<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

## State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised April 3, 2017 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

# 2RP-3472

# **Release Notification and Corrective Action**

						<b>OPERA</b>	ΓOR		☐ Initi	al Report	$\boxtimes$	Final Report
Name of Co				perating, LLC	(	Contact Alena Miro					F	
		324, Housto	n, TX 77	7252		Telephone No. 575-628-6802						
Facility Nar	ne Mons	anto Road			] ]	Facility Typ	e Dirt Road					
Surface Ow	ner State	e of New Me	exico	Mineral O	wner	N/A			API No	. N/A		
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				NAT	URE	OF RELI	EASE					
Type of Relea			Water				Release 300,000	- %	Volume F	Recovered N	l/A	
Source of Rel						Date and H 3/22 – 23/2	our of Occurrence 014	e	Date and	Hour of Disc	covery	
Was Immedia	ite Notice G	and the same of th	Yes 🖂	No Not Re	quired	If YES, To	Whom?					
By Whom?						Date and H	our					
Was a Watero	course Reach	hed?	Yes 🛛	No		If YES, Vo	lume Impacting th	ne Wate	ercourse.			= ====
If a Watercou N/A	rse was Imp	oacted, Descri	be Fully.*			-						
Describe Caus	se of Proble	m and Remed	lial Action	Taken.*								
While contract for dust supproperties Area	ession. Soi	l samples hav	e been col	o dispose water at lected pursuant to en.*	NMOC NMOC	D permitted D-approved	SWD, haul trucks plan and analyzed	took te	est water to	Monsanto R	oad an	d sprayed
Water was dis	stributed on	Monsanto Ro	ad beginn	ing at Orla Highw	ay and a	going west fo	r approximately 1	.9 mile	s. Soil san	ples have be	en col	lected
I hereby certif	MOCD-app	roved plan an	a analyze	d. The results of a is true and compl	analysis	are included	in the attached rej	oort.	. 1 414	11 ND 66	CD	1 1
regulations all	operators a	are required to	report an	d/or file certain re	lease no	tifications an	d perform correct	ive acti	ia that purs	uant to NM(	)CD ru nav en	les and
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should their o	perations ha	ive failed to a	dequately	investigate and re	mediate	contamination	on that pose a thre	at to gr	ound water	, surface wat	er, hun	nan health
federal, state,	ment. In ac or local law	and/or regul	ob accept	ance of a C-141 r	eport do	es not relieve	the operator of re	esponsi	bility for co	ompliance w	ith any	other
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a:	Ch	14 1	1,				OIL CONE	LICY	ATION	DIVISIO	14	
Signature:	11	· /u	el						1.6	Da 711	/	-00
Printed Name	Jon H	E. Fields			A	Approved by	Environmental Sp	ecialist	: NAN	ley Ma	ixw	ell
Title:	Director, Fie	ld Environme	ntal		A	Approval Date	e: 4/13/2023	H	Expiration I	Date:		
E-mail Addres	ss: jefields	@eprod.com				Conditions of	Approval:		•			
	9-19			713-381-6684						Attached		
Attach Additi	ional Sheet	ts If Necessa	ry									



ENTERPRISE PRODUCTS PARTNERS L.P. **ENTERPRISE PRODUCTS HOLDINGS LLC** (General Partner)

**ENTERPRISE PRODUCTS OPERATING LLC** 

June 22, 2016

7015 0640 0005 6971 9279 Return Receipt Requested

New Mexico Oil Conservation Division Energy Mineral and Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 07505

RE: **Settlement Agreement** 

Case No. WQCC15-05 (CO)

Sir:

Attached is Enterprise's check in the amount of \$195,000 as outlined in III. Order of the referenced agreement. Should you need to contact Enterprise regarding this payment, I can be reached at 713-381-6595.

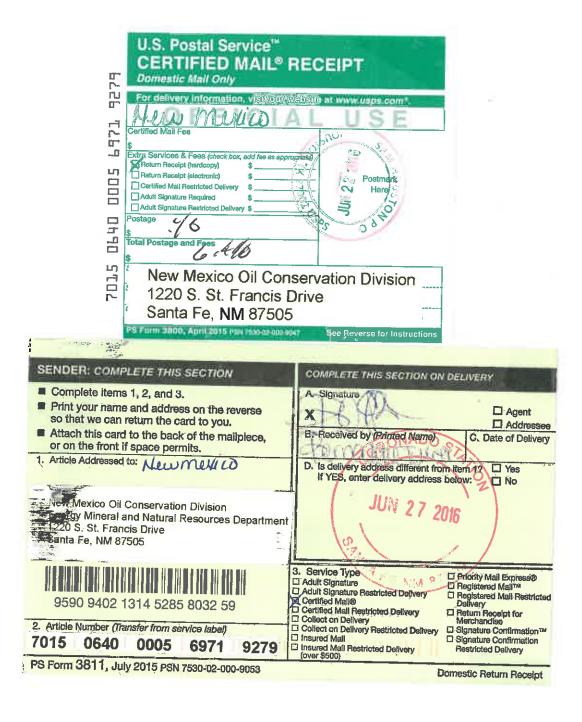
Yours truly,

Sr. Compliance Administrator

Enclosure

ec Earl E. DeBrine, Modrall Sperling edebrine@modrall.com

Vijay d'Cruz vdcruz@eprod.com



Backup Information Not Submitted to Agency

#### Nolan, Shiver

From: Ricca, Sandra

**Sent:** Tuesday, June 07, 2016 1:53 PM

To: Nolan, Shiver

Subject: RE: Question on Coding of "contribution"

Shiver, the \$495,000 should be coded to 401.33035.0.0.0.0. This expense was accrued a long time ago on MAPL and Enterprise Field Services.

#### Thank you,

Sandra Ricca, CPA

Enterprise Products Partners (NYSE: EPD)

Director, Financial Accounting 1100 Louisiana, Room 9.210

Ofc: 713-381-6838 Cell: 281-989-3842 email: <u>sricca@eprod.com</u>

From: Nolan, Shiver

Sent: Tuesday, June 07, 2016 10:30 AM

To: Ricca, Sandra

Subject: Question on Coding of "contribution"

As a part of a Settlement with New Mexico I'm going to have to do a check request for \$300,000 to an New Mexico agency (not the NMED)

It concerns two projects Salt Lake Lateral and Western Expansion III but this has been a long time in the making. Graham said to code as a contribution but did not give me a cost center.

There is still a penalty that will have to be paid roughly \$195,000.

Shiver J. Nolan
Sr. Compliance Administrator
Enterprise Products Operating LLC

#### STATE OF NEW MEXICO

#### WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF Enterprise Products Operating, LLC, a Texas limited liability company, Respondent.

Case No. WQCC 15-05 (CO)

#### STIPULATED FINAL ORDER

Pursuant to authority vested under the New Mexico Water Quality Act ("WQA"), NMSA 1978, §§ 74-6-1 to 74-6-17, the Ground and Surface Water Protection Regulations ("Regulations"), 20.6.2 NMAC, and 20.1.3.22 NMAC, the New Mexico Water Quality Control Commission hereby issues this Stipulated Final Order to resolve the Administrative Compliance Order ("ACO") issued to Enterprise Products Operating, LLC ("Respondent") on April 17, 2015.

Pursuant to 20.1.3.22(B) NMAC, the Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department ("OCD") and Respondent have entered into a Settlement Agreement, which is submitted herewith as Attachment 1. The Settlement Agreement is a compromise of a disputed claim and resolves the ACO issued to Respondent and the violations of the WQA and the Regulations alleged in the ACO.

For the purposes of this Stipulated Final Order, Respondent admits to the jurisdictional allegations of the ACO and the Settlement Agreement and consents to the relief specified in the Settlement Agreement.

IT IS THEREFORE ORDERED that the Settlement Agreement is hereby approved and the Parties shall comply with the terms and conditions of the Settlement Agreement, which are hereby incorporated into this Stipulated Final Order.

BY:	DATE:
Ryan Flynn, Chairman	
Water Quality Control Commission	

#### Submitted by:

William Brancard
General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe NM 87505
505.476.3210
Bill.brancard@state.nm.us

Counsel for the NM Oil Conservation Division

Earl E. DeBrine, Jr.
Modrall Sperling
500 4th St. NW, Ste. 1000
Albuquerque, NM 87102
505.848.1810
edebrine@modrall.com

Counsel for Enterprise Products Operating, LLC

# STATE OF NEW MEXICO WATER QUALITY CONTROL COMMISSION

WQCC 15-05 (CO)

IN THE MATTER OF Enterprise Products Operating, LLC, a Texas limited liability company, Respondent.

#### SETTLEMENT AGREEMENT

Pursuant to the Water Quality Act, NMSA 1978, Sections 74-6-1 through 74-6-17 as amended ("WQA") and the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38, as amended ("OGA"), and 20.1.3.22(B) NMAC, the Director of the Oil Conservation Division ("OCD") and Enterprise Products Operating, LLC ("Enterprise") enter into this Settlement Agreement ("Agreement") finally settling and resolving the violations asserted in the OCD's Administrative Compliance Order WQA-OCD-CO-2015-1 issued April 17, 2015 ("ACO OCD-CO-2015-1").

#### I. FINDINGS

- 1. OCD is the state agency charged with administration and enforcement of the OGA and WQA with regard to oil and gas activities, and rules and orders adopted pursuant to each Act. OCD is a constituent agency under the WQA which has been assigned responsibilities under the WQA by the Water Quality Control Commission ("WQCC"). NMSA 1978, Section 74-6-4(F).
- 2. Enterprise is a limited liability company doing business in the state of New Mexico under New Mexico Secretary of State registration No. 2916120.
- 3. On April 17, 2015, OCD issued Administrative Compliance Order WQA-OCD-CO-2015-1 ("ACO OCD-CO-2015-1") concerning discharges of hydrostatic test water associated with Enterprise's discharge permit No. HIP-122 for Enterprise's Western Expansion Pipeline III, Segment 3 project, located in Santa Fe County, New Mexico; and concerning discharges of hydrostatic test water associated with Enterprise's discharge permit No. HIP-126, associated with Enterprise's Salt Lake Extension, located in Eddy County, New Mexico. HIP-122 and HIP-126 are referred to as "the Permits".

- 4. On May 15, 2015, Enterprise filed a Request for Compliance Order Hearing and Answer, denying certain factual assertions in the ACO OCD-CO-2015-1 and denying that it violated the terms of the Permits, the OGA, WQA or regulations promulgated under either Act.
- 5. Under 20.1.3.22.B NMAC, Enterprise and OCD have entered into this Agreement for the sole purpose of resolving and settling all asserted violations set forth in the ACO OCD-CO-2015-1, together with any matters relating to or arising out of the ACO OCD-CO-2015-1 in order to avoid the cost, expense and uncertainty of further adversarial proceedings or litigation.
- 6. OCD will not, in any future proceedings, seek any civil penalties against Enterprise for any act or omission of Enterprise, its employees or affiliates with respect to the matters described in the ACO OCD-CO-2015-1.
- 7. OCD reserves the right to seek civil penalties against Enterprise for any breach of the terms of this Agreement or any violations of the OGA, WQA and regulations promulgated under either Act.

#### II. <u>CONCLUSIONS</u>

- 8. The WQCC has jurisdiction over the parties and subject matter in this proceeding under the WQA.
- 9. This Agreement is consistent with the provisions and objectives of the WQA and regulations and is in the public interest.

#### III. ORDER

- 10. Enterprise agrees to a civil penalty of \$195,000.
- 11. Upon approval of the Stipulated Final Order ("Order") by the WQCC, Water Quality Control Commission proceeding WQCC 15-05 (CO), IN THE MATTER OF Enterprise Products Operating, LLC, a Texas limited liability company, will be dismissed with prejudice.

#### IV. OTHER TERMS AND CONDITIONS

- 12. By signing this Order, Enterprise expressly:
  - (a) Denies the violations alleged in ACO OCD-CO-2015-1;
  - (b) agrees to pay the penalty of \$195,000 within 30 days of the effective date of the Order;
  - (c) waives any right, pursuant to the OGA, WQA or otherwise, to an appeal from the Order, or to a hearing either prior to or subsequent to the entry of the Order; and

- (d) agrees that the Order may be enforced by OCD, WQCC, or the Oil Conservation Commission, by suit or otherwise to the same extent and with the same effect as a final order of the OCD or WQCC entered after notice and hearing in accordance with all terms and provisions of the OGA and WQA.
- 13. At the request of OCD, and as part of Enterprise's commitment to minimizing the environmental impacts from wastewater generated by oil and gas activity and the conservation and protection of New Mexico's water resources, Enterprise has funded supplemental environmental projects by providing \$300,000 to the Oil and Gas Reclamation Fund, NMSA 1978, Sections 70-2-37 and 38, to provide for: (a) education and training in the field of wastewater transportation for the oil and gas industry; and (b) education and research to promote the reuse and recycling of liquids used in the oil and gas industry.
- 14. <u>Integration and Modification</u>. This Agreement merges all prior written and oral communications between the parties concerning the subject matter of the ACO OCD-CO-2015-1, and contains the entire agreement between the parties. This Agreement shall not be modified without the express written consent of the parties.
- 15. Reservation of Rights and Defenses. This Agreement shall not be construed to prohibit or limit in any way the OCD from requiring Enterprise to comply with any applicable state or federal requirement. This Agreement shall not be construed to prohibit or limit in any way the OCD from seeking any relief authorized by the WQA for violation of any state or federal requirement applicable to Enterprise not resolved herein. The Agreement shall not be construed to prohibit or limit in any way Enterprise from raising any defense to an OCD action seeking such relief. Provided further that this Agreement shall not be construed to prohibit or limit in any way the OCD from seeking any relief authorized by the OGA or WQA for violation of any state or federal requirement against any of Enterprise's contractors or subcontractors or other persons or entities hired by such contractors or subcontractors involved in the discharge of hydrostatic test water associated with Enterprise's Permits.
- Mid-America Pipeline Company, LLC, Mapletree, LLC, EPCO Holdings, Inc. and their affiliated corporations or limited liability companies employees and successors in interest from all claims that it raised or could have raised regarding the facts and legal conclusions set forth in the ACO OCD-CO-2015-1 and Enterprise's Request for Compliance Order Hearing and Answer.

Provided further that this release shall not be construed to extend to any of Enterprise's contractors or subcontractors or other persons or entities hired by such contractors or subcontractors involved in the discharge of hydrostatic test water associated with Enterprise's Permits or to in any way limit any right of indemnity by Enterprise. Enterprise releases OCD from all claims that it raised or could have raised regarding the facts and legal conclusions set forth in the ACO OCD-CO-2015-1 and Enterprise's Request for Compliance Order Hearing and Answer.

- 17. <u>Waiver of State Liability</u>. As between Enterprise on the one hand and the OCD and State of New Mexico on the other, Enterprise shall assume all costs and liabilities incurred in performing any obligation under this Agreement. The OCD, on its own behalf or on the behalf of the State of New Mexico or any other state agency, shall not assume any liability for Enterprise's performance of any obligation under this Agreement.
- 18. <u>Authority to Bind</u>. The person executing this Agreement on behalf of Enterprise represents that s/he has the authority to execute this Agreement on behalf of Enterprise.
- 19. <u>Effective Date</u>. This Agreement shall become effective upon the execution by the duly authorized representatives of OCD and Enterprise.
- 20. This Agreement applies only to the enforcement of the violations set forth in the ACO OCD-CO-2015-1. Other discharges by Enterprise may be subject to immediate enforcement action under the OGA and the WQA, and under WQCC and OCD Rules. Nothing in this Agreement relieves Enterprise of its responsibility for compliance with the OGA, WQA or any other federal, state or local laws and/or regulations.

Done at Santa Fe, New Mexico this	th day of May, 2016
	For the Oil Conservation Division
	By:
	Director, Oil Conservation Division

# **ACCEPTANCE**

Enterprise Products Operating, LLC hereby accepts the foregoing Agreement, and agrees to all of the terms and provisions as set forth in the Agreement.

ENTERPI LLC By:	RISE PRODUCTS	OPERATIN	G,
Title:			
Date:			

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						PA	MENT	REQUE	ST			
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Street Address	:	1220 Sout	h St. Franc	is Drive								
City, State, Zip	:	Santa Fe,	NM 87508	5								
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Invoice detail (including applicable backup detail) MUST be attached.

Mail to: EPCO, Inc.

Attention: Accounts Payable

1100 Louisiana, 5th Floor

Houston, TX 77002

or Email to: apadmin@eprod.com

#### Nolan, Shiver

From:

Zirbes, Ivan

Sent:

Monday, June 20, 2016 7:27 AM

To:

Nolan, Shiver

Subject:

FW: NMOCD

Almost forgot to send you this!

This is to pay the \$195K penalty portion of the New Mexico enforcement. Let me know if you have any questions. Details are in the same document I sent you on the \$300K portion.

Thank you! Ivan

From: Earl E. DeBrine [mailto:edebrine@modrall.com]

**Sent:** Thursday, June 16, 2016 6:38 PM

To: D'Cruz, Vijay; Zirbes, Ivan

Subject: RE: NMOCD

The check should payable to the State of New Mexico and sent to:

David Catanach, Director New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

From: D'Cruz, Vijay [mailto:vdcruz@eprod.com]

Sent: Thursday, June 16, 2016 7:11 AM

To: Zirbes, Ivan Cc: Earl E. DeBrine Subject: FW: NMOCD

Ivan:

FYI, we need to pay the civil penalty by July 14<sup>th</sup>.

Earl:

Can you provide us the detail of to whom to make payment, and where to send the payment?

Thanks,

Vijay

From: Earl E. DeBrine [mailto:edebrine@modrall.com]

Sent: Tuesday, June 14, 2016 3:56 PM

To: D'Cruz, Vijay Subject: RE: NMOCD

#### Vijay,

The Water Quality Control Commission considered the Settlement Agreement and Order at its hearing this morning and approved them on a 7-0 vote. Commissioner Scott Dawson abstained because of his involvement as OCD Deputy Director in issuing the ACO to Enterprise. Secretary Martin was unavailable so EMNRD Deputy Secretary Tony Delfin presented the matter to the Commission.

As a reminder, under paragraph 12 of the Order, Enterprise is required to pay the civil penalty of \$195,000 within 30 days of effective date of the Order, which is July 14, 2016.

--Earl



#### Earl E. DeBrine, Jr.

Modrall Sperling | <u>www.modrall.com</u> P.O. Box 2168 | Albuquerque, NM 87103-2168 500 4<sup>th</sup> St. NW, Ste. 1000 | Albuquerque, NM 87102 D: 505.848.1810 | O: 505.848.1800 | C: 505.264.8409

----Original Message-----

From: D'Cruz, Vijay [mailto:vdcruz@eprod.com]

Sent: Friday, June 10, 2016 9:40 AM

To: Zirbes, Ivan Cc: Earl E. DeBrine Subject: Re: NMOCD

Great. Thanks.

Vijay D'Cruz Vice President, Litigation Enterprise Products

1100 Louisiana Street, 24th Floor<x-apple-data-detectors://5/0>
Houston, Texas 77002<x-apple-data-detectors://5/0>
713.381.3996<tel:713.381.3996> (direct)
713.381.6950<tel:713.381.6950> (fax)
713.446.5645<tel:713.446.5645> (cell)

This email may be protected by the attorney-client privilege. If you are not the intended recipient, please delete it and notify sender.

On Jun 10, 2016, at 10:38 AM, Zirbes, Ivan <IWZIRBES@eprod.com<mailto:IWZIRBES@eprod.com>> wrote:

All,

See attached documents for your records. Should hit their desk early Monday.

Ivan

From: Zirbes, Ivan

Sent: Wednesday, June 08, 2016 5:01 PM

To: edebrine@modrall.com<mailto:edebrine@modrall.com>; D'Cruz, Vijay

Subject: RE: NMOCD

Thanks!

Vijay,

I'll have Shiver put on letterhead for my signature and we'll get it sent overnight on Friday when we get the check from AP.

Ivan

From: Earl E. DeBrine <edebrine@modrall.com<mailto:edebrine@modrall.com>>

Sent: Wednesday, June 8, 2016 9:07:50 PM

To: Zirbes, Ivan; D'Cruz, Vijay

Subject: RE: NMOCD

I spoke to Allison and we can send her the check. As far as the transmittal letter, you can say something like this:

Dear Ms. Marks:

As part of Enterprise's commitment to minimizing the environmental impacts from wastewater generated by oil and gas activity and the conservation and protection of New Mexico's water resources, Enterprise is enclosing a check for \$300,000 for a donation to the State of New Mexico's Oil and Gas Reclamation Fund. Enterprise understands that this donation will be used to provide for education and training in the field of wastewater transportation for the oil and gas industry and promote the reuse and recycling of liquids used in the oil and gas industry. We are glad we can make a meaningful contribution for these purposes.

Very truly yours,

<image001.jpg><a href="http://www.modrall.com/">
Earl E. DeBrine, Jr.
Modrall Sperling | www.modrall.com<a href="http://www.modrall.com/">
P.O. Box 2168 | Albuquerque, NM 87103-2168
500 4th St. NW, Ste. 1000 | Albuquerque, NM 87102
D: 505.848.1810 | O: 505.848.1800 | C: 505.264.8409

----Original Message-----

From: Zirbes, Ivan [mailto:IWZIRBES@eprod.com] Sent: Wednesday, June 08, 2016 11:56 AM

To: D'Cruz, Vijay; Earl E. DeBrine

Subject: RE: NMOCD

Is Alison expecting to be the person to get the check and is okay with this?

Ivan

From: D'Cruz, Vijay

Sent: Wednesday, June 8, 2016 5:33:33 PM

To: Earl E. DeBrine

Cc: Zirbes, Ivan

Subject: RE: NMOCD

Okay. Do you want to draft a cover letter or are there anything specific we should reference? I don't want the check to get lost within NMOCD, and suspect someone else will be opening and sorting through Allison's mail.

From: Earl E. DeBrine [mailto:edebrine@modrall.com]

Sent: Wednesday, June 08, 2016 10:22 AM

To: D'Cruz, Vijay

Subject: RE: NMOCD
Vijay, You can do that but it's probably quicker to send it to Allison who is now Deputy Director of NMOCD:
Allison Marks
Deputy Director
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
I receive a voicemail this morning from Shawnra Knowten, who is processing the check seeking confirmation of the address to send the check. I also told her to send it to Allison at NMOCD.
Earl
From: D'Cruz, Vijay [mailto:vdcruz@eprod.com]
Sent: Wednesday, June 08, 2016 6:55 AM
To: Earl E. DeBrine
Subject: FW: NMOCD
Earle:
Thoughts? Can we just give you the check and let you handle it?
Thanks,

Vijay

From: Zirbes, Ivan

Sent: Tuesday, June 07, 2016 11:04 AM

To: D'Cruz, Vijay

Subject: RE: NMOCD

Vijay,

The check request is getting processed and expedited. We'll also make sure we overnight it. I'm a little concerned on how we are going "provide evidence of funding" by a week from today so we may want to get some feedback from the Modrall folks on what that means.

lvan

From: D'Cruz, Vijay

Sent: Thursday, June 02, 2016 11:45 AM

To: Zirbes, Ivan

Subject: FW: NMOCD

Can you get the ball rolling to fund the donation?

From: Earl E. DeBrine [mailto:edebrine@modrall.com]

Sent: Thursday, June 02, 2016 11:43 AM

To: D'Cruz, Vijay

Subject: RE: NMOCD

Vijay,

The approval of the settlement has been placed on the June 14th docket and will be heard first. Secretary Martin is planning to present it to the Commission. I spoke to Allison Marks today and she said that we need to make sure that the donation to the O&G Reclamation fund is made before the hearing in accordance with the settlement's recital in paragraph 13 that "Enterprise has funded .. by providing \$300,000 to the Oil and Gas Reclamation Fund..." We'll need to provide evidence of funding of the donation to NMOCD. Let me know if that is going to create any problems.

---Earl

[MSEmailLogo]<http://www.modrall.com/>

Earl E. DeBrine, Jr.

Modrall Sperling

www.modrall.com/<http://www.modrall.com/3chttp://www.modrall.com/>>

P.O. Box 2168 | Albuquerque, NM 87103-2168

500 4th St. NW, Ste. 1000 | Albuquerque, NM 87102

D: 505.848.1810 | O: 505.848.1800 | C: 505.264.8409

From: D'Cruz, Vijay [mailto:vdcruz@eprod.com]

Sent: Thursday, May 12, 2016 6:53 AM

To: Earl E. DeBrine

Subject: NMOCD

Earl:

I had a call with Bill Brancard Tuesday and we have reached an agreement. Graham Bacon our EVP has signed it, and the original signature is heading your way.

My understanding is that Allison is trying to have this matter set for the June 14th docket, but it may be pushed to a later docket if there is not enough additional matters to be heard that day.

I will let Bill know that you have the signed agreement and are running with things for us.

Thanks,
Vijay D'Cruz
Vice President, Litigation
[EnterpriseProductsLogo.bmp]
1100 Louisiana Street, 24th Floor
Houston, Texas 77002
713.381.3996 (direct)
713.381.6950 (fax)
713.446.5645 (cell)
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#### **SOIL SAMPLING REPORT**

Permian Expansion – Hydrostatic Water Release (Permit # HIP-126) Monsanto Road, Rural Lea County, NM

> January 2015 Apex Project No. 7020114G292

> > Prepared for:

Enterprise Products Operating LLC 10500 Heritage Blvd., Ste. 150 San Antonio, TX 78216 Attn: Mr. Roger Thompson

Prepared by:

Carlos Ortiz Senior Project Manager

Elizabeth Scaggs, P.G. Senior Program Manager

#### **TABLE OF CONTENTS**

1.0	INTRODU	UCTION	1
1.1	Site Area	a Descriptions & Background	
1.2		es	
2.0	SOIL SA	MPLING ACTIVITIES	2
2.1		nple Locations	
2.2		npling Program	
2.3		ory Analytical Methods	
3.0	DATA E\	VALUATION	3
3.1		nple Results	
4.0	FINDING	SS	4
5.0	STANDA	ARD OF CARE, LIMITATIONS, AND RELIANCE	4
LIST	Γ OF APPE	ENDICES	
Арр	endix A:	Figure 1 - Topographic Map Figure 2 – Site Vicinity Map Figure 3 – Sample Location Map	
Арр	endix B:	Table 1 – Soil Analytical Summary	
Арр	endix C:	Laboratory Analytical Reports & Chain of Custody Documentation	
Арр	endix D:	Photographic Documentation	
App	endix E:	Declaration of Adrian Jackson, Apex TITAN, Inc.	



#### SOIL SAMPLING REPORT

### Permian Expansion – Hydrostatic Water Release (Permit # HIP-126) Monsanto Road, Rural Lea County, NM

**Apex Project No. 7020114G292** 

#### 1.0 INTRODUCTION

This Soil Sampling Report (SSR) documents the implementation of the Soil Sampling Plan (SSP), dated December 9, 2014, submitted by Enterprise Products Operating LLC (Enterprise) to the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD). The proposed SSP was developed in accordance with applicable provisions of 19.15.29 of the New Mexico Administrative Code (NMAC), and was approved, verbally, by Mr. Jim Griswold (OCD) on December 10, 2014. This SSR documents the soil sampling activities performed to evaluate the potential presence, magnitude and/or extent of select constituents of concern (COCs) resulting from the application of hydrostatic test water from a new pipe installation to the land surface in rural Lea County, New Mexico.

