10:27:00 AM**Lab ID:** 1511512-009**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	2800	340	500		mg/L	1000	11/12/2015 8:58:35 PM	R30217
Sulfate	605	32.1	50.0		mg/L	100	11/12/2015 8:46:10 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	6850	145	200	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ1R24N1**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 11:53:00 AM**Lab ID:** 1511512-010**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	37100	1700	2500		mg/L	5000	11/12/2015 9:23:23 PM	R30217
Sulfate	1740	32.1	50.0		mg/L	100	11/12/2015 9:10:59 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	75800	724	1000	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ5R24N1**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 3:32:00 PM**Lab ID:** 1511512-011**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	7470	679	1000		mg/L	2000	11/12/2015 9:48:13 PM	R30217
Sulfate	917	32.1	50.0		mg/L	100	11/12/2015 9:35:48 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	15200	145	200	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ5R24N1D**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 3:34:00 PM**Lab ID:** 1511512-012**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	7730	340	500		mg/L	1000	11/12/2015 10:13:02 PM	R30217
Sulfate	950	32.1	50.0		mg/L	100	11/12/2015 10:00:37 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	15400	145	200	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ5R24N1EB**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 3:41:00 PM**Lab ID:** 1511512-013**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	9.84	0.340	0.500		mg/L	1	11/12/2015 10:50:16 PM	R30217
Sulfate	1.92	0.321	0.500		mg/L	1	11/12/2015 10:50:16 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	57.0	14.5	20.0		mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWPZ6R24N1**Project:** SSW Sampling R24**Collection Date:** 11/10/2015 1:52:00 PM**Lab ID:** 1511512-014**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	37500	1700	2500		mg/L	5000	11/12/2015 11:27:30 PM	R30217
Sulfate	1900	32.1	50.0		mg/L	100	11/12/2015 11:15:05 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	69200	724	1000	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWWQSP6AR24N1**Project:** SSW Sampling R24**Collection Date:** 11/11/2015 8:43:00 AM**Lab ID:** 1511512-015**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	296	17.0	25.0		mg/L	50	11/12/2015 11:52:19 PM	R30217
Nitrogen, Nitrate (As N)	5.45	0.0582	0.100		mg/L	1	11/12/2015 11:39:54 PM	R30217
Sulfate	1840	16.0	25.0		mg/L	50	11/12/2015 11:52:19 PM	R30217
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	3290	29.0	40.0	*D	mg/L	1	11/18/2015 10:35:00 AM	22359

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** SSWWQSP6AR24N2**Project:** SSW Sampling R24**Collection Date:** 11/11/2015 8:47:00 AM**Lab ID:** 1511512-016**Matrix:** AQUEOUS**Received Date:** 11/12/2015 8:00:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Nitrate+Nitrite as N	4.81	0.301	1.00		mg/L	5	11/13/2015 12:04:43 AM	R30217
<b>SM 4500 NORG C: TKN</b>							Analyst: <b>SRM</b>	
Nitrogen, Kjeldahl, Total	ND	0.440	1.00		mg/L	1	11/24/2015 10:17:00 AM	22454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

# DATES REPORT

WO#: 1511512  
 02-Dec-15

**Client:** Waste Isolation Pilot Plant  
**Project:** SSW Sampling R24

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1511512-001A	SSWC2811R24N1	11/9/2015 8:57:00 AM	Aqueous	EPA Method 300.0: Anions			11/12/2015 4:25:34 PM
				EPA Method 300.0: Anions			11/12/2015 3:48:21 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-002A	SSWPZ12R24N1	11/9/2015 10:43:00 AM		EPA Method 300.0: Anions			11/12/2015 6:04:50 PM
				EPA Method 300.0: Anions			11/12/2015 5:52:26 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-003A	SSWPZ10R24N1	11/9/2015 12:12:00 PM		EPA Method 300.0: Anions			11/12/2015 4:37:59 PM
				EPA Method 300.0: Anions			11/12/2015 5:15:12 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-004A	SSWPZ9R24N1	11/10/2015 8:53:00 AM		EPA Method 300.0: Anions			11/12/2015 6:29:39 PM
				EPA Method 300.0: Anions			11/12/2015 6:17:15 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-005A	SSWPZ7R24N1	11/9/2015 1:33:00 PM		EPA Method 300.0: Anions			11/12/2015 6:54:29 PM
				EPA Method 300.0: Anions			11/12/2015 6:42:04 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-006A	SSWPZ13R24N1	11/10/2015 7:40:00 AM		EPA Method 300.0: Anions			11/12/2015 7:06:54 PM
				EPA Method 300.0: Anions			11/12/2015 7:19:18 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-007A	SSWPZ11R24N1	11/9/2015 3:03:00 PM		EPA Method 300.0: Anions			11/12/2015 7:31:43 PM
				EPA Method 300.0: Anions			11/12/2015 7:44:07 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-008A	SSWPZ11R24N1EB	11/9/2015 3:11:00 PM		EPA Method 300.0: Anions			11/17/2015 2:18:18 AM
				EPA Method 300.0: Anions			11/12/2015 8:21:21 PM



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

# DATES REPORT

WO#: 1511512  
 02-Dec-15

**Client:** Waste Isolation Pilot Plant  
**Project:** SSW Sampling R24

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1511512-008A	SSWPZ11R24N1EB	11/9/2015 3:11:00 PM	Aqueous	EPA Method 300.0: Anions			11/12/2015 8:33:45 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-009A	SSWC2507R24N1	11/10/2015 10:27:00 AM		EPA Method 300.0: Anions			11/12/2015 8:46:10 PM
				EPA Method 300.0: Anions			11/12/2015 8:58:35 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-010A	SSWPZ1R24N1	11/10/2015 11:53:00 AM		EPA Method 300.0: Anions			11/12/2015 9:23:23 PM
				EPA Method 300.0: Anions			11/12/2015 9:10:59 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-011A	SSWPZ5R24N1	11/10/2015 3:32:00 PM		EPA Method 300.0: Anions			11/12/2015 9:48:13 PM
				EPA Method 300.0: Anions			11/12/2015 9:35:48 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-012A	SSWPZ5R24N1D	11/10/2015 3:34:00 PM		EPA Method 300.0: Anions			11/12/2015 10:13:02 PM
				EPA Method 300.0: Anions			11/12/2015 10:00:37 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-013A	SSWPZ5R24N1EB	11/10/2015 3:41:00 PM		EPA Method 300.0: Anions			11/12/2015 11:02:40 PM
				EPA Method 300.0: Anions			11/17/2015 2:30:43 AM
				EPA Method 300.0: Anions			11/12/2015 10:50:16 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-014A	SSWPZ6R24N1	11/10/2015 1:52:00 PM		EPA Method 300.0: Anions			11/12/2015 11:15:05 PM
				EPA Method 300.0: Anions			11/12/2015 11:27:30 PM
				SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-015A	SSWWQSP6AR24N1	11/11/2015 8:43:00 AM		EPA Method 300.0: Anions			11/12/2015 11:39:54 PM
				EPA Method 300.0: Anions			11/12/2015 11:52:19 PM



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
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 Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

# DATES REPORT

WO#: 1511512  
 02-Dec-15

**Client:** Waste Isolation Pilot Plant

**Project:** SSW Sampling R24

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1511512-015A	SSWWQSP6AR24N1	11/11/2015 8:43:00 AM	Aqueous	SM2540C MOD: Total Dissolved Solids		11/16/2015 11:59:30 A	11/18/2015 10:35:00 AM
1511512-016A	SSWWQSP6AR24N2	11/11/2015 8:47:00 AM		EPA Method 300.0: Anions			11/13/2015 12:04:43 AM
				SM 4500 Norg C: TKN		11/21/2015 8:34:02 A	11/24/2015 10:17:00 AM

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1511512

02-Dec-15

**Client:** Waste Isolation Pilot Plant

**Project:** SSW Sampling R24

Sample ID <b>A6</b>	SampType: <b>CCV_6</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920693</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	12	0.50	12.00	0	99.9	90	110			
Nitrogen, Nitrate (As N)	7.5	0.10	7.200	0	104	90	110			
Sulfate	30	0.50	30.00	0	101	90	110			
Nitrate+Nitrite as N	12	0.20	12.00	0	103	90	110			

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920695</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920696</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.4	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Sulfate	9.8	0.50	10.00	0	98.5	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Sample ID <b>1511512-003AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>SSWPZ10R24N1</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920702</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	448	5.00	100.0	338.9	109	84.2	113			

Sample ID <b>1511512-003AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>SSWPZ10R24N1</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920703</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	457	5.00	100.0	338.9	118	84.2	113	2.06	20	S

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1511512

02-Dec-15

**Client:** Waste Isolation Pilot Plant

**Project:** SSW Sampling R24

Sample ID <b>A4</b>	SampType: <b>CCV_4</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920705</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.4	90	110			
Nitrogen, Nitrate (As N)	2.9	0.10	3.000	0	95.8	90	110			
Sulfate	12	0.50	12.50	0	93.6	90	110			
Nitrate+Nitrite as N	4.8	0.20	5.000	0	96.3	90	110			

Sample ID <b>A5</b>	SampType: <b>CCV_5</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920720</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	7.7	0.50	8.000	0	95.8	90	110			
Nitrogen, Nitrate (As N)	4.8	0.10	4.800	0	99.3	90	110			
Sulfate	19	0.50	20.00	0	96.6	90	110			
Nitrate+Nitrite as N	7.9	0.20	8.000	0	99.0	90	110			

Sample ID <b>A6</b>	SampType: <b>CCV_6</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/12/2015</b>		SeqNo: <b>920750</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	12	0.50	12.00	0	100	90	110			
Nitrogen, Nitrate (As N)	7.6	0.10	7.200	0	105	90	110			
Sulfate	30	0.50	30.00	0	101	90	110			
Nitrate+Nitrite as N	12	0.20	12.00	0	104	90	110			

Sample ID <b>A4</b>	SampType: <b>CCV_4</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/13/2015</b>		SeqNo: <b>920777</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.1	90	110			
Nitrogen, Nitrate (As N)	2.9	0.10	3.000	0	95.4	90	110			
Sulfate	12	0.50	12.50	0	93.8	90	110			
Nitrate+Nitrite as N	4.8	0.20	5.000	0	95.8	90	110			

Sample ID <b>A5</b>	SampType: <b>CCV_5</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/13/2015</b>		SeqNo: <b>920789</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1511512

02-Dec-15

**Client:** Waste Isolation Pilot Plant

**Project:** SSW Sampling R24

Sample ID <b>A5</b>	SampType: <b>CCV_5</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/13/2015</b>		SeqNo: <b>920789</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	7.8	0.50	8.000	0	97.8	90	110			
Nitrogen, Nitrate (As N)	4.9	0.10	4.800	0	102	90	110			
Sulfate	20	0.50	20.00	0	100	90	110			
Nitrate+Nitrite as N	8.1	0.20	8.000	0	101	90	110			

