

## Goetze, Phillip, EMNRD

**From:** Michael Feldewert <MFeldewert@hollandhart.com>  
**Sent:** Monday, March 20, 2017 9:41 AM  
**To:** Goetze, Phillip, EMNRD; Brooks, David K, EMNRD; Jones, William V, EMNRD  
**Subject:** Case No. 15644: Application of WPX for Section 30 Recycling Containment - Updated numbers and lab reports  
**Attachments:** 030917 Rpt\_1703538\_Final\_v1.pdf; 030117 Rpt\_1703134\_Final\_v1.pdf; 030217 Rpt\_1703134\_Final\_v1.pdf; 030317 Rpt\_1703262\_Final\_v1.pdf; 030417 Rpt\_1703261\_Final\_v1.pdf; 030517 Rpt\_1703260\_Final\_v1.pdf; 030617 Rpt\_1703359\_Final\_v1.pdf; 030717 Rpt\_1703443\_Final\_v1.pdf; 030817 Rpt\_1703537\_Final\_v1.pdf; 031017 Rpt\_1703657\_Final\_v1.pdf

Good morning gents: Per your request, attached are the lab reports provided to the District Office this morning under the email below.

Michael H. Feldewert  
Santa Fe Office  
505-988-4421  
505-983-6043 (fax)  
[mfeldewert@hollandhart.com](mailto:mfeldewert@hollandhart.com)



**CONFIDENTIALITY NOTICE:** This message is confidential and may be privileged. If you believe that this email has been sent to you in error, please reply to the sender that you received the message in error; then please delete this e-mail. Thank you.

**From:** Watson, Debbie  
**Sent:** Monday, March 20, 2017 7:22 AM  
**To:** Smith, Cory, EMNRD <[Cory.Smith@state.nm.us](mailto:Cory.Smith@state.nm.us)>  
**Subject:** Section 30 Recycling Containment Update

Hello Cory,

Attached are the final lab reports for the sample events listed below. Note: I had to revise one number in the table below (highlighted). WPX also collected a sample on March 10- results are as follows: chloride 2,900 mg/L, TDS 8,020 mg/L.

### Laboratory Analytical Results

Sample ID	Date	Time	TDS mg/L	Chloride mg/L
LD.03.01.17	1-Mar-17	12:15	8,800	2,900
LD.03.02.17	2-Mar-17	9:35	7,890	3,000
LD.03.03.17	3-Mar-17	9:15	8,500	2,900
LD.03.04.17	4-Mar-17	9:30	7,940	2,700
LD.03.05.17	5-Mar-17	9:30	8,030	2,700
LD.03.06.17	6-Mar-17	9:38	7,860	2,600
LD.03.07.17	7-Mar-17	9:38	7,900	2,800
LD.03.08.17	8-Mar-17	9:30	8,150	3,000

LD.03.09.17	9-Mar-17	9:32	8,080	3,000
Containment.03.09.17	9-Mar-17	10:04	7,950	2,800

Thank you,

Debbie

Deborah Watson  
Environmental Specialist  
PO Box 640 | Aztec, NM 87410  
office 505.333.1880 | cell 505.386.9693 | fax 505.333.1805  
[deborah.watson@wpxenergy.com](mailto:deborah.watson@wpxenergy.com)



*If you have received this message in error, please reply to advise the sender of the error and then immediately delete this message.  
Thank you.*



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)

March 15, 2017

Debbie Watson

WPX Energy

721 S Main Ave

Aztec, NM 87410

TEL: (505) 333-1880

FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703538

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/10/2017 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703538

Date Reported: 3/15/2017

CLIENT: WPX Energy

Client Sample ID: Containment 03.09.17

Project: Section 30 Recycling Containment

Collection Date: 3/9/2017 10:04:00 AM

Lab ID: 1703538-001

Matrix: AQUEOUS

Received Date: 3/10/2017 7:08:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	2800	100	*	mg/L	200	3/10/2017 5:27:28 PM	R41320
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: SRM
Total Dissolved Solids	7950	40.0	*D	mg/L	1	3/14/2017 12:49:00 PM	30663

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	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703538

Date Reported: 3/15/2017

CLIENT: WPX Energy

Client Sample ID: LD 03.09.17

Project: Section 30 Recycling Containment

Collection Date: 3/9/2017 9:32:00 AM

Lab ID: 1703538-002

Matrix: AQUEOUS

Received Date: 3/10/2017 7:08:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	3000	100	*	mg/L	200	3/10/2017 5:39:52 PM	R41320
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: SRM
Total Dissolved Solids	8080	40.0	*D	mg/L	1	3/14/2017 12:49:00 PM	30663