#### 1.1 Site Area Descriptions & Background

The areas of concern and the soil sampling locations were based on information obtained from Enterprise personnel. The hydrostatic test water application occurred during late March 2014, when water trucks equipped with drip bars applied the water to a dirt/gravel section of Monsanto Road, east of Orla Road, in rural Lea County, hereinafter referred to as the Site. The approximate locations of the applications are further described by the following coordinates:

- Monsanto Road approximate start point: 32.124869 N, -103.674213 W
- Monsanto Road approximate end point: 32.123547 N, -103.706092 W

An estimated maximum of 300,000 gallons of hydrostatic test water were applied to approximately 1.9 miles of Monsanto Road, west of Sahara Lane, where the asphalt pavement ends and Monsanto Road becomes a dirt/gravel road.

Laboratory analysis of the source water well that was utilized for the hydrostatic test water was performed. The water was analyzed for drinking water parameters and indicated levels of chloride, sulfate and total dissolved solids (TDS) above New Mexico Water Quality Control Commission (WQCC) standards (NMAC 20.6.2.3103).

The New Mexico Office of the State Engineer online database was searched for reported water wells within Sections 15, 16 and 17, Township 25 South, Range 32 West, and no water wells were reported within the three (3) sections.

#### 1.2 Objectives

The objectives of the soil sampling activities were to 1.) Evaluate the presence, magnitude and/or extent of sulfate, chloride, iron and manganese concentrations in soils where hydrostatic test water was applied; and, 2.) Evaluate the presence and/or magnitude of sulfate, chloride, iron and



manganese concentrations in "background" locations along Monsanto Road adjacent to where the hydrostatic test water was applied.

#### 2.0 SOIL SAMPLING ACTIVITIES

During December 2014, Apex collected soil samples along Monsanto Road where the hydrostatic discharge water was reportedly applied. Additionally, samples were collected from adjacent to Monsanto Road to provide background data from an unaffected area within the same vicinity. A total of 110 soil samples were collected during this event. Soil sample locations are presented on Figure 3 in Appendix A.

During the soil sampling activities, water trucks (unrelated to Enterprise) were driving down Monsanto Road, releasing water, as shown on a photograph in Appendix D. The Declaration of Adrian Jackson, Apex TITAN, Inc., environmental geologist, who performed the field sampling event, and observed and photographed the water trucks, is included in Appendix E.

#### 2.1 Soil Sample Locations

#### **Monsanto Road**

Apex collected soil samples along Monsanto Lane approximately every 500 horizontal feet along approximately 1.9 miles of Monsanto Lane. Samples were collected from three (3) locations along the width of the road, two (2) samples on each side of Monsanto Lane and two (2) samples from the middle of Monsanto Lane. The roadside samples were collected from a depth of 0-6 inches, and the middle sampling locations was also sampled from 6-12 inches.

#### **Background Sampling - Monsanto Road**

Apex collected samples from alongside Monsanto Road for use as background samples in relation to Monsanto Road. The samples were obtained from at least 10 feet off the road in the apparent upgradient direction below the initial soil surface. The samples were taken along Monsanto Road in the same 500 foot increments as the confirmation samples in Monsanto Road.

#### 2.2 Soil Sampling Program

The soil sampling program involved submitting five (5) soil samples from each soil sampling transect for laboratory analysis. Sample locations were recorded in the field. Soil samples were collected and placed in laboratory prepared glassware and placed on ice in a cooler, maintained at or below four (4) (+/- 2) degrees centigrade and secured with a custody seal. The sample cooler and completed chain-of-custody forms were relinquished to Trace Analysis' laboratory in Lubbock, TX for normal turnaround and can be found in Table 1 (Appendix B).

#### 2.3 Laboratory Analytical Methods

The soil and background samples were analyzed for chloride and sulfate utilizing EPA method 300, and iron and manganese utilizing EPA method 6010. The number of samples and analyses are presented below:



Analysis	Analysis Sample Type		Method	
Anions	Soil Investigative	88	EPA 300	
Anions	Soil Background	22	EPA 300	
Metals	Soil Investigative	88	EPA 6010	
ivietais	Soil Background	22	EPA 6010	

Laboratory results are summarized in Table 1, included in Appendix B. The executed chain-of-custody form and laboratory data sheets are provided in Appendix C.

#### 3.0 DATA EVALUATION

The Site area is under regulatory oversight by the New Mexico EMNRD OCD. Laboratory analyses of the source of the hydrostatic test water for drinking water parameters indicated levels of iron, manganese, chloride, sulfate, and TDS above WQCC standards (NMAC 20.6.2.3103) or background. The soil sampling program was designed to assess the Site area with respect to these WQCC drinking water standard exceedances, while complying with reporting requirements of NMAC 19.15.29.

#### 3.1 Soil Sample Results

Apex Titan, Inc. (Apex) compared the iron and manganese concentrations or reporting limits associated with the soil samples to the NMED baseline Residential SSLs and the projected concentration ranges provided in the USGS Professional Paper 1270 - Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States (1984).

Soil screening levels are not established for sulfate or chlorides by the NMED.

#### **Monsanto Road**

The investigative soil sample results from Monsanto road exhibited iron concentrations ranging from 1,470 mg/Kg to 6,330 mg/Kg, below the NMED Residential SSL of 23,500 mg/Kg. The reported background/upgradient iron concentrations ranged from 1,100 mg/Kg to 5,900 mg/Kg, also below the NMED Residential SSL of 23,500 mg/Kg.

The investigative soil sample results exhibited manganese concentrations ranging from 12.8 to 66.2, below the NMED Construction Worker SSL of 150 mg/Kg. The reported background/upgradient manganese concentrations ranged from 12.5 mg/Kg to 60.7 mg/Kg, also below the NMED Construction Worker SSL of 150 mg/Kg.

The investigative soil sample results from the Monsanto Road exhibited chloride concentrations ranging from <25.0 mg/Kg to 1,310 mg/Kg. The background soil sample results ranged from <25.0 mg/Kg to 93.4 mg/Kg.

The investigative soil sample results exhibited sulfate concentration ranging from <25.0 mg/Kg to 9,800 mg/Kg. The background/upgradient sulfate concentrations ranged from <25.0 mg/Kg to 248 mg/Kg



Laboratory Analytical results are provided in Table 1 in Appendix C.

#### 4.0 FINDINGS

Based on the data provided through the laboratory analysis of 110 investigative and background samples, the application of hydrostatic test water has produced no readily identifiable adverse effect to the environment with respect to published regulatory standards. The following discussion focuses on possible trends with respect to the collective results:

#### **Iron and Manganese**

As demonstrated by the laboratory data, observed iron and manganese concentrations are below the more stringent NMED applicable SSLs for each constituent.

#### **Chloride and Sulfate**

The investigative soil sample results from the Monsanto Road exhibited chloride concentrations ranging from <25.0 mg/Kg to 1,310 mg/Kg. The background soil sample results ranged from <25.0 mg/Kg to 93.4 mg/Kg.

According to the USDA<sup>1</sup>, sulfate concentrations in soils are thought to average 850 mg/Kg. The sulfate concentration average in the soils is higher than the USDA average. The average sulfate concentration is 2,505 mg/Kg. The background samples collected from adjacent to Monsanto Road ranged from <25.9 to 248 mg/Kg.

Monsanto Road is a caliche road and caliche is a sedimentary rock, a hardened natural cement of calcium carbonate that binds other materials—such as gravel, sand, clay, and silt. The sulfate concentrations reported for Monsanto Road could be attributable to calcium sulfate, which is poorly soluble, especially when compared with the solubility of ionic sulfate. Therefore, the sulfate is not likely to affect groundwater.

#### 5.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Apex cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this scope of services. Environmental conditions at other areas or portions of the Site may vary from those

<sup>&</sup>lt;sup>1</sup> "Dietary Reference Intakes For Water, Potassium, Sodium, Chloride, and Sulfate" Institute of Medicine of the National Academies, USDA, 2005, p.425.



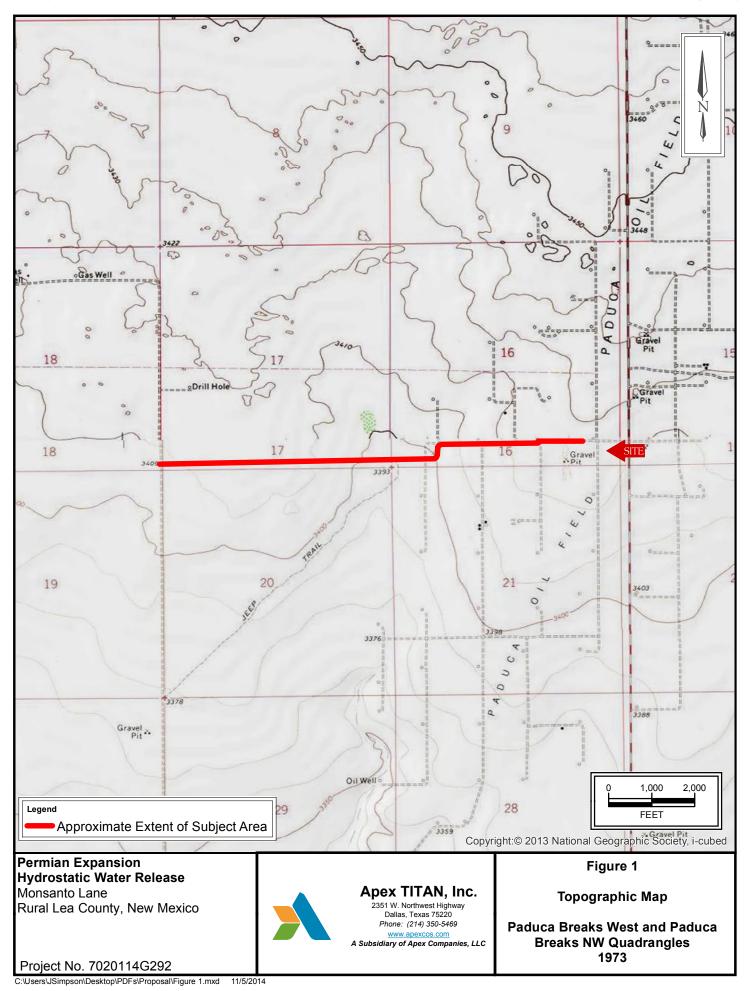
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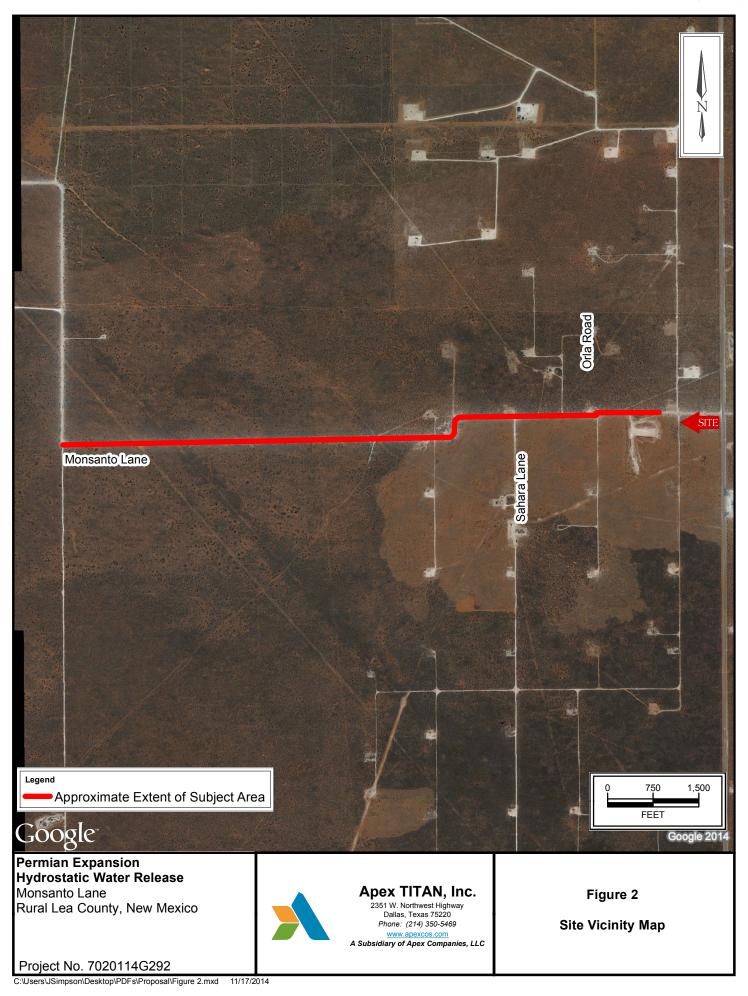
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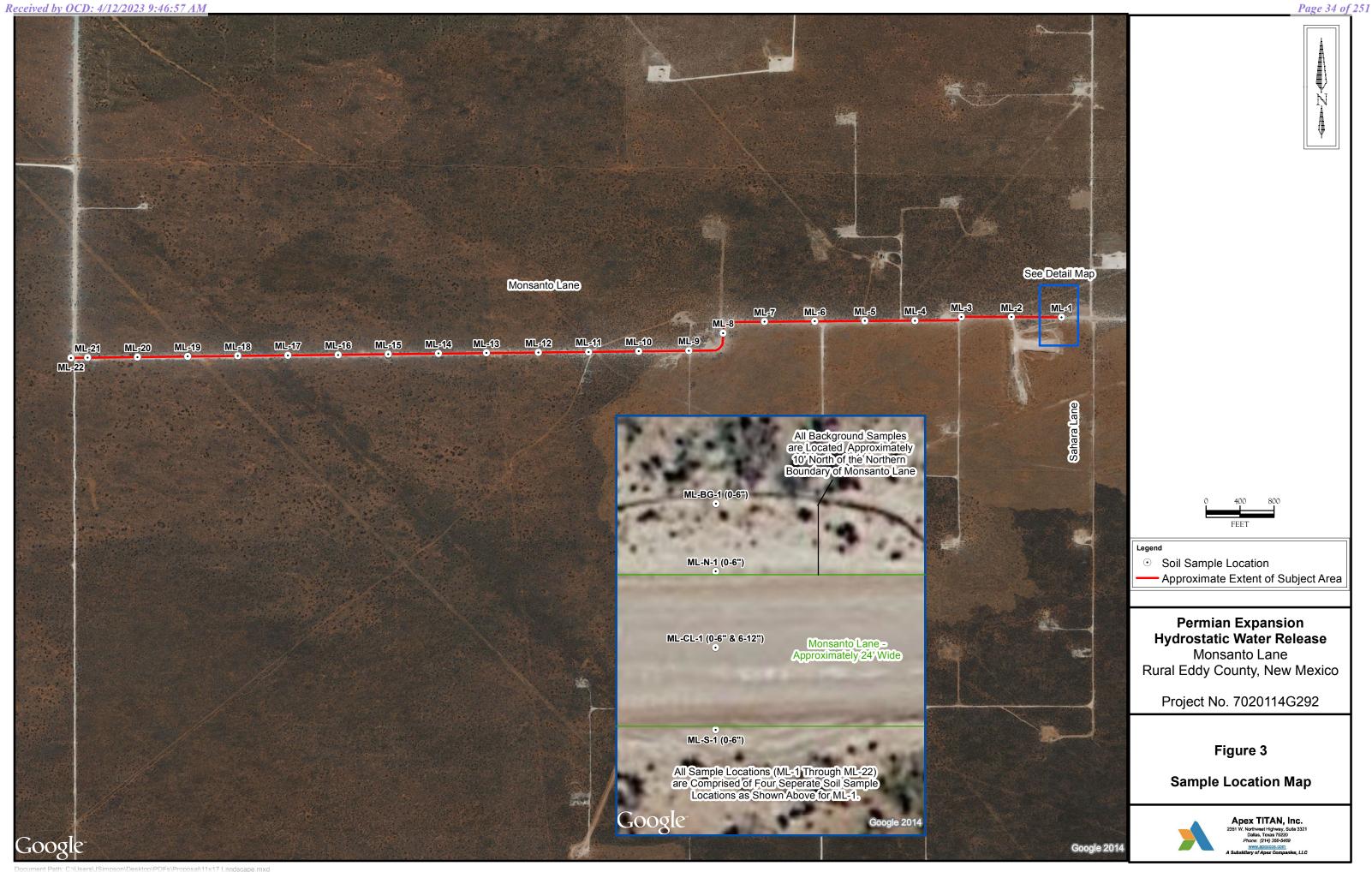


**APPENDIX A** 

Figures









**APPENDIX B** 

**Tables** 

# TABLE 1 ENTERPRISE PERMAIN EXPANSION (Salt Lake Hydrotest Water) SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (inches)	Chloride (mg/kg)	lron (mg/kg)	Manganese (mg/kg)	Sulfate (mg/kg)	
New Mexico Environment Department Soil Screening		Residential Soil	NE	23,500	3,590	NE	
Lev		Construction Worker	NE	92,900	150	NE	
		Mon	santo Lane				
ML-CL-1	12/15/2014	0-6	240	6080	44.3	256	
IVIL-CL-1	12/15/2014	6-12	247	4080	43.9	159	
ML-N-1	12/15/2014	0-6	111	2770	18.8	647	
ML-S-1	12/15/2014	0-6	288	5560	30.5	459	
ML-BG-1	12/15/2014	1	55.0	3260	26.3	103	
MI CL 2	12/15/2014	0-6	100	3670	29.4	355	
ML-CL-2	12/15/2014	6-12	275	2050	19.0	1480	
ML-N-2	12/15/2014	0-6	96.7	2920	24.1	177	
ML-S-2	12/15/2014	0-6	93.4	2590	22.9	700	
ML-BG-2	12/15/2014	1	<25.0	1960	16.0	34.7	
ML CL 2	12/15/2014	0-6	336	3330	30	476	
ML-CL-3	12/15/2014	6-12	288	4990	45.8	130	
ML-N-3	12/15/2014	0-6	144	3500	30.0	242	
ML-S-3	12/15/2014	0-6	395	6330	35.6	1730	
ML-BG-3	12/15/2014	1	60.8	4720	23.7	82.8	
ML-CL-4	12/15/2014	0-6	216	3670	30	1240	
IVIL-CL-4	12/15/2014	6-12	267	3870	34.1	807	
ML-N-4	12/15/2014	0-6	290	5530	37.8	1060	
ML-S-4	12/15/2014	0-6	400	4040	34.3	571	
ML-BG-4	12/15/2014	1	26.9	3260	31.3	43.4	
ML-CL-5	12/15/2014	0-6	80	2710	26.8	360	
IVIL-CL-3	12/15/2014	6-12	184	4140	41.2	140	
ML-N-5	12/15/2014	0-6	90.6	2360	18.5	523	
ML-S-5	12/15/2014	0-6	72.2	1470	12.8	291	
ML-BG-5	12/15/2014	1	<25.0	1100	12.5	46.2	
ML-CL-6	12/15/2014	0-6	570	2750	24	9040	
IVIL-CL-0	12/15/2014	6-12	575	2740	23.1	8420	
ML-N-6	12/15/2014	0-6	285	3450	28.7	2480	
ML-S-6	12/15/2014	0-6	62.2	3410	26.2	1660	
ML-BG-6	12/15/2014	1	<25.0	3130	26.6	57.7	

# TABLE 1 ENTERPRISE PERMAIN EXPANSION (Salt Lake Hydrotest Water) SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (inches)	Chloride (mg/kg)	lron (mg/kg)	Manganese (mg/kg)	Sulfate (mg/kg)								
New Mexico Department S		Residential Soil	NE	23,500	3,590	NE								
Lev		Construction Worker	NE	92,900	150	NE								
Monsanto Lane           ML-CL-7         12/15/2014         0-6         86.5         2180         18.3         9810														
ML-CL-7	12/15/2014	0-6	86.5	2180	18.3	9810								
ML-CL-7	12/15/2014	6-12	380	6220	64.1	613								
ML-N-7	12/15/2014	0-6	63.1	4760	53.3	501								
ML-S-7	12/15/2014	0-6	204	2750	20.8	3270								
ML-BG-7	12/15/2014	1	93.4	2500	24.9	248								
MI CL 9	12/15/2014	0-6	107	4270	51.7	667								
ML-CL-8 12/15/2014		6-12	76.4	5580	63.3	466								
ML-N-8	12/15/2014	0-6	609	4890	35.7	1600								
ML-S-8	12/15/2014	0-6	34.4	4920	53.0	120								
ML-BG-8	12/15/2014	1	<25.0	3390	23.7	106								
MI CLO	12/15/2014	0-6	72.9	3290	34.7	348								
ML-CL-9	12/15/2014	6-12	85.9	5750	66.2	37.2								
ML-N-9	12/15/2014	0-6	156	3550	31.3	1160								
ML-S-9	12/15/2014	0-6	166	2910	18.5	2770								
ML-BG-9	12/15/2014	1	<25.0	3420	24.6	41.4								
MI CL 40	12/15/2014	0-6	740	3950	31.0	414								
ML-CL-10	12/15/2014	6-12	825	4990	42.7	191								
ML-N-10	12/15/2014	0-6	66.1	4230	24.8	1180								
ML-S-10	12/15/2014	0-6	193	3090	23.3	1870								
ML-BG-10	12/15/2014	1	<25.0	5900	60.7	67.6								
MI CL 11	12/15/2014	0-6	234	3570	29.5	1230								
ML-CL-11	12/15/2014	6-12	115	2520	21.6	188								
ML-N-11	12/15/2014	0-6	140	3110	22.4	286								
ML-S-11	12/15/2014	0-6	51.6	2240	16.0	1870								
ML-BG-11	12/15/2014	1	26.5	4070	39.3	43.7								
MI CL 10	12/15/2014	0-6	139	4050	32.6	325								
ML-CL-12	12/15/2014	6-12	142	3460	35.7	80.8								
ML-N-12	12/15/2014	0-6	31.2	3180	25.1	172								
ML-S-12	12/15/2014	0-6	31.0	2870	29.2	106								
ML-BG-12	12/15/2014	1	<25.0	3030	30.8	29.1								

# TABLE 1 ENTERPRISE PERMAIN EXPANSION (Salt Lake Hydrotest Water) SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (inches)	Chloride (mg/kg)	lron (mg/kg)	Manganese (mg/kg)	Sulfate (mg/kg)								
New Mexico		Residential Soil	NE	23,500	3,590	NE								
Lev		Construction Worker	NE	92,900	150	NE								
Monsanto Lane 12/15/2014 0-6 45.9 2060 18.9 168														
ML-CL-13	12/15/2014	0-6	45.9	2060	18.9	168								
IVIL-UL-13	12/15/2014	6-12	181	2090	17.6	1610								
ML-N-13	12/15/2014	0-6	218	3080	31.2	1110								
ML-S-13	12/15/2014	0-6	277	2990	26.8	1740								
ML-BG-13	12/15/2014	1	<25.0	3760	36.6	113								
ML-CL-14	12/15/2014	0-6	83.3	2970	27.8	730								
IVIL-CL-14	12/15/2014	6-12	72.6	3660	33.0	58.5								
ML-N-14	12/15/2014	0-6 215		3440	25.8	824								
ML-S-14	12/15/2014	0-6	130	2740	21.0	1630								
ML-BG-14	12/15/2014	1	<25.0	4040	36.9	29.4								
ML-CL-15	12/15/2014	0-6	54.3	2770	25.7	50.5								
MIL-CL-15	12/15/2014	6-12	<25.0	2510	25.4	<25.0								
ML-N-15	12/15/2014	0-6	60.0	3270	30.3	109								
ML-S-15	12/15/2014	0-6	277	2580	21.5	690								
ML-BG-15	12/15/2014	1	<25.0	2880	27.2	<25.0								
ML-CL-16	12/15/2014	0-6	336	4490	33.5	1770								
IVIL-CL-16	12/15/2014	6-12	26.3	3410	36.4	126								
ML-N-16	12/15/2014	0-6	65.4	3060	26.6	1610								
ML-S-16	12/15/2014	0-6	95.8	3100	28.8	287								
ML-BG-16	12/15/2014	1	<25.0	3050	34.2	<25.0								
ML-CL-17	12/15/2014	0-6	216	3720	31.3	331								
IVIL-OL-17	12/15/2014	6-12	28.8	3320	36.5	45.9								
ML-N-17	12/15/2014	0-6	83.5	2780	22.2	356								
ML-S-17	12/15/2014	0-6	307	2600	22.9	1510								
ML-BG-17	12/15/2014	1	<25.0	2920	31.9	31.1								
ML-CL-18	12/15/2014	0-6	573	3940	32.2	1750								
IVIL-CL-10	12/15/2014	6-12	740	3740	34.4	232								
ML-N-18	12/15/2014	0-6	101	2910	22.7	655								
ML-S-18	12/15/2014	0-6	402	3380	24.2	1020								
ML-BG-18	12/15/2014	1	<25.0	3980	41.6	62.2								

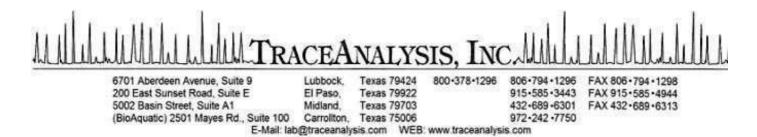
# TABLE 1 ENTERPRISE PERMAIN EXPANSION (Salt Lake Hydrotest Water) SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (inches)	Chloride (mg/kg)	lron (mg/kg)	Manganese (mg/kg)	Sulfate (mg/kg)								
New Mexico Department S		Residential Soil	NE	23,500	3,590	NE								
Lev		Construction Worker	NE	92,900	150	NE								
Monsanto Lane														
ML-CL-19	12/15/2014	0-6	198	3480	30.7	336								
IVIL-CL-19	12/15/2014	6-12	94.2	3220	26.4	63.3								
ML-N-19	12/15/2014	0-6	168	4140	29.1	1000								
ML-S-19	12/15/2014	0-6	90.2	2520	17.9	1890								
ML-BG-19	12/15/2014	1	<25.0	2960	26.0	29.5								
ML-CL-20	12/15/2014	0-6	244	3830	28.7	1300								
WIL-CL-20	12/15/2014	6-12	480	3610	31.7	1080								
ML-N-20	12/15/2014	0-6	140	3900	28.8	1120								
ML-S-20	12/15/2014	0-6	163	4650	38.5	1180								
ML-BG-20	12/15/2014	1	<25.0	2370	24.8	<25.0								
ML-CL-21	12/15/2014	0-6	1310	5440	42.9	747								
IVIL-UL-Z I	12/15/2014	6-12	688	3650	29.5	263								
ML-N-21	12/15/2014	0-6	105	3130	23.4	1900								
ML-S-21	12/15/2014	0-6	188	2970	21.2	1740								
ML-BG-21	12/15/2014	1	<25.0	3360	28.8	<25.0								
ML-CL-22	12/15/2014	0-6	<25.0	3690	31.9	37.3								
IVIL-GL-22	12/15/2014	6-12	<25.0	3550	33.0	25.1								
ML-N-22	12/15/2014	0-6	26.0	2550	19.5	296								
ML-S-22	12/15/2014	0-6	31.2	2160	16.9	106								
ML-BG-22	12/15/2014	1	<25.0	3940	41.0	44.2								