Sample ID <b>A6</b>	SampType: <b>CCV_6</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R30217</b>		RunNo: <b>30217</b>							
Prep Date:	Analysis Date: <b>11/13/2015</b>		SeqNo: <b>920801</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	12	0.50	12.00	0	101	90	110			
Nitrogen, Nitrate (As N)	7.6	0.10	7.200	0	106	90	110			
Sulfate	31	0.50	30.00	0	103	90	110			
Nitrate+Nitrite as N	13	0.20	12.00	0	105	90	110			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1511512

02-Dec-15

**Client:** Waste Isolation Pilot Plant

**Project:** SSW Sampling R24

Sample ID	<b>MB-22359</b>	SampType:	<b>MBLK</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>PBW</b>	Batch ID:	<b>22359</b>	RunNo:	<b>30306</b>					
Prep Date:	<b>11/16/2015</b>	Analysis Date:	<b>11/18/2015</b>	SeqNo:	<b>924572</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	<b>LCS-22359</b>	SampType:	<b>LCS</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>LCSW</b>	Batch ID:	<b>22359</b>	RunNo:	<b>30306</b>					
Prep Date:	<b>11/16/2015</b>	Analysis Date:	<b>11/18/2015</b>	SeqNo:	<b>924573</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID	<b>1511512-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>SSWC2811R24N1</b>	Batch ID:	<b>22359</b>	RunNo:	<b>30306</b>					
Prep Date:	<b>11/16/2015</b>	Analysis Date:	<b>11/18/2015</b>	SeqNo:	<b>924575</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	5360	40.0	2000	3298	103	80	120			D

Sample ID	<b>1511512-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>SSWC2811R24N1</b>	Batch ID:	<b>22359</b>	RunNo:	<b>30306</b>					
Prep Date:	<b>11/16/2015</b>	Analysis Date:	<b>11/18/2015</b>	SeqNo:	<b>924576</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	5420	40.0	2000	3298	106	80	120	1.19	5	D

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1511512

02-Dec-15

**Client:** Waste Isolation Pilot Plant

**Project:** SSW Sampling R24

Sample ID	<b>MB-22454</b>	SampType:	<b>MBLK</b>	TestCode:	<b>SM 4500 Norg C: TKN</b>					
Client ID:	<b>PBW</b>	Batch ID:	<b>22454</b>	RunNo:	<b>30451</b>					
Prep Date:	<b>11/21/2015</b>	Analysis Date:	<b>11/24/2015</b>	SeqNo:	<b>929177</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.00								

Sample ID	<b>LCS-22454</b>	SampType:	<b>LCS</b>	TestCode:	<b>SM 4500 Norg C: TKN</b>					
Client ID:	<b>LCSW</b>	Batch ID:	<b>22454</b>	RunNo:	<b>30451</b>					
Prep Date:	<b>11/21/2015</b>	Analysis Date:	<b>11/24/2015</b>	SeqNo:	<b>929178</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.1	1.00	10.00	0	101	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: WIPP

Work Order Number: 1511512

RcptNo: 1

Received by/date: JA 11/12/15

Logged By: **Anne Thorne** 11/12/2015 8:00:00 AM *Anne Thorne*

Completed By: **Anne Thorne** 11/12/2015 *Anne Thorne*

Reviewed By: *[Signature]* 11/12/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? FedEx

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: 1  
 (<2 or >12 unless noted)  
 Adjusted? NO  
 Checked by: JA

**Special Handling (if applicable)**

- 16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.1	Good	Yes			



# CHAIN OF CUSTODY RECORD

Project Number: TS 02542-2		Project Name: SSW Sampling R24		Requested Analyses		Analytical Laboratory	
Sample Date	Sample Time	Matrix	Sample Number	TDS	Chloride	Sulfate	Comments
11/9/15	0857	SSW	SSWC2811 R24 NI	X	X	X	use for MSLMSD -001
11/9/15	1043		SSWP212 R24 NI	X	X	X	-002
11/9/15	1212		SSWP210 R24 NI	X	X	X	-003
11/10/15	0853		SSWP219 R24 NI	X	X	X	-004
11/9/15	1333		SSWP27 R24 NI	X	X	X	-005
11/10/15	0740		SSWP213 R24 NI	X	X	X	-006
11/9/15	1503		SSWP211 R24 NI	X	X	X	-007
11/9/15	1511		SSWP211 R24 A/EB	X	X	X	Eq Blank -008
11/10/15	1027		SSWC2507 R24 NI	X	X	X	-009
11/10/15	1153		SSWP21 R24 NI	X	X	X	-010
11/10/15	1532		SSWP25 R24 NI	X	X	X	-011
11/10/15	1534		SSWP25 R24 NI D	X	X	X	-012
11/10/15	1541		SSWP25 R24 NI EB	X	X	X	Eq Blank -013
11/10/15	1352	+	SSWP26 R24 NI	X	X	X	-014
Relinquished By: (Signature, Date/Time)				Received By: (Signature, Date/Time)		Received By: (Signature, Date/Time)	
Relinquished By: (Signature, Date/Time)				Received By: (Signature, Date/Time)		Received By: (Signature, Date/Time)	
Requested Turnaround Time: 30 days				Sample Receipt Remarks:		Special Instructions:	
<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush				Results To: Brett Seal		High TDS: PZ-7, PZ-11, PZ-9, PZ-6, PZ-5, PZ-13, PZ-1. Report all data to three sig figs.	
Sample Disposal:				RES		PO Box 2078, MS 452-09	
<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab				Carlsbad, NM 88221-2078		FAX: 575-234-6003	
Carrier / Airbill No.: 8768 1881 246				Phone: 575-234-8866		EDD: Brett.seal@wipp.wv	



# CHAIN OF CUSTODY RECORD

No 1214

Page 2 of 2

Project Number: T502542-2		Project Name: SSW Sampling R24		Requested Analyses		Analytical Laboratory					
Sample Date	Sample Time	Matrix	Sample Number	Total Number of Containers	TDS	Chloride	Sulfate	Nitrate	TKN	HEAL	Comments
11/11/15	0843	SSW	SSWWSWSP6AR24U1	1	X	X	X	X		HEAL	1511512 - a5
11/11/15	0847	SSW	SSWWSWSP6AR24N2	1				X	X	HEAL	-016
<del>MA BS</del>											
Relinquished By: (Signature, Date/Time)				Received By: (Signature, Date/Time)		Relinquished By: (Signature, Date/Time)		Received By: (Signature, Date/Time)			
Relinquished By: (Signature, Date/Time)				Received By: (Signature, Date/Time)		Relinquished By: (Signature, Date/Time)		Received By: (Signature, Date/Time)			
Requested Turnaround Time: 30 days				Sample Receipt Remarks:		Special Instructions:		Received at Laboratory: (Signature, Date/Time)			
<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush				Results To: Brett Seal		RES		Special Instructions: JRE/RSW 11/12/15 0800			
Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab				Carrier / Airbill No.: 87688812418		Phone: 575-234-8866    FAX: 575-234-6003 EDD: Brett.Seal@wipp.wv		PO Box 2078, MS 452-09 Carlsbad, NM 88221-2078			

## Water Level Measurement Field Data Sheet

From July to December Year 2015

Pond Name	Date	Time	Water Depth (ft)	Initials	Comments
Salt Storage Pond 2	7/9/15	<del>_____</del>	<del>~14</del>	<del>_____</del>	<u>NO ACCESS</u>
Salt Storage Pond 3	7/9/15	0829	69.45	RJ	
Salt Storage Pond 2	8/6/15	0946	43.60	RJ	
Salt Storage Pond 3	8/6/15	0915	42.75	RJ	
Salt Storage Pond 2	9/19/15	0815	39.90	RJ	
Salt Storage Pond 3	9/19/15	0950	44.80	RJ	
Salt Storage Pond 2	10/15/15	1031	39.83	RJ	
Salt Storage Pond 3	10/15/15	1044	44.55	RJ	
Salt Storage Pond 2	11/16/15	0844	36.89	RJ	
Salt Storage Pond 3	11/16/15	0905	40.06	RJ	
Salt Storage Pond 2	12/10/15	<sup>11:06 AM</sup> 12:30	37.91	RJ	
Salt Storage Pond 3	12/10/15	12:30	67.01	RJ	

Performer: Print Name: \_\_\_\_\_

RICHARD JIMENEZ

Signature: \_\_\_\_\_



Performer: Print Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Performer: Print Name: \_\_\_\_\_

Signature: \_\_\_\_\_



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

November 04, 2015

Greg Jungclaus

Waste Isolation Pilot Plant

P.O. Box 2078

Carlsbad, NM 88221-2078

TEL: (575) 234-8615

FAX

RE: Env Monit (DP-831 Sewage)

OrderNo.: 1510799

Dear Greg Jungclaus:

Hall Environmental Analysis Laboratory received 8 sample(s) on 10/16/2015 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 03, 2015.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

**Workorder**  
**Sample Summary**  
WO#: 1510799  
04-Nov-15

---

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

---

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
1510799-001	EC-SL2-20151015-1.3		10/15/2015 9:22:00 AM	10/16/2015 8:40:00 AM	Aqueous
1510799-002	EC-SL2-20151015-2.3		10/15/2015 9:17:00 AM	10/16/2015 8:40:00 AM	Aqueous
1510799-003	EC-SL2-20151015-3.3		10/15/2015 9:13:00 AM	10/16/2015 8:40:00 AM	Aqueous
1510799-004	EC-ELB-20151015-1.1		10/15/2015 8:48:00 AM	10/16/2015 8:40:00 AM	Aqueous
1510799-005	EC-ELC-20151015-1.1		10/15/2015 8:52:00 AM	10/16/2015 8:40:00 AM	Aqueous
1510799-006	EC-H19-20151015-1.2		10/15/2015 8:27:00 AM	10/16/2015 8:40:00 AM	Aqueous
1510799-007	EC-H19-20151015-2.2		10/15/2015 8:27:00 AM	10/16/2015 8:40:00 AM	Aqueous
1510799-008	EC-BLK-20151015-1.1		10/15/2015 9:30:00 AM	10/16/2015 8:40:00 AM	Aqueous



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## Case Narrative

WO#: 1510799  
Date: 11/4/2015

---

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

---

METHOD: 300.0

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: none  
Analysis: 300.0

PREPARATION: Sample preparation proceeded normally.

**ANALYSIS:**

1. Calibration: All acceptance criteria were met.
2. Blanks: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Spikes: All acceptance criteria were met.
5. Samples: All acceptance criteria were met.

METHOD: SM2540C

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: SM2540C  
Analysis: SM2540C

PREPARATION: Sample preparation proceeded normally.

**ANALYSIS:**

1. Blanks: All acceptance criteria were met.
2. Spikes: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Samples: All acceptance criteria were met.



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## Case Narrative

WO#: 1510799  
Date: 11/4/2015

---

**CLIENT:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

---

**METHOD:** SM4500 NorgC

**HOLDING TIMES:** All holding times for Preparation and Analysis were met.

**METHOD:** Preparations: SM4500 NorgC  
Analysis: SM4500 NorgC

**PREPARATION:** Sample preparation proceeded normally.

**ANALYSIS:**

1. Blanks: All acceptance criteria were met.
2. Spikes: All acceptance criteria were met.
3. Duplicates: All acceptance criteria were met.
4. Samples: All acceptance criteria were met.