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	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703538

15-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB	SampType	MBLK	TestCode	EPA Method 300.0: Anions						
Client ID	PBW	Batch ID	R41320	RunNo	41320						
Prep Date		Analysis Date	3/10/2017	SeqNo	1294723	Units	mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	0.50								

Sample ID	LCS	SampType	LCS	TestCode	EPA Method 300.0: Anions						
Client ID	LCSW	Batch ID	R41320	RunNo	41320						
Prep Date		Analysis Date	3/10/2017	SeqNo	1294724	Units	mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		5.2	0.50	5.000	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  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703538

15-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB-30663	SampType	MBLK	TestCode	SM2540C MOD: Total Dissolved Solids
Client ID	PBW	Batch ID	30663	RunNo	41360
Prep Date	3/13/2017	Analysis Date	3/14/2017	SeqNo	1296218 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0			

Sample ID	LCS-30663	SampType	LCS	TestCode	SM2540C MOD: Total Dissolved Solids
Client ID	LCSW	Batch ID	30663	RunNo	41360
Prep Date	3/13/2017	Analysis Date	3/14/2017	SeqNo	1296219 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1000	20.0	1000	0	100 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  
W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703538

ReptNo: 1

Received by/date: [Signature] 03/10/17  
Logged By: Lindsay Mangin 3/10/2017 7:08:00 AM  
Completed By: Lindsay Mangin 3/10/2017 8:04:17 AM  
Reviewed By: aJ 03/10/17

### 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? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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:

(<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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

<h1>Chain-of-Custody Record</h1>		Turn-Around Time:	
Client: <u>WPX</u>		<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush <u>due 3/13</u>	
Mailing Address: <u>721 S main</u> <u>Aztec, NM</u>		Project Name: <u>Section 30 Recycling Containment</u>	
Phone #: <u>505 333 1880</u>		Project #:	
email or Fax#: <u>deborah.watson@epa.gov</u>		Project Manager:	
QA/QC Package:		<u>D. Watson</u>	
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Sampler: <u>DB/DW</u>	
Accreditation		On/Off Site: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> NELAP <input type="checkbox"/> Other _____		Sample Temperature: <u>17.3</u>	
<input type="checkbox"/> EDD (Type) _____			

☐ Standard. ☒ Rush due 3/13

Project Name: Section 30 Recycling Containment

Project #:

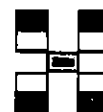
**Project Manager:**

O. Watson

Sampler: DB / حسه

☐ Other ☒ Yes ☐ No

Sample Temperature: 113



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

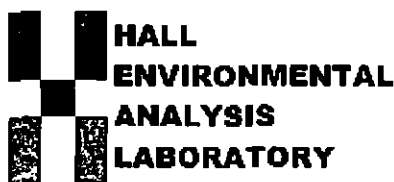
### Analysis Request

[illegible]

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/9/17	1754	Nelbark Water	Christine Waack	3/9/17	1754
Date:	Time:	Relinquished by:	Received by:	Date	Time
3/9/17	1851	Chr Waack	<del>Christine Waack</del>	03/10/17	0708

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.



*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)*

March 10, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703134

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/3/2017 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".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703134

Date Reported: 3/10/2017

**CLIENT:** WPX Energy

**Client Sample ID:** LD 03.01.17

**Project:** Section 30 Recycling Containment

**Collection Date:** 3/1/2017 12:15:00 PM

**Lab ID:** 1703134-001

**Matrix:** AQUEOUS

**Received Date:** 3/3/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2900	100	*	mg/L	200	3/8/2017 2:25:19 AM	R41211
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	8800	200	*D	mg/L	1	3/8/2017 11:39:00 AM	30550

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703134

10-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R41211	RunNo:	41211					
Prep Date:		Analysis Date:	3/7/2017	SeqNo:	1290901	Units:	mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Chloride		ND	0.50							

Sample ID	LC\$	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LC\$W	Batch ID:	R41211	RunNo:	41211					
Prep Date:		Analysis Date:	3/7/2017	SeqNo:	1290902	Units:	mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Chloride		4.9	0.50	5.000	0	97.2	90	110		

## 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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703134

10-Mar-17

Client: WPX Energy

Project: Section 30 Recycling Containment

Sample ID	MB-30550	SampType	MBLK	TestCode	SM2540C MOD: Total Dissolved Solids
Client ID	PBW	Batch ID	30550	RunNo	41222
Prep Date	3/6/2017	Analysis Date	3/8/2017	SeqNo	1291645
				Units	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Total Dissolved Solids	ND	20.0			

