1R - 7777

Annual GW Mon. Report





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ENVIRONMENTAL CONSULTING ENGINEERING DRILLING CONSTRUCTION EMERGENCY RESPONSE

> Toll Free: 866.742.0742 www.talonipe.com

Re: Legacy Reserves Operating, L.P., Monsanto '30' State #5 Groundwater Monitoring Report NMOCD Reference 1RP-0777 Section 30, T16S, R37E Latitude: 32.88629° N and Longitude: 103.28859 W Lea County, New Mexico

Dear Mr. Hansen:

April 3, 2012

Mr. Edward Hansen

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

New Mexico Oil Conservation Division

Talon/LPE (Talon) was retained by Legacy Reserves Operating, L.P. (Legacy) to provide environmental consulting and groundwater remediation services regarding the Monsanto '30' State #5 produced water release in Lea County, New Mexico.

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The purpose of this report is to document groundwater monitoring activities that occurred at the site during the year 2011.

Background Information

The site is located northwest in Lea County, New Mexico at GPS coordinates N Latitude: 32.88629° N and Longitude: 103.28859 W in Section 30, Township 16 South, Range 37 East. The following is a synopsis of the site history.

- In February of 2004 Safety and Environmental Solutions (SESI) conducted a site investigation regarding an unlined reserve pit at the subject site.
- In February of 2004, four (4) boreholes (BH-1, BH-2, BH-3, and BH-4)) were advanced below the pit to a depth ranging from 20-feet bgs to 70-feet bgs and soil samples were collected at five (5) feet intervals. Analytical results exhibited chloride concentrations that ranged from 64 mg/Kg to 11,200 mg/Kg.
- In April of 2004, a 40 mil polyethylene liner was installed and the excavation was then backfilled with uncontaminated soil to prevent leaching from rainwater infiltration.

- From May of 2004 to June of 2006 eight (8), two (2) inch monitor wells were installed at various locations around the site to delineate the extent of the groundwater chloride plume.
- Groundwater monitoring commenced subsequent to the initial monitor well installations in July of 2004 and continued to March of 2011.
- An Annual Groundwater Monitoring Report was submitted in March of 2011 documenting groundwater monitoring events that occurred in March, June, September of 2010 and March of 2011.
- Additional groundwater monitoring events were performed in June, September and December of 2011 and March of 2012.
- In July of 2011, applications were submitted to the NMOSE and NMSLO for permits to install two additional monitor wells. The applications are for Right-of-Entry (ROE), and for non-consumptive use of water. The purpose of the wells is to acquire data from a pump test so that a remediation system can be designed and to delineate the chloride plume. To date, the permits to install the well have not been issued.

A Topographic Map is provided as Figure 1b, Appendix A and a site vicinity aerial photograph depicting the general site location and City of Lovington water wells are provided on Figure 1b in Appendix A.

Physical Characteristics of the First Water-Bearing Zone

The primary groundwater resource under the Southern High Plains, including the site, is referred to as the Ogallala Aquifer or High Plains Aquifer. The Southern portion of the Ogallala aquifer underlies an area of about 29,000 square miles (mi²) in western Texas and eastern New Mexico, encompassing all or part of 31 counties in Texas and 6 counties in New Mexico.

The Ogallala Aquifer has experienced acute depletion from extensive irrigation and urban demand, which have exceeded the average annual recharge rate. Recharge of the Ogallala Aquifer on the Southern High Plains occurs predominately from rainfall runoff that accumulates in ephemeral streams and playa lakes as well as direct recharge in areas that contain permeable soils such as sand hills. Recharge rates vary depending on mechanism, but averages from 0 to 1.6 inches per year.

The Ogallala Aquifer is generally unconfined and the poteniometric surface generally mirrors the land surface elevation with the regional flow direction from the northwest to the southeast. The mean regional gradient is 15 feet per mile and the typical groundwater velocity averages seven inches per day. The regional hydraulic conductivity averages 17 gallons per day per square-foot and specific yield averages 16%. The depth to groundwater at the site has historically ranged from 64 to 72 feet below ground surface (bgs) and the groundwater flow direction is to the south-southwest at an average of 23 feet per mile.