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** EC-SL2-20151015-1.3**Project:** Env Monit (DP-831 Sewage)**Collection Date:** 10/15/2015 9:22:00 AM**Lab ID:** 1510799-001**Matrix:** AQUEOUS**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Nitrogen, Nitrate (As N)	ND	0.291	0.500		mg/L	5	10/16/2015 5:02:14 PM	R29631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Waste Isolation Pilot Plant

**Client Sample ID:** EC-SL2-20151015-2.3

**Project:** Env Monit (DP-831 Sewage)

**Collection Date:** 10/15/2015 9:17:00 AM

**Lab ID:** 1510799-002

**Matrix:** AQUEOUS

**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>SM 4500 NORG C: TKN</b>							Analyst: <b>MAW</b>	
Nitrogen, Kjeldahl, Total	93.1	2.20	5.00	D	mg/L	1	10/28/2015 12:45:00 PM	21918

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** EC-SL2-20151015-3.3**Project:** Env Monit (DP-831 Sewage)**Collection Date:** 10/15/2015 9:13:00 AM**Lab ID:** 1510799-003**Matrix:** AQUEOUS**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	92.3	3.40	5.00		mg/L	10	10/20/2015 1:51:31 PM	R29689
Sulfate	55.5	3.21	5.00		mg/L	10	10/20/2015 1:51:31 PM	R29689
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	610	145	200	*D	mg/L	1	10/25/2015 3:49:00 PM	21975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** EC-ELB-20151015-1.1**Project:** Env Monit (DP-831 Sewage)**Collection Date:** 10/15/2015 8:48:00 AM**Lab ID:** 1510799-004**Matrix:** AQUEOUS**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	49100	1700	2500		mg/L	5000	10/20/2015 2:53:33 PM	R29689
Sulfate	7810	1600	2500		mg/L	5000	10/20/2015 2:53:33 PM	R29689
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	96400	1450	2000	*D	mg/L	1	10/25/2015 3:49:00 PM	21975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** EC-ELC-20151015-1.1**Project:** Env Monit (DP-831 Sewage)**Collection Date:** 10/15/2015 8:52:00 AM**Lab ID:** 1510799-005**Matrix:** AQUEOUS**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	41300	1700	2500	*	mg/L	5000	10/23/2015 4:32:25 AM	A29743
Sulfate	6570	321	500	*	mg/L	1000	10/22/2015 2:26:21 AM	A29719
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	78400	1450	2000	*D	mg/L	1	10/25/2015 3:49:00 PM	21975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** EC-H19-20151015-1.2**Project:** Env Monit (DP-831 Sewage)**Collection Date:** 10/15/2015 8:27:00 AM**Lab ID:** 1510799-006**Matrix:** AQUEOUS**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	57800	1700	2500		mg/L	5000	10/20/2015 4:08:01 PM	R29689
Sulfate	93.0	3.21	5.00		mg/L	10	10/20/2015 3:55:36 PM	R29689
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	110000	1450	2000	*D	mg/L	1	10/25/2015 3:49:00 PM	21975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Waste Isolation Pilot Plant**Client Sample ID:** EC-H19-20151015-2.2**Project:** Env Monit (DP-831 Sewage)**Collection Date:** 10/15/2015 8:27:00 AM**Lab ID:** 1510799-007**Matrix:** AQUEOUS**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	47800	1700	2500		mg/L	5000	10/20/2015 4:57:39 PM	R29689
Sulfate	90.8	3.21	5.00		mg/L	10	10/20/2015 4:20:25 PM	R29689
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	117000	1450	2000	*D	mg/L	1	10/25/2015 3:49:00 PM	21975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Waste Isolation Pilot Plant

**Client Sample ID:** EC-BLK-20151015-1.1

**Project:** Env Monit (DP-831 Sewage)

**Collection Date:** 10/15/2015 9:30:00 AM

**Lab ID:** 1510799-008

**Matrix:** AQUEOUS

**Received Date:** 10/16/2015 8:40:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>	
Chloride	0.595	0.340	0.500		mg/L	1	10/20/2015 5:10:04 PM	R29689
Sulfate	ND	0.321	0.500		mg/L	1	10/20/2015 5:10:04 PM	R29689
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>	
Total Dissolved Solids	ND	14.5	20.0		mg/L	1	10/25/2015 3:49:00 PM	21975

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	



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# DATES REPORT

WO#: 1510799  
 04-Nov-15

**Client:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1510799-001A	EC-SL2-20151015-1.3	10/15/2015 9:22:00 AM	Aqueous	EPA Method 300.0: Anions			10/16/2015 5:14:38 PM
				EPA Method 300.0: Anions			10/16/2015 5:02:14 PM
1510799-002A	EC-SL2-20151015-2.3	10/15/2015 9:17:00 AM		SM 4500 Norg C: TKN		10/20/2015 7:37:29 A	10/28/2015 12:45:00 PM
1510799-003A	EC-SL2-20151015-3.3	10/15/2015 9:13:00 AM		EPA Method 300.0: Anions			10/20/2015 2:03:56 PM
				EPA Method 300.0: Anions			10/20/2015 1:51:31 PM
				SM2540C MOD: Total Dissolved Solids		10/22/2015 7:19:40 A	10/25/2015 3:49:00 PM
1510799-004A	EC-ELB-20151015-1.1	10/15/2015 8:48:00 AM		EPA Method 300.0: Anions			10/20/2015 2:53:33 PM
				EPA Method 300.0: Anions			10/20/2015 2:16:20 PM
				SM2540C MOD: Total Dissolved Solids		10/22/2015 7:19:40 A	10/25/2015 3:49:00 PM
1510799-005A	EC-ELC-20151015-1.1	10/15/2015 8:52:00 AM		EPA Method 300.0: Anions			10/23/2015 4:32:25 AM
				EPA Method 300.0: Anions			10/20/2015 3:18:22 PM
				EPA Method 300.0: Anions			10/20/2015 3:05:57 PM
				EPA Method 300.0: Anions			10/22/2015 2:26:21 AM
1510799-006A	EC-H19-20151015-1.2	10/15/2015 8:27:00 AM		SM2540C MOD: Total Dissolved Solids		10/22/2015 7:19:40 A	10/25/2015 3:49:00 PM
				EPA Method 300.0: Anions			10/20/2015 4:08:01 PM
				EPA Method 300.0: Anions			10/20/2015 3:55:36 PM
1510799-007A	EC-H19-20151015-2.2			SM2540C MOD: Total Dissolved Solids		10/22/2015 7:19:40 A	10/25/2015 3:49:00 PM
				EPA Method 300.0: Anions			10/20/2015 4:57:39 PM
				EPA Method 300.0: Anions			10/20/2015 4:20:25 PM
1510799-008A	EC-BLK-20151015-1.1	10/15/2015 9:30:00 AM		SM2540C MOD: Total Dissolved Solids		10/22/2015 7:19:40 A	10/25/2015 3:49:00 PM
				EPA Method 300.0: Anions			10/20/2015 5:22:28 PM
				EPA Method 300.0: Anions			10/20/2015 5:10:04 PM
				SM2540C MOD: Total Dissolved Solids		10/22/2015 7:19:40 A	10/25/2015 3:49:00 PM

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510799

04-Nov-15

**Client:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R29631</b>		RunNo: <b>29631</b>							
Prep Date:	Analysis Date: <b>10/16/2015</b>		SeqNo: <b>902319</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.100								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R29631</b>		RunNo: <b>29631</b>							
Prep Date:	Analysis Date: <b>10/16/2015</b>		SeqNo: <b>902320</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.57	0.100	2.500	0	103	90	110			

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R29689</b>		RunNo: <b>29689</b>							
Prep Date:	Analysis Date: <b>10/20/2015</b>		SeqNo: <b>904075</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.500								
Sulfate	ND	0.500								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R29689</b>		RunNo: <b>29689</b>							
Prep Date:	Analysis Date: <b>10/20/2015</b>		SeqNo: <b>904076</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.69	0.500	5.000	0	93.9	90	110			
Sulfate	9.53	0.500	10.00	0	95.3	90	110			

Sample ID <b>1510799-007AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>EC-H19-20151015-2.</b>	Batch ID: <b>R29689</b>		RunNo: <b>29689</b>							
Prep Date:	Analysis Date: <b>10/20/2015</b>		SeqNo: <b>904090</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	183	5.00	100.0	90.79	91.9	84.2	113			

Sample ID <b>1510799-007AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>EC-H19-20151015-2.</b>	Batch ID: <b>R29689</b>		RunNo: <b>29689</b>							
Prep Date:	Analysis Date: <b>10/20/2015</b>		SeqNo: <b>904091</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	179	5.00	100.0	90.79	88.5	84.2	113	1.86	20	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510799

04-Nov-15

**Client:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>A29719</b>		RunNo: <b>29719</b>							
Prep Date:	Analysis Date: <b>10/22/2015</b>		SeqNo: <b>905180</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.500								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>A29719</b>		RunNo: <b>29719</b>							
Prep Date:	Analysis Date: <b>10/22/2015</b>		SeqNo: <b>905181</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.56	0.500	10.00	0	95.6	90	110			

Sample ID <b>MB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>A29743</b>		RunNo: <b>29743</b>							
Prep Date:	Analysis Date: <b>10/23/2015</b>		SeqNo: <b>905921</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>A29743</b>		RunNo: <b>29743</b>							
Prep Date:	Analysis Date: <b>10/23/2015</b>		SeqNo: <b>905922</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.2	90	110			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510799

04-Nov-15

**Client:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

Sample ID	<b>MB-21975</b>	SampType:	<b>MBLK</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>PBW</b>	Batch ID:	<b>21975</b>	RunNo:	<b>29768</b>					
Prep Date:	<b>10/22/2015</b>	Analysis Date:	<b>10/25/2015</b>	SeqNo:	<b>906544</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	15.0	20.0								J

Sample ID	<b>LCS-21975</b>	SampType:	<b>LCS</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>LCSW</b>	Batch ID:	<b>21975</b>	RunNo:	<b>29768</b>					
Prep Date:	<b>10/22/2015</b>	Analysis Date:	<b>10/25/2015</b>	SeqNo:	<b>906545</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Sample ID	<b>1510799-004AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>EC-ELB-20151015-1.</b>	Batch ID:	<b>21975</b>	RunNo:	<b>29768</b>					
Prep Date:	<b>10/22/2015</b>	Analysis Date:	<b>10/25/2015</b>	SeqNo:	<b>906548</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	197000	2000	100000	96400	101	80	120			D

Sample ID	<b>1510799-004AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>EC-ELB-20151015-1.</b>	Batch ID:	<b>21975</b>	RunNo:	<b>29768</b>					
Prep Date:	<b>10/22/2015</b>	Analysis Date:	<b>10/25/2015</b>	SeqNo:	<b>906549</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	198000	2000	100000	96400	102	80	120	0.809	5	D