Sample ID	LCS-30550	SampType	LCS	TestCode	SM2540C MOD: Total Dissolved Solids
Client ID	LCSW	Batch ID	30550	RunNo	41222
Prep Date	3/6/2017	Analysis Date	3/8/2017	SeqNo	1291646
				Units	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Total Dissolved Solids	1030	20.0	1000	0	103

## 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

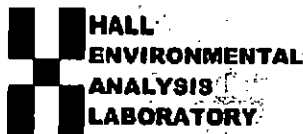
E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703134

RcptNo: 1

Received by/date:	<i>[Signature]</i>	02/03/17
Logged By:	Lindsay Mangin	3/3/2017 7:15:00 AM
Completed By:	Lindsay Mangin	3/3/2017 7:51:39 AM
Reviewed By:	<i>[Signature]</i>	03/03/17

### 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? Carrier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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:
( $<2$ 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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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	1.9	Good	Yes			

Client: WPX Energy

Client: WPX Energy

Mailing Address: 721 S Main  
Albuquerque NM 87410

Phone #: 505 333 1880

email or Fax#: deborah.watson@uxenergy.com

**QA/QC Package:**

☒ Standard      ☐ Level 4 (Full Validation)

## Accreditation

☐ NELAP      ☐ Other

**Q. EDD (Type)**

**|Turn-Around Time:**

☒ 5day TAT  
☒ Standard ☐ Rush

Project Name:

## Section 30 Recycling Containment

Project #:

**Project Manager:**

D. Watson

Sampler: DBJ/DW

On Ice: ☒ Yes ☐ No

Sample Temperature: 25

Container:  
Type and #

[illegible]

# HEAL NO

103132

1-500 mL	cold
----------	------

-001



## HALL ENVIRONMENTAL ANALYSIS LABORATORY


[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

**Tel. 505-345-3975      Fax 505-345-4107**

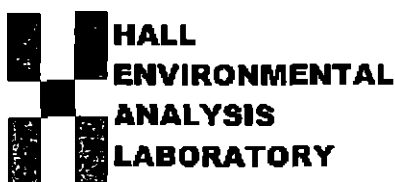
### Analysis Request

[illegible]

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/2/17	1456	Debra Wata	Christine Wata	3/2/17	1456
Date:	Time:	Relinquished by:	Received by:	Date	Time
3/2/17	1827	Christine Wata		03/03/17	0715

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

March 10, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703223

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/4/2017 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 over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1703223

Date Reported: 3/10/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** WPX Energy**Client Sample ID:** LD.03.02.17**Project:** Section 30 Recycling Containment**Collection Date:** 3/2/2017 9:35:00 AM**Lab ID:** 1703223-001**Matrix:** AQUEOUS**Received Date:** 3/4/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: MRA
Chloride	3000	100	*	mg/L	200	3/8/2017 5:06:40 AM	A41211
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: KS
Total Dissolved Solids	7890	200	*D	mg/L	1	3/8/2017 11:39:00 AM	30550

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703223

10-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB	SampType	mbk	TestCode	EPA Method 300.0: Anions					
Client ID	PBW	Batch ID	A41211	RunNo	41211					
Prep Date		Analysis Date	3/8/2017	SeqNo	1290980	Units	mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Chloride		ND	0.50							Qual

Sample ID	LCS	SampType	lcs	TestCode	EPA Method 300.0: Anions					
Client ID	LCSW	Batch ID	A41211	RunNo	41211					
Prep Date		Analysis Date	3/8/2017	SeqNo	1290981	Units	mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Chloride		4.9	0.50	5.000	0	98.2	90	110		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  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703223

10-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID: MB-30550	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 30550	RunNo: 41222
Prep Date: 3/6/2017	Analysis Date: 3/8/2017	SeqNo: 1291645 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0

Sample ID: LCS-30550	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: LCSW	Batch ID: 30550	RunNo: 41222
Prep Date: 3/6/2017	Analysis Date: 3/8/2017	SeqNo: 1291646 Units: mg/L
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

## 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
- W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703223

RcptNo: 1

Received by/date: LA 03/04/17

Logged By: Anne Thorne 3/4/2017 9:30:00 AM

Completed By: Anne Thorne 3/6/2017 1:32:42 PM

Reviewed By: WJG 03/06/17

### 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? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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: \_\_\_\_\_  
( $<2$  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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

[illegible]