The composition of Ogallala groundwater is defined as mixed-cation-HCO₃, therefore, Ogallala groundwater is considered hard. Problems with scale have occurred with residential and commercial water systems that use Ogallala groundwater and often treatment strategies are

employed to reduce the effects of scale. The typical total dissolved solids of Ogallala groundwater in the Hobbs-Lovington area is generally less than 500 mg/L (ppm) in areas not impacted by oil-field brines with an average pH of 7.3.

Groundwater Gradient and Flow Direction

A total of four (4) groundwater monitoring events occurred during the year 2011 on March 11, June 17, and September 28, and December 21. Measurements to the depth of fluid were collected during each of the four (4) groundwater monitoring events. The results of the fluid level measurements are summarized in Table 1 in Appendix B.

The collected data was used to construct potentiometric surface maps in order to interpret the groundwater gradient and flow direction. The maps, designated Figures 2a through 2d, are presented in Appendix A.

The potentiometric surface maps indicate that the groundwater flow direction is to south southeast at an approximate gradient of 0.0044 feet/foot or 23.06 feet per mile. Groundwater levels at the subject site have exhibited a steady decline of an average of 1.69 feet for the year 2011. The decline in groundwater levels appears to be associated with a regional trend of declining groundwater levels for the Ogallala Aquifer.

Groundwater Analytical Results

During the first quarter, March 2011, groundwater monitoring event, groundwater samples were collected from monitor wells MW-1 through MW-8. Groundwater samples collected during the event exhibited the following analytical results:

- Total chloride (Cl) concentrations ranged from 19.0 mg/L to 432 mg/L. Total Cl concentrations exceeded the NMWQCC groundwater standard of 250 mg/L in groundwater samples collected from monitor wells MW-6, MW-7, and MW-8.
- Total dissolved solids (TDS) concentrations ranged from 412 mg/L to 1,030 mg/L. The TDS concentration exceeded the NMWQCC groundwater standard of 1,000 mg/L in the groundwater samples collected from monitor wells MW-6, and MW-7.

During the second quarter, June 2011 sampling event, groundwater samples were collected from monitor wells MW-1 through MW-8. The groundwater samples that were collected exhibited the following analytical results:

- Total Cl concentrations ranged from 24.5 to 352 mg/L. Total Cl concentrations exceeded the NMWQCC groundwater standard of 250 mg/L in groundwater samples collected from monitor well MW-7, and MW-8.
- TDS concentrations ranged from 387 mg/L to 804 mg/L. The TDS concentration did not exceed the NMWQCC groundwater standard of 1,000 mg/L in any groundwater sample collected.

During the third quarter, September 2011 sampling event, groundwater samples were collected from monitor wells MW-1 through MW-8. The groundwater samples that were collected exhibited the following analytical results:

- Total Cl concentrations ranged from 16.6 mg/L to 405 mg/L. The total Cl concentration exceeded the NMWQCC groundwater standard of 250 mg/L in the groundwater sample collected from monitor well MW-8.
- TDS concentrations ranged from 350 mg/L to 1,356 mg/L. The TDS concentrations exceeded the NMWQCC groundwater standard of 1,000 mg/L in the groundwater samples collected from monitor wells MW-2 and MW-8.

During the fourth quarter, December 2011 sampling event, groundwater samples were collected from monitor wells MW-1 through MW-8. The groundwater samples that were collected exhibited the following analytical results:

- Total Cl concentrations ranged from 16.8 mg/L to 376 mg/L. The total Cl concentration exceeded the NMWQCC groundwater standard of 250 mg/L in the groundwater sample collected from monitor well MW-8.
- TDS concentrations ranged from 125 mg/L to 1,102 mg/L. The TDS concentration exceeded the NMWQCC groundwater standard of 1,000 mg/L in the groundwater sample collected from monitor well MW-8.