Sample ID	<b>1510799-007AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>EC-H19-20151015-2.</b>	Batch ID:	<b>21975</b>	RunNo:	<b>29768</b>					
Prep Date:	<b>10/22/2015</b>	Analysis Date:	<b>10/25/2015</b>	SeqNo:	<b>906553</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	213000	2000	100000	117300	95.6	80	120			D

Sample ID	<b>1510799-007AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>SM2540C MOD: Total Dissolved Solids</b>					
Client ID:	<b>EC-H19-20151015-2.</b>	Batch ID:	<b>21975</b>	RunNo:	<b>29768</b>					
Prep Date:	<b>10/22/2015</b>	Analysis Date:	<b>10/25/2015</b>	SeqNo:	<b>906554</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	221000	2000	100000	117300	104	80	120	3.73	5	D

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510799

04-Nov-15

**Client:** Waste Isolation Pilot Plant  
**Project:** Env Monit (DP-831 Sewage)

Sample ID	<b>MB-21918</b>	SampType:	<b>MBLK</b>	TestCode:	<b>SM 4500 Norg C: TKN</b>					
Client ID:	<b>PBW</b>	Batch ID:	<b>21918</b>	RunNo:	<b>29856</b>					
Prep Date:	<b>10/20/2015</b>	Analysis Date:	<b>10/28/2015</b>	SeqNo:	<b>909220</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.00								

Sample ID	<b>LCS-21918</b>	SampType:	<b>LCS</b>	TestCode:	<b>SM 4500 Norg C: TKN</b>					
Client ID:	<b>LCSW</b>	Batch ID:	<b>21918</b>	RunNo:	<b>29856</b>					
Prep Date:	<b>10/20/2015</b>	Analysis Date:	<b>10/28/2015</b>	SeqNo:	<b>909221</b>	Units:	<b>mg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.5	1.00	10.00	0	105	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: WIPP

Work Order Number: 1510799

RcptNo: 1

Received by/date: JA 10/16/15

Logged By: Anne Thorne 10/16/2015 8:40:00 AM *Anne Thorne*

Completed By: Anne Thorne 10/16/2015 *Anne Thorne*

Reviewed By: *mg* 10/16/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? FedEx

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: 12 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: *JA*

**Special Handling (if applicable)**

- 16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_

By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

# CHAIN-OF-CUSTODY RECORD

Nº 09817

C of C Control

WASTE ISOLATION PILOT PLANT  
P.O. BOX 2078  
CARLSBAD, NM 88221-2078



**SIGN  
HERE** Nº 09817

RFA Control

SAMPLING PROGRAM ENV - Monit (DP-831 Sewage)

LAB DESTINATION Hall Environ metrol Lab (HEAL)

SAMPLE TEAM MEMBERS J Hernandez

CARRIER/WAYBILL NO. Fed Ex

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition of Receipt (Name and Date)	Disposal Record No.
EC-SL2-20151015 - 1.3	Settling Lagoon Z	10-15-15 0927	Sewage	1 Liter	15/10/199 - 001N/A	
↓	↓	0917		500 mL		2002
↓	↓	0913				2003
EC-ELB-20151015 - 1.1	Effluent Lagoon B	0848				2004
↓	↓	0852				2005
↓	↓	0827				2006
↓	↓	0827				2007
↓	Blank	0930	Blank			2008
<del>N/A</del>						

Special Instructions: Do Nitrate (1 liter) within 48 hours of time Collected / USE ELB(1.1) for MS/MSD QC sample.

Possible Sample Hazards:  Radiological  Bio-Hazard

SIGNATURES: (Name, Company, Date and Time)

- Relinquished By: Jerome Hernandez NWP 10-15-15 1020 3. Relinquished By: \_\_\_\_\_  
 Received By: JPH 10/16/15 0840 Received By: \_\_\_\_\_
- Relinquished By: 1.0 C 4. Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Received By: \_\_\_\_\_



WASTE ISOLATION PILOT PLANT  
P.O. BOX 2078  
CARLSBAD, NM 88221-2078

**REQUEST FOR ANALYSIS**

Nº 09817

RFA Control

DATE SAMPLES SHIPPED 10-15-15  
LAB DESTINATION Hall Environmental  
LABORATORY CONTACT Andy Freeman  
SEND LAB REPORT TO NWP  
P.O. Box 2078 m/s 452-09  
Carlsbad, N. Mex 88221  
DATE REPORT REQUIRED Per S.O.W  
PROJECT CONTACT Bob Greg Jungclaus  
PROJECT CONTACT PHONE NO. (575) 234-8615

Nº 09817

C of C Control

SAMPLING PROGRAM ENV-Monit (DP-831)  
PURCHASE ORDER NO. 502542-4

1510799

Sample Number	Sample Type	Sample Quantity	Preservative	Req't. Testing Program	Special Instructions
EC-SL2-20151015 - 1.3	Sewage	1 liter	≤ 4°C	PER S.O.W	MAX hold time 48 hrs - 102
↓	↓	500 mL	H <sub>2</sub> SO <sub>4</sub> to pH ≤ 2, ≤ 4°C	↓	N/A
↓	↓	↓	↓	↓	103
EC-ELB-20151015 - 1.1	↓	↓	↓	↓	104
↓	↓	↓	↓	↓	105
ELC	↓	↓	↓	↓	106
H19	↓	↓	↓	↓	Use for ms/msd etc. Sample
H19	↓	↓	↓	↓	N/A
Blk	Blank	↓	↓	↓	108
<del>N/A</del>					

TURNAROUND TIME REQUIRED: (Rush must be approved by appropriate Manager) NORMAL  RUSH  (Subject in rush surcharge)  
POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

NONHAZARD  RADIOLOGICAL  FLAMMABLE  SKIN IRRITANT  HIGHLY TOXIC  BIOLOGICAL  OTHER  (Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis.) RETURN TO CLIENT  DISPOSAL BY LAB

FOR LAB USE ONLY RECEIVED BY [Signature] DATE/TIME 10/16/15 1.0°C 0840

ISSUED

WP 02-EM1001

Rev. 17

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Attachment 1 - Sewage Lagoon Sample Data Work Sheet

SEWAGE SYSTEM LAGOONS SAMPLE DATA WORK SHEET

Sample Data Work Sheet No. 002

CMRO Entry Notification 0840 Time

CMRO Exit Notification 0937 Time

Biohazard Delivered to Nurse: 0950 Time

Pond:	SL1	SL2	PL1	PL2	ELA	ELB	ELC
TO CONTRACT LAB							
SAMPLE CODES	LOCATION	SIZE	ANALYSIS	PRESERVATIVE	DATE/TIME		
EC-SL2-20151015-1.3	Settling Lagoon Z	1 Liter	Nitrate	≤ 4°C	10-15-15	0922	
		500 mL	TKN	H <sub>2</sub> SO <sub>4</sub> to pH=2, ≤ 4°C		0917	
			Sulfate, Chloride, TDS	≤ 4°C		0913	
EC-ELB-20151015-1.1	Effluent Lagoon B					0848	
ELC						0852	
H19						0827	
H19	H-19					0827	
BLK	Blank					0930	

Personnel: Jerome Hernandez

Comments: Do not use flied Blank sample for MS/MSD or sample use ELB 1.1, Do Nitrate (Lited) within 48 hours  
Pre-job briefing held; Acid Safety Slips P Falls

Collected by: Jerome Hernandez Title Env. Monit Signature [Signature] Date 10-15-15

Reviewed by: Rick Eggleston Title Env. Spec. Signature [Signature] Date 10/15/15

REFERENCE USE  
0840 1.0°C

Discharge to Facultative Lagoon System  
July through December 2016

Date	Gallons Domestic	Gallons for the Month	Avg. Gal per day
06/29 - 07/05	108,103		
07/06 - 07/12	81,389		
07/13 - 07/19	96,654		
07/20 - 07/26	80,612		
07/27 - 08/03	87,044	453,802	16,207
08/04 - 08/09	89,270		
08/10 - 08/16	90,605		
08/17 - 08/23	88,913		
08/24 - 08/30	94,132	362,920	12,961
08/31 - 09/06	89,342		
09/07 - 09/13	89,269		
09/14 - 09/20	94,205		
09/21 - 09/27	99,711		
09/28 - 10-04	97,059	469,586	13,417
10/05 - 10/11	96,160		
10/12 - 10/18	92,964		
10/19 - 10/25	95,224		
10/26 - 11/01	97,971	382,319	13,654
11/02 - 11/08	96,932		
11/09 - 11/15	100,428		
11/16 - 11/22	113,785		
11/23 - 11/30	106,730	417,875	14,924
11/30 - 12/06	203,123		
12/07 - 12/13	112,087		
12/14 - 12/20	117,678		
12/21 - 12/27	105,511		
12/28 - 12/31*	76,914	615,313	19,229
	Total Flow	2,701,815	

\* - Flow for these four days is estimated.

*Original*

**INFORMATION ONLY**

Date: 6-24-15 - 7-5-15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY		SUN	MON	TUES	WED	THURS	FRI	SAT	SUN					
				SHIFT		2	1	2	1	2	1	2	1	2	1	2		
				REVIEWER			JMC	M	RT	AL	RT	Ph	RT	Ph	M	J	M	J
				FOT		CIO	LD	M	SP	Q-B	RDS	Q-B	SP	M	M	Q	M	Q
ITEM	MIN	NORM	MAX															
<b>458, GUARD &amp; SECURITY BUILDING</b>																		
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0													
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0													
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0	0													
403 AHU LOW FILTER (PDI-03)			0.5	STBY	STBY													
403 AHU MOD FILTER (PDI-04)			0.5	↓	↓													
<b>456-CP-010-01 CONTROL PANEL</b>																		
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	65	69	70	67	65	68	68	66	67	66	65	65		
<b>456-FIY-010-001 WATER FLOW METER</b>																		
RAW WATER GALLONS		RESET MONDAY [A]		125190	95363													
DOMESTIC WATER GALLONS		RESET MONDAY [A]		94350	108103													
<b>456-FM-045-001 SEWAGE FLOW METER</b>																		
SEWAGE FLOW GALLONS		[B]	23,000	34790	30930	31800	415.50	29280	685100	34430	20370							
<b>HACH TEST KIT</b>																		
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.00	1.08	1.14	1.09	1.04	1.02	.95	.93							
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT</p> <p>[B] - REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM</p> <p>[C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS</p>																		
<p>COMMENTS: ① AR# 1506455 / OWA SPEC.</p>																		
										APPROVED FOR USE/DATE: <i>WPK</i> 061713								