## **APPENDIX C**

Laboratory Data Reports & Chain-of-Custody Documentation



### Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

Liz Scaggs APEX/Titan 2351 W. Northwest Hwy. Suite 3321 Dallas, Tx, 75220

Report Date: January 14, 2015

Work Order: 14121803

Project Name: Enterprise Permian Expansion

Project Number: 7020114G292

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	$\operatorname{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
382694	ML-CL-1 0-6 in	soil	2014-12-15	11:08	2014-12-16
382695	ML-CL-1 6-12	soil	2014-12-15	11:18	2014-12-16
382696	ML-N-1 0-6 in	soil	2014-12-15	10:50	2014-12-16
382697	ML-S-1 0-6 in	soil	2014-12-15	11:15	2014-12-16
382698	ML- $BG$ -1 1 in	soil	2014-12-15	11:03	2014-12-16
382699	ML- $CL$ -2 0-6 in	soil	2014-12-15	11:21	2014-12-16
382700	ML-CL-2 6-12	soil	2014-12-15	11:26	2014-12-16
382701	ML-N-2 0-6 in	soil	2014-12-15	11:37	2014-12-16
382702	ML-S-2 0-6 in	soil	2014-12-15	11:35	2014-12-16
382703	ML-BG 2 1 in	soil	2014-12-15	11:33	2014-12-16
382704	ML- $CL$ -3 0-6 in	soil	2014-12-15	11:45	2014-12-16
382705	ML-CL-3 6-12	soil	2014-12-15	11:50	2014-12-16
382706	ML-N-3 0-6 in	soil	2014-12-15	11:59	2014-12-16
382707	ML-S-3 0-6 in	soil	2014-12-15	11:54	2014-12-16
382708	ML- $BG$ - $3$ 1 in	soil	2014-12-15	11:57	2014-12-16
382709	ML- $CL$ -4 0-6 in	soil	2014-12-15	12:07	2014-12-16
382710	ML-CL-4 6-12	soil	2014-12-15	12:10	2014-12-16
382711	ML-N-4 0-6 in	soil	2014-12-15	12:19	2014-12-16

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
382712	ML-S-4 0-6 in	soil	2014-12-15	12:16	2014-12-16
382713	ML-BG-4 1 in	soil	2014-12-15	12:11	2014-12-16
382714	ML-CL-5 0-6 in	soil	2014-12-15	12:30	2014-12-16
382715	ML-CL-5 6-12	soil	2014-12-15	12:32	2014-12-16
382716	ML-N-5 0-6 in	soil	2014-12-15	12:40	2014-12-16
382717	ML-S-5 0-6 in	soil	2014-12-15	12:37	2014-12-16
382718	ML-BG-5 1 in	soil	2014-12-15	12:31	2014-12-16
382719	ML- $CL$ -6 0-6 in	soil	2014-12-15	12.54	2014-12-16
382720	ML-CL-6 6-12	soil	2014-12-15	12.57	2014-12-16
382721	ML-N-6 0-6 in	soil	2014-12-15	13:02	2014-12-16
382722	ML-S-6 0-6 in	soil	2014-12-15	13:05	2014-12-16
382723	ML-BG-6 1 in	soil	2014-12-15	12:51	2014-12-16
382724	ML- $CL$ -7 0-6 in	soil	2014-12-15	13:18	2014-12-16
382725	ML-CL-7 6-12	soil	2014-12-15	13:22	2014-12-16
382726	ML-N-7 0-6 in	soil	2014-12-15	13:29	2014-12-16
382727	ML-S-7 0-6 in	soil	2014-12-15	13:25	2014-12-16
382728	ML-BG-7 1 in	soil	2014-12-15	13:20	2014-12-16
382729	ML- $CL$ -8 0-6 in	soil	2014-12-15	13:35	2014-12-16
382730	ML-CL-8 6-12	soil	2014-12-15	13:40	2014-12-16
382731	ML-N-8 0-6 in	soil	2014-12-15	13:49	2014-12-16
382732	ML-S-8 0-6 in	soil	2014-12-15	13:45	2014-12-16
382733	ML-BG-8 1 in	soil	2014-12-15	13:44	2014-12-16
382734	ML-CL-9 0-6 in	soil	2014-12-15	13:58	2014-12-16
382735	ML-CL-9 6-12	soil	2014-12-15	14:03	2014-12-16
382736	ML-N-9 0-6 in	soil	2014-12-15	14:09	2014-12-16
382737	ML-S-9 0-6 in	soil	2014-12-15	14:06	2014-12-16
382738	ML-BG-9 1 in	soil	2014-12-15	14:02	2014-12-16
382739	ML- $CL$ -10 0-6 in	soil	2014-12-15	14:24	2014-12-16
382740	ML-CL-10 6-12	soil	2014-12-15	14:30	2014-12-16
382741	ML-N-10 0-6 in	soil	2014-12-15	14:32	2014-12-16
382742	ML-S-10 0-6 in	soil	2014-12-15	14:34	2014-12-16
382743	ML-BG-10 1 in	soil	2014-12-15	14:23	2014-12-16
382744	ML-CL-11 0-6 in	soil	2014-12-15	14:45	2014-12-16
382745	ML-CL-11 6-12in	soil	2014-12-15	14:27	2014-12-16
382746	ML-N-11 0-6 in	soil	2014-12-15	14:42	2014-12-16
382747	ML-S-11 0-6 in	soil	2014-12-15	14:49	2014-12-16
382748	ML-BG-11 1 in	soil	2014-12-15	14:46	2014-12-16
382749	ML-CL-12 0-6 in	soil	2014-12-15	14:58	2014-12-16
382750	ML-CL-12 6-12 in	soil	2014-12-15	15:03	2014-12-16
382751	ML-N-12 0-6 in	soil	2014-12-15	15:02	2014-12-16
382752	ML-S-12 0-6 in	soil	2014-12-15	15:05	2014-12-16
382753	ML-BG-12	soil	2014-12-15	15:00	2014-12-16
382754	ML-CL-13 0-6 in	soil	2014-12-15	15:15	2014-12-16
382755	ML-CL-13 6-12	soil	2014-12-15	15:18	2014-12-16
382756	ML-N-13 0-6 in	soil	2014-12-15	15:21	2014-12-16
382757	ML-S-13 0-6 in	soil	2014-12-15	15:19	2014-12-16
004101	MT-0-19 0-0 III	Page 9		10.13	2014-12-10

Page 2 of 189

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
382758	ML-BG-13 1 in	soil	2014-12-15	15:17	2014-12-16
382759	ML- $CL$ -14 0-6 in	soil	2014-12-15	15:28	2014-12-16
382760	ML-CL-14 6-12	soil	2014-12-15	15:29	2014-12-16
382761	ML-N-14 0-6 in	soil	2014-12-15	15:33	2014-12-16
382762	ML-s-14 0-6 in	soil	2014-12-15	15:31	2014-12-16
382763	ML-BG-14 1 in	soil	2014-12-15	15:32	2014-12-16
382764	ML- $CL$ -15 0-6 in	soil	2014-12-15	15:39	2014-12-16
382765	ML-CL-15 6-12	soil	2014-12-15	15:43	2014-12-16
382766	ML-N-15~0-6~in	soil	2014-12-15	15:37	2014-12-16
382767	ML-S-15 0-6 in	soil	2014-12-15	15:45	2014-12-16
382768	ML-BG-15 1 in	soil	2014-12-15	15:44	2014-12-16
382769	ML- $CL$ -16 0-6 in	soil	2014-12-15	15:54	2014-12-16
382770	ML-CL-16 6-12	soil	2014-12-15	15:57	2014-12-16
382771	ML-N-16 0-6 in	soil	2014-12-15	16:01	2014-12-16
382772	ML-S-16 0-6 in	soil	2014-12-15	15:39	2014-12-16
382773	ML-BG-16 1 in	soil	2014-12-15	15:55	2014-12-16
382774	ML- $CL$ -17 0-6 in	soil	2014-12-15	16:07	2014-12-16
382775	ML-CL-17 6-12	soil	2014-12-15	16:11	2014-12-16
382776	ML-N-17 0-6 in	soil	2014-12-15	16:14	2014-12-16
382777	ML-S-17 0-6 in	soil	2014-12-15	16:13	2014-12-16
382778	ML- $BG$ - $171$ in	soil	2014-12-15	16:09	2014-12-16
382779	ML- $CL$ -18 0-6 in	soil	2014-12-15	16:22	2014-12-16
382780	ML-CL-18 6-12	soil	2014-12-15	16:23	2014-12-16
382781	ML-N-18~0-6~in	soil	2014-12-15	16:26	2014-12-16
382782	ML-S-18 0-6 in	soil	2014-12-15	16:25	2014-12-16
382783	ML-BG-18 1 in	soil	2014-12-15	16:27	2014-12-16
382784	ML- $CL$ -20 0-6 in	soil	2014-12-15	16:46	2014-12-16
382785	ML-CL-20 6-12	soil	2014-12-15	16:48	2014-12-16
382786	$ML-N-20\ 0-6\ in$	soil	2014-12-15	16:50	2014-12-16
382787	ML-S-20 0-6 in	soil	2014-12-15	16:49	2014-12-16
382788	$ML-BG-20\ 1$ in	soil	2014-12-15	16:51	2014-12-16
382789	ML-CL-19 0-6 in	soil	2014-12-15	16:36	2014-12-16
382790	ML-CL-19 6-12	soil	2014-12-15	16:37	2014-12-16
382791	ML-N-19 0-6 in	soil	2014-12-15	16:34	2014-12-16
382792	ML-S-19 0-6 in	soil	2014-12-15	16:38	2014-12-16
382793	ML-BG-19 1 in	soil	2014-12-15	16:39	2014-12-16
382794	ML-CL-21 0-6 in	soil	2014-12-15	16:58	2014-12-16
382795	ML-CL-21 6-12	soil	2014-12-15	16:59	2014-12-16
382796	ML-N-21 0-6 in	soil	2014-12-15	17:01	2014-12-16
382797	ML-S-21 0-6 in	soil	2014-12-15	17:00	2014-12-16
382798	ML-BG-21 1 in	soil	2014-12-15	17:02	2014-12-16
382799	ML-CL-22 0-6 in	soil	2014-12-15	17:01	2014-12-16
382800	ML-CL-22 6-12	soil	2014-12-15	17:10	2014-12-16
382801	ML-N-22 0-6 in	soil	2014-12-15	17:11	2014-12-16
382802	ML-S-22 0-6 in	soil	2014-12-15	17:13	2014-12-16
382803	ML-BG-22 1 in	soil	2014-12-15	17:12	2014-12-16
552000	MIL DO 22 1 III	Page 3		11.14	2017-12-10

Page 3 of 189

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 189 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

## Report Contents

Case Narrative	<b>12</b>
Analytical Report	14
Sample 382694 (ML-CL-1 0-6 in)	14
Sample 382695 (ML-CL-1 6-12)	
Sample 382696 (ML-N-1 0-6 in)	
Sample 382697 (ML-S-1 0-6 in)	
Sample 382698 (ML-BG-1 1 in)	
Sample 382699 (ML-CL-2 0-6 in)	
Sample 382700 (ML-CL-2 6-12)	
Sample 382701 (ML-N-2 0-6 in)	21
Sample 382702 (ML-S-2 0-6 in)	23
Sample 382703 (ML-BG 2 1 in)	24
Sample 382704 (ML-CL-3 0-6 in)	25
Sample 382705 (ML-CL-3 6-12)	26
Sample 382706 (ML-N-3 0-6 in)	27
Sample 382707 (ML-S-3 0-6 in)	28
Sample 382708 (ML-BG-3 1 in)	
Sample 382709 (ML-CL-4 0-6 in)	
Sample 382710 (ML-CL-4 6-12)	
Sample 382711 (ML-N-4 0-6 in)	
Sample 382712 (ML-S-4 0-6 in)	
Sample 382713 (ML-BG-4 1 in)	
Sample 382714 (ML-CL-5 0-6 in)	
Sample 382715 (ML-CL-5 6-12)	
Sample 382716 (ML-N-5 0-6 in)	
Sample 382717 (ML-S-5 0-6 in)	
Sample 382718 (ML-BG-5 1 in)	
Sample 382719 (ML-CL-6 0-6 in)	
Sample 382720 (ML-CL-6 6-12)	
Sample 382721 (ML-N-6 0-6 in)	
Sample 382722 (ML-S-6 0-6 in)	
Sample 382723 (ML-BG-6 1 in)	
Sample 382724 (ML-CL-7 0-6 in)	
Sample 382725 (ML-CL-7 6-12)	
Sample 382726 (ML-N-7 0-6 in)	
Sample 382727 (ML-S-7 0-6 in)	
Sample 382728 (ML-BG-7 1 in)	49
Sample 382729 (ML-CL-8 0-6 in)	50
Sample 382730 (ML-CL-8 6-12)	51
Sample 382731 (ML-N-8 0-6 in)	
Sample 382732 (ML-S-8 0-6 in)	
Sample 382733 (ML-BG-8 1 in)	54
Sample 382734 (ML-CL-9 0-6 in)	55
Sample 382735 (ML-CL-9 6-12)	
Sample 382736 (ML-N-9 0-6 in)	57
1 age 9 01 109	

Sample 382737 (ML-S-9 0-6 in)	58
Sample 382738 (ML-BG-9 1 in)	
Sample 382739 (ML-CL-10 0-6 in)	
Sample 382740 (ML-CL-10 6-12)	61
Sample 382741 (ML-N-10 0-6 in)	62
Sample 382742 (ML-S-10 0-6 in)	63
Sample 382743 (ML-BG-10 1 in)	64
Sample 382744 (ML-CL-11 0-6 in)	65
Sample 382745 (ML-CL-11 6-12in)	66
Sample 382746 (ML-N-11 0-6 in)	67
Sample 382747 (ML-S-11 0-6 in)	68
Sample 382748 (ML-BG-11 1 in)	69
Sample 382749 (ML-CL-12 0-6 in)	70
Sample 382750 (ML-CL-12 6-12 in)	71
Sample 382751 (ML-N-12 0-6 in)	72
Sample 382752 (ML-S-12 0-6 in)	73
Sample 382753 (ML-BG-12)	74
Sample 382754 (ML-CL-13 0-6 in)	75
Sample 382755 (ML-CL-13 6-12)	76
Sample 382756 (ML-N-13 0-6 in)	77
Sample 382757 (ML-S-13 0-6 in)	78
Sample 382758 (ML-BG-13 1 in)	
Sample 382759 (ML-CL-14 0-6 in)	
Sample 382760 (ML-CL-14 6-12)	
Sample 382761 (ML-N-14 0-6 in)	
Sample 382762 (ML-s-14 0-6 in)	
Sample 382763 (ML-BG-14 1 in)	
Sample 382764 (ML-CL-15 0-6 in)	
Sample 382765 (ML-CL-15 6-12)	
Sample 382766 (ML-N-15 0-6 in)	
Sample 382767 (ML-S-15 0-6 in)	
Sample 382768 (ML-BG-15 1 in)	
Sample 382769 (ML-CL-16 0-6 in)	
Sample 382770 (ML-CL-16 6-12)	
Sample 382771 (ML-N-16 0-6 in)	
Sample 382772 (ML-S-16 0-6 in)	
Sample 382773 (ML-BG-16 1 in)	
Sample 382774 (ML-CL-17 0-6 in)	95
Sample 382775 (ML-CL-17 6-12)	96
Sample 382776 (ML-N-17 0-6 in)	97
Sample 382777 (ML-S-17 0-6 in)	98
Sample 382778 (ML-BG-17 1 in)	99
Sample 382779 (ML-CL-18 0-6 in)	100
Sample 382780 (ML-CL-18 6-12)	101
Sample 382781 (ML-N-18 0-6 in)	102
Sample 382782 (ML-S-18 0-6 in)	
Sample 382783 (ML-BG-18 1 in )	
Sample 382784 (ML-CL-20 0-6 in)	
, , , , , , , , , , , , , , , , , , , ,	

Page 6 of 189

Sample 382785 (ML-CL-20 6-12 )	. 106
Sample 382786 (ML-N-20 0-6 in)	. 107
Sample 382787 (ML-S-20 0-6 in)	
Sample 382788 (ML-BG-20 1 in)	
Sample 382789 (ML-CL-19 0-6 in)	
Sample 382790 (ML-CL-19 6-12)	
• '	
Sample 382791 (ML-N-19 0-6 in)	
Sample 382792 (ML-S-19 0-6 in)	
Sample 382793 (ML-BG-19 1 in)	
Sample 382794 (ML-CL-21 0-6 in)	
Sample 382795 (ML-CL-21 6-12)	
Sample 382796 (ML-N-21 0-6 in)	. 117
Sample 382797 (ML-S-21 0-6 in)	. 118
Sample 382798 (ML-BG-21 1 in)	. 119
Sample 382799 (ML-CL-22 0-6 in)	. 120
Sample 382800 (ML-CL-22 6-12)	
Sample 382801 (ML-N-22 0-6 in)	
Sample 382802 (ML-S-22 0-6 in)	
Sample 382803 (ML-BG-22 1 in)	
bampic 602000 (ML DO 22 1 m)	. 124
Method Blanks	125
QC Batch 118428 - Method Blank (1)	
QC Batch 118437 - Method Blank (1)	
QC Batch 118437 - Method Blank (1)	
QC Batch 118438 - Method Blank (1)	
•	
QC Batch 118439 - Method Blank (1)	
QC Batch 118439 - Method Blank (1)	
QC Batch 118442 - Method Blank (1)	
QC Batch 118442 - Method Blank (1)	
QC Batch 118464 - Method Blank (1)	
QC Batch 118470 - Method Blank (1)	
QC Batch 118479 - Method Blank (1)	. 128
QC Batch 118482 - Method Blank (1)	. 128
QC Batch 118484 - Method Blank (1)	. 128
QC Batch 118486 - Method Blank (1)	. 128
QC Batch 118489 - Method Blank (1)	. 129
QC Batch 118490 - Method Blank (1)	100
QC Batch 118527 - Method Blank (1)	
QC Batch 118531 - Method Blank (1)	
QC Batch 118531 - Method Blank (1)	
QC Batch 118533 - Method Blank (1)	
·	
QC Batch 118533 - Method Blank (1)	
QC Batch 118536 - Method Blank (1)	
QC Batch 118536 - Method Blank (1)	
QC Batch 118551 - Method Blank (1)	
QC Batch 118564 - Method Blank (1)	
QC Batch 118564 - Method Blank (1)	. 131

Method Blank	(1) .																132
Method Blank	(1) .																132
Method Blank	(1).																132
	` /																
	` /																
	· /																
	( /																
	` /																
	\ /																
	` /																
	` /																
	· /																
Method Blank	(1) .																135
~																	
																	136
\ /																	
LCS (1)																	136
LCS (1)																	137
LCS (1)																	137
LCS (1)																	137
\ /																	
\ /																	
( )																	
( /																	
( /																	
( )																	
( )																	
( )																	
( )																	
( )																	
( )																	
\ /																	
LCS (1)																	144
LCS (1)																	144
LCS (1)																	145
LCS (1)																	145
																	145
																	146
																	146
\ /																	146
\ /																	147
( )																	147
( )											• •				• • •		147
	Method Blank Comparison Method Blank Method	Method Blank (1) .  Spikes  LCS (1)  LCS (1)	Method Blank (1)	Method Blank (1)  Spikes  LCS (1)  LCS	Method Blank (1)  Spikes  LCS (1)  LCS (1)	Method Blank (1)  Spikes LCS (1) LCS	Method Blank (1) Method	Method Blank (1)  Spikes LCS (1) LCS (	Method Blank (1)  Spikes  LCS (1) LCS (	Method Blank (1) LOS (1) LCS	Method Blank (1) LCS	Method Blank (1) LCS	Method Blank (1) Method	Method Blank (1) Method	Method Blank (1)  Spikes LCS (1) LCS (1	Method Blank (1) Method	LCS (1)

QC Batch 118589 - LCS (1)	 	 	 	 148
QC Batch 118590 - LCS (1)	 	 	 	 148
QC Batch 118590 - LCS (1)	 	 	 	 149
QC Batch 118620 - LCS (1)	 	 	 	 149
QC Batch 118620 - LCS (1)	 	 	 	 149
QC Batch 118639 - LCS (1)	 	 	 	 150
QC Batch 118639 - LCS (1)	 	 	 	 150
NA-4				150
Matrix Spikes QC Batch 118428 - xMS (1)				1 <b>52</b> 152
QC Batch 118437 - MS (1)				
QC Batch 118437 - MS (1)				
QC Batch 118438 - MS (1)				
QC Batch 118438 - MS (1)				
QC Batch 118439 - MS (1)				
QC Batch 118439 - MS (1)				
QC Batch 118442 - MS (1)				
QC Batch 118442 - MS (1)				
QC Batch 118464 - xMS (1)				
QC Batch 118470 - MS (1)				
QC Batch 118479 - MS (1)				
QC Batch 118482 - MS (1)				
QC Batch 118484 - MS (1)				
QC Batch 118486 - MS (1)				
QC Batch 118489 - MS (1)				
QC Batch 118490 - MS (1)				
QC Batch 118527 - MS (1)				
QC Batch 118531 - MS (1)				
QC Batch 118531 - MS (1)				
QC Batch 118533 - MS (1)				
QC Batch 118533 - MS (1)				
QC Batch 118536 - MS (1)				
QC Batch 118536 - MS (1)				. 11
QC Batch 118551 - MS (1)	 	 	 	 161
QC Batch 118564 - MS (1)				
QC Batch 118564 - MS (1)	 	 	 	 161
QC Batch 118565 - MS (1)	 	 	 	 162
QC Batch 118565 - MS (1)	 			1.00
QC Batch 118574 - MS (1)	 	 	 	 162
QC Batch 118588 - MS (1)	 	 	 	 163
QC Batch 118588 - MS (1)	 	 	 	 163
QC Batch 118589 - MS (1)	 	 	 	 164
QC Batch 118589 - MS (1)	 	 	 	 164
QC Batch 118590 - MS (1)	 	 	 	 164
QC Batch 118590 - MS (1)	 	 	 	 165
QC Batch 118620 - MS (1)	 	 	 	 165
QC Batch 118620 - MS (1)	 	 	 	 165
QC Batch 118639 - MS (1)	 	 	 	 166

QC Batch	118639 -	MS (1)	 	166						
Calibration	Standar	$^{ m ds}$								168
QC Batch	118428 -	ICV (1)	 	168						
QC Batch	118428 -	CCV(1)	 	168						
QC Batch		\ /	 	168						
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
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QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch		\ /								
QC Batch	118442 -	CCV(2)	 	171						
QC Batch	118442 -	CCV(2)	 	172						
QC Batch	118464 -	ICV (1)	 	172						
QC Batch	118464 -	CCV (1)	 	172						
QC Batch	118470 -	ICV (1)	 	172						
QC Batch	118470 -	CCV (1)	 	173						
QC Batch	118479 -	ICV (1)	 	173						
QC Batch		\ /								
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QC Batch		\ /								
•		( )								
QC Batch		( /								
QC Batch		\ /								
QC Batch		( )								
QC Batch		` '	 	176						
QC Batch		` '	 	176						
QC Batch		` '	 	177						
QC Batch		\ /	 	177						
QC Batch		\ /	 	177						
QC Batch	118533 -	CCV(1)	 	177						
QC Batch	118533 -	CCV (1)	 	178						
QC Batch	118533 -	CCV (2)	 	178						
QC Batch		` '	 	178						
QC Batch		1 1	 	178						

Page 10 of 189

QC Batch 118536 - CCV (1)	. 179
QC Batch 118536 - CCV (2)	. 179
QC Batch 118536 - CCV (2)	. 179
QC Batch 118551 - ICV (1)	. 179
QC Batch 118551 - CCV (1)	. 180
QC Batch 118564 - CCV (1)	. 180
QC Batch 118564 - CCV (1)	. 180
QC Batch 118564 - CCV (2)	. 180
QC Batch 118564 - CCV (2)	. 181
QC Batch 118565 - CCV (1)	. 181
QC Batch 118565 - CCV (1)	. 181
QC Batch 118565 - CCV (2)	. 181
QC Batch 118565 - CCV (2)	. 182
QC Batch 118574 - ICV (1)	. 182
QC Batch 118574 - CCV (1)	. 182
QC Batch 118588 - CCV (1)	. 182
QC Batch 118588 - CCV (1)	
QC Batch 118588 - CCV (2)	
QC Batch 118588 - CCV (2)	. 183
QC Batch 118589 - CCV (1)	
QC Batch 118589 - CCV (1)	_
QC Batch 118589 - CCV (2)	_
QC Batch 118589 - CCV (2)	. 184
QC Batch 118590 - CCV (1)	
QC Batch 118590 - CCV (1)	
QC Batch 118590 - CCV (2)	
QC Batch 118590 - CCV (2)	
QC Batch 118620 - CCV (1)	
QC Batch 118620 - CCV (1)	
QC Batch 118620 - CCV (2)	
QC Batch 118620 - CCV (2)	
QC Batch 118639 - CCV (1)	
QC Batch 118639 - CCV (1)	
QC Batch 118639 - CCV (2)	
QC Batch 118639 - CCV (2)	. 187
Appendix	188
Report Definitions	
Laboratory Certifications	
Standard Flags	
Result Comments	
Attachments	. 189

## Case Narrative

Samples for project Enterprise Permian Expansion were received by TraceAnalysis, Inc. on 2014-12-16 and assigned to work order 14121803. Samples for work order 14121803 were received intact at a temperature of  $4.8~\mathrm{C}$ .