If necessary, samples submitted to Hat Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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4901 Hawkins NE  
Albuquerque, NM 87109  
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March 13, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703262

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/7/2017 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,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1703262

Date Reported: 3/13/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** WPX Energy**Client Sample ID:** LD.03.03.17**Project:** Section 30 Recycling Containment**Collection Date:** 3/3/2017 9:15:00 AM**Lab ID:** 1703262-001**Matrix:** AQUEOUS**Received Date:** 3/7/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	2900	100	*	mg/L	200	3/10/2017 4:25:24 PM	R41320
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	8500	200	*D	mg/L	1	3/9/2017 4:59:00 PM	30585

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703262

13-Mar-17

Client: WPX Energy

Project: Section 30 Recycling Containment

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions						
Client ID:	PBW	Batch ID: R41320			RunNo: 41320						
Prep Date:		Analysis Date: 3/10/2017			SeqNo: 1294723		Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions						
Client ID:	LCSW	Batch ID:	R41320	RunNo:	41320						
Prep Date:		Analysis Date:	3/10/2017	SeqNo:	1294724	Units:	mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		5.2	0.50	5.000	0	105	90	110			

## 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                            |
| II 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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703262

13-Mar-17

Client: WPX Energy

Project: Section 30 Recycling Containment

Sample ID	MB-30585	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	PBW	Batch ID:	30585	RunNo:	41272
Prep Date:	3/8/2017	Analysis Date:	3/9/2017	SeqNo:	1293066 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0			

Sample ID	LCS-30585	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	LCSW	Batch ID:	30585	RunNo:	41272
Prep Date:	3/8/2017	Analysis Date:	3/9/2017	SeqNo:	1293067 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1020	20.0	1000	0	102 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  
W Sample container temperature is out of limit as specified



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Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703262

RcptNo: 1

Received by/date: AO 03/07/17

Logged By: Anne Thorne 3/7/2017 7:15:00 AM

*Anne Thorne*

Completed By: Anne Thorne 3/7/2017 8:47:45 AM

*Anne Thorne*

Reviewed By: IO 3/7/17

### 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? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 ☐  
# of preserved bottles checked for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? \_\_\_\_\_  
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 ☐ 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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

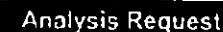
### 18. Cooler Information

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

☐ EDD (Type) \_\_\_\_\_

Sample Temperature: 0.0000

9/6/17 1844 Martin West Chase - 03/07/17 0715



Remarks:	
----------	--

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March 15, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703261

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/7/2017 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 over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703261

Date Reported: 3/15/2017

CLIENT: WPX Energy

Client Sample ID: LD.03.04.17

Project: Section 30 Recycling Containment

Collection Date: 3/4/2017 9:30:00 AM

Lab ID: 1703261-001

Matrix: AQUEOUS

Received Date: 3/7/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	2700	100	*	mg/L	200	3/10/2017 4:12:59 PM	R41320
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	7940	200	*D	mg/L	1	3/8/2017 5:19:00 PM	30562

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703261

15-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB	SampType	MBLK	TestCode	EPA Method 300.0: Anions					
Client ID	PBW	Batch ID	R41320	RunNo	41320					
Prep Date:		Analysis Date	3/10/2017	SeqNo	1294723	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType	LCS	TestCode	EPA Method 300.0: Anions					
Client ID	LCSW	Batch ID	R41320	RunNo	41320					
Prep Date:		Analysis Date	3/10/2017	SeqNo	1294724	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.2	0.50	5.000	0	105	90	110			

## 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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703261

15-Mar-17

Client: WPX Energy

Project: Section 30 Recycling Containment

Sample ID	MB-30562	SampType	MBLK	TestCode	SM2540C MOD: Total Dissolved Solids
Client ID	PBW	Batch ID	30562	RunNo	41240
Prep Date	3/7/2017	Analysis Date	3/8/2017	SeqNo	1292049 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0			

Sample ID	LCS-30562	SampType	LCS	TestCode	SM2540C MOD: Total Dissolved Solids
Client ID	LCSW	Batch ID	30562	RunNo	41240
Prep Date	3/7/2017	Analysis Date	3/8/2017	SeqNo	1292050 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1020	20.0	1000	0	103 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
- W Sample container temperature is out of limit as specified



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TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703261

RcptNo: 1

Received by/date: AL 03/07/17

Logged By: Anne Thorne 3/7/2017 7:15:00 AM

*Anne Thorne*

Completed By: Anne Thorne 3/7/2017 8:38:29 AM

*Anne Thorne*

Reviewed By: IO 3/7/17

### 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? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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: \_\_\_\_\_  
( $<2$  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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