Location:				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN						
458, GUARD & SECURITY BUILDING				SHIFT	2	2	2	2	2	1	2	1						
456, PUMPHOUSE BUILDING				REVIEWER														
				FOT	CIO													
ITEM	MIN	NORM	MAX															
<b>458, GUARD &amp; SECURITY BUILDING</b>																		
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0													
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0													
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0	0.02													
403 AHU LOW FILTER (PDI-03)			0.5	STBY	STBY													
403 AHU MOD FILTER (PDI-04)			0.5	↓	↓													
<b>456-CP-010-01 CONTROL PANEL</b>																		
DOMESTIC WATER PRESS (PIC-01)	60	65	70	65	64	65	67	67	65	66	64	65	65	65	65	67	66	
<b>456-FIY-010-001 WATER FLOW METER</b>																		
RAW WATER GALLONS	RESET MONDAY [A]			95323		81534												
DOMESTIC WATER GALLONS	RESET MONDAY [A]			108103		81589												
<b>456-FM-045-001 SEWAGE FLOW METER</b>																		
SEWAGE FLOW GALLONS		[B]	23,000	20392		258700 <sup>①</sup>		360200 <sup>①</sup>		338200 <sup>①</sup>		334500 <sup>①</sup>		480500 <sup>①</sup>		770700 <sup>①</sup>		279700 <sup>①</sup>
<b>HACH TEST KIT</b>																		
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.93		.64 <sup>②</sup>		.96		.93		.92		1.0		1.6 <sup>③</sup>		1.59 <sup>③</sup>
<p><b>NOTES:</b> [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS</p>																		
<p><b>COMMENTS:</b> ① OUT OF SPEC AIR # 1506455                  ② Add Chlorine                  ③ OUT OF SPEC FSM NOTIFIED</p>																		
												APPROVED FOR USE/DATE: <i>APK</i> 061713						

Location:				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN			
458, GUARD & SECURITY BUILDING				SHIFT	2	1	2	1	2	1	2	1	2		
456, PUMPHOUSE BUILDING				REVIEWER		AM	AM	AM	AM	AM	AM	AM	AM		
				FOT	C/O										
ITEM	MIN	NORM	MAX												
<b>458, GUARD &amp; SECURITY BUILDING</b>															
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0										
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0										
412 ODOR ABS MOD FILTER (PDI-09)			0.5	.02	.02										
403 AHU LOW FILTER (PDI-03)			0.5	347	3734										
403 AHU MOD FILTER (PDI-04)			0.5	↓	↓										
<b>456-CP-010-01 CONTROL PANEL</b>															
DOMESTIC WATER PRESS (PIC-01)	60	65	70	66	66	66	66	65	65	63	64	64	64	64	66
<b>456-FIY-010-001 WATER FLOW METER</b>															
RAW WATER GALLONS		RESET MONDAY [A]		81534	96370										
DOMESTIC WATER GALLONS		RESET MONDAY [A]		81389	96654										
<b>456-FM-045-001 SEWAGE FLOW METER</b>															
SEWAGE FLOW GALLONS		[B]	23,000	27970	31210	26600	22600	23500	17,700	16100	14000				
<b>HACH TEST KIT</b>															
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.59	1.25	1.03	1.27	1.20	1.26	1.26	1.2				
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT</p> <p>[B] - REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM</p> <p>[C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS</p>															
<p>COMMENTS: ① Out of Spec AR # 1506455</p> <p>② Out of Spec FSM notified.</p>															
										APPROVED FOR USE/DATE: WPK 061713					

*Original*

INFORMATION ONLY

Date: 7/20/15 7/26/15

Location:				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
458, GUARD & SECURITY BUILDING				SHIFT	2	1	2	1	2	1	2	1	2
456, PUMPHOUSE BUILDING				REVIEWER		<i>me</i>	<i>me</i>						
				FOT	CIO	<i>me</i>	<i>RDS</i>						
ITEM	MIN	NORM	MAX										
<b>458, GUARD &amp; SECURITY BUILDING</b>													
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0								
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0								
412 ODOR ABS MOD FILTER (PDI-09)			0.5	.02	.02								
403 AHU LOW FILTER (PDI-03)			0.5	STBY	STBY								
403 AHU MOD FILTER (PDI-04)			0.5	↓	↓								
<b>456-CP-010-01 CONTROL PANEL</b>													
DOMESTIC WATER PRESS (PIC-01)	60	65	70	66	66	66							
<b>456-FIY-010-001 WATER FLOW METER</b>													
RAW WATER GALLONS			RESET MONDAY [A]	96390.4		139628							
DOMESTIC WATER GALLONS			RESET MONDAY [A]	56654.0		89612							
<b>456-FM-045-001 SEWAGE FLOW METER</b>													
SEWAGE FLOW GALLONS		[B]	23,000	14000 <sup>⓪</sup>		20,000 <sup>⓪</sup>							
<b>HACH TEST KIT</b>													
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.2		1.09							
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT</p> <p>[B] - REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM</p> <p>[C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS</p>													
<p>COMMENTS: <i>⓪ Out of Spec. AR# 1506455</i></p>													
										APPROVED FOR USE/DATE: <i>APK 06/17/15</i>			

*Master Copy*

INFORMATION ONLY

Start Date: 7-21-15 End Date: 7-26-15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN					
				SHIFT	2	1	2	1	2	1	2	1	2				
				START TIME	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
				END TIME	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
				REVIEWER													
				FOT	C/O												
ITEM	MIN	NORM	MAX														
<b>458, GUARD &amp; SECURITY BUILDING</b>																	
412 ODOR ABS MOD FILTER (PDI-07)			0.5	N/A	N/A												
412 ODOR ABS CHAR FILTER (PDI-08)			0.5														
412 ODOR ABS MOD FILTER (PDI-09)			0.5														
403 AHU LOW FILTER (PDI-03)			0.5														
403 AHU MOD FILTER (PDI-04)			0.5														
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																	
<b>456-CP-010-01 CONTROL PANEL</b>																	
DOMESTIC WATER PRESS (PIC-01)	60	65	70	N/A	N/A	N/A	67	66	62	65	65	65	68	66	68	68	67
<b>456-FIY-010-001 WATER FLOW METER</b>																	
RAW WATER GALLONS	RESET MONDAY [A]			N/A		N/A											
DOMESTIC WATER GALLONS	RESET MONDAY [A]																
<b>456-FM-045-001 SEWAGE FLOW METER</b>																	
SEWAGE FLOW GALLONS		[B]	23,000	N/A		N/A	43400	66300	20700	40400	15600	16000					
<b>HACH TEST KIT</b>																	
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	N/A		N/A	1.07	1.07	1.00	1.02	.90	.89					
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>																	
COMMENTS: ① Out of Spec - AH# 1506465 ② Unable to login - FSM notified. Repaired 072215. sh ③ second sample taken @ 1.0ppm - fsm informed	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL					
	J. Rose	R	Doug FIERCE	DF	L. D. Camillo	LD	A. BUCKERSTADT	AB									
	JERRY FOSTER	JF	P.J. PANGAR	PP	Pulg Hoffman	PH											
	J. Martinez	JM	Russ Stroh	RS	Gary Kuch	GK											
	J.E. DORADO	JD	R. Tiffon	RT	RDSCH	RDS											
APPROVED FOR USE/DATE: <u>DPH 072015</u>																	

INFORMATION ONLY

Start Date: 08/03/15 End Date: 08/09/15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
SHIFT				2	1	2	1	2	1	2	1	2	
START TIME									N/A				
END TIME									N/A				
REVIEWER					PS	AL	ACC	A	PS	PS	PS	PS	
FOT				CIO	LD	R	OO	R	OO	LD	AL	PS	
ITEM	MIN	NORM	MAX										
<b>458, GUARD &amp; SECURITY BUILDING</b>													
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0								
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0								
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0.04	0.04								
403 AHU LOW FILTER (PDI-03)			0.5	0.24	0.22								
403 AHU MOD FILTER (PDI-04)			0.5	0	0								
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>													
<b>456-CP-010-01 CONTROL PANEL</b>													
DOMESTIC WATER PRESS (PIC-01)	60	65	70	68	67	69	67	68	67	65	68	69	
<b>456-FIY-010-001 WATER FLOW METER</b>													
RAW WATER GALLONS		RESET MONDAY [A]		110710	82229								
DOMESTIC WATER GALLONS		RESET MONDAY [A]		87044	87270								
<b>456-FM-045-001 SEWAGE FLOW METER</b>													
SEWAGE FLOW GALLONS		[B]	23,000	9400	18600	18300	7100	9300	32600	33200	30100		
<b>HACH TEST KIT</b>													
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.71	1.3	1.29	1.25	.91	.83	.75	.76		
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>													
COMMENTS: ① OUT OF SPEC AT TIMES AR 1506455 ② ADD WATER AS NEEDED. (READING BROUGHT BACK TO SPEC) AR 080615				RW NAME (PRINT)	INITIAL								
				J. Rose	R	A. BILKERSTADT	AL	C. Di Camillo	LD	R. Stroka	PS		
				A. COOPER	AL	J. BAILEY	9-13	AL	AL	J. Beal	PS		
				JERRY FOSTER	97	DOUG HERCE	DP	DOUG HOFFMAN	AL				
				J. DORADO	gro			D. M. Bilveray	AL	R. T. ...	RT		
APPROVED FOR USE/DATE:										D. ... 07/20/15			

CO 8-3-11  
CO 8-3-11

INFORMATION ONLY

Facility Operations Bldg 458 / 456 Round Sheet

Start Date: 8-10-15 End Date: 8-16-15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY		SUN	MON	TUES	WED	THURS	FRI	SAT	SUN			
				SHIFT		2	1	2	1	2	1	2	1	2	1	2
				START TIME												
				END TIME												
				REVIEWER			mc	JS	mc	J	mc	J	mc	J	mc	J
FOT				C/O	n	R.T.	n	R	R	R	n	R				
ITEM	MIN	NORM	MAX													
<b>458, GUARD &amp; SECURITY BUILDING</b>																
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0											
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0											
412 ODOR ABS MOD FILTER (PDI-09)			0.5	-0.4	-0.4											
403 AHU LOW FILTER (PDI-03)			0.5	-0.22	-0.21											
403 AHU MOD FILTER (PDI-04)			0.5	0	0											
<b>458, ALTERNATE CMR – VERIFY CMS SYSTEM OPERABILITY</b>																
<b>456-CP-010-01 CONTROL PANEL</b>																
DOMESTIC WATER PRESS (PIC-01)	60	65	70	68	63	66	65	65	66	65	67	66	66			
<b>456-FIY-010-001 WATER FLOW METER</b>																
RAW WATER GALLONS	RESET MONDAY [A]			84229		133502										
DOMESTIC WATER GALLONS	RESET MONDAY [A]			89170		90605										
<b>456-FM-045-001 SEWAGE FLOW METER</b>																
SEWAGE FLOW GALLONS		[B]	23,000	30100	34400	39300	44300	82600	18500	37100	40500					
<b>HACH TEST KIT</b>																
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.76	1.24	1.5	1.55	1.15	1.28	1.24	1.08					
<p><b>NOTES:</b> [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>																
<b>COMMENTS:</b>				RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL	RW NAME (PRINT)	INITIAL			
① Out of spec AR# 1506455				D. McElroy	n	JERRY FOSTER	JF	DOUG PERCE	DP	PAUL ORR	PO					
② Out of spec, Add water as level allows. FSM notified.				JS Rose	R					A COOPER	AC					
③ Filling DWT tank to bring CL2 in spec				J. Baker	J			DAVE HILMAN	DH							
				Roger Tiffner	R.T.	J. TORADO	JT	R.D. Schmitt	RDS	L. DiCamillo	LD					
				APPROVED FOR USE/DATE: <u>DRH 072015</u>												