During 2011, monitor wells MW-7 and MW-8 have consistently exhibited total Cl and TDS concentrations exceeding the NMWQCC groundwater standards. However; the chloride plume is currently stable and the groundwater chloride plume is delineated down-gradient. In addition, the chloride concentrations exhibited in monitor wells MW-7 and MW-8 has been steadily declining over year 2011. This data indicates that the chloride plume is stable and does not appear to be migrating down-gradient.

The results of the laboratory analyses are summarized in Table 2 – Summary of Groundwater Analytical Results in Appendix B.

Summary of Findings

- The groundwater flow direction is to southeast at an approximate gradient of 0.0034 feet/foot or 18 feet per mile.
- Groundwater levels at the subject site have exhibited a steady decline averaging 1.49 feet for the year 2010 that appears to be associated with a regional trend of declining groundwater levels for the Ogallala Aquifer.
- Monitor wells MW-1, MW-6, MW-7, and MW-8 have exhibited Cl and TDS concentrations exceeding the NMWQCC groundwater standards. The chloride plume is currently not delineated down gradient.
- Based on declining chloride concentrations in monitor wells MW-7 and MW-8, it appears that

brine water influx at the source may be mitigated and that the chloride plume may be undergoing dilution as a result of dispersion.

Recommendations

Based upon the results of the four (4) quarterly groundwater monitoring events performed in 2010 and 2011, Talon proposes the following actions:

- Continue to perform quarterly groundwater monitoring events in accordance with NMOCD directives.
- Install one (1) four (4) inch recovery well near the center of the chloride plume and perform a pump test to acquire data for a remediation system design.
- Install one (1) two (2) inch monitor well (MW-9) down-gradient from monitor well MW-7 in order to delineate the chloride plume in concentrations in MW-7 should increase in excess of NMWQCC standards..
- Survey the top of casing elevations for monitor wells MW-5, MW-6, MW-7 and MW-8 and the newly installed monitor wells MW-9 and MW-10.
- Prepare a remediation plan designed to pump and dispose of impacted groundwater and to inhibit migration of the chloride plume based on the results of the pump test.

If you have any questions or require further information, please contact Mr. Kyle Waggoner or me at (432) 522-2133.

Sincerely,

Elwar R. Rectingland tel

Steven R. Killingsworth, P.G. Senior Project Manager



Cc: Mr. Berry Johnson, Legacy Reserves Operating, L.P. Mr. Geoffrey R. Leking, NMOCD

Appendices:

Appendix A Figures

Appendix B Tables

Appendix C Laboratory Analytical Data Reports and Chain of Custody Documentation

Appendix A

Figures

Figure 1b – Site Vicinity Topographic Map

Figure 1 – Site Map

Figure 2a – Groundwater Gradient Map – 3/10/2011

Figure 2b - Groundwater Gradient Map - 3/27/2010

Figure 2c - Groundwater Gradient Map - 6/9/2010

Figure 2d - Groundwater Gradient Map - 9/27/2010

Figure 3a - Groundwater Chloride Concentration Map - 3/11/2011

Figure 3b - Groundwater Chloride Concentration Map - 3/27/2010

Figure 3c - Groundwater Chloride Concentration Map - 6/9/2010

Figure 3d - Groundwater Chloride Concentration Map - 9/9/2010





















Appendix B

Tables

Table 1 - Summary of Historical Fluid Level MeasurementsTable 2 - Summary of Chloride and TDS Groundwater Analytical Data



TABLE 1 SUMMARY OF FLUID LEVEL MEASUREMENTS LEGACY RESERVES OPERATING, L.P. MONSANTO '30' STATE #5 NMOCD REF. # 1R-0777 LEA COUNTY, NEW MEXICO TALON/LPE PROJECT NUMBER 701047.015.01