<b>Chain-of-Custody Record</b>		Turn-Around Time:
Client: WPX Energy		ASAP <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
Mailing Address: 721 S Main		Project Name:
Aztec, NM 87410		Section 30 Recycling Containment.
Phone #: 505-333-1880		Project #:
email or Fax#: deborah.watson@wpxenergy.com		Project Manager:
QA/QC Package: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Deborah Watson
Accreditation: <input type="checkbox"/> NELAP <input type="checkbox"/> Other		Sampler: MP/DW
<input type="checkbox"/> EDD (Type)		On/Off: <input type="checkbox"/> Yes <input type="checkbox"/> No
		Sample Temperature: <input type="checkbox"/> Yes <input type="checkbox"/> No

**www.hallenvironmental.com**  
**4901 Hawkins NE - Albuquerque, NM 87109**  
**Tel. 505-345-3975 Fax 505-345-4107**

### Analysis Request

[illegible]

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical re-



*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)*

March 15, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703260

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/7/2017 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,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1703260

Date Reported: 3/15/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** WPX Energy**Client Sample ID:** LD.03.05.17**Project:** Section 30 Recycling Containment**Collection Date:** 3/5/2017 9:30:00 AM**Lab ID:** 1703260-001**Matrix:** AQUEOUS**Received Date:** 3/7/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	2700	100	*	mg/L	200	3/10/2017 4:00:35 PM	R41320
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: KS
Total Dissolved Solids	8030	200	*D	mg/L	1	3/8/2017 5:19:00 PM	30562

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703260

15-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R41320	RunNo:	41320					
Prep Date:		Analysis Date:	3/10/2017	SeqNo:	1294723	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R41320	RunNo:	41320					
Prep Date:		Analysis Date:	3/10/2017	SeqNo:	1294724	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.2	0.50	5.000	0	105	90	110			

## 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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703260

15-Mar-17

**Client:** WPX Energy  
**Project:** Section 30 Recycling Containment

Sample ID	MB-30562	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	PBW	Batch ID:	30562	RunNo:	41240
Prep Date:	3/7/2017	Analysis Date:	3/8/2017	SeqNo:	1292049 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0			

Sample ID	LCS-30562	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	LCSW	Batch ID:	30562	RunNo:	41240
Prep Date:	3/7/2017	Analysis Date:	3/8/2017	SeqNo:	1292050 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1020	20.0	1000	0	103 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
- W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703260

RcptNo: 1

Received by/date: AF 03/07/17

Logged By: Anne Thorne 3/7/2017 7:15:00 AM

Completed By: Anne Thorne 3/7/2017 8:33:24 AM

Reviewed By: IO 3/7/17

*Anne Thorne*

*Anne Thorne*

### 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? Courier

### 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: \_\_\_\_\_  
(<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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

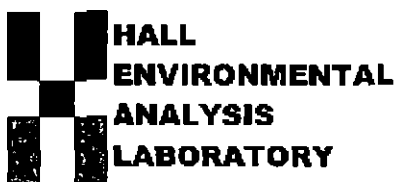
17. Additional remarks:

### 18. Cooler Information

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

[illegible]

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.



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March 13, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703359

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/8/2017 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,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703359

Date Reported: 3/13/2017

CLIENT: WPX Energy

Client Sample ID: LD.03.06.17

Project: Section 30 Recycling Containment

Collection Date: 3/6/2017 9:38:00 AM

Lab ID: 1703359-001

Matrix: AQUEOUS

Received Date: 3/8/2017 7:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: MRA
Chloride	2600	100	*	mg/L	200	3/10/2017 1:38:01 AM	R41268
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: KS
Total Dissolved Solids	7860	200	*D	mg/L	1	3/9/2017 4:59:00 PM	30585

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

**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
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703359

13-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: R41268	RunNo: 41268
Prep Date:	Analysis Date: 3/9/2017	SeqNo: 1294025 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	0.50

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSW	Batch ID: R41268	RunNo: 41268
Prep Date:	Analysis Date: 3/9/2017	SeqNo: 1294026 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	4.9	0.50 5.000 0 98.2 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  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703359

13-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID: MB-30585	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 30585	RunNo: 41272
Prep Date: 3/8/2017	Analysis Date: 3/9/2017	SeqNo: 1293066 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0

Sample ID: LCS-30585	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: LCSW	Batch ID: 30585	RunNo: 41272
Prep Date: 3/8/2017	Analysis Date: 3/9/2017	SeqNo: 1293067 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1020	20.0 1000 0 102 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  
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
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Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703359