RT 8-7  
RT 8-7

INFORMATION ONLY

Start Date: 8-17-15 End Date: 8-23-15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN				
				SHIFT	2	1	2	1	2	1	2	1	2			
				START TIME	←								→			
				END TIME	←								→			
				REVIEWER		JJ	PJ	QJ	JP	J	JP	PJ	QJ	JP		
				FOT	CIO	2	JP	RT	2	JP	CD	2	JP			
ITEM	MIN	NORM	MAX													
<b>458, GUARD &amp; SECURITY BUILDING</b>																
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0											
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0											
412 ODOR ABS MOD FILTER (PDI-09)			0.5	-.04	0											
403 AHU LOW FILTER (PDI-03)			0.5	-.21	-.2											
403 AHU MOD FILTER (PDI-04)			0.5	0	0											
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																
<b>456-CP-010-01 CONTROL PANEL</b>																
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	66	66	62	65	66	67	66	66	66	64	65	67
<b>456-FIY-010-001 WATER FLOW METER</b>																
RAW WATER GALLONS	RESET MONDAY [A]			133502	62784.19											
DOMESTIC WATER GALLONS	RESET MONDAY [A]			90605	88913.19											
<b>456-FM-045-001 SEWAGE FLOW METER</b>																
SEWAGE FLOW GALLONS		[B]	23,000	49,500 <sup>①</sup>	32,100 <sup>①</sup>	18,000	35,400 <sup>①</sup>	9,000	15,400	22,400	23,400 <sup>①</sup>					
<b>HACH TEST KIT</b>																
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.08	1.12	1.0	0.81	0.71	0.77	0.74	0.66 <sup>②</sup>					
<p><b>NOTES:</b> [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY <u>SAT</u> ENTER CHECK MARK. IF <u>UNSAT</u> NOTIFY FSM TO INITIATE AR</p>																
<p><b>COMMENTS:</b> ① out of spec AR# 1506455 ② No Chlorine ampuls, FSM Notified.                  ③ Fsm informed, BOTH CHLORINATORS TAGGED</p>																
												APPROVED FOR USE/DATE:				
												PJA 0816K				

LD 8-16-15  
WD 8-16-15

INFORMATION ONLY

Start Date: 082415 End Date: 083015

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN
SHIFT				2	1	2	1	2	1	2	1	2
START TIME				←								→
END TIME				←								→
REVIEWER					<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>
FOT				C/O	R.T.	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>	<i>RT</i>
ITEM	MIN	NORM	MAX									
<b>458, GUARD &amp; SECURITY BUILDING</b>												
412 ODOR ABS MOD FILTER (PDI-07)			0.5	φ	0							
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	φ	0							
412 ODOR ABS MOD FILTER (PDI-09)			0.5	-0.4	-0.1							
403 AHU LOW FILTER (PDI-03)			0.5	-0.21	0.02							
403 AHU MOD FILTER (PDI-04)			0.5	φ	0							
<b>458, ALTERNATE CMR – VERIFY CMS SYSTEM OPERABILITY</b>					✓		✓		✓		✓	
<b>456-CP-010-01 CONTROL PANEL</b>												
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	66	66	64	66	67	66	66	64
<b>456-FIY-010-001 WATER FLOW METER</b>												
RAW WATER GALLONS			RESET MONDAY [A]	62784.15	99462							
DOMESTIC WATER GALLONS			RESET MONDAY [A]	88913.18	94132							
<b>456-FM-045-001 SEWAGE FLOW METER</b>												
SEWAGE FLOW GALLONS		[B]	23,000	23,400 <sup>①</sup>	20,200	17,500 <sup>①</sup>	17,800 <sup>①</sup>	19,600 <sup>①</sup>	37400 <sup>①</sup>	4000	4500	20500
<b>HACH TEST KIT</b>												
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	0.66 <sup>②</sup>	0.95	1.0	0.71	1.12	0.72	1.22	1.08	1.08
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY <u>SAT</u> ENTER CHECK MARK. IF <u>UNSAT</u> NOTIFY FSM TO INITIATE AR</p>												
<p>COMMENTS: ① AVL 1506455                  ② Fsm INFORMED, BOTH CHLORINATORS TUGGED (Cleared North Tank 8/25/15)</p>												
										APPROVED FOR USE/DATE:		
										<i>Ph</i> 0816K		

INFORMATION ONLY

Start Date: 8-31-15 End Date: 9-6-15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING	DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
	SHIFT	2	1	2	1	2	1	2	1	2
	START TIME		0840							
	END TIME		0910							
	REVIEWER		MS	MC	MC	MC	MS	MC	R.T.	MC
FOT	CIO	RDS	MC	MC	MC	MC	MC	R.T.	MC	

ITEM	MIN	NORM	MAX	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
<b>458, GUARD &amp; SECURITY BUILDING</b>												
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0							
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0							
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0.01	0.30							
403 AHU LOW FILTER (PDI-03)			0.5	0.02	0.02							
403 AHU MOD FILTER (PDI-04)			0.5	0	0							
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>												
<b>456-CP-010-01 CONTROL PANEL</b>												
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	68	68	68	67	67	68	68	
<b>456-FIY-010-001 WATER FLOW METER</b>												
RAW WATER GALLONS	RESET MONDAY [A]			98462	83260							
DOMESTIC WATER GALLONS	RESET MONDAY [A]			94132	89342							
<b>456-FM-045-001 SEWAGE FLOW METER</b>												
SEWAGE FLOW GALLONS		[B]	23,000	20,500	39,700	43,600	42,600	50,700	43,600	25,700	34,000	
<b>HACH TEST KIT</b>												
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.08	1.1	1.1	.97	1.3	.73	.70	1.0	

NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT  
 [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]  
 [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS  
 [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR

COMMENTS: ① AR # 1506455  
 ② out of spec

APPROVED FOR USE/DATE: OPH 08/16/15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN								
				SHIFT	2	1	2	1	2	1	2	1	2							
				START TIME	N/A															
				END TIME	N/A															
				REVIEWER		mc	RT	mc	J	mc	J	RT	mc	J						
				FOT	CIO	MC	RT	RT	97	MC	MC	MC	LD	RT	MC	LD	RT	MC	LD	RT
ITEM	MIN	NORM	MAX	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN									
<b>458, GUARD &amp; SECURITY BUILDING</b>																				
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0															
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0															
412 ODOR ABS MOD FILTER (PDI-09)		DP	0.5	0.30	0.10															
403 AHU LOW FILTER (PDI-03)		9/6/15	0.5	0.02	0.01															
403 AHU MOD FILTER (PDI-04)			0.5	0	0.1															
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																				
<b>456-CP-010-01 CONTROL PANEL</b>																				
DOMESTIC WATER PRESS (PIC-01)	60	65	70	68	68	67	65	67	65	69	67	68	68	68	67	67	67			
<b>456-FIY-010-001 WATER FLOW METER</b>																				
RAW WATER GALLONS	RESET MONDAY [A]			83260	65354															
DOMESTIC WATER GALLONS	RESET MONDAY [A]			89342	89269															
<b>456-FM-045-001 SEWAGE FLOW METER</b>																				
SEWAGE FLOW GALLONS		[B]	23,000	3400	12100	24800	4100	36900	25700	47900	26100									
<b>HACH TEST KIT</b>																				
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.0	1.0	.99	1.01	.93	.93	1.01	1.05									

NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT  
 [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]  
 [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS  
 [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR

COMMENTS: ① AR #1506455  
 ② View only login, no control privilege for security

APPROVED FOR USE/DATE: OPA 09/16/15



MASTER COPY INFORMATION ONLY

Start Date: 092115

End Date: 092715

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING	DAY		SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
	SHIFT		2	1	1	2	1	2	1	2	2
	START TIME		N/A								
	END TIME		N/A								
	REVIEWER										
	FOT		C/O	R.T.			R.T.	RDS			

ITEM	MIN	NORM	MAX	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN
<b>458, GUARD &amp; SECURITY BUILDING</b>											
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0						
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0						
412 ODOR ABS MOD FILTER (PDI-09)			0.5	.10	.03						
403 AHU LOW FILTER (PDI-03)			0.5	0	.24						
403 AHU MOD FILTER (PDI-04)			0.5	.01	0						
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>											
<b>456-CP-010-01 CONTROL PANEL</b>											
DOMESTIC WATER PRESS (PIC-01)	60	65	70	68	66	68	66	67	67	68	68
<b>456-FIY-010-001 WATER FLOW METER</b>											
RAW WATER GALLONS	RESET MONDAY [A]			60718	117600						
DOMESTIC WATER GALLONS	RESET MONDAY [A]			94205	99711						
<b>456-FM-045-001 SEWAGE FLOW METER</b>											
SEWAGE FLOW GALLONS		[B]	23,000	18,500 <sup>Ⓢ</sup>	22,150 <sup>Ⓢ</sup>	19,200 <sup>Ⓢ</sup>	16,200 <sup>Ⓢ</sup>	44,900 <sup>Ⓢ</sup>	19,000 <sup>Ⓢ</sup>	10,900 <sup>Ⓢ</sup>	25,600 <sup>Ⓢ</sup>
<b>HACH TEST KIT</b>											
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.98	1.0	.96	.95	.94	.95	.90	.8

- NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT  
 [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]  
 [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS  
 [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR

COMMENTS: 1) AR # 15064 SS ON OUT OF SPEC. READINGS (INTERMITTENT)

APPROVED FOR USE/DATE: *Pick* 091615

1904

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN						
				SHIFT	2	1	2	1	2	1	2	1	2	1	2			
				START TIME														
				END TIME								N/A						
				REVIEWER		B J	J	Acc ml	Acc ml	Acc ml	Acc ml	B ml	J R.T.	J R.T.	J R.T.			
FOT	CIO			LD	LD	LD	LD	LD	LD	LD	LD							
ITEM	MIN	NORM	MAX															
<b>458, GUARD &amp; SECURITY BUILDING</b>																		
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	57.34													
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0														
412 ODOR ABS MOD FILTER (PDI-09)			0.5	-0.3														
403 AHU LOW FILTER (PDI-03)			0.5	-24														
403 AHU MOD FILTER (PDI-04)			0.5	0														
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																		
<b>456-CP-010-01 CONTROL PANEL</b>																		
DOMESTIC WATER PRESS (PIC-01)	60	65	70	68	67	67	66	67	65	66	65	66	67	68	68	68	66	67
<b>456-FIY-010-001 WATER FLOW METER</b>																		
RAW WATER GALLONS	RESET MONDAY [A]			17200	79847.63													
DOMESTIC WATER GALLONS	RESET MONDAY [A]			99711	97059.89													
<b>456-FM-045-001 SEWAGE FLOW METER</b>																		
SEWAGE FLOW GALLONS		[B]	23,000	256600	238100	522000	346000	161500	153300	538200	125900							
<b>HACH TEST KIT</b>																		
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.8	.85	0.77	0.85	0.85	1.0	1.0	1.0							
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT</p> <p>[B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]</p> <p>[C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS</p> <p>[D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>																		
<p>COMMENTS: ① AR# 1506/55 OOS readings.</p>																		
												APPROVED FOR USE/DATE:			WPK 081615			



Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN
SHIFT				2	1	2	1	2	1	2	1	2
START TIME									N/A			
END TIME									N/A			
REVIEWER					J	RDS	J	A	J	A	J	RDS
FOT				CIO	J	RDS	J	A	J	A	J	RDS
ITEM	MIN	NORM	MAX	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
<b>458, GUARD &amp; SECURITY BUILDING</b>												
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0							
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0							
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0	0							
403 AHU LOW FILTER (PDI-03)			0.5	0	0							
403 AHU MOD FILTER (PDI-04)			0.5	0	0							
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>					✓		✓					
<b>456-CP-010-01 CONTROL PANEL</b>												
DOMESTIC WATER PRESS (PIC-01)	60	65	70	66	67	66	64	64	67	66	66	
<b>456-FIY-010-001 WATER FLOW METER</b>												
RAW WATER GALLONS	RESET MONDAY [A]			65,385	33	83,240						
DOMESTIC WATER GALLONS	RESET MONDAY [A]			96,160	48	92,464						
<b>456-FM-045-001 SEWAGE FLOW METER</b>												
SEWAGE FLOW GALLONS		[B]	23,000	27,000	58,100	41,400	125,300	16,8300	114,600	7580	39,400	
<b>HACH TEST KIT</b>												
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.65	.81	.70	.80	.69	.76	.73	.73	
<p><b>NOTES:</b> [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>												
<p><b>COMMENTS:</b> ① AR# 1506455 oos Readings                  ② Chlorine Added                  ③ As Found, alarm For low Flow in progress; reading now (normal) @ 64psi                  ④ Reading "network connection failed" Egr not fixed. Engineer reported back he was able to log on. logged off after word. / cleared 10/15/15                  ⑤ Power Outage I/P - BACK IN SERVICE                  ⑥ Both chlorine pumps oos. Need to add chlorine to top of water tank. AR# 1511220 on #2 chlorine tank.                  ⑦ Computer won't reboot / Eng. notified per FSM</p>												
APPROVED FOR USE/DATE:										Pch 08/16/15		

INFORMATION ONLY

Start Date: 10/19/15

End Date: 10/25/15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN
SHIFT				2	1	2	1	2	1	2	1	2
START TIME									N/A			
END TIME									N/A			
REVIEWER					me	me	me	me	me	me	me	me
FOT				C/O	me	me	me	me	me	me	me	me
ITEM	MIN	NORM	MAX	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
<b>458, GUARD &amp; SECURITY BUILDING</b>												
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0							
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0							
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0	0							
403 AHU LOW FILTER (PDI-03)			0.5	0	0							
403 AHU MOD FILTER (PDI-04)			0.5	0	0							
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>												
<b>456-CP-010-01 CONTROL PANEL</b>												
DOMESTIC WATER PRESS (PIC-01)	60	65	70	66	66	65	65	65	65	66	67	67
<b>456-FIY-010-001 WATER FLOW METER</b>												
RAW WATER GALLONS		RESET MONDAY [A]		83290	59834							
DOMESTIC WATER GALLONS		RESET MONDAY [A]		92964	95224							
<b>456-FM-045-001 SEWAGE FLOW METER</b>												
SEWAGE FLOW GALLONS		[B]	23,000	39400 <sup>①</sup>	31100 <sup>②</sup>	51200 <sup>③</sup>	28,100 <sup>④</sup>	17,000 <sup>⑤</sup>	8200	23700 <sup>⑥</sup>	15700 <sup>⑦</sup>	
<b>HACH TEST KIT</b>												
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.73	.71	.74	2.20 <sup>⑧</sup>	2.2 <sup>⑨</sup>	2.20 <sup>⑩</sup>	2.20 <sup>⑪</sup>	2.00 <sup>⑫</sup>	
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>												
<p>COMMENTS: ① AR# 1506455 OOS READING FSM NOTIFIED                  ② unable to login fsm notified - (cleared 10-19-15 back F/S)                  ③ ADDING WATER when possible - FSM NOTIFIED</p>												
										APPROVED FOR USE/DATE: <i>OPH 0816K</i>		

INFORMATION ONLY

Start Date: 10/26/15 End Date: 11/01/15

MASTER COPY

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN						
SHIFT				2	1	2	1	2	1	2	1	2						
START TIME									n/a									
END TIME									n/a									
REVIEWER					PS	me	PS	A	A	me	me	me						
FOT				CIO	98	98	98	98	97	97	97	97						
ITEM	MIN	NORM	MAX															
<b>458, GUARD &amp; SECURITY BUILDING</b>																		
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	0													
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	0													
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0	0													
403 AHU LOW FILTER (PDI-03)			0.5	0	0													
403 AHU MOD FILTER (PDI-04)			0.5	0	0													
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>					✓		✓		✓		✓	✓						
<b>456-CP-010-01 CONTROL PANEL</b>																		
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	67	67	65	66	66	67	67	66	67	64	65	65	63	
<b>456-FIY-010-001 WATER FLOW METER</b>																		
RAW WATER GALLONS		RESET MONDAY [A]		83290		117678												
DOMESTIC WATER GALLONS		RESET MONDAY [A]		92964		97971												
<b>456-FM-045-001 SEWAGE FLOW METER</b>																		
SEWAGE FLOW GALLONS		[B]	23,000	15700		9600		22800		7800		10600		3100		10800		13300
<b>HACH TEST KIT</b>																		
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	2.0 <sup>3</sup>		2.1 <sup>3</sup>		2.0 <sup>3</sup>		1.8 <sup>3</sup>		1.7 <sup>3</sup>		1.6 <sup>3</sup>		1.7 <sup>3</sup>		1.19
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>																		
<p>COMMENTS: ① AR # 1506455 OOS READING FSM NOTIFIED                  ② UNABLE TO LOGIN FSM INFORMED - (CLEARED 10-19-15 BACK 7/5)                  ③ ADDING WATER WHEN POSSIBLE - FSM NOTIFIED</p>																		
												APPROVED FOR USE/DATE:						
												DPA 08/16/15						

Master Copy

Location:				DAY		SUN	MON	TUES	WED	THURS	FRI	SAT	SUN				
458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				SHIFT		2	1	2	1	2	1	2	1	2			
				START TIME													
				END TIME													
				REVIEWER													
				FOT		C/O											
ITEM	MIN	NORM	MAX														
<b>458, GUARD &amp; SECURITY BUILDING</b>																	
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	5/13												
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0													
412 ODOR ABS MOD FILTER (PDI-09)			0.5	0													
403 AHU LOW FILTER (PDI-03)			0.5	0													
403 AHU MOD FILTER (PDI-04)			0.5	0													
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																	
<b>456-CP-010-01 CONTROL PANEL</b>																	
DOMESTIC WATER PRESS (PIC-01)	60	65	70	63	64	64	66	66.8	65	66	65	66	64	65	68	67	67
<b>456-FIY-010-001 WATER FLOW METER</b>																	
RAW WATER GALLONS			RESET MONDAY [A]	117678		87962											
DOMESTIC WATER GALLONS			RESET MONDAY [A]	97971		96932											
<b>456-FM-045-001 SEWAGE FLOW METER</b>																	
SEWAGE FLOW GALLONS		[B]	23,000	13300		13700		13600		800		7500		11800		7000	2300
<b>HACH TEST KIT</b>																	
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.19		1.16		1.14		1.18		1.07		2.20 <sup>2</sup>		2.2 <sup>2</sup>	2.2 <sup>2</sup>
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>																	
<p>COMMENTS: ① AR # 1506455 - WRONG READING - FSM INFORMED                  ② ADDING WATER - FSM NOTIFIED                  ③ <del>DO NOT ADD TO LOG IN ORDER CMR PASSWORD, LOG IN FOR SECURITY READ ONLY</del> OK! 11/7/15</p>																	
												APPROVED FOR USE/DATE:			DPA 0916K		

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN						
SHIFT				2	1	2	1	2	1	2	1	2						
START TIME																		
END TIME												N/A						
REVIEWER												N/A						
FOT				CIO								9-13						
ITEM	MIN	NORM	MAX															
<b>458, GUARD &amp; SECURITY BUILDING</b>																		
412 ODOR ABS MOD FILTER (PDI-07)			0.5	STBY	STBY													
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	↓	↓													
412 ODOR ABS MOD FILTER (PDI-09)			0.5															
403 AHU LOW FILTER (PDI-03)			0.5															
403 AHU MOD FILTER (PDI-04)			0.5															
<b>458, ALTERNATE CMR – VERIFY CMS SYSTEM OPERABILITY</b>					✓	✓	✓	✓	✓	✓	②	✓						
<b>456-CP-010-01 CONTROL PANEL</b>																		
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	67	66	66	65	67	67	66	65	67	67	67	66	67	
<b>456-FIY-010-001 WATER FLOW METER</b>																		
RAW WATER GALLONS	RESET MONDAY [A]			87952		57674												
DOMESTIC WATER GALLONS	RESET MONDAY [A]			76932		100428												
<b>456-FM-045-001 SEWAGE FLOW METER</b>																		
SEWAGE FLOW GALLONS		[B]	23,000	2300		1700		400		6100		3600		5900		2300		7900
<b>HACH TEST KIT</b>																		
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	2.2 <sup>①</sup>		2.2 <sup>①</sup>		2.2 <sup>①</sup>		1.7 <sup>①</sup>		1.50 <sup>①</sup>		1.49 <sup>①</sup>		1.47 <sup>①</sup>		1.33 <sup>①</sup>
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>																		
<p>COMMENTS: ① Adding water - FSM notified                  As tank level allows                  ② All cms system currently off line</p>																		
												APPROVED FOR USE/DATE:						
												OPK 08/16/15						

INFORMATION ONLY

Start Date: 11/10/15 End Date: 11/22/15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY		SUN	MON	TUES	WED	THURS	FRI	SAT	SUN			
				SHIFT		2	1	2	1	2	1	2	1	2	1	2
				START TIME		N/A										
				END TIME		N/A										
				REVIEWER			<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
				FOT		C/O	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
ITEM	MIN	NORM	MAX													
<b>458, GUARD &amp; SECURITY BUILDING</b>																
412 ODOR ABS MOD FILTER (PDI-07)			0.5	STBY	STBY											
412 ODOR ABS CHAR FILTER (PDI-08)			0.5													
412 ODOR ABS MOD FILTER (PDI-09)			0.5													
403 AHU LOW FILTER (PDI-03)			0.5													
403 AHU MOD FILTER (PDI-04)			0.5													
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																
<b>456-CP-010-01 CONTROL PANEL</b>																
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	67	67	66	67	65	66	65	66	67			
<b>456-FIY-010-001 WATER FLOW METER</b>																
RAW WATER GALLONS	RESET MONDAY [A]			57674		102376										
DOMESTIC WATER GALLONS	RESET MONDAY [A]			100428		113785										
<b>456-FM-045-001 SEWAGE FLOW METER</b>																
SEWAGE FLOW GALLONS		[B]	23,000	7900		2000		17,300	4300		3600	3000	38300			
<b>HACH TEST KIT</b>																
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.33		1.32		1.28	1.06		1.08	.81	.79			
<p><b>NOTES:</b> [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>																
<p><b>COMMENTS:</b> <i>(1) Adding water as tank level allows. fsm notified.</i>  <i>(2) FSM notified.</i></p>																
										APPROVED FOR USE/DATE:						
										<i>[Signature]</i> 08/16/15						