Monitor Well	Date Gauged	Relative Top of Casing Elevation (ft amsl)	Depth to Water Below Top of Casing (ft btoc)	Groundwater Elevation (ft amsl)
MW-1	03/31/10	3,841.40	95.59	3,745.81
MW-1	06/09/10		95.82	3,745.58
MW-1	09/16/10		97.03	3,744.37
MW-1	03/10/11		96.18	3,745.22
MW-1	06/17/11		96.90	3,744.50
MW-1	09/28/11		97.67	3,743.73
MW-1	12/21/11		97.87	3,743.53
	t b			
MW-2	03/31/10	3,843.42	96.84	3,746.58
MW-2	06/09/10		97.04	3,746.38
MW-2	09/16/10		98.38	3,745.04
MW-2	03/10/11		97.60	3,745.82
MW-2	-06/17/11		98.20	3,745.22
MW-2	09/28/11		98.99	3,744.43
MW-2	12/21/11		99.22	3,744.20
MW-3	03/31/10	3,841.18	95.40	3,745.78
MW-3	06/09/10		95.66	3,745.52
MW-3	09/16/10		96.89	3,744.29
MW-3	03/10/11		96.06	3,745.12
MW-3 ·	06/17/11		96.73	3,744.45
MW-3	09/28/11		97.52	3,743.66
MW-3	12/21/11		97.75	3,743.43
		-		
MW-4	03/31/10	3,838.97	93.64	3,745.33
MW-4	06/09/10		93.91	3,745.06
MW-4	09/16/10		95.13	3,743.84
MW-4	03/10/11		94.23	3,744.74
MW-4	06/17/11		94.94	3,744.03
MW-4	09/28/11		95.77	3,743.20
MW-4	12/21/11		95.98	3,742.99



TABLE 1 SUMMARY OF FLUID LEVEL MEASUREMENTS LEGACY RESERVES OPERATING, L.P. MONSANTO '30' STATE #5 NMOCD REF. # 1R-0777 LEA COUNTY, NEW MEXICO TALON/LPE PROJECT NUMBER 701047.015.01

Monitor Well	Date Gauged	Relative Top of Casing Elevation (ft amsl)	Depth to Water Below Top of Casing (ft btoc)	Groundwater Elevation (ft amsl)
MW-5	03/31/10	NM	95.54	
MW-5	06/09/10		95.76	
MW-5	09/16/10		96.98	
MW-5	03/10/11		96.06	
MW-5	06/17/11		96.80	
MW-5	09/28/11		97.59	
MW-5	12/21/11		97.76	
MW-6	03/31/10	NM	94.57	
MW-6	06/09/10		94.78	
MW-6	09/16/10	-	95.30	
MW-6	03/10/11		95.12	
MW-6	06/17/11		95.88	
MW-6	09/28/11		96.69	
MW-6	12/21/11		96.88	
MW-7	03/31/10	NM	94.11	
MW-7	06/09/10		94.37	
MW-7	09/16/10		94.75	
MW-7	03/10/11		94.64	
MW-7	06/17/11		95.42	
MW-7	09/28/11		96.26	
MW-7	12/21/11		96.42	
			-	
MW-8	03/31/10	NM	95.19	
MW-8	06/09/10		95.40	
MW-8	09/16/10		96.70	
MW-8	03/10/11		95.84	
MW-8	06/17/11		96.53	
MW-8	09/28/11		97.32	
MW-8	12/21/11		97.54	

amsl = above mean sea level

btoc = below top of casing



TABLE 2 GROUNDWATER ANALYTICAL RESULTS LEGACY RESERVES OPERATING, L.P. MONSANTO '30' STATE #5 NMOCD REF. # 1R-0777 LEA COUNTY, NEW MEXICO Talon/LPE Project Number 701047.015.01

Sample Location	Sample Date	Chloride	TDS
MW-1	03/31/10	681	1,110
MW-1	06/09/10	506	11,210
MW-1	09/16/10	110	566
MW-1	03/11/10	39.7	412
MW-1	06/17/11	37.0	387
MW-1	09/28/11	16.6	385
MW-1	12/21/11	60.6	431
MW-2	03/31/10	21.4	393
MW-2	06/09/10	21.5	379
MW-2	09/16/10	17.1	377
MW-2	03/11/11	19.0	419
MW-2	06/17/11	24.5	387
MW-2	09/28/11	16.8	1,320
MW-2	12/21/11	20.7	421
MW-3	03/31/10	20.7	398
MW-3	06/09/10	23.5	372
MW-3	09/16/10	21.8	356
MW-3	03/11/11	21.8	400
MW-3	06/17/11	26.8	382
MW-3	09/28/11	20.6	402
MW-3	12/21/11	17.8	343
		•	
MW-4	03/31/10	23.2	348
MW-4	06/09/10	23.2	393
MW-4	09/16/10	18.1	352
MW-4	03/11/11	21.4	399
MW-4	06/17/11	99.3	486
MW-4	09/28/11	70.6	440
MW-4	12/21/11	127.0	595