RcptNo: 1

Received by/date *LM* *03/08/17*

Logged By: Ashley Gallegos

3/8/2017 7:35:00 AM

Completed By: Ashley Gallegos

3/8/2017 9:52:36 AM

Reviewed By: *A* *03/08/17*

### Chain of Custody

- |  |   |                             |   |
|--|---|-----------------------------|---|
| 1. Custody seals intact on sample bottles? | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 2. Is Chain of Custody complete?           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>            |
| 3. How was the sample delivered?           | Courier                                 |                             |   |

### Log In

- |  |   |  |   |
|--|---|--|---|
| 4. Was an attempt made to cool the samples?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | NA <input type="checkbox"/>                                     |
| 5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to $6.0^{\circ}\text{C}$ | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | NA <input type="checkbox"/>                                     |
| 6. Sample(s) in proper container(s)?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| 7. Sufficient sample volume for indicated test(s)?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| 8. Are samples (except VOA and ONG) properly preserved?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| 9. Was preservative added to bottles?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/>                                     |
| 10. VOA vials have zero headspace?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA Vials <input checked="" type="checkbox"/>                |
| 11. Were any sample containers received broken?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | # of preserved bottles checked for pH: <input type="checkbox"/> |
| 12. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | ( $<2$ or $>12$ unless noted)                                   |
| 13. Are matrices correctly identified on Chain of Custody?                                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Adjusted? <input type="checkbox"/>                              |
| 14. Is it clear what analyses were requested?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |   |
| 15. Were all holding times able to be met?<br>(If no, notify customer for authorization.)      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Checked by: <input type="checkbox"/>                            |

### Special Handling (if applicable)

- |   |                              |                             |  |
|---|------------------------------|-----------------------------|--|
| 16. Was client notified of all discrepancies with this order? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
|---|------------------------------|-----------------------------|--|

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="text"/>
Regarding:	<input type="text"/>	eMail	<input type="text"/>
Client Instructions:	<input type="text"/>	Phone	<input type="text"/>
		Fax	<input type="text"/>
		In Person	<input type="text"/>

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

<b>Chain-of-Custody Record</b>		Turn-Around Time:
Client: WPX Energy		<b>ASAP</b> <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
		Project Name:
Mailing Address:	721 S Main Aztec, NM 87410	Section 30 Recycling Containment Project #:
Phone #:	505-333-1680	
email or Fax#:	deborah.watson@wpxenergy.com	Project Manager:
QA/QC Package:	<input checked="" type="checkbox"/> XStandard <input type="checkbox"/> Level 4 (Full Validation)	Deborah Watson
Accreditation:	<input type="checkbox"/> NELAP <input type="checkbox"/> Other	Sampler: DB/DW
<input checked="" type="checkbox"/> EDD (Type)		On Location / In Lab / Yes / No
		Sample Temperature: °C / °F

ASAP  
X standard ☐ Rush

### Section 30 Recycling Containment

Project #:

Project Manager:

Deborah Watson

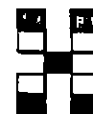
**Sampler:** DB/DW

On Ice: ☒ Yes ☐ No

Sample Temperature: 114.7 °C

[illegible]

Date:	Time:	Relinquished by:	Received by:	Date:	Time:
3/7/17	1516	Abraham Water	Abraham Water	3/7/17	1516
Date:	Time:	Relinquished by:	Received by:	Date:	Time:
3/7/17	1904	Abraham Water	Abraham Water	03/08/17	0739



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

[illegible]

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical re-



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Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

March 15, 2017

Debbie Watson

WPX Energy

721 S Main Ave

Aztec, NM 87410

TEL: (505) 333-1880

FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703443

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/9/2017 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703443

Date Reported: 3/15/2017

**CLIENT:** WPX Energy

**Client Sample ID:** LD.03.07.17

**Project:** Section 30 Recycling Containment

**Collection Date:** 3/7/2017 9:38:00 AM

**Lab ID:** 1703443-001

**Matrix:** AQUEOUS

**Received Date:** 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	2800	100	*	mg/L	200	3/10/2017 4:37:49 PM	R41320
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>SRM</b>
Total Dissolved Solids	7900	40.0	*D	mg/L	1	3/14/2017 12:49:00 PM	30663