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	100147	2015-01-05 at 11:00	118437	2015-01-05 at 12:11
Chloride (IC)	E 300.0	100150	2015-01-05 at 11:00	118438	2015-01-05 at $17:20$
Chloride (IC)	E 300.0	100151	2015-01-05 at 11:00	118439	2015-01-05 at 11:00
Chloride (IC)	E 300.0	100152	2015-01-05 at 11:00	118442	2015-01-05 at $17:20$
Chloride (IC)	E~300.0	100220	2015-01-06 at 12:00	118531	2015-01-06 at 15:06
Chloride (IC)	E~300.0	100222	2015-01-06 at 12:00	118533	2015-01-06 at 15:06
Chloride (IC)	E 300.0	100223	2015-01-06 at 12:00	118536	2015-01-08 at 15:06
Chloride (IC)	E~300.0	100249	2015-01-09 at $13:05$	118564	2015-01-09 at 17:03
Chloride (IC)	E~300.0	100250	2015-01-09 at $13:05$	118565	2015-01-09 at 17:03
Chloride (IC)	E 300.0	100268	2015-01-12 at 13:30	118588	2015-01-12 at 14:16
Chloride (IC)	E~300.0	100269	2015-01-12 at 13:30	118589	2015-01-12 at 14:16
Chloride (IC)	E 300.0	100270	2015-01-12 at 13:30	118590	2015-01-12 at 14:16
Chloride (IC)	E 300.0	100297	2015-01-13 at 14:00	118620	2015-01-13 at 17:12
Chloride (IC)	E 300.0	100314	2015-01-14 at 08:00	118639	2015-01-14 at 08:44
Fe, Total	$S_{6010C}$	100003	2014-12-28 at 13:59	118464	2015-01-07 at 13:30
Fe, Total	$S_{6010C}$	100016	2014-12-29 at 11:54	118479	2015-01-08 at $08:47$
Fe, Total	$S_{6010C}$	100017	2014-12-29 at 11:55	118527	2015-01-08 at 15:29
Fe, Total	$S_{6010C}$	100052	2014-12-30 at 11:11	118551	2015-01-09 at 14:22
Fe, Total	$S_{6010C}$	100054	2014-12-30 at 11:47	118574	2015-01-09 at 12:02
Fe, Total	$S_{6010C}$	100094	2015-01-05 at 11:25	118490	2015-01-07 at 15:42
Mn, Total	$S_{6010C}$	100003	2014-12-28 at 13:59	118428	2015-12-31 at 16:55
Mn, Total	$S_{6010C}$	100016	2014-12-29 at 11:54	118470	2015-01-07 at 14:38
Mn, Total	$S_{6010C}$	100017	2014-12-29 at 11:55	118482	2015-01-08 at 10:25
Mn, Total	$S_{6010C}$	100052	2014-12-30 at 11:11	118484	2015-01-08 at 10:56
Mn, Total	$S_{6010C}$	100054	2014-12-30 at 11:47	118486	2015-01-08 at 11:14
Mn, Total	$S_{6010C}$	100094	2015-01-05 at 11:25	118489	2015-01-07 at 15:42
SO4 (IC)	E 300.0	100147	2015-01-05 at 11:00	118437	2015-01-05 at 12:11
SO4 (IC)	E 300.0	100150	2015-01-05 at 11:00	118438	2015-01-05 at 17:20
SO4 (IC)	E 300.0	100151	2015-01-05 at 11:00	118439	2015-01-05 at 11:00
SO4 (IC)	E 300.0	100152	2015-01-05 at 11:00	118442	2015-01-05 at 17:20
SO4 (IC)	E 300.0	100220	2015-01-06 at 12:00	118531	2015-01-06 at 15:06
SO4 (IC)	E 300.0	100222	2015-01-06 at 12:00	118533	2015-01-06 at 15:06
SO4 (IC)	E 300.0	100223	2015-01-06 at 12:00	118536	2015-01-08 at 15:06
SO4 (IC)	E 300.0	100249	2015-01-09 at 13:05	118564	2015-01-09 at 17:03
SO4 (IC)	E 300.0	100250	2015-01-09 at 13:05	118565	2015-01-09 at 17:03
SO4 (IC)	E 300.0	100268	2015-01-12 at 13:30	118588	2015-01-12 at 14:16
SO4 (IC)	E 300.0	100269	2015-01-12 at 13:30	118589	2015-01-12 at 14:16
SO4 (IC)	E 300.0	100270	2015-01-12 at 13:30	118590	2015-01-12 at 14:16

Page 12 of 189

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
SO4 (IC)	E 300.0	100297	2015-01-13 at 14:00	118620	2015-01-13 at 17:12
SO4 (IC)	E 300.0	100314	2015-01-14 at 08:00	118639	2015-01-14 at 08:44

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 14121803 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Page Number: 14 of 189

Work Order: 14121803 Report Date: January 14, 2015

7020114G292Enterprise Permian Expansion

## **Analytical Report**

Sample: 382694 - ML-CL-1 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 2015-01-09 Analyzed By: RL118565 Prepared By: RL

Prep Batch: 100250 Sample Preparation:

RLUnits Parameter Flag Cert Result Dilution RLChloride 240 mg/Kg 25.0 3,4,5

Sample: 382694 - ML-CL-1 0-6 in

Laboratory: Lubbock

Analysis: Fe, Total Analytical Method: S 6010C Prep Method: S 3050B QC Batch: 118464 Date Analyzed: 2015-01-07 Analyzed By: RRPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Parameter Flag  $\operatorname{Cert}$ Result Units RLTotal Iron 1,2,3,4,5 6080 mg/Kg 100 0.500Qs

Sample: 382694 - ML-CL-1 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050B QC Batch: 118428 Date Analyzed: 2015-12-31 Analyzed By: LMPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLParameter Flag Cert Result Units Dilution RLTotal Manganese 44.3 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382694 - ML-CL-1 0-6 in

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100250 Sample Preparation: Prepared By: RL

Report Date: January 14, 2015

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 15 of 189

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Sulfate		3,4,5	256	m mg/Kg	2	25.0

Sample: 382695 - ML-CL-1 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 118565 Prep Batch: 100250

Analytical Method: E 300.0Date Analyzed: 2015-01-09

Sample Preparation:

Prep Method: N/A Analyzed By: RLPrepared By: RL

			RL			
Parameter	Flag	$\operatorname{Cert}$	Result	Units	Dilution	RL
Chloride		3,4,5	247	${ m mg/Kg}$	2	25.0

Sample: 382695 - ML-CL-1 6-12

Laboratory: Lubbock

Analysis:

QC Batch:

Fe, Total 118464 Prep Batch: 100003

Analytical Method: S 6010C Date Analyzed: 2015-01-07 Sample Preparation: 2014-12-29

Prep Method: S 3050B Analyzed By: RRPrepared By: RR

RLUnits Dilution Parameter Flag Cert Result RLTotal Iron 4080 mg/Kg 100 0.5001,2,3,4,5  $_{\mathrm{Qs}}$ 

Sample: 382695 - ML-CL-1 6-12

Laboratory:

Lubbock Mn, Total

Analysis: QC Batch: 118428 Prep Batch: 100003

Analytical Method: S 6010C Date Analyzed: 2015-12-31 2014-12-29 Sample Preparation:

Prep Method: S 3050B Analyzed By: LMPrepared By: LM

RLUnits Dilution RLParameter Flag Cert Result 43.92.00 Total Manganese mg/Kg Qs 1,2,3,4,5

Report Date: January 14, 2015	Work Order: 14121803	Page Number: 16 of 189
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7020114G292 Enterprise Permian Expansion

Sample: 382695 - ML-CL-1 6-12

Laboratory: Lubbock Analysis: SO4 (IC)

Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100250 Sample Preparation:

RL $\operatorname{Cert}$ Result Dilution Parameter Flag Units RLSulfate  $\overline{159}$ 2 25.0 mg/Kg 3,4,5

Sample: 382696 - ML-N-1 0-6 in

Laboratory: Lubbock

E 300.0 Analysis: Chloride (IC) Analytical Method: Prep Method: N/A QC Batch: RL118588 Date Analyzed: 2015-01-12 Analyzed By: Prep Batch: 100268 Sample Preparation: Prepared By: RL

RLParameter Flag  $\operatorname{Cert}$ Result Units Dilution RLChloride 111 mg/Kg 25.0 3,4,5

Sample: 382696 - ML-N-1 0-6 in

Laboratory: Lubbock

Analysis: Fe, Total Analytical Method:  $S_{6010C}$ Prep Method:  $S_{3050B}$ QC Batch: 118464 Date Analyzed: 2015-01-07 Analyzed By: RRPrep Batch: 100003 2014-12-29 Prepared By: RRSample Preparation:

RLFlag Units Dilution Parameter Cert Result RL2770 Total Iron 100 1,2,3,4,5 mg/Kg 0.500 Qs

Sample: 382696 - ML-N-1 0-6 in

Laboratory: Lubbock

Mn, Total S 3050B Analysis: Analytical Method: S 6010C Prep Method: QC Batch: 118428 LMDate Analyzed: 2015-12-31 Analyzed By: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

 $continued \dots$ 

Report Date 7020114G29	e: January 14, 20 2	15	Work Order: 14121803 Enterprise Permian Expansion			Page Number: 17 of 18		
sample 3826	96 continued							
				RL				
Parameter		Flag	Cert	Result	Units	Dilution	RL	
				$\operatorname{RL}$				
Parameter		Flag	Cert	Result	Units	Dilution	RL	
Total Manga	nese	Qs	1,2,3,4,5	18.8	mg/Kg	1	2.00	
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock SO4 (IC) 118565 100250		Analytical Meth Date Analyzed: Sample Prepara	2015-01-	-09	Prep Method: Analyzed By: Prepared By:	N/A RL RL	
Parameter		Flag	Cert	Result	Units	Dilution	RL	
Sulfate			3,4,5	647	$\mathrm{mg}/\mathrm{Kg}$	2	25.0	
Sample: 38 Laboratory: Analysis: QC Batch:	2697 - ML-S-1  Lubbock Chloride (IC) 118565	0-6 in	Analytical Me Date Analyze			Prep Method: Analyzed By:	N/A	

Prep Batch:	100250		Sample Pr	eparation:		Prepared By:	KL
				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Chloride			3,4,5	288	$\mathrm{mg}/\mathrm{Kg}$	5	25.0

Laboratory:	Lubbock						
Analysis:	Fe, Total		Analytical Met	hod: S 6010C		Prep Method:	S 3050B
QC Batch:	118464		Date Analyzed	: 2015-01	-07	Analyzed By:	RR
Prep Batch:	100003		Sample Prepar	ation: 2014-12	-29	Prepared By:	RR
				RL			
Parameter		Flag	$\operatorname{Cert}$	Result	Units	Dilution	RL
Total Iron		Qs	1,2,3,4,5	5560	$\mathrm{mg/Kg}$	100	0.500
		-4°	-,-,0,1,0		0/118	100	

Sample: 382697 - ML-S-1 0-6 in

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 18 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382697 - ML-S-1 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118428 Date Analyzed: 2015-12-31 Analyzed By: LMPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

Parameter Result Units Dilution Flag Cert RLTotal Manganese 30.5mg/Kg 2.00 1,2,3,4,5 Qs

RL

Sample: 382697 - ML-S-1 0-6 in

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118565Date Analyzed: Analyzed By: RL2015-01-09 Prepared By: RL

Prep Batch: 100250 Sample Preparation:

RLFlag Dilution RLParameter  $\operatorname{Cert}$ Result Units Sulfate 3,4,5 459 mg/Kg 5 25.0

Sample: 382698 - ML-BG-1 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: RL118565 Date Analyzed: 2015 - 01 - 09Analyzed By: Prep Batch: 100250 Prepared By: RLSample Preparation:

RLUnits Parameter Flag Cert Result Dilution RLChloride 55.0 25.0 3,4,5 mg/Kg

Sample: 382698 - ML-BG-1 1 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: Analyzed By: QC Batch: 118464 2015-01-07 RRDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

 $continued \dots$ 

Report Date: January 14, 2015

Page Number: 19 of 189

Prep Method:

Analyzed By:

Prepared By:

N/A

RL

RL

7020114G292Enterprise Permian Expansion sample 382698 continued ... RLResult Parameter Flag  $\operatorname{Cert}$ Units Dilution RLRLParameter Result Units  $\operatorname{RL}$ Flag Cert Dilution Total Iron 3260 mg/Kg 100 0.500 1,2,3,4,5 Qs Sample: 382698 - ML-BG-1 1 inLaboratory: Lubbock Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050B 118428 QC Batch: Date Analyzed: 2015 - 12 - 31Analyzed By: LMPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RLUnits RLParameter Flag Cert Result Dilution 2.00 Total Manganese  $_{\mathrm{Qs}}$ 1,2,3,4,5 26.3 mg/Kg

Work Order: 14121803

Sample: 382698	- ML-BG-1 1 in
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Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 SO4 (IC) QC Batch: 118565 Date Analyzed: 2015-01-09

Prep Batch: 100250 Sample Preparation:

			$\operatorname{RL}$			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Sulfate		3,4,5	103	m mg/Kg	1	25.0

### Sample: 382699 - ML-CL-2 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100250 Prepared By: Sample Preparation: RL

RLParameter Flag Cert Result Units Dilution RLmg/KgChloride 100 2 25.0 3,4,5

Report Date: January 14, 2015 Work Order: 14121803 Page Number: 20 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382699 - ML-CL-2 0-6 in

Laboratory: Lubbock

Analysis: Fe, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118464 Date Analyzed: 2015-01-07 Analyzed By: RRPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Sample: 382699 - ML-CL-2 0-6 in

Laboratory: Lubbock

Prep Method: S 3050BAnalysis: Mn, Total Analytical Method: S 6010C QC Batch: 2015-12-31 118428 Date Analyzed: Analyzed By: LMPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

 $\begin{array}{ccc} & & & & RL \\ Parameter & Flag & Cert & Result \end{array}$ 

Sample: 382699 - ML-CL-2 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/ASO4 (IC) QC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100250 Sample Preparation: Prepared By: RL

Sample: 382700 - ML-CL-2 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 2015-01-09 Analyzed By: RL118565 Prep Batch: 100250 Sample Preparation: Prepared By: RL

 $continued \dots$ 

Report Date: January 14, 2015 7020114G292			Work Or Enterprise F	Page Number: 21 of 18			
sample 38270	$00\ continued\ \dots$						
				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
				$\operatorname{RL}$			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Chloride			3,4,5	275	$\mathrm{mg}/\mathrm{Kg}$	5	25.0
Sample: 38: Laboratory: Analysis:	<b>2700 - ML-C</b> Lubbock Fe, Total	L-2 6-12	Analytical Method	l: S 6010C		Prep Method:	S 3050B
QC Batch:	118464		Date Analyzed:	2015-01-07		Analyzed By:	RR
Prep Batch:	100003		Sample Preparation			Prepared By:	RR
				DI			
Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Total Iron		Qs	1,2,3,4,5	2050	mg/Kg	100	0.500
Sample: 38: Laboratory: Analysis: QC Batch: Prep Batch:	2700 - ML-C Lubbock Mn, Total 118428 100003	L-2 6-12	Analytical Metho Date Analyzed: Sample Preparati	2015-12-31		Prep Method: Analyzed By: Prepared By:	S 3050B LM LM
				$\operatorname{RL}$			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Total Manga	nese	Qs	1,2,3,4,5	19.0	m mg/Kg	1	2.00
Sample: 38	2700 - ML-C	L-2 6-12					
Laboratory: Analysis: QC Batch:	Lubbock SO4 (IC) 118565		Analytical Meth Date Analyzed:	od: E 300.0 2015-01-	09	Prep Metho Analyzed B	,
Prep Batch:	100250		Sample Prepara	tion:		Prepared B	
				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Sulfate			3,4,5	1480	$\mathrm{mg/Kg}$	5	25.0

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 22 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382701 - ML-N-2 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100250 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 96.725.0 mg/Kg 3,4,5

Sample: 382701 - ML-N-2 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 2920 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382701 - ML-N-2 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118428 2015-12-31 Analyzed By: LMDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 24.1mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382701 - ML-N-2 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100250 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 177 mg/Kg 1 25.03,4,5

Dilution

RL

2.00

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 23 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382702 - ML-S-2 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 93.425.0 mg/Kg 3,4,5

Sample: 382702 - ML-S-2 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Dilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 **2590** mg/Kg100 0.500 Qs

Sample: 382702 - ML-S-2 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050BQC Batch: 118428 2015-12-31 Analyzed By: LMDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Total Manganese 22.9mg/Kg Qs 1,2,3,4,5

Sample: 382702 - ML-S-2 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100250 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 700 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 24 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382703 - ML-BG 2 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100250 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382703 - ML-BG 2 1 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 1960 mg/Kg100 0.500 Qs

Sample: 382703 - ML-BG 2 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050BQC Batch: 118428 Date Analyzed: 2015-12-31 Analyzed By: LMPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 16.0 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382703 - ML-BG 2 1 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118565 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100250 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 34.7mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 25 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382704 - ML-CL-3 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 336 2 25.0 mg/Kg 3,4,5

Sample: 382704 - ML-CL-3 0-6 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units Parameter Flag  $\operatorname{Cert}$ Result RL3330 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382704 - ML-CL-3 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118428 2015-12-31 Analyzed By: LMDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 30.0 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382704 - ML-CL-3 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate  $\overline{476}$ mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 26 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382705 - ML-CL-3 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{288}$ 2 25.0 mg/Kg 3,4,5

Sample: 382705 - ML-CL-3 6-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Dilution Units RLParameter Flag  $\operatorname{Cert}$ Result 4990 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382705 - ML-CL-3 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050BQC Batch: 118428 2015-12-31 Analyzed By: LMDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 45.8mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382705 - ML-CL-3 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 130 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 27 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382706 - ML-N-3 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{144}$ 25.0 mg/Kg 3,4,5

Sample: 382706 - ML-N-3 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3500 mg/Kg100 0.500 Qs

Sample: 382706 - ML-N-3 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118428 2015-12-31 Analyzed By: LMDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 30.0 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382706 - ML-N-3 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 242 mg/Kg 1 25.03,4,5

Report Date: January 14, 2015	Work Order: 14121803	Page Number: 28 of 189
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7020114G292 Enterprise Permian Expansion

#### Sample: 382707 - ML-S-3 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 395 5 25.0 mg/Kg 3,4,5

#### Sample: 382707 - ML-S-3 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Result Units RLParameter Flag  $\operatorname{Cert}$ 6330 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

### Sample: 382707 - ML-S-3 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050BQC Batch: 118428 Date Analyzed: 2015-12-31 Analyzed By: LMPrep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 35.6 mg/Kg 2.00 Qs 1,2,3,4,5

#### Sample: 382707 - ML-S-3 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1730 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 29 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382708 - ML-BG-3 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 60.8 25.0 mg/Kg 3,4,5

Sample: 382708 - ML-BG-3 1 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 4720 mg/Kg100 0.500 Qs

Sample: 382708 - ML-BG-3 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118428 2015-12-31 Analyzed By: LMDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 23.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382708 - ML-BG-3 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 82.8 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 30 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382709 - ML-CL-4 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 216 5 25.0 mg/Kg 3,4,5

Sample: 382709 - ML-CL-4 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118464 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Dilution Units RLParameter Flag  $\operatorname{Cert}$ Result 3670 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382709 - ML-CL-4 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118428 2015-12-31 Analyzed By: LMDate Analyzed: Prep Batch: 100003 Sample Preparation: 2014-12-29 Prepared By: LM

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 30.0 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382709 - ML-CL-4 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1240 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 31 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382710 - ML-CL-4 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 2675 25.0 mg/Kg 3,4,5

Sample: 382710 - ML-CL-4 6-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3870 mg/Kg100 0.500 Qs

Sample: 382710 - ML-CL-4 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050BQC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 34.1mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382710 - ML-CL-4 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 807 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 32 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382711 - ML-N-4 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100268 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride **290** 25.0 mg/Kg 5 3,4,5

Sample: 382711 - ML-N-4 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 5530 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382711 - ML-N-4 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method: S 3050BQC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 37.8mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382711 - ML-N-4 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100268 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1060 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 33 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382712 - ML-S-4 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 400 5 25.0 mg/Kg 3,4,5

Sample: 382712 - ML-S-4 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 4040 mg/Kg100 0.500 Qs

Sample: 382712 - ML-S-4 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 34.3 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382712 - ML-S-4 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 571 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 34 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382713 - ML-BG-4 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 26.9 25.0 mg/Kg 3,4,5

Sample: 382713 - ML-BG-4 1 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3260 mg/Kg100 0.500 Qs

Sample: 382713 - ML-BG-4 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 31.3 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382713 - ML-BG-4 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 43.4 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 35 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382714 - ML-CL-5 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 80.0 2 25.0 mg/Kg 3,4,5

Sample: 382714 - ML-CL-5 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2710 mg/Kg100 0.500 Qs

Sample: 382714 - ML-CL-5 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 26.8 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382714 - ML-CL-5 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 360 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 36 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382715 - ML-CL-5 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{184}$ 2 25.0 mg/Kg 3,4,5

Sample: 382715 - ML-CL-5 6-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 4140 mg/Kg100 0.500 Qs

Sample: 382715 - ML-CL-5 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 41.2mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382715 - ML-CL-5 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 140 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 37 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382716 - ML-N-5 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 90.6 2 25.0 mg/Kg 3,4,5

Sample: 382716 - ML-N-5 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2360 mg/Kg100 0.500 Qs

Sample: 382716 - ML-N-5 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 18.5mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382716 - ML-N-5 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate  $\overline{523}$ mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 38 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382717 - ML-S-5 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 72.225.0 mg/Kg 3,4,5

Sample: 382717 - ML-S-5 0-6 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Dilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 1470mg/Kg100 0.500 Qs

Sample: 382717 - ML-S-5 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 12.8mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382717 - ML-S-5 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 291mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 39 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382718 - ML-BG-5 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382718 - ML-BG-5 1 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Dilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 1100 mg/Kg100 0.500 Qs

Sample: 382718 - ML-BG-5 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 12.5mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382718 - ML-BG-5 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 46.2 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 40 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382719 - ML-CL-6 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrepared By: RL

Prep Batch: 100297 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 570 25.0 mg/Kg 5 3,4,5

Sample: 382719 - ML-CL-6 0-6 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2750 mg/Kg100 0.500 Qs

Sample: 382719 - ML-CL-6 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 24.0mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382719 - ML-CL-6 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 9040 mg/Kg 50 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 41 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382720 - ML-CL-6 6-12

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrepared By: RL

Prep Batch: 100297 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 575 25.0 mg/Kg 5 3,4,5

Sample: 382720 - ML-CL-6 6-12

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2740 mg/Kg100 0.500 Qs

Sample: 382720 - ML-CL-6 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 23.1mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382720 - ML-CL-6 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 8420 mg/Kg 50 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 42 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382721 - ML-N-6 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100269 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{285}$ 25.0 mg/Kg 5 3,4,5

Sample: 382721 - ML-N-6 0-6 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3450 mg/Kg100 0.500 Qs

Sample: 382721 - ML-N-6 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 28.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382721 - ML-N-6 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118589 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100269 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate **2480** mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 43 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382722 - ML-S-6 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrepared By: RL

Prep Batch: 100297 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 62.225.0 mg/Kg 3,4,5

Sample: 382722 - ML-S-6 0-6 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLUnits Parameter Flag  $\operatorname{Cert}$ Result

Dilution RLTotal Iron 1,2,3,4,5 3410 mg/Kg100 0.500 Qs

Sample: 382722 - ML-S-6 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 26.2mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382722 - ML-S-6 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1660 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 44 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382723 - ML-BG-6 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382723 - ML-BG-6 1 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Dilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3130 mg/Kg100 0.500 Qs

Sample: 382723 - ML-BG-6 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 26.6 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382723 - ML-BG-6 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 57.7 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 45 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382724 - ML-CL-7 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrepared By: RL

Prep Batch: 100297 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 86.5 25.0 mg/Kg 3,4,5

Sample: 382724 - ML-CL-7 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2180 mg/Kg100 0.500 Qs

Sample: 382724 - ML-CL-7 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 18.3mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382724 - ML-CL-7 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 9810 mg/Kg 10 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 46 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382725 - ML-CL-7 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 380 25.0 mg/Kg 5 3,4,5

Sample: 382725 - ML-CL-7 6-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 6220 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382725 - ML-CL-7 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 64.1 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382725 - ML-CL-7 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 613 mg/Kg 5 25.03,4,5

RL

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 47 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382726 - ML-N-7 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 63.12 25.0 mg/Kg 3,4,5

Sample: 382726 - ML-N-7 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units Parameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 4760 mg/Kg100 0.500 Qs

Sample: 382726 - ML-N-7 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 53.3mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382726 - ML-N-7 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 501 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 48 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382727 - ML-S-7 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{204}$ 25.0 mg/Kg 5 3,4,5

Sample: 382727 - ML-S-7 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2750 mg/Kg100 0.500 Qs

Sample: 382727 - ML-S-7 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 20.8 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382727 - ML-S-7 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 3270 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 49 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382728 - ML-BG-7 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 93.42 25.0 mg/Kg 3,4,5

Sample: 382728 - ML-BG-7 1 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RL

Dilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 **2500** mg/Kg100 0.500 Qs

Sample: 382728 - ML-BG-7 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Analyzed By: RRDate Analyzed: 2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 24.9mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382728 - ML-BG-7 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 248 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 50 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382729 - ML-CL-8 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 1072 25.0 mg/Kg 3,4,5

Sample: 382729 - ML-CL-8 0-6 in

Laboratory: Lubbock

Fe, Total S 3050BAnalysis: Analytical Method: S 6010C Prep Method: QC Batch: 118479 Date Analyzed: Analyzed By: RR2015-01-08 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 4270Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382729 - ML-CL-8 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118470 Date Analyzed: Analyzed By: RR2015-01-07 Prep Batch: 100016 Sample Preparation: 2014-12-29 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 51.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382729 - ML-CL-8 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 667 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 51 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382730 - ML-CL-8 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 76.42 25.0 mg/Kg 3,4,5

Sample: 382730 - ML-CL-8 6-12

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 5580 mg/Kg100 0.500 Qs

Sample: 382730 - ML-CL-8 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 63.3 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382730 - ML-CL-8 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 466mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 52 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382731 - ML-N-8 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrepared By: RL

Prep Batch: 100270 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 609 25.0 mg/Kg 5 3,4,5

Sample: 382731 - ML-N-8 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RL

Units Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 4890 mg/Kg100 0.500 Qs

Sample: 382731 - ML-N-8 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 35.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382731 - ML-N-8 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RLPrep Batch: 100270 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1600 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 53 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382732 - ML-S-8 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrepared By: RL

Prep Batch: 100297 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 34.4 25.0 mg/Kg 3,4,5

Sample: 382732 - ML-S-8 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 4920 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382732 - ML-S-8 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 53.0mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382732 - ML-S-8 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrep Batch: 100297 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 120 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 54 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382733 - ML-BG-8 1 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrepared By: RL

Prep Batch: 100297 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382733 - ML-BG-8 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3390 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382733 - ML-BG-8 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 23.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382733 - ML-BG-8 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118620 Date Analyzed: 2015-01-13 Analyzed By: RLPrep Batch: 100297 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 106 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 55 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382734 - ML-CL-9 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118639 Date Analyzed: 2015-01-14 Analyzed By: RLPrepared By: RL

Prep Batch: 100314 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 72.92 25.0 mg/Kg 3,4,5

Sample: 382734 - ML-CL-9 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3290 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382734 - ML-CL-9 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese  $\overline{34.7}$ mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382734 - ML-CL-9 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118639 Date Analyzed: 2015-01-14 Analyzed By: RLPrep Batch: 100314 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 348 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 56 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382735 - ML-CL-9 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118639 Date Analyzed: 2015-01-14 Analyzed By: RLPrepared By: RL

Prep Batch: 100314 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 85.9 25.0 mg/Kg 3,4,5

Sample: 382735 - ML-CL-9 6-12

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 5750 mg/Kg100 0.500 Qs

Sample: 382735 - ML-CL-9 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 66.2mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382735 - ML-CL-9 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118639 Date Analyzed: 2015-01-14 Analyzed By: RLPrep Batch: 100314 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 37.2 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 57 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382736 - ML-N-9 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{156}$ 5 25.0 mg/Kg 3,4,5