All concentrations are in mg/L



TABLE 2 GROUNDWATER ANALYTICAL RESULTS LEGACY RESERVES OPERATING, L.P. MONSANTO '30' STATE #5 NMOCD REF. # 1R-0777 LEA COUNTY, NEW MEXICO Talon/LPE Project Number 701047.015.01

Sample Location	Sample Date	Chloride	TDS
MW-5	03/31/10	21.1	390
MW-5	06/09/10	23.8	412
MW-5	09/16/10	19.0	347
MW-5	03/11/11	20.9	433
MW-5	06/17/11	26.2	389
MW-5	09/28/11	19.1	350
MW-5	12/21/11	16.8	125
		•	
MW-6	03/31/10	377	922
MW-6	06/09/10	457	1,020
MW-6	09/16/10	289	934
MW-6	03/11/11	323	1,000
MW-6	06/17/11	210	678
MW-6	09/28/11	112	561
MW-6	12/21/11	248	654
MW-7	03/31/10	418	940
MW-7	06/09/10	443	1,050
MW-7	09/16/10	300	944
MW-7	03/11/11	432	1,030
MW-7	06/17/11	268	770
MW-7	09/28/11	210	566
MW-7	12/21/11	188	652
MW-8	03/31/10	478	892
MW-8	06/09/10	479	1,010
MW-8	09/16/10	524	1,640
MW-8	03/11/11	336	828
MW-8	06/17/11	352	804
MW-8	09/28/11	405	1,356
MW-8	12/21/11	376	1,102
NMWQCC R	emedial Limits	250	1,000

All concentrations are in mg/L

Bolded values are in excess of the NMWQCC Remediation Thresholds

Appendix $\mathbf{C}^{(1)}$

Laboratory Analytical Data Reports and Chain of Custody Documentation

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Report Date: March 22, 2011

Page Number: 1 of 2

Report Date: March 22, 2011

Work Order: 11031131

Summary Report

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX 79706

Project Location:Hobbs, NMProject Name:Monsanto #5Project Number:701047.015.01

Date Time Date Description Matrix Taken Taken Received Sample 260348 MW-1 2011-03-11 11:24 2011-03-11 water MW-2 2011-03-11 11:29 2011-03-11 260349 water 2011-03-11 260350 MW-3 water 2011-03-11 11:37260351MW-4 2011-03-11 11:49 2011-03-11 water 2011-03-11 11:40 2011-03-11 260352MW-5 water MW-6 2011-03-11 11:522011-03-11 260353water 11:592011-03-11**MW-7** 2011-03-11 260354water 2011-03-11 11:502011-03-11 260355MW-8 water

Sample: 260348 - MW-1

Param	Flag	Result	Units	RL
Chloride		39.7	mg/L	2.50
Total Dissolved Solids		412	m mg/L	10.0

Sample: 260349 - MW-2

Param	Flag	Result	Units	\mathbf{RL}
Chloride		19.0	$\mathrm{mg/L}$	2.50
Total Dissolved Solids		419	$\mathrm{mg/L}$	10.0