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY		SUN	MON		TUES		WED		THURS		FRI		SAT		SUN					
				SHIFT		2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
				START TIME																				
				END TIME																				
				REVIEWER			sqw	mc	JBW	mc	ps	mc	ps	mc	ps	mc	ps	mc	ps	mc	ps	mc	ps	mc
FOT		CIO	RDS	J	CD	BR	Q	TV	RDS	n	MC	32m	J	ET	97	3m								
ITEM	MIN	NORM	MAX																					
<b>458, GUARD &amp; SECURITY BUILDING</b>																								
412 ODOR ABS MOD FILTER (PDI-07)			0.5	8/67	5/87																			
412 ODOR ABS CHAR FILTER (PDI-08)			0.5																					
412 ODOR ABS MOD FILTER (PDI-09)			0.5																					
403 AHU LOW FILTER (PDI-03)			0.5																					
403 AHU MOD FILTER (PDI-04)			0.5																					
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																								
<b>456-CP-010-01 CONTROL PANEL</b>																								
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	67	68	68	67	67	68	67	67	68	67	68	67	68	67	67	66				
<b>456-FIY-010-001 WATER FLOW METER</b>																								
RAW WATER GALLONS		RESET MONDAY [A]		102376		107669																		
DOMESTIC WATER GALLONS		RESET MONDAY [A]		113785		106730																		
<b>456-FM-045-001 SEWAGE FLOW METER</b>																								
SEWAGE FLOW GALLONS		[B]	23,000	16900		9500		8100		5600		3300		4700		2700		10200						
<b>HACH TEST KIT</b>																								
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	-79		1.62 <sup>D</sup>		1.62 <sup>D</sup>		1.49 <sup>D</sup>		1.38 <sup>D</sup>		1.33 <sup>D</sup>		1.30 <sup>D</sup>		1.31 <sup>D</sup>						
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY <u>SAT</u> ENTER CHECK MARK. IF <u>UNSAT</u> NOTIFY FSM TO INITIATE AR</p>																								
<p>COMMENTS: ① OOS High - tank @ 100%, notified FSM, ADDING WATER AS TANK SPARE ALLOWS                  ② Could not restart, RESTART SAT</p>																								
																		APPROVED FOR USE/DATE:						
																		OPK 0816K						

Location:				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN				
458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				SHIFT	2	1	2	1	2	1	2	1				
				START TIME	N/A											
				END TIME	N/A											
				REVIEWER	[Handwritten initials]											
				FOT	CIO	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]
ITEM	MIN	NORM	MAX													
<b>458, GUARD &amp; SECURITY BUILDING</b>																
412 ODOR ABS MOD FILTER (PDI-07)			0.5	5.54	0											
412 ODOR ABS CHAR FILTER (PDI-08)			0.5		0											
412 ODOR ABS MOD FILTER (PDI-09)			0.5		.01											
403 AHU LOW FILTER (PDI-03)			0.5		.02											
403 AHU MOD FILTER (PDI-04)			0.5		.03											
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>																
<b>456-CP-010-01 CONTROL PANEL</b>																
DOMESTIC WATER PRESS (PIC-01)	60	65	70	66	64	65	67	65	67	66	65	65				
<b>456-FIY-010-001 WATER FLOW METER</b>																
RAW WATER GALLONS	RESET MONDAY [A]			107669	152979											
DOMESTIC WATER GALLONS	RESET MONDAY [A]			106730	205123											
<b>456-FM-045-001 SEWAGE FLOW METER</b>																
SEWAGE FLOW GALLONS		[B]	23,000	10700	10100	8500	15700	3400	1400	2300	1300					
<b>HACH TEST KIT</b>																
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.31	1.34	1.03	1.04	1.23	1.13	1.15	2.20					
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY <u>SAT</u> ENTER CHECK MARK. IF <u>UNSAT</u> NOTIFY FSM TO INITIATE AR</p>																
<p>COMMENTS: ① Adding water as tank space allows/cleared 12-1-15 ② FSM notified</p>																
										APPROVED FOR USE/DATE:						
										[Signature] 08/16/15						

MASTER COPY

Start Date: 120715 End Date: 121315

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN					
				SHIFT	2	1	2	1	2	1	2	1	2	1	2		
				START TIME													
				END TIME													
				REVIEWER													
				FOT	CIO												
ITEM	MIN	NORM	MAX														
<b>458, GUARD &amp; SECURITY BUILDING</b>																	
412 ODOR ABS MOD FILTER (PDI-07)			0.5	0	5734												
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	0	↓												
412 ODOR ABS MOD FILTER (PDI-09)			0.5	.01													
403 AHU LOW FILTER (PDI-03)			0.5	.02													
403 AHU MOD FILTER (PDI-04)			0.5	.03	↓												
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>				<input checked="" type="checkbox"/>													
<b>456-CP-010-01 CONTROL PANEL</b>																	
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	67	68	67	68	68	NRT	65	66	66	68	67	67	68
<b>456-FIY-010-001 WATER FLOW METER</b>																	
RAW WATER GALLONS	RESET MONDAY [A]			152979	125963.31												
DOMESTIC WATER GALLONS	RESET MONDAY [A]			203123	112087.51												
<b>456-FM-045-001 SEWAGE FLOW METER</b>																	
SEWAGE FLOW GALLONS		[B]	23,000	10100		3100		3460		NRT	6,100		300		2400		1000
<b>HACH TEST KIT</b>																	
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	1.54		1.54		1.49		NRT	1.17		1.03		.94		.86
<p><b>NOTES:</b> [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                      [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                      [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                      [D] - IF SYSTEM OPERABILITY <u>SAT</u> ENTER CHECK MARK. IF <u>UNSAT</u> NOTIFY FSM TO INITIATE AR</p>																	
<p><b>COMMENTS:</b> ① FSM notified. out of spec</p>																	
												APPROVED FOR USE/DATE: <u>OPK 0816K</u>					

MASTER COPY INFORMATION ONLY

Start Date: 12/21/15 End Date: 12/27/15

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN			
				SHIFT	2	1	2	1	2	1	2	1	2		
				START TIME	N/A										
				END TIME	N/A										
				REVIEWER		JS	JS	JS	JS	JS	JS	JS	JS		
				FOT	CIO	JS	JS	JS	JS	JS	JS	JS	JS		
ITEM	MIN	NORM	MAX												
<b>458, GUARD &amp; SECURITY BUILDING</b>															
412 ODOR ABS MOD FILTER (PDI-07)			0.5	5/8Y	5/8Y										
412 ODOR ABS CHAR FILTER (PDI-08)			0.5												
412 ODOR ABS MOD FILTER (PDI-09)			0.5												
403 AHU LOW FILTER (PDI-03)			0.5												
403 AHU MOD FILTER (PDI-04)			0.5												
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>															
<b>456-CP-010-01 CONTROL PANEL</b>															
DOMESTIC WATER PRESS (PIC-01)	60	65	70	67	66	67	67	68	68	67	68	67	NRT		
<b>456-FIY-010-001 WATER FLOW METER</b>															
RAW WATER GALLONS	RESET MONDAY [A]			103021		84831									
DOMESTIC WATER GALLONS	RESET MONDAY [A]			117678		105511									
<b>456-FM-045-001 SEWAGE FLOW METER</b>															
SEWAGE FLOW GALLONS		[B]	23,000	200		200		300		400		300	100	100	NRT
<b>HACH TEST KIT</b>															
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	.9		.9		.79		.92		.86	.93	.91	NRT
<p>NOTES: [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY SAT ENTER CHECK MARK. IF UNSAT NOTIFY FSM TO INITIATE AR</p>															
<p>COMMENTS: ① Inclement weather</p>															
										APPROVED FOR USE/DATE:					
										OPH 0816K					

Location: 458, GUARD & SECURITY BUILDING 456, PUMPHOUSE BUILDING				DAY	SUN	MON	TUES	WED	THURS	FRI	SAT	SUN	
				SHIFT	2	1	2	1	2	1	2	1	
				START TIME	←-----→								
				END TIME	←-----→								
				REVIEWER		nl	nl	mc	mc	mc			
				FOT	CIO	RR	R.T.	fb	mc	mc			
ITEM	MIN	NORM	MAX										
<b>458, GUARD &amp; SECURITY BUILDING</b>													
412 ODOR ABS MOD FILTER (PDI-07)			0.5	STBY	STBY								
412 ODOR ABS CHAR FILTER (PDI-08)			0.5	↓	↓								
412 ODOR ABS MOD FILTER (PDI-09)			0.5										
403 AHU LOW FILTER (PDI-03)			0.5										
403 AHU MOD FILTER (PDI-04)			0.5	↓	↓								
<b>458, ALTERNATE CMR - VERIFY CMS SYSTEM OPERABILITY</b>													
<b>456-CP-010-01 CONTROL PANEL</b>													
DOMESTIC WATER PRESS (PIC-01)	60	65	70	NRT	66	NRT	66	NRT	67	NRT	66	NRT	
<b>456-FIY-010-001 WATER FLOW METER</b>													
RAW WATER GALLONS	RESET MONDAY [A]			84831	NRT								
DOMESTIC WATER GALLONS	RESET MONDAY [A]			105311	↓								
<b>456-FM-045-001 SEWAGE FLOW METER</b>													
SEWAGE FLOW GALLONS		[B]	23,000	NRT	NRT	NRT	NRT	NRT	NRT	NRT			
<b>HACH TEST KIT</b>													
COLORIMETER FREE CL2 (PPM)	0.7	[C]	1.2	NRT	NRT	NRT	NRT	NRT	NRT	NRT			
<p><b>NOTES:</b> [A] - RESET METER AFTER TAKING THE READING ON MONDAY SECOND SHIFT                  [B] - (\$) REQUIRED FOR COMPLIANCE WITH NMED DISCHARGE PERMIT DP-831 -- IF MAX LIMIT OF 23,000 GPD IS EXCEEDED CONTACT FSM [NMED, DP-831]                  [C] - ADJUST CHLORINE LEVELS BY EITHER ADDING WATER (CHLORINE ABOVE 1.2) OR ADDING CHLORINE (CHLORINE BELOW .7) TO MAINTAIN SPECIFICATIONS                  [D] - IF SYSTEM OPERABILITY <u>SAT</u> ENTER CHECK MARK. IF <u>UNSAT</u> NOTIFY FSM TO INITIATE AR</p>													
<p><b>COMMENTS:</b> ① INCREMENT WEATHER</p>													
										APPROVED FOR USE/DATE:		Pch 081615	

NO INTRUSION GATES  
 12/31/15