Sample: 382736 - ML-N-9 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3550 mg/Kg100 0.500 Qs

Sample: 382736 - ML-N-9 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 31.3 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382736 - ML-N-9 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100249 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1160 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 58 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382737 - ML-S-9 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 166 25.0 mg/Kg 5 3,4,5

Sample: 382737 - ML-S-9 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Parameter Flag  $\operatorname{Cert}$ Result

Dilution RLTotal Iron 1,2,3,4,5 2910 mg/Kg100 0.500 Qs

Sample: 382737 - ML-S-9 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 18.5mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382737 - ML-S-9 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrep Batch: 100249 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 2770 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 59 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382738 - ML-BG-9 1 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382738 - ML-BG-9 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3420 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382738 - ML-BG-9 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 24.6mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382738 - ML-BG-9 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 41.4 mg/Kg 1 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 60 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382739 - ML-CL-10 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 74025.0 mg/Kg 5 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382739 - ML-CL-10 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3950 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382739 - ML-CL-10 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 31.0 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382739 - ML-CL-10 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 414 mg/Kg 5 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 61 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382740 - ML-CL-10 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 825 25.0 mg/Kg 5 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382740 - ML-CL-10 6-12

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 4990 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382740 - ML-CL-10 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 42.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382740 - ML-CL-10 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 191 mg/Kg 5 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 62 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382741 - ML-N-10 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 66.1 25.0 mg/Kg 3,4,5

Sample: 382741 - ML-N-10 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 4230Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382741 - ML-N-10 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 24.8mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382741 - ML-N-10 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1180 mg/Kg 5 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 63 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382742 - ML-S-10 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{193}$ 25.0 mg/Kg 5 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382742 - ML-S-10 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Parameter Flag  $\operatorname{Cert}$ Result

Dilution RL3090 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382742 - ML-S-10 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 23.3mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382742 - ML-S-10 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1870 mg/Kg 5 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 64 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382743 - ML-BG-10 1 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382743 - ML-BG-10 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 5900 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382743 - ML-BG-10 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 60.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382743 - ML-BG-10 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 67.6 mg/Kg 1 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 65 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382744 - ML-CL-11 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{234}$ 25.0 mg/Kg 5 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382744 - ML-CL-11 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3570 mg/Kg100 0.500 Qs

Sample: 382744 - ML-CL-11 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 29.5mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382744 - ML-CL-11 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1230 mg/Kg 5 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 66 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382745 - ML-CL-11 6-12in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{115}$ 25.0 mg/Kg 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382745 - ML-CL-11 6-12in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RL

Units Dilution RLParameter Flag  $\operatorname{Cert}$ Result **2520** Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382745 - ML-CL-11 6-12in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 21.6 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382745 - ML-CL-11 6-12in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 188 mg/Kg 1 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 67 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382746 - ML-N-11 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrepared By: RL

Prep Batch: 100223 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 140 25.0 mg/Kg 3,4,5  $_{
m Qr,Qs}$ 

Sample: 382746 - ML-N-11 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3110 mg/Kg100 0.500 Qs

Sample: 382746 - ML-N-11 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 22.4mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382746 - ML-N-11 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 286 mg/Kg 1 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 68 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382747 - ML-S-11 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 51.625.0 mg/Kg 3,4,5

Sample: 382747 - ML-S-11 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2240 mg/Kg100 0.500 Qs

Sample: 382747 - ML-S-11 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 16.0 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382747 - ML-S-11 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RLPrep Batch: 100223 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1870 mg/Kg 5 25.0Qs 3,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 69 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382748 - ML-BG-11 1 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 26.525.0 mg/Kg 3,4,5

Sample: 382748 - ML-BG-11 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 4070 mg/Kg100 0.500 Qs

Sample: 382748 - ML-BG-11 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 39.3 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382748 - ML-BG-11 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate В 43.7 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 70 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382749 - ML-CL-12 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{139}$ 2 25.0 mg/Kg 3,4,5

Sample: 382749 - ML-CL-12 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118527 Date Analyzed: Analyzed By: LM2015-01-08 Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: LM

RL

Units Dilution RLParameter Flag  $\operatorname{Cert}$ Result 4050 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382749 - ML-CL-12 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118482 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100017 Sample Preparation: 2014-12-30 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 32.6 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382749 - ML-CL-12 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 325 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 71 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382750 - ML-CL-12 6-12 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{142}$ 25.0 mg/Kg 3,4,5

Sample: 382750 - ML-CL-12 6-12 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units Parameter Flag  $\operatorname{Cert}$ Result RLTotal Iron 1,2,3,4,5 3460 mg/Kg100 0.500 Qs

Sample: 382750 - ML-CL-12 6-12 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 35.7mg/Kg 2.00 1,2,3,4,5

Sample: 382750 - ML-CL-12 6-12 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 80.8 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 72 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382751 - ML-N-12 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 31.2 25.0 mg/Kg 3,4,5

Sample: 382751 - ML-N-12 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3180 mg/Kg100 0.500 Qs

Sample: 382751 - ML-N-12 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 25.1mg/Kg 2.00 1,2,3,4,5

Sample: 382751 - ML-N-12 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 172 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 73 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382752 - ML-S-12 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 31.0 25.0 mg/Kg 3,4,5

Sample: 382752 - ML-S-12 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2870 mg/Kg100 0.500 Qs

Sample: 382752 - ML-S-12 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 29.2mg/Kg 2.00 1,2,3,4,5

Sample: 382752 - ML-S-12 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 106 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 74 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382753 - ML-BG-12

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382753 - ML-BG-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Result Units RLParameter Flag  $\operatorname{Cert}$ 3030 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382753 - ML-BG-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 30.8 mg/Kg 2.00 1,2,3,4,5

Sample: 382753 - ML-BG-12

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 29.1 В mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 75 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382754 - ML-CL-13 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 45.925.0 mg/Kg 3,4,5

Sample: 382754 - ML-CL-13 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2060 mg/Kg100 0.500 Qs

Sample: 382754 - ML-CL-13 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 18.9mg/Kg 2.00 1,2,3,4,5

Sample: 382754 - ML-CL-13 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 168 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 76 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382755 - ML-CL-13 6-12

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 181 5 25.0 mg/Kg 3,4,5

Sample: 382755 - ML-CL-13 6-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 2090 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382755 - ML-CL-13 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 17.6 mg/Kg 2.00 1,2,3,4,5

Sample: 382755 - ML-CL-13 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1610 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 77 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382756 - ML-N-13 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{218}$ 25.0 mg/Kg 5 3,4,5

Sample: 382756 - ML-N-13 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 3080 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382756 - ML-N-13 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 31.2mg/Kg 2.00 1,2,3,4,5

Sample: 382756 - ML-N-13 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1110 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 78 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382757 - ML-S-13 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100222 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 27725.0 mg/Kg 5 3,4,5

Sample: 382757 - ML-S-13 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 2990 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382757 - ML-S-13 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 26.8mg/Kg 2.00 1,2,3,4,5

Sample: 382757 - ML-S-13 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118533 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100222 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1740 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 79 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382758 - ML-BG-13 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382758 - ML-BG-13 1 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3760 mg/Kg100 0.500 Qs

Sample: 382758 - ML-BG-13 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 36.6 mg/Kg 2.00 1,2,3,4,5

Sample: 382758 - ML-BG-13 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 113 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 80 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382759 - ML-CL-14 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 83.3 2 25.0 mg/Kg 3,4,5

Sample: 382759 - ML-CL-14 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2970 mg/Kg100 0.500 Qs

Sample: 382759 - ML-CL-14 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 27.8mg/Kg 2.00 1,2,3,4,5

Sample: 382759 - ML-CL-14 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 730mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 81 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382760 - ML-CL-14 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 72.625.0 mg/Kg 3,4,5

Sample: 382760 - ML-CL-14 6-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 3660 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382760 - ML-CL-14 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 33.0 mg/Kg 2.00 1,2,3,4,5

Sample: 382760 - ML-CL-14 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 58.5 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 82 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382761 - ML-N-14 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{215}$ 25.0 mg/Kg 5 3,4,5

Sample: 382761 - ML-N-14 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3440 mg/Kg100 0.500 Qs

Sample: 382761 - ML-N-14 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 25.8mg/Kg 2.00 1,2,3,4,5

Sample: 382761 - ML-N-14 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 824 mg/Kg 5 25.03,4,5

Report Date: January 14, 2015 Work Order: 14121803 Page Number: 83 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382762 - ML-s-14 0-6 in

Laboratory: Lubbock

Analysis: Fe, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118551 Date Analyzed: 2015-01-09 Analyzed By: RRPrep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RL

Sample: 382762 - ML-s-14 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Mn, Total Analytical Method: S 6010C Prep Method: QC Batch: 2015-01-08 118484 Date Analyzed: Analyzed By: RRPrep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RL Parameter Flag Cert Result

Sample: 382762 - ML-s-14 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/ASO4 (IC) QC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

Sample: 382763 - ML-BG-14 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 2015-01-06 Analyzed By: RL118531 Prep Batch: 100220 Sample Preparation: Prepared By: RL

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Report Date: January 14, 2015 7020114G292		Work Order: 14121803 Enterprise Permian Expansion			Page Number: 84 of 189	
sample 382763 continued	d					
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		3,4,5	<25.0	mg/Kg	1	25.0
Sample: 382763 - ML	-BG-14 1 in					
Laboratory: Lubbock						
Analysis: Fe, Total		Analytical Method:	S 6010C		Prep Method:	S 3050B
QC Batch: 118551 Prep Batch: 100052		Date Analyzed: Sample Preparation	2015-01-09 : 2014-12-31		Analyzed By: Prepared By:	RR RR
Frep Daten: 100052		Sample Freparation	. 2014-12-31		Frepared by:	πn
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Iron	Qs	1,2,3,4,5	4040	mg/Kg	100	0.500
Sample: 382763 - ML	<i>-</i> BG-14 1 in					
Analysis: Mn, Total QC Batch: 118484		Analytical Method: Date Analyzed: Sample Preparation	2015-01-08 a: 2014-12-31		Prep Method: Analyzed By: Prepared By:	S 3050B RR RR
Analysis: Mn, Total QC Batch: 118484 Prep Batch: 100052		Date Analyzed:	2015-01-08	$_{ m Units}$	Analyzed By:	
Analysis: Mn, Total QC Batch: 118484	Flag	Date Analyzed: Sample Preparation	2015-01-08 a: 2014-12-31 RL	$\begin{array}{c} \text{Units} \\ \text{mg/Kg} \end{array}$	Analyzed By: Prepared By:	RR RR
Analysis: Mn, Total QC Batch: 118484 Prep Batch: 100052  Parameter Total Manganese  Sample: 382763 - ML Laboratory: Lubbock Analysis: SO4 (IC) QC Batch: 118531	Flag	Date Analyzed: Sample Preparation Cert	2015-01-08 2014-12-31 RL Result 36.9 d: E 300.0 2015-01-06	mg/Kg	Analyzed By: Prepared By: Dilution	RR RR  RL  2.00  od: N/A By: RL
Analysis: Mn, Total QC Batch: 118484 Prep Batch: 100052  Parameter Total Manganese  Sample: 382763 - ML Laboratory: Lubbock Analysis: SO4 (IC) QC Batch: 118531 Prep Batch: 100220	Flag -BG-14 1 in	Date Analyzed: Sample Preparation  Cert  1,2,3,4,5  Analytical Method Date Analyzed: Sample Preparation	2015-01-08 n: 2014-12-31 RL Result 36.9 d: E 300.0 2015-01-06 on:	mg/Kg	Analyzed By: Prepared By:  Dilution  1  Prep Methor Analyzed E Prepared B	RR RR 2.00  od: N/A By: RL by: RL
Analysis: Mn, Total QC Batch: 118484 Prep Batch: 100052  Parameter Total Manganese  Sample: 382763 - ML Laboratory: Lubbock Analysis: SO4 (IC) QC Batch: 118531	Flag	Date Analyzed: Sample Preparation  Cert  1,2,3,4,5  Analytical Method Date Analyzed: Sample Preparation	2015-01-08 a: 2014-12-31 RL Result 36.9 d: E 300.0 2015-01-06 on:	mg/Kg	Analyzed By: Prepared By:  Dilution  1  Prep Methorn Analyzed E	RR RR  RL  2.00  od: N/A By: RL

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 85 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382764 - ML-CL-15 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 54.325.0 mg/Kg 3,4,5

Sample: 382764 - ML-CL-15 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2770 mg/Kg100 0.500 Qs

Sample: 382764 - ML-CL-15 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 25.7mg/Kg 2.00 1,2,3,4,5

Sample: 382764 - ML-CL-15 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 50.5mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 86 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382765 - ML-CL-15 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382765 - ML-CL-15 6-12

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 **2510** mg/Kg100 0.500 Qs

Sample: 382765 - ML-CL-15 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 25.4mg/Kg 2.00 1,2,3,4,5

Sample: 382765 - ML-CL-15 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate < 25.0mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 87 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382766 - ML-N-15 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 60.0 25.0 mg/Kg 3,4,5

Sample: 382766 - ML-N-15 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 3270 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382766 - ML-N-15 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 30.3 mg/Kg 2.00 1,2,3,4,5

Sample: 382766 - ML-N-15 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 109 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 88 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382767 - ML-S-15 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrepared By: RL

Prep Batch: 100220 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 27725.0 mg/Kg 5 3,4,5

Sample: 382767 - ML-S-15 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2580 mg/Kg100 0.500 Qs

Sample: 382767 - ML-S-15 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 21.5mg/Kg 2.00 1,2,3,4,5

Sample: 382767 - ML-S-15 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RLPrep Batch: 100220 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 690 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 89 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382768 - ML-BG-15 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382768 - ML-BG-15 1 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2880 mg/Kg100 0.500 Qs

Sample: 382768 - ML-BG-15 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 27.2mg/Kg 2.00 1,2,3,4,5

Sample: 382768 - ML-BG-15 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate < 25.0mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 90 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382769 - ML-CL-16 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 336 5 25.0 mg/Kg 3,4,5

Sample: 382769 - ML-CL-16 0-6 in

Laboratory: Lubbock

S 3050BAnalysis: Fe, Total Analytical Method: S 6010C Prep Method: QC Batch: 118551 Date Analyzed: Analyzed By: RR2015-01-09 Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Flag  $\operatorname{Cert}$ Result

Dilution Units RLTotal Iron 1,2,3,4,5 4490 mg/Kg100 0.500 Qs

Sample: 382769 - ML-CL-16 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118484 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100052 Sample Preparation: 2014-12-31 Prepared By: RR

RLParameter Cert Result Units Dilution RLFlag Total Manganese 33.5mg/Kg 2.00 1,2,3,4,5

Sample: 382769 - ML-CL-16 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1770 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 91 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382770 - ML-CL-16 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 26.3 25.0 mg/Kg 3,4,5

Sample: 382770 - ML-CL-16 6-12

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3410 mg/Kg100 0.500 Qs

Sample: 382770 - ML-CL-16 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 36.4 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382770 - ML-CL-16 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 126 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 92 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382771 - ML-N-16 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 65.425.0 mg/Kg 3,4,5

Sample: 382771 - ML-N-16 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3060 mg/Kg100 0.500 Qs

Sample: 382771 - ML-N-16 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 26.6 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382771 - ML-N-16 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1610 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 93 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382772 - ML-S-16 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 95.825.0 mg/Kg 3,4,5

Sample: 382772 - ML-S-16 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3100 mg/Kg100 0.500 Qs

Sample: 382772 - ML-S-16 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 28.8mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382772 - ML-S-16 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 287 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 94 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382773 - ML-BG-16 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382773 - ML-BG-16 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3050 mg/Kg100 0.500 Qs

Sample: 382773 - ML-BG-16 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 34.2mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382773 - ML-BG-16 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate < 25.0mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 95 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382774 - ML-CL-17 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 216 2 25.0 mg/Kg 3,4,5

Sample: 382774 - ML-CL-17 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3720 mg/Kg100 0.500 Qs

Sample: 382774 - ML-CL-17 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 31.3 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382774 - ML-CL-17 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 331 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 96 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382775 - ML-CL-17 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 28.8 25.0 mg/Kg 3,4,5

Sample: 382775 - ML-CL-17 6-12

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3320 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382775 - ML-CL-17 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 36.5mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382775 - ML-CL-17 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 45.9 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 97 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382776 - ML-N-17 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 83.525.0 mg/Kg 3,4,5

Sample: 382776 - ML-N-17 0-6 in

Laboratory: Lubbock

Prep Method: S 3050BAnalysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2780 mg/Kg100 0.500 Qs

Sample: 382776 - ML-N-17 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 22.2mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382776 - ML-N-17 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 356 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 98 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382777 - ML-S-17 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100150 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 307 25.0 mg/Kg 5 3,4,5

Sample: 382777 - ML-S-17 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2600 mg/Kg100 0.500 Qs

Sample: 382777 - ML-S-17 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 22.9mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382777 - ML-S-17 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100150 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1510 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 99 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382778 - ML-BG-17 1 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100152 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382778 - ML-BG-17 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 2920 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382778 - ML-BG-17 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese  $\overline{31.9}$ mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382778 - ML-BG-17 1 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 31.1 mg/Kg 1 25.03,4,5

RL

0.500

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 100 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382779 - ML-CL-18 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100152 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 573 25.0 mg/Kg 5 3,4,5

Sample: 382779 - ML-CL-18 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution Parameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3940 mg/Kg100 Qs

Sample: 382779 - ML-CL-18 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 32.2mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382779 - ML-CL-18 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1750 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 101 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382780 - ML-CL-18 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100152 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 74025.0 mg/Kg 5 3,4,5

Sample: 382780 - ML-CL-18 6-12

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3740 mg/Kg100 0.500 Qs

Sample: 382780 - ML-CL-18 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese  $\overline{34.4}$ mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382780 - ML-CL-18 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 232mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 102 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382781 - ML-N-18 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 101 25.0 mg/Kg 3,4,5

Sample: 382781 - ML-N-18 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2910 mg/Kg100 0.500 Qs

Sample: 382781 - ML-N-18 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 22.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382781 - ML-N-18 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 655 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 103 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382782 - ML-S-18 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100152 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{402}$ 25.0 mg/Kg 5 3,4,5

Sample: 382782 - ML-S-18 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3380 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382782 - ML-S-18 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 24.2mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382782 - ML-S-18 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1020 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 104 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382783 - ML-BG-18 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100152 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382783 - ML-BG-18 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3980 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382783 - ML-BG-18 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 41.6 mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382783 - ML-BG-18 1 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 62.2 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 105 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382784 - ML-CL-20 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100152 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{244}$ 25.0 mg/Kg 5 3,4,5

Sample: 382784 - ML-CL-20 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3830 mg/Kg100 0.500 Qs

Sample: 382784 - ML-CL-20 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 28.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382784 - ML-CL-20 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1300 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 106 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382785 - ML-CL-20 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100152 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 4805 25.0 mg/Kg 3,4,5

Sample: 382785 - ML-CL-20 6-12

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3610 mg/Kg100 0.500 Qs

Sample: 382785 - ML-CL-20 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese  $\overline{31.7}$ mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382785 - ML-CL-20 6-12

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1080 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 107 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382786 - ML-N-20 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 140 25.0 mg/Kg 3,4,5

Sample: 382786 - ML-N-20 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574 Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLDilution Units RLParameter Flag  $\operatorname{Cert}$ Result 3900 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382786 - ML-N-20 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 28.8mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382786 - ML-N-20 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1120 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 108 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382787 - ML-S-20 0-6 in

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/AChloride (IC) QC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{163}$ 25.0 mg/Kg 3,4,5

Sample: 382787 - ML-S-20 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 4650 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qs

Sample: 382787 - ML-S-20 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 38.5mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382787 - ML-S-20 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118442 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100152 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1180 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 109 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382788 - ML-BG-20 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100147 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382788 - ML-BG-20 1 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2370 mg/Kg100 0.500 Qs

Sample: 382788 - ML-BG-20 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 Date Analyzed: 2015-01-08 Analyzed By: RRPrep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 24.8mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382788 - ML-BG-20 1 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate < 25.0mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 110 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382789 - ML-CL-19 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100147 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 198 2 25.0 mg/Kg 3,4,5

Sample: 382789 - ML-CL-19 0-6 in

Laboratory: Lubbock

Prep Method: S 3050B Analysis: Fe, Total Analytical Method: S 6010C QC Batch: 118574Date Analyzed: Analyzed By: LM2015-01-09 Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3480 mg/Kg100 0.500 Qs

Sample: 382789 - ML-CL-19 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118486 2015-01-08 Analyzed By: RRDate Analyzed: Prep Batch: 100054 Sample Preparation: 2014-12-31 Prepared By: RR

RLFlag Parameter Cert Result Units Dilution RLTotal Manganese 30.7mg/Kg 2.00 Qs 1,2,3,4,5

Sample: 382789 - ML-CL-19 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 336 mg/Kg 2 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 111 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382790 - ML-CL-19 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100147 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 94.225.0 mg/Kg 3,4,5

Sample: 382790 - ML-CL-19 6-12

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3220 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qr,Qs

Sample: 382790 - ML-CL-19 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 2015-01-07 Analyzed By: LMDate Analyzed: Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 26.4mg/Kg 2.00 1,2,3,4,5

Sample: 382790 - ML-CL-19 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 63.3 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 112 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382791 - ML-N-19 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100147 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 168 25.0 mg/Kg 5 3,4,5

Sample: 382791 - ML-N-19 0-6 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050BAnalysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 4140 mg/Kg100 0.500 Qr,Qs

Sample: 382791 - ML-N-19 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 29.1 mg/Kg 2.00 1,2,3,4,5

Sample: 382791 - ML-N-19 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1000 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 113 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382792 - ML-S-19 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 90.225.0 mg/Kg 3,4,5

Sample: 382792 - ML-S-19 0-6 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result **2520** Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qr,Qs

Sample: 382792 - ML-S-19 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 2015-01-07 Analyzed By: LMDate Analyzed: Prep Batch: 100094 Sample Preparation: 2015 - 01 - 05Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 17.9mg/Kg 2.00 1,2,3,4,5

Sample: 382792 - ML-S-19 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1890 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 114 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382793 - ML-BG-19 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100147 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382793 - ML-BG-19 1 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2960 mg/Kg100 0.500 Qr,Qs

Sample: 382793 - ML-BG-19 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 26.0 mg/Kg 2.00 1,2,3,4,5

Sample: 382793 - ML-BG-19 1 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 29.5mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 115 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382794 - ML-CL-21 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100147 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 1310 25.0 mg/Kg 5 3,4,5

Sample: 382794 - ML-CL-21 0-6 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 5440 mg/Kg100 0.500 Qr,Qs

Sample: 382794 - ML-CL-21 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 2015-01-07 Analyzed By: LMDate Analyzed: Prep Batch: 100094 Sample Preparation: 2015 - 01 - 05Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 42.9mg/Kg 2.00 1,2,3,4,5

Sample: 382794 - ML-CL-21 0-6 in

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 747 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 116 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382795 - ML-CL-21 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100147 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 688 5 25.0 mg/Kg 3,4,5

Sample: 382795 - ML-CL-21 6-12

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3650 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qr,Qs

Sample: 382795 - ML-CL-21 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 2015-01-07 Analyzed By: LMDate Analyzed: Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 29.5mg/Kg 2.00 1,2,3,4,5

Sample: 382795 - ML-CL-21 6-12

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate  $\overline{263}$ mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 117 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382796 - ML-N-21 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RLPrepared By: RL

Prep Batch: 100249 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride  $\overline{105}$ 25.0 mg/Kg 3,4,5

Sample: 382796 - ML-N-21 0-6 in

Laboratory: Lubbock

Prep Method: S 3050BAnalysis: Fe, Total Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3130 mg/Kg100 0.500 Qr,Qs

Sample: 382796 - ML-N-21 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 23.4mg/Kg 2.00 1,2,3,4,5

Sample: 382796 - ML-N-21 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100147 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1900 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 118 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382797 - ML-S-21 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100151 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 188 25.0 mg/Kg 5 3,4,5

Sample: 382797 - ML-S-21 0-6 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2970 mg/Kg100 0.500 Qr,Qs

Sample: 382797 - ML-S-21 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 2015-01-07 Analyzed By: LMDate Analyzed: Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 21.2mg/Kg 2.00 1,2,3,4,5

Sample: 382797 - ML-S-21 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100151 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 1740 mg/Kg 5 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 119 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382798 - ML-BG-21 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100151 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382798 - ML-BG-21 1 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050BAnalysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3360 mg/Kg100 0.500 Qr,Qs

Sample: 382798 - ML-BG-21 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 28.8mg/Kg 2.00 1,2,3,4,5

Sample: 382798 - ML-BG-21 1 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100151 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate < 25.0mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 120 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382799 - ML-CL-22 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100151 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382799 - ML-CL-22 0-6 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result 3690 Total Iron 1,2,3,4,5 mg/Kg100 0.500 Qr,Qs

Sample: 382799 - ML-CL-22 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015 - 01 - 05Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese  $\overline{31.9}$ mg/Kg 2.00 1,2,3,4,5

Sample: 382799 - ML-CL-22 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100151 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 37.3 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 121 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382800 - ML-CL-22 6-12

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100151 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382800 - ML-CL-22 6-12

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3550 mg/Kg100 0.500 Qr,Qs

Sample: 382800 - ML-CL-22 6-12

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015 - 01 - 05Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 33.0 mg/Kg 2.00 1,2,3,4,5

Sample: 382800 - ML-CL-22 6-12

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100151 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 25.1 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 122 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382801 - ML-N-22 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100151 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 26.0 25.0 mg/Kg 3,4,5

Sample: 382801 - ML-N-22 0-6 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050BAnalysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2550 mg/Kg100 0.500 Qr,Qs

Sample: 382801 - ML-N-22 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015 - 01 - 05Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese  $\overline{19.5}$ mg/Kg 2.00 1,2,3,4,5

Sample: 382801 - ML-N-22 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100151 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 296 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 123 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382802 - ML-S-22 0-6 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100151 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride 31.2 25.0 mg/Kg 3,4,5

Sample: 382802 - ML-S-22 0-6 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 2160 mg/Kg100 0.500 Qr,Qs

Sample: 382802 - ML-S-22 0-6 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015 - 01 - 05Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 16.9mg/Kg 2.00 1,2,3,4,5

Sample: 382802 - ML-S-22 0-6 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100151 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 106 mg/Kg 1 25.03,4,5

Work Order: 14121803 Report Date: January 14, 2015 Page Number: 124 of 189

7020114G292 Enterprise Permian Expansion

Sample: 382803 - ML-BG-22 1 in

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrepared By: RL

Prep Batch: 100151 Sample Preparation:

RLParameter Cert Result Dilution Flag Units RLChloride < 25.025.0 mg/Kg 3,4,5

Sample: 382803 - ML-BG-22 1 in

Laboratory: Lubbock

Fe, Total Prep Method: S 3050B Analysis: Analytical Method: S 6010C QC Batch: 118490 Date Analyzed: Analyzed By: LM2015-01-07 Prep Batch: 100094 Sample Preparation: 2015-01-05 Prepared By: LM