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703443

15-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anlons					
Client ID:	PBW	Batch ID:	R41320	RunNo:	41320					
Prep Date:		Analysis Date:	3/10/2017	SeqNo:	1294723	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anlons					
Client ID:	LCSW	Batch ID:	R41320	RunNo:	41320					
Prep Date:		Analysis Date:	3/10/2017	SeqNo:	1294724	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.2	0.50	5.000	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
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703443

15-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB-30663	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	PBW	Batch ID:	30663	RunNo:	41360
Prep Date:	3/13/2017	Analysis Date:	3/14/2017	SeqNo:	1296218 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0			

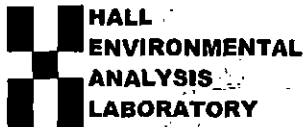
Sample ID	LCS-30663	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	LCSW	Batch ID:	30663	RunNo:	41360
Prep Date:	3/13/2017	Analysis Date:	3/14/2017	SeqNo:	1296219 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1000	20.0	1000	0	100 80 120

Sample ID	1703443-001AMS	SampType:	MS	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	LD.03.07.17	Batch ID:	30663	RunNo:	41360
Prep Date:	3/13/2017	Analysis Date:	3/14/2017	SeqNo:	1296221 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	10100	40.0	2000	7902	109 80 120 D

Sample ID	1703443-001AMSD	SampType:	MSD	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	LD.03.07.17	Batch ID:	30663	RunNo:	41360
Prep Date:	3/13/2017	Analysis Date:	3/14/2017	SeqNo:	1296222 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	10300	40.0	2000	7902	118 80 120 1.89 5 D

## 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 | W Sample container temperature is out of limit as specified |



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

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703443

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

3/9/2017 7:10:00 AM

Completed By: Ashley Gallegos

3/9/2017 8:59:27 AM

Reviewed By:

### 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?           | Courier |    |               |

### 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?<br>(Note discrepancies on chain of custody)       | Yes ✓ | No   | # of preserved bottles checked for pH:<br>(≤2 or >12 unless noted) |
| 13. Are matrices correctly identified on Chain of Custody?                                | Yes ✓ | No   | Adjusted?  |
| 14. Is it clear what analyses were requested?   | Yes ✓ | No   |  |
| 15. Were all holding times able to be met?<br>(if no, notify customer for authorization.) | Yes ✓ | No   | 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	1.0	Good	Yes			

**Turn-Around Time:**

☐ standard      ☒ Rush: no later than 3/13

Project Name:
Section 30 Recycling Containment
Project #:

**Project Manager:**

**Sampler:** DB/DW

On ice: ☒ Yes ☐ No

Sample Temperature: 40.00 °C

[illegible]

Date: 3/8/17	Time: 1217	Relinquished by: Sibnah Wata	Received by: Christine Walters	Date 3/8/17	Time 1217
Date: 3/8/17	Time: 1552	Relinquished by: Christine Walters	Received by: Dawn H	Date 03/09/17	Time 0710

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

**Tel. 505-345-3975      Fax 505-345-4107**

## Analysis Request

**Air Bubbles (Y or N)**

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



*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)*

March 15, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703537

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/10/2017 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".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703537

Date Reported: 3/15/2017

CLIENT: WPX Energy

Client Sample ID: LD.03.08.17

Project: Section 30 Recycling Containment

Collection Date: 3/8/2017 9:30:00 AM

Lab ID: 1703537-001

Matrix: AQUEOUS

Received Date: 3/10/2017 7:08:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	3000	100	*	mg/L	200	3/10/2017 5:15:03 PM	R41320
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: SRM
Total Dissolved Solids	8150	40.0	*D	mg/L	1	3/14/2017 12:49:00 PM	30663

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703537

15-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R41320	RunNo: 41320								
Prep Date:	Analysis Date: 3/10/2017	SeqNo: 1294723 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID : LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R41320		RunNo: 41320							
Prep Date:	Analysis Date: 3/10/2017		SeqNo: 1294724		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.2	0.50	5.000	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
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703537

15-Mar-17

Client: WPX Energy

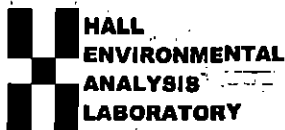
Project: Section 30 Recycling Containment

Sample ID	MB-30663	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	PBW	Batch ID:	30663	RunNo:	41360
Prep Date:	3/13/2017	Analysis Date:	3/14/2017	SeqNo:	1296218 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0			

Sample ID	LCS-30663	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	LCSW	Batch ID:	30663	RunNo:	41360
Prep Date:	3/13/2017	Analysis Date:	3/14/2017	SeqNo:	1296219 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1000	20.0	1000	0	100 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
- W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703537