RLUnits Dilution RLParameter Flag  $\operatorname{Cert}$ Result Total Iron 1,2,3,4,5 3940 mg/Kg100 0.500 Qr,Qs

Sample: 382803 - ML-BG-22 1 in

Laboratory: Lubbock

Analysis: Mn, Total Analytical Method: S 6010C Prep Method:  $S_{3050B}$ QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LMPrep Batch: 100094 Sample Preparation: 2015 - 01 - 05Prepared By: LM

RLParameter Cert Result Units Dilution RLFlag Total Manganese 41.0 mg/Kg 2.00 1,2,3,4,5

Sample: 382803 - ML-BG-22 1 in

Laboratory: Lubbock

Analytical Method: Prep Method: Analysis: SO4 (IC) E 300.0 N/AQC Batch: 118439 Date Analyzed: 2015-01-05 Analyzed By: RLPrep Batch: 100151 Sample Preparation: Prepared By: RL

RLDilution Parameter Flag Cert Result Units RLSulfate 44.2 mg/Kg 1 25.03,4,5

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 125 of 189

# Method Blanks

Method Blank (1) QC Batch: 118428

QC Batch: 118428 Date Analyzed: 2015-12-31 Prep Batch: 100003 QC Preparation: 2014-12-28

Analyzed By: LM Prepared By: PM

Method Blank (1) QC Batch: 118437

QC Batch: 118437 Date Analyzed: 2015-01-05 Prep Batch: 100147 QC Preparation: 2015-01-05 Analyzed By: RL Prepared By: RL

Method Blank (1) QC Batch: 118437

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL Prep Batch: 100147 QC Preparation: 2015-01-05 Prepared By: RL

Method Blank (1) QC Batch: 118438

QC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RL Prep Batch: 100150 QC Preparation: 2015-01-05 Prepared By: RL

Report Date: January 7020114G292	14, 2015	Work Order Enterprise Pern		Page Number: 126 of 18		
Parameter	Flag	Cert	MDL Result	$\operatorname{Units}$	RL	
Chloride		3,4,5	< 2.66	mg/Kg	25	
Method Blank (1)	QC Batch: 118438					
QC Batch: 118438 Prep Batch: 100150		Date Analyzed: QC Preparation:	2015-01-05 2015-01-05	Analyzed By: Prepared By:	RL RL	
Parameter	$\operatorname{Flag}$	Cert	MDL Result	Units	RL	
Sulfate	1 100	3,4,5	<3.44	mg/Kg	25	
Method Blank (1)	QC Batch: 118439					
QC Batch: 118439 Prep Batch: 100151		Date Analyzed: QC Preparation:	2015-01-05 2015-01-05	Analyzed By: Prepared By:	RL RL	
Parameter	Flag	Cert	MDL Result	Units	RL	
Chloride		3,4,5	< 2.66	mg/Kg	25	
Method Blank (1)	QC Batch: 118439					
QC Batch: 118439 Prep Batch: 100151		Date Analyzed: QC Preparation:	2015-01-05 2015-01-05	Analyzed By: Prepared By:	RL RL	
Parameter	Flag	Cert	MDL Result	Units	RL	
Sulfate		3,4,5	< 3.44	$\mathrm{mg}/\mathrm{Kg}$	25	

Report Date: January 7020114G292	14, 2015	Work Order Enterprise Pern		Page Nu	mber: 127 of 189
Method Blank (1)	QC Batch: 118442				
QC Batch: 118442 Prep Batch: 100152		Date Analyzed: QC Preparation:	2015-01-05 2015-01-05		alyzed By: RL pared By: RL
Parameter Chloride	Flag	Cert	MI Resu	ult Units	RL
Chloride		3,4,5	<2.	66 mg/Kg	25
Method Blank (1)	QC Batch: 118442				
QC Batch: 118442 Prep Batch: 100152		Date Analyzed: QC Preparation:	2015-01-05 2015-01-05		alyzed By: RL pared By: RL
Parameter	Flag	Cert	MI Resu	ult Units	RL
Sulfate		3,4,5	<3.	44 mg/Kg	25
Method Blank (1)	QC Batch: 118464				
QC Batch: 118464 Prep Batch: 100003		Date Analyzed: QC Preparation:	2015-01-07 2014-12-28		lyzed By: RR pared By: PM
Parameter	Flag	Cert	MI Rest		m RL
Total Iron		1,2,3,4,5	1.	mg/Kg	0.5
Method Blank (1)	QC Batch: 118470				
QC Batch: 118470 Prep Batch: 100016		Date Analyzed: QC Preparation:	2015-01-07 2014-12-29		lyzed By: RR pared By: PM
Parameter	$\mathrm{Fl}_i$	ag Cer		MDL esult Units	RL
Total Manganese		1,2,3,4	<0.	0957   mg/Kg	$\overline{z}$ 2

7020114G292	14, 2015	Work Orde Enterprise Perr	r: 14121803 nian Expansion	Page Number: 128	of 189
Method Blank (1)	QC Batch: 118479				
QC Batch: 118479 Prep Batch: 100016		Date Analyzed: QC Preparation:	2015-01-08 2014-12-29	Analyzed By: Prepared By:	RR PM
D	T)		MDL	TT 11	DI
Parameter Total Iron	Flag	Cert	Result 10.1	$\frac{\text{Units}}{\text{mg/Kg}}$	$\frac{\text{RL}}{0.5}$
TOTAL HOLL		1,2,3,4,5	10.1	mg/ Rg	0.0
Method Blank (1)	QC Batch: 118482				
QC Batch: 118482		Date Analyzed:	2015-01-08	Analyzed By:	RR
Prep Batch: 100017		QC Preparation:	2014-12-29	Prepared By:	PM
			MDI	L	
Parameter	Fla	ag Cer			RL
Total Manganese		1,2,3,4	4,5 <0.095	7   mg/Kg	2
Method Blank (1)	QC Batch: 118484				
Method Blank (1)  QC Batch: 118484  Prep Batch: 100052	QC Batch: 118484	Date Analyzed: QC Preparation:	2015-01-08 2014-12-30	Analyzed By: Prepared By:	RR PM
QC Batch: 118484 Prep Batch: 100052		QC Preparation:	2014-12-30 MDI	Prepared By:	PM
QC Batch: 118484 Prep Batch: 100052  Parameter	QC Batch: 118484	QC Preparation: ag Cer	2014-12-30 MDI t Resul	Prepared By: L t Units	PM RL
QC Batch: 118484 Prep Batch: 100052		QC Preparation:	2014-12-30  MDI t Resul	Prepared By: L t Units	PM
QC Batch: 118484 Prep Batch: 100052  Parameter Total Manganese		QC Preparation: ag Cer	2014-12-30 MDI t Resul	Prepared By: L t Units	PM RL
QC Batch: 118484 Prep Batch: 100052  Parameter Total Manganese	Fla	QC Preparation: ag Cer	2014-12-30 MDI t Resul	Prepared By: L t Units	PM RL
QC Batch: 118484 Prep Batch: 100052  Parameter Total Manganese  Method Blank (1)  QC Batch: 118486	Fla	QC Preparation:  ag Cer 1,2,3,4  Date Analyzed: QC Preparation:	2014-12-30  MDI t Resul 4,5 < 0.095  2015-01-08 2014-12-30  MDI	Prepared By:  L Units 7 mg/Kg  Analyzed By: Prepared By:	PM RL 2

Report Date: January 7020114G292	14, 2015	Work Order Enterprise Perr		Page Number: 129 of 18			
Method Blank (1)	QC Batch: 118489						
QC Batch: 118489 Prep Batch: 100094		Date Analyzed: QC Preparation:	2015-01-07 2015-01-05		Analyzed By: Prepared By:	LM PM	
D	T)	C		MDL	TT **	DI	
Parameter Total Manganese	Fl	ag Cer		Result < 0.0957	Units mg/Kg	$\frac{RL}{2}$	
			•		<i>3, 3</i>		
Method Blank (1)	QC Batch: 118490						
QC Batch: 118490		Date Analyzed:	2015-01-07		Analyzed By:	LM	
Prep Batch: 100094		QC Preparation:	2015-01-05		Prepared By:	PM	
				MDL			
Parameter Total Iron	Flag	Cert		Result 5.04	Units mg/Kg	$\frac{RL}{0.5}$	
Method Blank (1)	QC Batch: 118527						
QC Batch: 118527 Prep Batch: 100017		Date Analyzed: QC Preparation:	2015-01-08 2014-12-29		Analyzed By: Prepared By:	LM PM	
_				MDL			
Parameter Total Iron	Flag	Cert		Result 4.12	Units mg/Kg	$\frac{RL}{0.5}$	
2000 200		112101110			220/226	0.00	
Method Blank (1)	QC Batch: 118531						
QC Batch: 118531 Prep Batch: 100220		Date Analyzed: QC Preparation:	2015-01-06 2015-01-06		Analyzed By: Prepared By:	RL RL	
Parameter	Flag	Cert		MDL Result	$\operatorname{Units}$	RL	
	- 146	0010			C 222 0D		

Report Date: January 7020114G292	14, 2015	Work Order Enterprise Pern		Page Number: 130 of 18		
Method Blank (1)	QC Batch: 118531					
QC Batch: 118531 Prep Batch: 100220		Date Analyzed: QC Preparation:	2015-01-06 2015-01-06	Analyzed By: Prepared By:	RL RL	
7	771		MDL		D.I.	
Parameter Sulfate	Flag	3,4,5	Result <3.44	$\frac{\text{Units}}{\text{mg/Kg}}$	$\frac{RL}{25}$	
Surace		5,4,5	\0.11	mg/11g		
Method Blank (1)	QC Batch: 118533					
QC Batch: 118533		Date Analyzed:	2015-01-06	Analyzed By:	RL	
Prep Batch: 100222		QC Preparation:	2015-01-06	Prepared By:	RL	
			$\mathrm{MDL}$			
Parameter	Flag	Cert	Result	Units	RL	
Chloride		3,4,5	< 2.66	m mg/Kg	25	
Method Blank (1)	QC Batch: 118533					
QC Batch: 118533 Prep Batch: 100222		Date Analyzed: QC Preparation:	2015-01-06 2015-01-06	Analyzed By: Prepared By:	RL RL	
Parameter	E1	Cont	MDL Result	Units	Dī	
Sulfate	Flag	Cert 3,4,5	5.66	mg/Kg	RL 25	
Method Blank (1)  QC Batch: 118536  Prep Batch: 100223	QC Batch: 118536	Date Analyzed: QC Preparation:	2015-01-08 2015-01-06	Analyzed By: Prepared By:	RL RL	
110р Банен. 100225		«∪ 1 reparation.	MDL	т герагеи Бу.	ш	
Parameter	Flag	Cert	Result	Units	RL	
Chloride		3,4,5	< 2.66	$\mathrm{mg}/\mathrm{Kg}$	25	

Report Date: January 7020114G292	14, 2015	Work Order Enterprise Pern		Page Number: 131 of 18		
Method Blank (1)	QC Batch: 118536					
QC Batch: 118536 Prep Batch: 100223		Date Analyzed: QC Preparation:	2015-01-08 2015-01-06	Analyzed By: Prepared By:	RL RL	
	T)		MDL		D.I.	
Parameter Sulfate	Flag	3,4,5	Result <3.44	$\frac{\text{Units}}{\text{mg/Kg}}$	$\frac{RL}{25}$	
Surace		5,4,5	\0.11	mg/ Ng	20	
Method Blank (1)	QC Batch: 118551					
QC Batch: 118551		Date Analyzed:	2015-01-09	Analyzed By:	RR	
Prep Batch: 100052		QC Preparation:	2014-12-30	Prepared By:	PM	
			$\mathrm{MDL}$			
Parameter	Flag	Cert	Result	Units	RL	
Total Iron		1,2,3,4,5	< 0.0684	mg/Kg	0.5	
Method Blank (1)	QC Batch: 118564					
QC Batch: 118564 Prep Batch: 100249		Date Analyzed: QC Preparation:	2015-01-09 2015-01-09	Analyzed By: Prepared By:	RL RL	
Parameter	Flag	Cert	MDL Result	Units	RL	
Chloride	riag	3,4,5	<2.66	mg/Kg	25	
Method Blank (1)  QC Batch: 118564  Prep Batch: 100249	QC Batch: 118564	Date Analyzed: QC Preparation:	2015-01-09 2015-01-09	Analyzed By: Prepared By:	RL RL	
Parameter	Flag	Cert	MDL Result	Units	RL	
Sulfate	- 3	3,4,5	< 3.44	mg/Kg	25	

Prepared By:   Prep	Report Date: January 7020114G292	14, 2015	Work Orde Enterprise Perr	r: 14121803 mian Expansion	Page Number: 132 of 189		
Prepared By:   Prep	Method Blank (1)	QC Batch: 118565					
Parameter						RL RL	
Method Blank (1)   QC Batch: 118565	<b>.</b>	771			** **	DI	
Method Blank (1)         QC Batch: 118565         Date Analyzed: 2015-01-09         Analyzed By: Prep Batch: 100250         Date Analyzed: 2015-01-09         Analyzed By: Prepared By: P		Flag				$\frac{RL}{25}$	
QC Batch:         118565         Date Analyzed:         2015-01-09         Analyzed By:           Prep Batch:         100250         QC Preparation:         2015-01-09         Prepared By:           Parameter         Flag         Cert         Result         Units           Sulfate         3.4.6         <3.44	CINOTAL		3,4,0	2.00	mg/ Ng	20	
Prep Batch:         100250         QC Preparation:         2015-01-09         Prepared By:           Parameter         Flag         Cert         Result         Units           Sulfate         3.4.5         < 3.44	Method Blank (1)	QC Batch: 118565					
Parameter   Flag   Cert   Result   Units	QC Batch: 118565		Date Analyzed:	2015-01-09	Analyzed By:	RL	
Parameter   Flag   Cert   Result   Units	Prep Batch: 100250		QC Preparation:	2015-01-09	Prepared By:	RL	
Method Blank (1)         QC Batch: 118574         Date Analyzed: 2015-01-09         Analyzed By: 1           Prep Batch: 100054         Date Analyzed: 2014-12-30         Prepared By: 1           Parameter         Flag         Cert         Result         Units           Total Iron         1.2,3,4,5         3.24         mg/Kg           Method Blank (1)         QC Batch: 118588         Date Analyzed: 2015-01-12         Analyzed By: Prep Batch: 100268           Prep Batch: 100268         QC Preparation: 2015-01-12         Prepared By: MDL							
Method Blank (1)         QC Batch: 118574         Date Analyzed: 2015-01-09 QC Preparation: 2014-12-30         Analyzed By: I Prepared By: I Prepared By: I Prepared By: I Analyzed: I Prepared By:		Flag				$\frac{RL}{25}$	
QC Batch:         118574         Date Analyzed:         2015-01-09         Analyzed By:         I           Prep Batch:         100054         QC Preparation:         2014-12-30         Prepared By:         I           Parameter         Flag         Cert         Result         Units           Total Iron         1,2,3,4,5         3.24         mg/Kg           Method Blank (1)         QC Batch:         118588         Date Analyzed:         2015-01-12         Analyzed By:           Prep Batch:         100268         QC Preparation:         2015-01-12         Prepared By:		000					
Prep Batch:         100054         QC Preparation:         2014-12-30         Prepared By:         I           Parameter         Flag         Cert         Result         Units           Total Iron         1,2,3,4,5         3.24         mg/Kg           Method Blank (1)         QC Batch:         118588           QC Batch:         118588         Date Analyzed:         2015-01-12         Analyzed By:           Prep Batch:         100268         QC Preparation:         2015-01-12         Prepared By:	Method Blank (1)	QC Batch: 118574					
Parameter         Flag         Cert         Result         Units           Total Iron         1,2,3,4,5         3.24         mg/Kg           Method Blank (1)         QC Batch: 118588         Date Analyzed: 2015-01-12 Analyzed By: Prep Batch: 100268         Analyzed By: Prepared By:	=					LM PM	
Total Iron 1,2,3,4,5 3.24 mg/Kg  Method Blank (1) QC Batch: 118588  QC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: Prep Batch: 100268 QC Preparation: 2015-01-12 Prepared By:		771			** **	DI	
Method Blank (1) QC Batch: 118588  QC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: Prep Batch: 100268 QC Preparation: 2015-01-12 Prepared By:  MDL		Flag				$\frac{RL}{0.5}$	
Prep Batch: 100268 QC Preparation: 2015-01-12 Prepared By:  MDL		QC Batch: 118588			0, 3		
			v			RL RL	
rag Cert Result Ullus	Parameter	Floor	Cont		Unite	RL	
Chloride 3,4,5 <2.66 mg/Kg		riag				25	

Method Blank (1)         QC Batch: 118588         Date Analyzed: 2015-01-12         2015-01-12         Analyzed By: Prepared By:           Parameter Plag         Cert         Result         Units           MEthod Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12         Analyzed By: Prep Batch: 100269           Parameter Plag         Cert         Result         Units           Parameter Plag         Date Analyzed: 2015-01-12         Prepared By: Prepared By: Prep Batch: 100269           Parameter Plag         Cert         Result         Units           Chloride As-48         < 2.66         mg/Kg           MEthod Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12         Analyzed By: Prep Batch: 100269           Method Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12         Analyzed By: Prepared By: Prep Batch: 100269           METhod Blank (1)         QC Batch: 118589         Cert         Result         Units           METhod Blank (1)         QC Batch: 118590         Prepared By: Prepared By: Prepared By: Prep Batch: 100270         QC Preparation: 2015-01-12         Analyzed By: Prep Batch: 100270         Prepared By: Prep Batch: 2015-01-12         Analyzed By: Prep Batch: 100270         Prep Batch: 100270         Prep Batch: 2015-01-12         Ana	Report Date: January 1 7020114G292	14, 2015	Work Order Enterprise Pern		Page Number: 133 of 189		
Prepared By:   Prep	Method Blank (1)	QC Batch: 118588					
Parameter						RL RL	
Method Blank (1)   QC Batch: 118589			~				
Method Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12 Prepared By:           Parameter         Flag         Cert Result Coloride         Units           Method Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12 Prepared By:           Method Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12 Prepared By: Prep Batch: 100269         QC Preparation: 2015-01-12 Prepared By: Prepared By: Prep Batch: 100269           Method Blank (1)         QC Batch: 118590 QC Preparation: 2015-01-12 Result Units           QC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed: 2015-01-12 Prepared By: Prep Batch: 100270         Date Analyzed: 2015-01-12 Analyzed By: Prep Batch: 100270         Analyzed By: Prepared By: Pre		Flag				$\frac{RL}{25}$	
QC Batch:         118589 Prep Batch:         Date Analyzed: 2015-01-12 Prepared By:         2015-01-12 Prepared By:           Parameter         Flag         Cert Result Result Units         Units           Chloride         3.4.5         <2.66	Junate		3,4,5	\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.	mg/ Kg	20	
Prep Batch:         100269         QC Preparation:         2015-01-12         Prepared By:           Parameter         Flag         Cert         Result         Units           Chloride         8,4,5         <2.66	Method Blank (1)	QC Batch: 118589					
Parameter         Flag         Cert         Result         Units           Chloride         3.4.5         <2.66	QC Batch: 118589		Date Analyzed:	2015-01-12	Analyzed By:	RL	
Parameter         Flag         Cert         Result         Units           Chloride         3.4.5         <2.66	Prep Batch: 100269		QC Preparation:	2015-01-12	Prepared By:	RL	
Chloride         3,4.5         <2.66         mg/Kg           Method Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12         Analyzed By: Prep Batch: 100269           Parameter         Flag         Cert         Result         Units           Sulfate         3.4.5         <3.44				MDL			
Method Blank (1)         QC Batch: 118589         Date Analyzed: 2015-01-12         Analyzed By: Prep Batch: 100269         Date Analyzed: 2015-01-12         MDL Result         Units           Parameter         Flag         Cert         Result         Units           Sulfate         3.4.5         <3.44		Flag	Cert			RL	
QC Batch:         118589 Prep Batch:         Date Analyzed: QC Preparation:         2015-01-12 2015-01-12         Analyzed By: Prepared By: Prepared By:           Parameter         Flag         Cert         Result         Units           Sulfate         3.4.5         <3.44	Onioride		3,4,5	<2.00	mg/ Kg	25	
Prep Batch:         100269         QC Preparation:         2015-01-12         Prepared By:           Parameter         Flag         Cert         Result         Units           Sulfate         3,4,5         <3.44	Method Blank (1)	QC Batch: 118589					
Parameter         Flag         Cert         Result         Units           Sulfate         3,4,5         <3.44	- T					RL RL	
Sulfate         3,4,5         <3.44         mg/Kg           Method Blank (1)         QC Batch: 118590         Date Analyzed: 2015-01-12         Analyzed By: Prep Batch: 100270           QC Preparation: QC Preparation: 2015-01-12         MDL		T)			TT 11	DI	
Method Blank (1) QC Batch: 118590  QC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: Prep Batch: 100270 QC Preparation: 2015-01-12 Prepared By:  MDL		rag				RL 25	
Prep Batch: 100270 QC Preparation: 2015-01-12 Prepared By:  MDL		QC Batch: 118590			<i>G</i> , <i>G</i>		
	- T					RL RL	
	Daramatar	Flag	Cart		Unite	RL	
Talameter Frag Cert Result Units  Chloride $_{3,4,5}$ <2.66 mg/Kg		riag				25	

Report Date: January 7020114G292	14, 2015	Work Order Enterprise Pern		Page Number: 134 of 189		
Method Blank (1)	QC Batch: 118590					
QC Batch: 118590 Prep Batch: 100270		Date Analyzed: QC Preparation:	2015-01-12 2015-01-12	Analyzed By: Prepared By:	RL RL	
		~	MDL			
Parameter Sulfate	Flag	Cert	Result <3.44	$\frac{\text{Units}}{\text{mg/Kg}}$	$\frac{RL}{25}$	
Sunate		3,4,5	\J.11	mg/ IXg	20	
Method Blank (1)	QC Batch: 118620					
QC Batch: 118620		Date Analyzed:	2015-01-13	Analyzed By:	RL	
Prep Batch: 100297		QC Preparation:	2015-01-13	Prepared By:	RL	
			$\mathrm{MDL}$			
Parameter	Flag	Cert	Result	Units	RL	
Chloride		3,4,5	< 2.66	m mg/Kg	25	
Method Blank (1)	QC Batch: 118620					
QC Batch: 118620 Prep Batch: 100297		Date Analyzed: QC Preparation:	2015-01-13 2015-01-13	Analyzed By: Prepared By:	RL RL	
Parameter	Flor	Cert	MDL Result	Units	RL	
Sulfate	Flag	3,4,5	<3.44	mg/Kg	25	
Method Blank (1)  QC Batch: 118639	QC Batch: 118639	Date Analyzed:	2015-01-14	Analyzed By:	RL	
Prep Batch: 100314		QC Preparation:	2015-01-14	Prepared By:	RL	
Parameter	Flag	Cert	$egin{array}{c} \mathrm{MDL} \\ \mathrm{Result} \end{array}$	Units	RL	
Chloride	8	3,4,5	< 2.66	mg/Kg	25	

Report Date: January 7020114G292	14, 2015		r: 14121803 nian Expansion	Page Number: 135	of 189
Method Blank (1)	QC Batch: 118639				
QC Batch: 118639 Prep Batch: 100314		Date Analyzed: QC Preparation:	2015-01-14 2015-01-14	Analyzed By Prepared By	
Parameter	$\operatorname{Flag}$	$\operatorname{Cert}$	$\begin{array}{c} \mathrm{MDL} \\ \mathrm{Result} \end{array}$	Units	$\operatorname{RL}$
Sulfate	1 148	3,4,5	<3.44	$\frac{\rm mg/Kg}$	25

7020114G292

Work Order: 14121803 Enterprise Permian Expansion

# Laboratory Control Spikes

## Laboratory Control Spike (LCS-1)

QC Batch: 118428 Prep Batch: 100003 Date Analyzed: 2015-12-31 QC Preparation: 2014-12-28 Analyzed By: LM Prepared By: PM

Page Number: 136 of 189

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Total Manganese		1,2,3,4,5	24.9	mg/Kg	1	25.0	< 0.0957	100	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	24.8	mg/Kg	1	25.0	< 0.0957	99	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118437 Prep Batch: 100147 Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05

Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	241	mg/Kg	1	250	< 2.66	96	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	258	mg/Kg	1	250	< 2.66	103	90 - 110	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL Prep Batch: 100147 QC Preparation: 2015-01-05 Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 137 of 189

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	252	mg/Kg	1	250	< 3.44	101	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	265	mg/Kg	1	250	< 3.44	106	90 - 110	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118438

2015-01-05 Date Analyzed:

Analyzed By: RL Prepared By: RL

Prep Batch: 100150

QC Preparation: 2015-01-05

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	229	mg/Kg	1	250	< 2.66	92	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	249	mg/Kg	1	250	< 2.66	100	90 - 110	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118438 Prep Batch: 100150 Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05

Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	233	mg/Kg	1	250	< 3.44	93	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{\mathrm{Spike}}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	248	mg/Kg	1	250	< 3.44	99	90 - 110	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 138 of 189

### Laboratory Control Spike (LCS-1)

QC Batch: 118439 Prep Batch: 100151 Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05 Analyzed By: RL Prepared By: RL

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	254	mg/Kg	1	250	< 2.66	102	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	251	mg/Kg	1	250	< 2.66	100	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118439 Prep Batch: 100151 Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	251	mg/Kg	1	250	< 3.44	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	248	mg/Kg	1	250	< 3.44	99	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118442 Date Prep Batch: 100152 QC I

Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	247	$\mathrm{mg}/\mathrm{Kg}$	1	250	< 2.66	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 139 of 189

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	244	mg/Kg	1	250	< 2.66	98	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118442 Prep Batch: 100152 Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05 Analyzed By: RL Prepared By: RL

LCS Spike Matrix Rec. Param F Result Units Dil. Amount Result Rec. Limit  $\overline{\text{Sulfate}}$ 243 250 < 3.44 97 90 - 110 mg/Kg

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	240	mg/Kg	1	250	< 3.44	96	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118464 Prep Batch: 100003 Date Analyzed: 2015-01-07 QC Preparation: 2014-12-28 Analyzed By: RR Prepared By: PM

LCS Spike Matrix Rec. Param С Result Dil. Amount Result Limit Units Rec. Total Iron 57.1 mg/Kg 50.0 1.44 111 85 - 115 1,2,3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				LCSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param		F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron	Qs	Qs	1,2,3,4,5	60.2	mg/Kg	1	50.0	1.44	118	85 - 115	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

### Laboratory Control Spike (LCS-1)

 QC Batch:
 118470
 Date Analyzed:
 2015-01-07

 Prep Batch:
 100016
 QC Preparation:
 2014-12-29

Analyzed By: RR Prepared By: PM

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 140 of 189

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese		1,2,3,4,5	28.4	mg/Kg	1	25.0	< 0.0957	114	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param		F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese	Qs	Qs	1,2,3,4,5	29.0	mg/Kg	1	25.0	< 0.0957	116	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118479 Prep Batch: 100016 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-29 Analyzed By: RR Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Total Iron		1,2,3,4,5	59.3	mg/Kg	1	50.0	10.1	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron		1,2,3,4,5	58.5	mg/Kg	1	50.0	10.1	97	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118482 Prep Batch: 100017 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-29 Analyzed By: RR Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese		1,2,3,4,5	27.5	mg/Kg	1	25.0	< 0.0957	110	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	27.4	mg/Kg	1	25.0	< 0.0957	110	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Work Order: 14121803 Enterprise Permian Expansion Page Number: 141 of 189

#### Laboratory Control Spike (LCS-1)

QC Batch: 118484 Prep Batch: 100052

7020114G292

Date Analyzed: 2015-01-08 QC Preparation: 2014-12-30 Analyzed By: RR Prepared By: PM

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese		1,2,3,4,5	26.4	mg/Kg	1	25.0	< 0.0957	106	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	28.7	mg/Kg	1	25.0	< 0.0957	115	85 - 115	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118486 Prep Batch: 100054 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-30 Analyzed By: RR Prepared By: PM

				LCS			Spike	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese	Qs	Qs	1,2,3,4,5	_	mg/Kg	1	25.0	< 0.0957	115	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	28.7	mg/Kg	1	25.0	< 0.0957	115	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

 QC Batch:
 118489
 Dat

 Prep Batch:
 100094
 QC

Date Analyzed: 2015-01-07 QC Preparation: 2015-01-05 Analyzed By: LM Prepared By: PM

			LCS			$_{ m Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese		1,2,3,4,5	22.8	mg/Kg	1	25.0	< 0.0957	91	85 - 115

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 142 of 189

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	23.3	mg/Kg	1	25.0	< 0.0957	93	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118490 Prep Batch: 100094 Date Analyzed: 2015-01-07 QC Preparation: 2015-01-05 Analyzed By: LM Prepared By: PM

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Total Iron		1,2,3,4,5	55.6	mg/Kg	1	50.0	5.044	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				LCSD			Spike	Matrix		Rec.		RPD
Param		F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron	Qr,Qs	$_{ m Qr,Qs}$	1,2,3,4,5	24.0	mg/Kg	1	50.0	5.044	38	85 - 115	79	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118527 Prep Batch: 100017 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-29 Analyzed By: LM Prepared By: PM

				LCS			Spike	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Iron	Qs	Qs	1,2,3,4,5	67.8	mg/Kg	1	50.0	4.116	127	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron		1,2,3,4,5	60.2	mg/Kg	1	50.0	4.116	112	85 - 115	12	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RL Prep Batch: 100220 QC Preparation: 2015-01-06 Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 143 of 189

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	270	mg/Kg	1	250	< 2.66	108	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	227	mg/Kg	1	250	< 2.66	91	90 - 110	17	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118531 Prep Batch: 100220 Date Analyzed: 2015-01-06 QC Preparation: 2015-01-06 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	274	mg/Kg	1	250	< 3.44	110	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	228	mg/Kg	1	250	< 3.44	91	90 - 110	18	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118533 Prep Batch: 100222

Date Analyzed: 2015-01-06 QC Preparation: 2015-01-06 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	228	mg/Kg	1	250	< 2.66	91	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	229	mg/Kg	1	250	< 2.66	92	90 - 110	0	20

Work Order: 14121803 Enterprise Permian Expansion Page Number: 144 of 189

Laboratory Control Spike (LCS-1)

QC Batch: 118533 Prep Batch: 100222

7020114G292

Date Analyzed: 2015-01-06 QC Preparation: 2015-01-06 Analyzed By: RL Prepared By: RL

 ${\rm Spike}$ LCS Matrix Rec. F Param  $\mathbf{C}$ Result Units Dil. Amount Result Rec. Limit Sulfate 90 - 110 3,4,5 235mg/Kg 2505.66 92

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	234	mg/Kg	1	250	5.66	91	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118536 Prep Batch: 100223 Date Analyzed: 2015-01-08 QC Preparation: 2015-01-06 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	249	mg/Kg	1	250	< 2.66	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	230	mg/Kg	1	250	< 2.66	92	90 - 110	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

# Laboratory Control Spike (LCS-1)

 QC Batch:
 118536
 Date Analyzed:
 2015-01-08

 Prep Batch:
 100223
 QC Preparation:
 2015-01-06

Analyzed By: RL Prepared By: RL

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Sulfate		3,4,5	268	mg/Kg	1	250	< 3.44	107	90 - 110

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 145 of 189

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	243	mg/Kg	1	250	< 3.44	97	90 - 110	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118551 Prep Batch: 100052 Date Analyzed: 2015-01-09 QC Preparation: 2014-12-30 Analyzed By: RR Prepared By: PM

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Iron		1,2,3,4,5	56.6	mg/Kg	1	50.0	1.056	111	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron		1,2,3,4,5	57.2	mg/Kg	1	50.0	1.056	112	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118564 Prep Batch: 100249 Date Analyzed: 2015-01-09 QC Preparation: 2015-01-09 Analyzed By: RL Prepared By: RL

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	255	mg/Kg	1	250	< 2.66	102	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	255	mg/Kg	1	250	< 2.66	102	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RL Prep Batch: 100249 QC Preparation: 2015-01-09 Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 146 of 189

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Sulfate		3,4,5	249	mg/Kg	1	250	< 3.44	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	249	mg/Kg	1	250	< 3.44	100	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118565 Prep Batch: 100250 Date Analyzed: 2015-01-09 QC Preparation: 2015-01-09 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	251	mg/Kg	1	250	< 2.66	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	251	mg/Kg	1	250	< 2.66	100	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118565 Prep Batch: 100250 Date Analyzed: 2015-01-09 QC Preparation: 2015-01-09 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	246	mg/Kg	1	250	< 3.44	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	245	mg/Kg	1	250	< 3.44	98	90 - 110	0	20

Work Order: 14121803 Enterprise Permian Expansion Page Number: 147 of 189

7020114G292

#### Laboratory Control Spike (LCS-1)

QC Batch: 118574 Prep Batch: 100054 Date Analyzed: 2015-01-09 QC Preparation: 2014-12-30 Analyzed By: LM Prepared By: PM

			LCS			$_{ m Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Total Iron		1,2,3,4,5	58.7	mg/Kg	1	50.0	3.145	111	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron		1,2,3,4,5	57.7	mg/Kg	1	50.0	3.145	109	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118588 Prep Batch: 100268 Date Analyzed: 2015-01-12 QC Preparation: 2015-01-12 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	246	mg/Kg	1	250	< 2.66	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	248	mg/Kg	1	250	< 2.66	99	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

 QC Batch:
 118588
 Date Analyzed:
 2015-01-12

 Prep Batch:
 100268
 QC Preparation:
 2015-01-12

Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Sulfate		3,4,5	247	mg/Kg	1	250	< 3.44	99	90 - 110

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 148 of 189

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	247	mg/Kg	1	250	< 3.44	99	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118589 Prep Batch: 100269 Date Analyzed: 2015-01-12 QC Preparation: 2015-01-12 Analyzed By: RL Prepared By: RL

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	248	mg/Kg	1	250	< 2.66	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	248	mg/Kg	1	250	< 2.66	99	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118589 Prep Batch: 100269 Date Analyzed: 2015-01-12 QC Preparation: 2015-01-12

Analyzed By: RL Prepared By: RL

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	251	mg/Kg	1	250	< 3.44	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	251	mg/Kg	1	250	< 3.44	100	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

 QC Batch:
 118590
 Date Analyzed:
 2015-01-12

 Prep Batch:
 100270
 QC Preparation:
 2015-01-12

Analyzed By: RL Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 149 of 189

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	249	mg/Kg	1	250	< 2.66	100	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	244	mg/Kg	1	250	< 2.66	98	90 - 110	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118590 Prep Batch: 100270 Date Analyzed: 2015-01-12 QC Preparation: 2015-01-12 Analyzed By: RL Prepared By: RL

Prep Batch: 100270

LCS Spike Matrix Rec.  $\mathbf{C}$ Result Result Limit Param Units Dil. Amount Rec. Sulfate 252mg/Kg 1 250 < 3.44101 90 - 110 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	247	mg/Kg	1	250	< 3.44	99	90 - 110	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

QC Batch: 118620 Prep Batch: 100297 Date Analyzed: 2015-01-13 QC Preparation: 2015-01-13 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Chloride		3,4,5	268	mg/Kg	1	250	< 2.66	107	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	268	mg/Kg	1	250	< 2.66	107	90 - 110	0	20

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 150 of 189

#### Laboratory Control Spike (LCS-1)

QC Batch: 118620 Prep Batch: 100297 Date Analyzed: 2015-01-13 QC Preparation: 2015-01-13 Analyzed By: RL Prepared By: RL

			LCS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	254	mg/Kg	1	250	< 3.44	102	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	255	mg/Kg	1	250	< 3.44	102	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 118639 Prep Batch: 100314 Date Analyzed: 2015-01-14 QC Preparation: 2015-01-14 Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	245	mg/Kg	1	250	< 2.66	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	242	mg/Kg	1	250	< 2.66	97	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Laboratory Control Spike (LCS-1)

 QC Batch:
 118639
 Date Analyzed:
 2015-01-14

 Prep Batch:
 100314
 QC Preparation:
 2015-01-14

Analyzed By: RL Prepared By: RL

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Sulfate		3,4,5	239	mg/Kg	1	250	< 3.44	96	90 - 110

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 151 of 189

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	236	mg/Kg	1	250	< 3.44	94	90 - 110	1	20

7020114G292

Work Order: 14121803 Enterprise Permian Expansion

Page Number: 152 of 189

# Matrix Spikes

Matrix Spike (xMS-1) Spiked Sample: 382479

QC Batch: 118428 Date Analyzed: 2015-12-31 Analyzed By: LM Prep Batch: 100003 QC Preparation: 2014-12-28 Prepared By: PM

MS Spike Matrix Rec. F  $\mathbf{C}$ Dil. Param Result Units Amount Result Rec. Limit Total Manganese 189 mg/Kg 25.0 180.4 34 75 - 125 Qs1,2,3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

RPD MSD Spike Matrix Rec. Result  $\mathbf{C}$ RPD Param Result Units Dil. Amount Rec. Limit Limit Total Manganese 187 25.0 180.4 26 75 - 125 20 1,2,3,4,5 mg/Kg 1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382796

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL Prep Batch: 100147 QC Preparation: 2015-01-05 Prepared By: RL

MSSpike Matrix Rec. C Param Result Units Dil. Amount Result Rec. Limit 1200 1250 126 Chloride mg/Kg 5 86 80 - 120 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

MSD RPD Spike Matrix Rec. Param F  $\mathbf{C}$ Result Units Dil. Amount Result Rec. Limit RPD Limit 1210 1250 126 80 - 120 20 Chloride mg/Kg 87

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382796

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL Prep Batch: 100147 QC Preparation: 2015-01-05 Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 153 of 189

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	3270	mg/Kg	5	1250	1900	110	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	3370	mg/Kg	5	1250	1900	118	80 - 120	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382777

QC Batch: 118438 Date Analyzed: Prep Batch: 100150 QC Preparation: 2015-01-05

Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	1510	mg/Kg	5	1250	307	96	80 - 120

2015-01-05

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1490	mg/Kg	5	1250	307	95	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382777

QC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RL Prep Batch: 100150 QC Preparation: 2015-01-05 Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	2800	mg/Kg	5	1250	1510	103	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	2790	mg/Kg	5	1250	1510	102	80 - 120	0	20

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 154 of 189

Matrix Spike (MS-1) Spiked Sample: 382818

QC Batch: 118439 Prep Batch: 100151

2015-01-05 Date Analyzed: QC Preparation: 2015-01-05 Analyzed By: RL Prepared By: RL

 ${\rm Spike}$ MS Matrix Rec. Param F  $\mathbf{C}$ Result Units Dil. Amount Result Rec. Limit Chloride 3,4,5 200 mg/Kg 208 2.7 95 80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	200	mg/Kg	1	208	2.7	95	80 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382818

QC Batch: 118439 Prep Batch: 100151

Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05 Analyzed By: RLPrepared By:

RL

Spike MS Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 12.7 Sulfate 204 mg/Kg 208 9280 - 120 1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	203	mg/Kg	1	208	12.7	91	80 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382787

QC Batch: Date Analyzed: Analyzed By: RL 118442 2015-01-05 Prep Batch: 100152 QC Preparation: 2015-01-05 Prepared By:

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Chloride		3,4,5	1370	mg/Kg	5	1250	123	100	80 - 120

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 155 of 189

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1340	mg/Kg	5	1250	123	97	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382787

QC Batch: 118442 Prep Batch: 100152 Date Analyzed: 2015-01-05 QC Preparation: 2015-01-05

Analyzed By: RL Prepared By: RL

			MS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	2640	mg/Kg	5	1250	1180	117	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	2590	mg/Kg	5	1250	1180	113	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample: 382479

QC Batch: 118464 Prep Batch: 100003

2015-01-07 Date Analyzed: QC Preparation: 2014-12-28 Analyzed By: RR Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Iron		1,2,3,4,5	9600	mg/Kg	1	500	9090	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron		1,2,3,4,5	9570	mg/Kg	1	500	9090	96	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382710

QC Batch: 118470 Date Analyzed: 2015-01-07 Prep Batch: 100016 QC Preparation: 2014-12-29 Analyzed By: RR

Prepared By: PM

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 156 of 189

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Total Manganese		1,2,3,4,5	63.7	mg/Kg	1	25.0	34.1	118	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	64.6	mg/Kg	1	25.0	34.1	122	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382710

QC Batch: 118479 Prep Batch: 100016 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-29 Analyzed By: RR Prepared By: PM

				MS			Spike	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Iron	$^{1}$ Qs	Qs	1,2,3,4,5	4040	mg/Kg	100	5000	3870	3	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron	Qs	Qs	1,2,3,4,5	4070	mg/Kg	100	5000	3870	4	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382730

 QC Batch:
 118482
 Date Analyzed:
 2015-01-08

 Prep Batch:
 100017
 QC Preparation:
 2014-12-29

Analyzed By: RR Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese		1,2,3,4,5	90.7	mg/Kg	1	25.0	63.3	110	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese	Qs	Qs	1,2,3,4,5	95.2	mg/Kg	1	25.0	63.3	128	75 - 125	5	20

Work Order: 14121803 Enterprise Permian Expansion Page Number: 157 of 189

7020114G292

Matrix Spike (MS-1) Spiked Sample: 382750

QC Batch: 118484 Prep Batch: 100052 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-30 Analyzed By: RR Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Total Manganese		1,2,3,4,5	64.3	mg/Kg	1	25.0	35.7	114	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	65.6	mg/Kg	1	25.0	35.7	120	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382770

QC Batch: 118486 Prep Batch: 100054 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-30 Analyzed By: RR Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese		1,2,3,4,5	61.0	mg/Kg	1	25.0	36.4	98	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	60.7	mg/Kg	1	25.0	36.4	97	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382790

QC Batch: 118489 Date Analyzed: 2015-01-07 Analyzed By: LM Prep Batch: 100094 QC Preparation: 2015-01-05 Prepared By: PM

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Manganese		1,2,3,4,5	47.2	mg/Kg	1	25.0	26.41	83	75 - 125

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 158 of 189

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Manganese		1,2,3,4,5	47.8	mg/Kg	1	25.0	26.41	86	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382790

QC Batch: 118490 Prep Batch: 100094 Date Analyzed: 2015-01-07 QC Preparation: 2015-01-05 Analyzed By: LM Prepared By: PM

				MS			$\operatorname{Spike}$	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Iron	Qs	Qs	1,2,3,4,5	3460	mg/Kg	1	50.0	3219	482	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron	$^{2}$ Qs	Qs	1,2,3,4,5	3210	mg/Kg	1	50.0	3219	-18	75 - 125	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382730

QC Batch: 118527 Prep Batch: 100017 Date Analyzed: 2015-01-08 QC Preparation: 2014-12-29 Analyzed By: LM Prepared By: PM

				MS			$_{ m Spike}$	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Iron	Qs	Qs	1,2,3,4,5	5770	mg/Kg	100	50.0	5583	374	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param		F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron	Qs	Qs	1,2,3,4,5	5610	mg/Kg	100	50.0	5583	54	75 - 125	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382767

QC Batch: 118531 Date Analyzed: 2015-01-06 Analyzed By: RL Prep Batch: 100220 QC Preparation: 2015-01-06 Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 159 of 189

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	1330	mg/Kg	5	1250	277	84	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{\rm Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1380	mg/Kg	5	1250	277	88	80 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382767

QC Batch: 118531 Prep Batch: 100220 Date Analyzed: 2015-01-06 QC Preparation: 2015-01-06 Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	1790	mg/Kg	5	1250	690	88	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	1860	mg/Kg	5	1250	690	94	80 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382757

QC Batch: 118533 Date Analyzed: 2015-01-06 Prep Batch: 100222 QC Preparation: 2015-01-06

Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	1410	mg/Kg	5	1250	277	91	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1400	mg/Kg	5	1250	277	90	80 - 120	1	20

Work Order: 14121803 Enterprise Permian Expansion Page Number: 160 of 189

Matrix Spike (MS-1)

(MS-1) Spiked Sample: 382757

QC Batch: 118533 Prep Batch: 100222

7020114G292

Date Analyzed: 2015-01-06 QC Preparation: 2015-01-06 Analyzed By: RL Prepared By: RL

			MS			$_{ m Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	2980	mg/Kg	5	1250	1740	99	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	3010	mg/Kg	5	1250	1740	102	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382747

QC Batch: 118536 Prep Batch: 100223 Date Analyzed: 2015-01-08 QC Preparation: 2015-01-06 Analyzed By: RL Prepared By: RL

				MS			Spike	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	Qs	Qs	3,4,5	1860	mg/Kg	5	1250	97.2	141	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	Qr	Qr	3,4,5	1210	mg/Kg	5	1250	97.2	89	80 - 120	42	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382747

QC Batch: 118536 Date Analyzed: 2015-01-08 Analyzed By: RL Prep Batch: 100223 QC Preparation: 2015-01-06 Prepared By: RL

				MS			Spike	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	Qs	Qs	3,4,5	3850	mg/Kg	5	1250	1870	158	80 - 120

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 161 of 189

MSD RPD Spike Matrix Rec. RPD Units Amount Limit Param Result Dil. Result Rec. Limit  $\overline{1250}$ 80 - 120 Sulfate 3170mg/Kg 1870 104 19 20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382750

QC Batch: 118551 Prep Batch: 100052 Date Analyzed: 2015-01-09 QC Preparation: 2014-12-30 Analyzed By: RR Prepared By: PM

MS Spike Matrix Rec. Param  $\mathbf{C}$ Result Units Dil. Amount Result Rec. Limit Total Iron 3660 50.0 3460 400 75 - 125 mg/Kg 100 1,2,3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron	Qs	Qs	1,2,3,4,5	3490	mg/Kg	100	50.0	3460	60	75 - 125	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382737

QC Batch: 118564 Prep Batch: 100249 Date Analyzed: 2015-01-09 QC Preparation: 2015-01-09

Analyzed By: RL Prepared By: RL

MSSpike Matrix Rec. Param F  $\mathbf{C}$ Units Dil. Result Limit Result Amount Rec. Chloride 1400 mg/Kg 5 1250 166 99 80 - 120 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD	
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit	
Chloride		3,4,5	1380	mg/Kg	5	1250	166	97	80 - 120	1	20	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382737

QC Batch: 118564 Date Analyzed: 2015-01-09 Analyzed By: RL Prep Batch: 100249 QC Preparation: 2015-01-09 Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 162 of 189

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	4220	mg/Kg	5	1250	2770	116	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	4190	mg/Kg	5	1250	2770	114	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382702

QC Batch: 118565 Prep Batch: 100250 Date Analyzed: 2015-01-09 QC Preparation: 2015-01-09 Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Chloride		3,4,5	1380	mg/Kg	5	1250	114	101	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1360	mg/Kg	5	1250	114	100	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382702

QC Batch: 118565 Date Analyzed: 2015-01-09 Prep Batch: 100250 QC Preparation: 2015-01-09

Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	2020	mg/Kg	5	1250	700	106	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{\mathrm{Spike}}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	2010	mg/Kg	5	1250	700	105	80 - 120	0	20

Work Order: 14121803 Enterprise Permian Expansion Page Number: 163 of 189

7020114G292

Matrix Spike (MS-1) Spiked Sample: 382770

QC Batch: 118574 Prep Batch: 100054 Date Analyzed: 2015-01-09 QC Preparation: 2014-12-30 Analyzed By: LM Prepared By: PM

Spike MS Matrix Rec.  $\mathbf{C}$ Param F Result Units Dil. Amount Result Rec. Limit Total Iron 1,2,3,4,5 3740 mg/Kg 100 50.0 3412 656 75 - 125Qs Qs

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Iron	Qs	Qs	1,2,3,4,5	3640	mg/Kg	100	50.0	3412	456	75 - 125	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382711

 QC Batch:
 118588
 Date Analyzed:
 2015-01-12

 Prep Batch:
 100268
 QC Preparation:
 2015-01-12

Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Chloride		3,4,5	1590	mg/Kg	5	1250	290	104	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1580	mg/Kg	5	1250	290	103	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382711

QC Batch: 118588 Date Analyzed: 2015-01-12 Analyzed By: RL Prep Batch: 100268 QC Preparation: 2015-01-12 Prepared By: RL

			MS			$_{ m Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	2420	mg/Kg	5	1250	1060	109	80 - 120

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 164 of 189

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	2390	mg/Kg	5	1250	1060	106	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382721

QC Batch: 118589 Prep Batch: 100269 Date Analyzed: 2015-01-12 QC Preparation: 2015-01-12 Analyzed By: RL Prepared By: RL

MSSpike Matrix Rec. Param F  $\mathbf{C}$ Result Units Dil. Amount Result Limit Rec. Chloride 1550 1250 285 101 80 - 120 mg/Kg 5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1550	mg/Kg	5	1250	285	101	80 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382721

QC Batch: 118589 Date Analyzed: 2015-01-12 Prep Batch: 100269 QC Preparation: 2015-01-12

Analyzed By: RL Prepared By: RL

MSSpike Matrix Rec. Param F  $\mathbf{C}$ Units Dil. Result Limit Result Amount Rec. Sulfate 3950 mg/Kg 5 1250 2480 118 80 - 120 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	3960	mg/Kg	5	1250	2480	118	80 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382731

QC Batch: 118590 Date Analyzed: 2015-01-12 Analyzed By: RL Prep Batch: 100270 QC Preparation: 2015-01-12 Prepared By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 165 of 189

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	2000	$\mathrm{mg}/\mathrm{Kg}$	5	1250	609	111	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	2070	mg/Kg	5	1250	609	117	80 - 120	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382731

QC Batch: 118590 Prep Batch: 100270 Date Analyzed: 2015-01-12 QC Preparation: 2015-01-12 Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3,4,5	3020	mg/Kg	5	1250	1600	114	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	3030	mg/Kg	5	1250	1600	114	80 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382862

QC Batch: 118620 Date Analyzed: 2015-01-13 Prep Batch: 100297 QC Preparation: 2015-01-13

Analyzed By: RL Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		3,4,5	1360	mg/Kg	5	1250	154	96	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1380	mg/Kg	5	1250	154	98	80 - 120	1	20

Work Order: 14121803

Page Number: 166 of 189

7020114G292

Enterprise Permian Expansion

Matrix Spike (MS-1) Spiked Sample: 382862

QC Batch: 118620 Prep Batch: 100297 Date Analyzed: 2015-01-13 QC Preparation: 2015-01-13 Analyzed By: RL Prepared By: RL

MS Spike Matrix Rec. Param F  $\mathbf{C}$ Result Units Dil. Amount Result Rec. Limit Sulfate 3,4,5 2090 mg/Kg 5 1250 859 98 80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

MSD Spike Matrix Rec. RPD Param F  $\mathbf{C}$ Result Units Dil. Amount Result Rec. Limit RPD Limit Sulfate 2090 1250 859 98 80 - 120 20 mg/Kg 5 0 3,4,5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382892

QC Batch: 118639 Prep Batch: 100314 Date Analyzed: 2015-01-14 QC Preparation: 2015-01-14 Analyzed By: RL Prepared By: RL

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 1380 1250 Chloride mg/Kg 183 96 80 - 120 5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3,4,5	1370	mg/Kg	5	1250	183	95	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 382892

QC Batch: 118639 Date Analyzed: 2015-01-14 Analyzed By: RL Prep Batch: 100314 QC Preparation: 2015-01-14 Prepared By: RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Sulfate		3,4,5	1580	mg/Kg	5	1250	387	95	80 - 120

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 167 of 189

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		3,4,5	1570	mg/Kg	5	1250	387	95	80 - 120	1	20

Page Number: 168 of 189

Report Date: January 14, 2015

7020114G292

Work Order: 14121803 Enterprise Permian Expansion

Calibration Standards

Standard (ICV-1)

QC Batch: 118428 Date Analyzed: 2015-12-31 Analyzed By: LM

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	0.999	100	90 - 110	2015-12-31

Standard (CCV-1)

QC Batch: 118428 Analyzed By: LM Date Analyzed: 2015-12-31

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		12345	mø/Kø	1.00	0.967	97	90 - 110	2015-12-31

Standard (CCV-1)

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.1	96	90 - 110	2015-01-05

Standard (CCV-1)

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.7	99	90 - 110	2015-01-05

Report Date: January 14, 2015 Work Order: 14121803 Page Number: 169 of 189

7020114G292 Enterprise Permian Expansion

Standard (CCV-2)

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	25.3	101	90 - 110	2015-01-05

Standard (CCV-2)

QC Batch: 118437 Date Analyzed: 2015-01-05 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	26.2	105	90 - 110	2015-01-05

Standard (CCV-1)

QC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.5	98	90 - 110	2015-01-05

Standard (CCV-1)

QC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.8	99	90 - 110	2015-01-05

Standard (CCV-2)

QC Batch: 118438 Date Analyzed: 2015-01-05 Analyzed By: RL

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 170 of 189

				CCVs	CCVs	CCVs	Percent	_
				$\operatorname{True}$	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	$\mathrm{mg}/\mathrm{Kg}$	25.0	23.1	92	90 - 110	2015-01-05

# Standard (CCV-2)

QC Batch: 118438

Date Analyzed: 2015-01-05

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	m mg/Kg	25.0	23.5	94	90 - 110	2015-01-05

## Standard (CCV-1)

QC Batch: 118439

Date Analyzed: 2015-01-05

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	23.1	92	90 - 110	2015-01-05

# Standard (CCV-1)

QC Batch: 118439

Date Analyzed: 2015-01-05

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	23.5	94	90 - 110	2015-01-05

# Standard (CCV-2)

QC Batch: 118439

Date Analyzed: 2015-01-05

Analyzed By: RL

Work Order: 14121803 Enterprise Permian Expansion Page Number: 171 of 189

7020114G292

 $\frac{\text{Param}}{\text{Chloride}}$ 

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Flag	g Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
	3,4,5	mg/Kg	25.0	25.2	101	90 - 110	2015-01-05