RcptNo: 1

Received by/date: 03/10/17  
Logged By: Lindsay Mangin 3/10/2017 7:08:00 AM  
Completed By: Lindsay Mangin 3/10/2017 7:59:23 AM  
Reviewed By: AS 03/10/17

### 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? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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: \_\_\_\_\_  
( $<2$  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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

# Chain-of-Custody Record

Client: WPX

Mailing Address: 7215 Main  
AZCC, NM

Phone #: 505 333 1880

email or Fax#: deborah.watson@wpccn.org

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☒ Rush due 3/13

Project Name:

Section 30 Recycling Containment

Project #:

Project Manager:

DB Watson

Sampler: DB/DW

On Ice: ☒ Yes ☐ No

Sample Temperature: 13



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel: 505-345-3975 Fax 505-345-4107

### Analysis Request

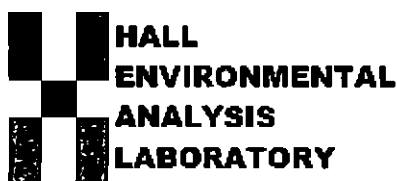
BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	TDs	Air Bubbles (Y or N)
							<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALING
3-8-17	930	H <sub>2</sub> O	LD.03.08.17	1-500ml	w/d	-001

Remarks:

Date: 3/9/17 Time: 1754 Relinquished by: Deborah Watson  
Date: 3/9/17 Time: 1851 Relinquished by: Christine Weber  
Date: 3/9/17 Time: 1754 Received by: Christine Weber  
Date: 03/10/17 Time: 0708 Received by: [Signature]

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.



*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)*

March 17, 2017

Debbie Watson  
WPX Energy  
721 S Main Ave  
Aztec, NM 87410  
TEL: (505) 333-1880  
FAX

RE: Section 30 Recycling Containment

OrderNo.: 1703657

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/14/2017 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 over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1703657

Date Reported: 3/17/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** WPX Energy**Client Sample ID:** LD.03.10.17**Project:** Section 30 Recycling Containment**Collection Date:** 3/10/2017 8:20:00 AM**Lab ID:** 1703657-001**Matrix:** AQUEOUS**Received Date:** 3/14/2017 7:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	2900	100	*	mg/L	200	3/15/2017 4:14:53 AM	A41377
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: KS
Total Dissolved Solids	8020	200	*D	mg/L	1	3/16/2017 4:33:00 PM	30709

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703657

17-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions						
Client ID:	PBW	Batch ID:	A41377	RunNo:	41377						
Prep Date:		Analysis Date:	3/14/2017	SeqNo:	1296988	Units:	mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	0.50									

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions						
Client ID:	LCSW	Batch ID:	A41377	RunNo:	41377						
Prep Date:		Analysis Date:	3/14/2017	SeqNo:	1296989	Units:	mg/L				
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				

## 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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1703657  
17-Mar-17

Client: WPX Energy  
Project: Section 30 Recycling Containment

Sample ID: MB-30709	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 30709	RunNo: 41433								
Prep Date: 3/15/2017	Analysis Date: 3/16/2017	SeqNo: 1298863 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-30709	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 30709	RunNo: 41433								
Prep Date: 3/15/2017	Analysis Date: 3/16/2017	SeqNo: 1298864 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1050	20.0	1000	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  
W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: WPX ENERGY

Work Order Number: 1703657

ReptNo: 1

Received by/date:

Logged By: Lindsay Mangin

3/14/2017 7:35:00 AM

Completed By: Lindsay Mangin

3/14/2017 8:24:21 AM

Reviewed By:

### 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? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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:

(<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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

Client:	WPX Energy
Mailing Address:	721 S Main Aztec, NM 87410
Phone #:	505-333-1880
email or Fax#:	<u>deborah.watson@wpxenergy.com</u>
QA/QC Package:	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)

☐ Standard ☒ Rush: 24 hr TAT (due 3/15)

### Section 30 Recycling Containment

Project #:

**Project Manager:**

**Deborah Watson**

**Sampler:** DB/DW

Once ☐ Yes ☒ No

Sample Temperature: 25

[illegible]

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

**Tel. 505-345-3975 Fax 505-345-4107**

### Analysis Request

[illegible]

Date: 3/13/17	Time: 1929	Relinquished by: Debrah Watten	Received by: Christ Watten	Date: 3/13/17	Time: 1929
Date: 3/13/17	Time: 2046	Relinquished by: Christ Watten	Received by: [Signature]	Date: 03/14/17	Time: 0733

Remarks:	
----------	--

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.