# Standard (CCV-2)

 $QC\ Batch:\ 118439$ 

Date Analyzed: 2015-01-05

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	25.0	100	90 - 110	2015-01-05

## Standard (CCV-1)

QC Batch: 118442

Date Analyzed: 2015-01-05

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	25.2	101	90 - 110	2015-01-05

# Standard (CCV-1)

QC Batch: 118442

Date Analyzed: 2015-01-05

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	25.0	100	90 - 110	2015-01-05

## Standard (CCV-2)

QC Batch: 118442

Date Analyzed: 2015-01-05

Analyzed By: RL

Report Date: January 14, 2015 7020114G292

Work Order: 14121803

Enterprise Permian Expansion

Page Number: 172 of 189

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.1	96	90 - 110	2015-01-05

Standard (CCV-2)

 $QC \ Batch: \ 118442$ 

Date Analyzed: 2015-01-05

Analyzed By: RL

				$\mathrm{CCVs}$	$\mathrm{CCVs}$	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	23.6	94	90 - 110	2015-01-05

Standard (ICV-1)

 $QC\ Batch:\ 118464$ 

Date Analyzed: 2015-01-07

Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	0.996	100	90 - 110	2015-01-07

Standard (CCV-1)

QC Batch: 118464

Date Analyzed: 2015-01-07

Analyzed By: RR

				$\operatorname{CCVs}$	CCVs	$\mathrm{CCVs}$	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.01	101	90 - 110	2015-01-07

Standard (ICV-1)

QC Batch: 118470

Date Analyzed: 2015-01-07

Analyzed By: RR

Work Order: 14121803

Enterprise Permian Expansion

Page Number: 173 of 189

7020114G292

				ICVs True	ICVs Found	${ m ICVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	0.995	100	90 - 110	2015-01-07

# Standard (CCV-1)

QC Batch: 118470

Date Analyzed: 2015-01-07

Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	0.989	99	90 - 110	2015-01-07

## Standard (ICV-1)

QC Batch: 118479

Date Analyzed: 2015-01-08

Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	0.996	100	90 - 110	2015-01-08

# Standard (CCV-1)

QC Batch: 118479

Date Analyzed: 2015-01-08

Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.01	101	90 - 110	2015-01-08

# Standard (ICV-1)

QC Batch: 118482

Date Analyzed: 2015-01-08

Analyzed By: RR

Work Order: 14121803

Page Number: 174 of 189

7020114G292

Enterprise Permian Expansion

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	0.995	100	90 - 110	2015-01-08

# Standard (CCV-1)

 $QC\ Batch{:}\quad 118482$ 

Date Analyzed: 2015-01-08

Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	1.03	103	90 - 110	2015-01-08

## Standard (ICV-1)

 $QC\ Batch:\ 118484$ 

Date Analyzed: 2015-01-08

Analyzed By: RR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	0.995	100	90 - 110	2015-01-08

# Standard (CCV-1)

QC Batch: 118484

Date Analyzed: 2015-01-08

Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	m mg/Kg	1.00	1.02	102	90 - 110	2015-01-08

# Standard (ICV-1)

QC Batch: 118486

Date Analyzed: 2015-01-08

Analyzed By: RR

Work Order: 14121803

Page Number: 175 of 189

7020114G292

Enterprise Permian Expansion

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	0.995	100	90 - 110	2015-01-08

# Standard (CCV-1)

 $QC\ Batch{:}\quad 118486$ 

Date Analyzed: 2015-01-08

Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	1.02	102	90 - 110	2015-01-08

## Standard (ICV-1)

QC Batch: 118489

Date Analyzed: 2015-01-07

Analyzed By: LM

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	1.04	104	90 - 110	2015-01-07

# Standard (CCV-1)

QC Batch: 118489

Date Analyzed: 2015-01-07

Analyzed By: LM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		1,2,3,4,5	mg/Kg	1.00	1.04	104	90 - 110	2015-01-07

# Standard (ICV-1)

QC Batch: 118490

Date Analyzed: 2015-01-07

Analyzed By: LM

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 176 of 189

				ICVs	ICVs	ICVs	Percent	ъ.
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.03	103	90 - 110	2015-01-07

Standard (CCV-1)

QC Batch: 118490

Date Analyzed: 2015-01-07

Analyzed By: LM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.05	105	90 - 110	2015-01-07

Standard (ICV-1)

QC Batch: 118527

Date Analyzed: 2015-01-08

Analyzed By: LM

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.03	103	90 - 110	2015-01-08

Standard (CCV-1)

QC Batch: 118527

Date Analyzed: 2015-01-08

Analyzed By: LM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.03	103	90 - 110	2015-01-08

Standard (CCV-1)

QC Batch: 118531

Date Analyzed: 2015-01-06

Analyzed By: RL

Work Order: 14121803
Enterprise Permian Expansi

Enterprise Permian Expansion

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
	3,4,5	mg/Kg	25.0	23.2	93	90 - 110	2015-01-06

### Standard (CCV-1)

7020114G292

 $\frac{\text{Param}}{\text{Chloride}}$ 

QC Batch: 118531

Date Analyzed: 2015-01-06

Analyzed By: RL

Page Number: 177 of 189

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	23.7	95	90 - 110	2015-01-06

#### Standard (CCV-2)

QC Batch: 118531

Date Analyzed: 2015-01-06

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	26.9	108	90 - 110	2015-01-06

#### Standard (CCV-2)

QC Batch: 118531

Date Analyzed: 2015-01-06

Analyzed By: RL

				CCVs True	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	27.2	109	90 - 110	2015-01-06

#### Standard (CCV-1)

QC Batch: 118533

Date Analyzed: 2015-01-06

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 178 of 189

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	26.9	108	90 - 110	2015-01-06

#### Standard (CCV-1)

 $QC\ Batch{:}\quad 118533$ 

Date Analyzed: 2015-01-06

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	27.2	109	90 - 110	2015-01-06

#### Standard (CCV-2)

 $QC\ Batch:\ 118533$ 

Date Analyzed: 2015-01-06

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	23.0	92	90 - 110	2015-01-06

#### Standard (CCV-2)

QC Batch: 118533

Date Analyzed: 2015-01-06

Analyzed By: RL

				$\begin{array}{c} { m CCVs} \\ { m True} \end{array}$	$\begin{array}{c} {\rm CCVs} \\ {\rm Found} \end{array}$	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	23.8	95	90 - 110	2015-01-06

#### Standard (CCV-1)

QC Batch: 118536

Date Analyzed: 2015-01-08

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 179 of 189

				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
				rue	round	Percent	necovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	23.0	92	90 - 110	2015-01-08

### Standard (CCV-1)

QC Batch: 118536

Date Analyzed: 2015-01-08

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	23.8	95	90 - 110	2015-01-08

#### Standard (CCV-2)

 $QC\ Batch:\ 118536$ 

Date Analyzed: 2015-01-08

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.9	100	90 - 110	2015-01-08

#### Standard (CCV-2)

QC Batch: 118536

Date Analyzed: 2015-01-08

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	25.6	102	90 - 110	2015-01-08

#### Standard (ICV-1)

QC Batch: 118551

Date Analyzed: 2015-01-09

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 180 of 189

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.03	103	90 - 110	2015-01-09

Standard (CCV-1)

QC Batch: 118551

Date Analyzed: 2015-01-09

Analyzed By: RR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.06	106	90 - 110	2015-01-09

Standard (CCV-1)

QC Batch: 118564

Date Analyzed: 2015-01-09

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	25.4	102	90 - 110	2015-01-09

Standard (CCV-1)

QC Batch: 118564

Date Analyzed: 2015-01-09

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.7	99	90 - 110	2015-01-09

Standard (CCV-2)

QC Batch: 118564

Date Analyzed: 2015-01-09

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 181 of 189

10201140202	Enterprise I eriman Expansion

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.9	100	90 - 110	2015-01-09

### Standard (CCV-2)

QC Batch: 118564

Date Analyzed: 2015-01-09

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.2	97	90 - 110	2015-01-09

#### Standard (CCV-1)

QC Batch: 118565

Date Analyzed: 2015-01-09

Analyzed By: RL

D	T)		<b>T</b> T •	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\operatorname{Flag}$	$\operatorname{Cert}$	$\operatorname{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.9	100	90 - 110	2015-01-09

#### Standard (CCV-1)

QC Batch: 118565

Date Analyzed: 2015-01-09

Analyzed By: RL

				$\begin{array}{c} { m CCVs} \\ { m True} \end{array}$	$\begin{array}{c} {\rm CCVs} \\ {\rm Found} \end{array}$	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.2	97	90 - 110	2015-01-09

#### Standard (CCV-2)

QC Batch: 118565

Date Analyzed: 2015-01-09

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 182 of 189

•	-	
$CCV_c$	$CCV_G$	CC

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	25.5	102	90 - 110	2015-01-09

#### Standard (CCV-2)

QC Batch: 118565

Date Analyzed: 2015-01-09

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.9	100	90 - 110	2015-01-09

#### Standard (ICV-1)

 $QC\ Batch:\ 118574$ 

Date Analyzed: 2015-01-09

Analyzed By: LM

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	1.03	103	90 - 110	2015-01-09

#### Standard (CCV-1)

QC Batch: 118574

Date Analyzed: 2015-01-09

Analyzed By: LM

				$\begin{array}{c} { m CCVs} \\ { m True} \end{array}$	$\begin{array}{c} {\rm CCVs} \\ {\rm Found} \end{array}$	$\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$	Percent Recovery	Date
				rrue	round	1 ercent	necovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		1,2,3,4,5	mg/Kg	1.00	0.987	99	90 - 110	2015-01-09

#### Standard (CCV-1)

QC Batch: 118588

Date Analyzed: 2015-01-12

Work Order: 14121803 Enterprise Permian Expansion Page Number: 183 of 189

7020114G292

	CCVs	CCVs	CCVs	Percent	
	True	Found	Percent	Recovery	Date
Units	Conc.	Conc.	Recovery	Limits	Analyzed

Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	$\mathrm{mg}/\mathrm{Kg}$	25.0	24.7	99	90 - 110	2015-01-12

### Standard (CCV-1)

QC Batch: 118588

Date Analyzed: 2015-01-12

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.8	99	90 - 110	2015-01-12

#### Standard (CCV-2)

QC Batch: 118588

Date Analyzed: 2015-01-12

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.9	100	90 - 110	2015-01-12

#### Standard (CCV-2)

QC Batch: 118588

Date Analyzed: 2015-01-12

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	25.0	100	90 - 110	2015-01-12

#### Standard (CCV-1)

QC Batch: 118589

Date Analyzed: 2015-01-12

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 184 of 189

		-	-	

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.9	100	90 - 110	2015-01-12

#### Standard (CCV-1)

 $QC \ Batch: \ 118589$ 

Date Analyzed: 2015-01-12

Analyzed By: RL

				CCVs	$\mathrm{CCVs}$	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	25.0	100	90 - 110	2015-01-12

#### Standard (CCV-2)

QC Batch: 118589

Date Analyzed: 2015-01-12

Analyzed By: RL

D	D		<b>T</b> T •	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\operatorname{Flag}$	Cert	$\operatorname{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.5	98	90 - 110	2015-01-12

#### Standard (CCV-2)

QC Batch: 118589

Date Analyzed: 2015-01-12

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.7	99	90 - 110	2015-01-12

#### Standard (CCV-1)

QC Batch: 118590

Date Analyzed: 2015-01-12

7020114G292

Work Order: 14121803 Enterprise Permian Expansion Page Number: 185 of 189

1020114G.	292		Enterprise	erman	Expansion

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.5	98	90 - 110	2015-01-12

### Standard (CCV-1)

QC Batch: 118590

Date Analyzed: 2015-01-12

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.7	99	90 - 110	2015-01-12

#### Standard (CCV-2)

QC Batch: 118590

Date Analyzed: 2015-01-12

Analyzed By: RL

D	T)		<b>T</b> T •	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\operatorname{Flag}$	$\operatorname{Cert}$	$\operatorname{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.9	100	90 - 110	2015-01-12

#### Standard (CCV-2)

QC Batch: 118590

Date Analyzed: 2015-01-12

Analyzed By: RL

				CCVs True	CCVs Found	$rac{ ext{CCVs}}{ ext{Percent}}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	25.0	100	90 - 110	2015-01-12

## Standard (CCV-1)

QC Batch: 118620

Date Analyzed: 2015-01-13

Work Order: 14121803 Enterprise Permian Expansion Page Number: 186 of 189

7020114G292

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	26.8	107	90 - 110	2015-01-13

#### Standard (CCV-1)

 $QC \ Batch: \ 118620$ 

Date Analyzed: 2015-01-13

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	25.6	102	90 - 110	2015-01-13

#### Standard (CCV-2)

QC Batch: 118620

Date Analyzed: 2015-01-13

Analyzed By: RL

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	25.3	101	90 - 110	2015-01-13

#### Standard (CCV-2)

QC Batch: 118620

Date Analyzed: 2015-01-13

Analyzed By: RL

				$\begin{array}{c} { m CCVs} \\ { m True} \end{array}$	$\begin{array}{c} {\rm CCVs} \\ {\rm Found} \end{array}$	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.2	97	90 - 110	2015-01-13

#### Standard (CCV-1)

QC Batch: 118639

Date Analyzed: 2015-01-14

Report Date: January 14, 2015 7020114G292

Work Order: 14121803

Enterprise Permian Expansion

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	23.7	95	90 - 110	2015-01-14

### Standard (CCV-1)

 $QC \ Batch: \ 118639$ 

Date Analyzed: 2015-01-14

Analyzed By: RL

Page Number: 187 of 189

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	23.1	92	90 - 110	2015-01-14

#### Standard (CCV-2)

QC Batch: 118639

Date Analyzed: 2015-01-14

Analyzed By: RL

				$\mathrm{CCVs}$	$\mathrm{CCVs}$	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		3,4,5	mg/Kg	25.0	25.6	102	90 - 110	2015-01-14

#### Standard (CCV-2)

QC Batch: 118639

Date Analyzed: 2015-01-14

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		3,4,5	mg/Kg	25.0	24.3	97	90 - 110	2015-01-14
•								

Page Number: 188 of 189

Report Date: January 14, 2015 Work Order: 14121803

7020114G292 Enterprise Permian Expansion

# **Appendix**

## Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

## **Laboratory Certifications**

	Certifying	Certification	Laboratory
$\mathbf{C}$	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	Kansas	Kansas E- $10317$	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-14-10	Lubbock
5		2014-018	Lubbock

## **Standard Flags**

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
  - Qc Calibration check outside of laboratory limits.
  - Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

Report Date: January 14, 2015 Work Order: 14121803 Page Number: 189 of 189 7020114G292 Enterprise Permian Expansion

F Description

U The analyte is not detected above the SDL

#### **Result Comments**

- 1 special comment Matrix diluted out.
- 2 special commentMatrix spike diluted out.

## Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

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14121803				0	CHAIN OF CUSTODY RECORD
		+		ANALYSIS	Lab use only Due Date:
APEX		Laboratory: IMC MAKUMS			38/38
Office Location Mid land		Midland TX		50	Temp. of coolers (C°): When received (C°):
	Co Co	Contact:		ove	1 2 3 4 5
	Pho	Phone:		ph	Page
Project Manager 17	SWAGS PO	PO/SO#:		m	
Sampler's Name Add	Samp	Sampler's Signature		1 por 200 1	
76201146292 Project	Project Name EXP	EXPANSION   10   Soil	ainers /	THE WAR	
	50.5	Start Depth End Aov Aov Ail 11	10	411	Lab Sample ID (Lab Use Only)
1 8011 51/21	ML-CL-1	0 Gin	×	× × ×	387694
/ 8111	M L-01-1	6 12in			695
/ 0501	ML-N-1	O lein			. 767
1115 /	ML-5-1	O (ein			(4)
1103	ML-89-1	_			(98
1131 /	ML-CL-2	9			. 669
1126 /	ML-CL-2	2 6 12in			Batilo.
1 1811	ML-N-2	O Lein			* 10%
1185 /	ML-8-2	2 0 6in			· 20%
2	-		_		903
Turn around time	Sn	Rush ☐100% Rush			
Relinquished by (Signature)	Date: Time:		Date:	3:04 Chill	Fraid Dearl
Relinquished by (Signature)	H   Back	Received by: (Signature)	Date:	Ti m	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Relinquished by (Signature)	Date: Time:	Received by: (Signature)	Date:	No later	then 1730
hed	Date: Time:	d by; (Signature)	Date 1	Time:	Mry in
Matrix WW - Wastewater Container VOA - 40 ml vial	W - Water (S - Soil SD - Solid A/G - Amber / Gr Glass 1 Liter	L - Liquid Á - Air Bag 250 ml - Glass wide mouth	2 8	SL - sludge O - Oil	Dug be 94h Nonusan
					1 1 1

Released to Imaging: 4/13/2023 11:48:25 AM

CHAIN OF CUSTODY RECORD	Lab use only Due Date:	Temp. of coolers when received (C°): H & S	7				Lab Sample ID (Lab Use Only)	382704.	105 1	. 70L	107	, 30L	. 601	, 011		* 20	ردال	)		The state of the s		7,7	
	Analysis Requested	nese	nga	2W	Str. Str.	His													Time: NOTES:	Time:	Time:	8 sos	SL - sludge
	Laboratory: Trace Amelypis	Address: Addland TX Contact:	ne:	PO/SO#:	Sampler's Signature	ian Expansion 110 Soil Ju	ample(s) Start Depth End AVG 1LL 250 ml Class Jar Jar Jar	O bin X	10 12in	O lein	D Less	3 lin	O lein		0 Lein	O lein	- u	ush 0100% Rush	Received by: (Signature)	Received by: (Signature) Date:	Received by: (Signature) Date:	Received by: (Signature) Date:	L - Liquid A - Air Bag 250 ml - Glass wide mouth
		Midland, TX Con	Phone:	daggs Por		Project Name Enterprise - Permian	G a Identifying Marks of Sample(s)	ML-CL-3	ML- CL-3	ML- N-3	ML-5-3	ML-89-	M-10-14	ML-CL-4	MI-N-H	ML-8-4	Ġ	☐ 25% Rush ☐ 50% Rush	Date: Time: 12/16/14 13:05	1	Date: Time:	Date: Time:	W - Water (S - \$oil SD - Solid A/G - Amber / Grass 1 Liter
14121803	X LC	L.		Project Manager 1/12	Sampler's Name	Proj. No. Project TO 201146342 Fn		2 12/12 1145 /	/ 0911	1159 /	1 251	1157	1307/	1210/	1219 /	12161	181	Turn around time	Relinquished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	hed t	Matrix WW - Wastewater Container VOA - 40 ml vial

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CHAIN OF CUSTODY RECORD		Temp. of cc when recei		Page 3 of 1			Lab Sample ID (Lab Use Only)	382714	15 J	210	, 110	817	50		721	722 ,	123					Cairyin	7 5-0
	ANALYSIS REQUESTED		o ob (	MAN	de de de	WI GINS		\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\									-48		FIGURES: NOTES:	Time:	Time:	S, Time:	C - Charcoal tube SL - sludge P/O - Plastic or other
	race Arelysis	ad TX				No/Type of Containers	AOV AVG 1 Lt. 250 ml Glass Jar Jar	×											ture) Date:		ture) Date:	Date:	A - Air Bag
	Laboratory: Trave	Address: Midland	Contact:	Phone:	Sampler's Signature	Enterprise	Sample(s) Start Depth End	0	5 6 12	0 0	0 0	5	6006	9	0	e		□ 100%	Received by: (Signature)	Received by: (Signature)	Received by: (Signature)	Received by: (Signature)	
	Lak	X		Slass, Pho		2	- Bu	ML-CL-5	ML-CL-5	ML- N-5	ML-5-5	ML-86-5	ML-CL-6	ML- C1-10	ML-N-6	M-S-6	1		12/14 (3:05	Date: Time:	Date: Time:	Date: Time:	W - Water S - Soil SD - Solid A/G - Amber AOr Glass 1 Liter
14121803		AILEX Med land Office Location		Project Manager $\mu_2$	25	Proj. No. Project People		S 12/15 1200/	1 1232 /	1340 /	1287/	1221	1254/	1257/	1201	100/	1 1251	Turn around time	Relinguished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	Matrix WW - Wastewater Container VOA - 40 ml vial

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CHAIN OF CUSTODY RECORD	Due Date:	Temp. of coolers when received (C°): $+B$	Page U of U				Lab Sample ID (Lab Use Only)	382724 ,	725	100	727	788	739	130 °	731	132	133					Unryin	ר
	ANALYSIS REQUESTED / /	DROV	Bu	rou	apr shie ma	1 VR 1475		///											Time: NOTES:	Time:	Time:	Тіте:	C - Charcoal tube SL - sludge O - Oil P/O - Plastic or other
	Trave Aralysis	yty po			)	No/Type of Containers	A/G 1 Lt. 250 ml Glass Jar P/O	×											Date: 12 Lett	.) Date:	) Date:	) Date:	L - Liquid A - Air Bag C - Cha 250 ml - Glass wide mouth P/O - Pl
		mid and		#:	Signature		Start Depth End Depth Depth	9	21 0	0	9	_	0	6 12	90	0		☐ 100% Rush		Received by: (Signature)	Received by: (Signature)	Received by: (Signature)	
	Laboratory:	Address: Contact:			Sampler's Signature	Expension Expension	Identifying Marks of Sample(s)	ML-CL-7	ML-CL-7	ML-N-7	ML-8-7	ML-BG-7	41-CL-B	Mr- C1-8	ML-N-B	ML-S-B	ML-136-8		)  13,06	A D.OC	Time:	Time:	W - Water S - Soil SD - Solid A/G - Amber / Or Glass 1 Liter
5		and		Sadgs	CO	Project Name	ದಿ - ಇರ ವಾ	2	Σ	_	-	1					1	☐ 25% Rush	Date	Date:	Date	Date:	W
14121803		Mid land		广中	73	P. O.		1	1	1	1	0	1	10	1	1		Normal	rre)	lre)	(eur	(eur	ewater II vial
M					o C	1292	Time	3/11/8	127	129	125	120	135	140	149	142	五		Relinquished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	WW - Wastewater VOA - 40 ml vial
		APEX Office Location		Project Manager	Sampler's Name	7020114 6292	Date	12/15	_									Turn around time	uished by	uished by	uished by	uished by	
				Proje	Sample	Proj. N	Matrix	8	-					0.			_	Turn an	Relimber		Reling	Relinqu	Matrix Container

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CHAIN OF CUSTODY RECORD	Lab use only Due Date:	0.6	when received (C°):	1 2 3 4 5	Page 5 of IL						Lab Sample ID (Lab Use Only)	382734	135	136 "	137 .	138	739	740		742 .	143 ,					in	
	ANALYSIS REQUESTED	7.	ner	den	Tuo	W	pt	100 m	The logo	ーーがうり		///												Time:	Time:	Time: 00,105	C - Charcoal tube SL - sludge O - Oil L P/O - Plastic or other
	phonometer Trace And Marie		Midland TX	Contact:	Phone:	PO/SO#:	Sampler's Signature	A design of the second of the	No/Type of Contain	011	S of Sample(s) Start Depth AVG 1LL Copplin Cop	X	9		9 0 6	BG-9 lin	CL-10 0 6in	9	9 0 01-N	9 0 01-8		☐ 50% Rush ☐ 100% Rush	Received by: (Signature)	Time: Received by: (Signature) Date:	Time: Received by: (Signature) Date:	Time: Received by: (Signature) Date: 10/8/14	L'Liquid A - Air Bag 250 ml - Glass wide mouth
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CHAIN OF CUSTODY RECORD	Lab use only Due Date:	9/8	of coolers sceived (C°):	2	Page Col.						Lab Sample ID (Lab Use Only)	382744	145 .	2かい	747	8hL	646	150	151	752	153		X		A	yin	7
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14121803		APEX Mid Log	Oilice Location		Project Manager Lil		Afrian Jacken	Proj	2 7 P 9 111074	Matrix Date Time on m	5 12/15 407 /	/ # -	/ 414	/ 614 /	601	122 /	1939 /	1936/	1 625 /	127	Turn around time	Relipeduished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	Matrix WW - Wastewater Container VOA - 40 ml vial

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CHAIN OF CUSTODY RECORD	Lab use only Due Date:	Temp. of coolers when received (C°):	10 of #1				Lab Sample ID (Lab Use Only)	382784	785	- 78L	787	788 •	789	- 066	, 161,	. 756	193 *					Jamy in	
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APPENDIX D

Photographic Documentation



View looking along Monsanto Road December 15, 2014, showing release of water.



View along Monsanto Road after release of water.



Collection of soil samples along Monsanto Road utilizing a hang auger.





# APPENDIX E

Declaration of Adrian Jackson

#### **Declaration of Adrian Jackson**

- I, Adrian Jackson, declare under penalty of perjury:
- My name is Adrian Jackson. I am over the age of 18 and this declaration is based on my personal knowledge.
- I am employed as an environmental geologist with Apex, an environmental consulting firm. I am employed in Apex's Midland, Texas office.
- 3. Enterprise Products Operating, LLC retained Apex to conduct some soil sampling along a dirt/gravel section of Monsanto Road in Lea County, New Mexico pursuant to a Soil Sampling Plan submitted to and approved by the New Mexico Oil Conservation Division (the "Approved Plan").
- 4. On December 15, 2014, John Norman of Apex and I met at Monsanto Road to collect the soil samples pursuant to the Approved Plan. We were both at the site by approximately 10:18 am. We were on site collecting samples from Monsanto Road in accordance with the Approved Plan until 5:35 pm.
- 5. During the roughly 7.25 hours we were on site, we saw approximately 30 water trucks travel down Monsanto Road. However, beginning at 4:33 pm 2 trucks discharged water along the section of Monsanto Road that we were sampling. The first truck went past us at 4:33 pm. The second truck went by at 4:45 pm. The last 4 areas from which we collected samples were impacted by the water sprayed from these two trucks.
- 6. Attached to this declaration are copies of color photographs that I took on December 15, 2014 at roughly 4:45 pm showing one of the trucks that discharged water along the section of Monsanto Road where we were sampling.
- 7. The water that the two trucks discharged while we were present had a noticeable odor.

8. Based upon my training and experience, and my observations, I believe that Monsanto Road is and has been frequently watered over an extended period of time. The top 5 to 6 inches of the soil within Monsanto Road is hard and densely compacted, characteristic of soils that have repeatedly wetted and compacted (in this case by heavy vehicles travelling over the road when it is wet). Many areas of the road surface also have a smooth shiny appearance, which is also characteristic of soils that have repeatedly wetted and compacted.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed this 17 day of December, 2014, in Midland, Texas.

Adrian Jackson









District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

CONDITIONS

Action 206726

#### **CONDITIONS**

Operator:	OGRID:
ENTERPRISE PRODUCTS OPERATING, LLC	374092
	Action Number:
HOUSTON, TX 77210	206726
	Action Type:
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)

#### CONDITIONS

Created By		Condition Date
amaxwell	None	4/13/2023