Sample: 260350 - MW-3

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: March 22, 2011		Work Order: 11031131		Page Number: 2 of 2	
Param	Flag	Result	Units	RL	
Chloride		21.8	mg/L	2.50	
Total Dissolved Solids		400	mg/L	10.0	
Sample: 260351 - MW-4					
Param	Flag	Result	Units	\mathbf{RL}	
Chloride		21.4	mg/L	2.50	
Total Dissolved Solids		399	mg/Ĺ	10.0	
Sample: 260352 - MW-5					
Param	Flag	Result	Units	RL	
Chloride		20.9	mg/L	2.50	
Total Dissolved Solids	·····	433	mg/L	10.0	
Sample: 260353 - MW-6					
Param	Flag	Result	Units	\mathbf{RL}	
Chloride		323	mg/L	. 2.50	
Total Dissolved Solids	<u></u>	1000	mg/L	10.0	
```					
Sample: 260354 - MW-7					
Param	Flag	Result	Units	RL	
Chloride		432	mg/L	2.50	
Total Dissolved Solids	······	1030	mg/L	10.0	
Sample: 260355 - MW-8				, <u>.</u>	
Param	Flag	Result	Units	$\mathbf{RL}$	
Chloride		336	ing/L	2.50	
Total Dissolved Solids		878	mg/L	10.0	

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Report Date: March 22, 2011

Work Order: 11031131

#### Summary Report

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX 79706

Project Location:Hobbs, NMProject Name:Monsanto #5Project Number:701047.015.01

Date Time Date Taken Taken Received Sample Description Matrix 260348 MW-1 water 2011-03-11 11:24 2011-03-11 260349 MW-2 water 2011-03-11 11:292011-03-11 260350 MW-3 water 2011-03-11 11:37 2011-03-11 260351MW-4 water 2011-03-11 11:49 2011-03-11 260352 MW-5 2011-03-11 11:40 2011-03-11 water 260353 MW-6 2011-03-11 11:522011-03-11 water MW-7 2603542011-03-11 11:59 2011-03-11 water 260355MW-8 water 2011-03-11 11:502011-03-11

Sample: 260348 - MW-1

Param	$\mathbf{Flag}$	Result	Units	RL
Chloride		39.7	mg/L	2.50
Total Dissolved Solids		412	m mg/L	10.0

#### Sample: 260349 - MW-2

Param	Flag	Result	Units	$\mathbf{RL}$
Chloride		19.0	mg/L	2.50
Total Dissolved Solids		419	m mg/L	10.0

Sample: 260350 - MW-3

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Report	Date:	March	22.	2011
rechord	2000	TIMOR ON	,	

Work Order: 11031131

Page Number: 2 of 2

Param	Flag	Result	Units	RL
Chloride		21.8	mg/L	2.50
Total Dissolved Solids		400	mg/L	10.0
Sample: 260351 - MW-4			·	
Param	Flag	Result	Units	RL
Chloride		21.4	mg/L	2.50
Total Dissolved Solids	,	399	·mg/L	10.0
Sample: 260352 - MW-5				
Param	Flag	Result	Units	RL
Chloride		20.9	mg/L	2.50
Total Dissolved Solids		433	mg/L	<u>,</u> 10.0
Sample: 260353 - MW-6				
Daram	Flog	Regult	Unite	ЪТ
Chlorida	riag	202		2 50
Total Dissolved Solids		323 1000	mg/L mg/I	2.00
		1000	ing/1	10.0
Sample: 260354 - MW-7				
Param	Flag	Result	Units	RL
Chloride	,	432	m mg/L	2.50
Total Dissolved Solids		1030	mg/L	10.0
Sample: 260355 - MW-8				
Param	Flag	Result	Units	RL
Chloride	) )	336	mg/L	2.50
Total Dissolved Solids		828	mg/L	10.0

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX, 79706

Report Date: June 24, 2011

# Work Order: 11062005

Project Location: Hobbs, NM Project Name: Monsanto #5 Project Number: 701047.015.01

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

	:		Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
269883	MW-1	water	2011-06-17	11:42	2011-06-17
269884	MW-2	water	2011-06-17	11:50	2011-06-17
269885	MW-3	water	2011-06-17	11:35	2011-06-17
269886	MW-4	water	2011-06-17	10:58	2011-06-17
269887	MW-5	water	2011-06-17	11:14	2011-06-17
269888	MW-6	water	2011-06-17	11:29	2011-06-17
269889	MW-7	water	2011-06-17	11:20	2011-06-17
269890	MW-8	water	2011-06-17	11:05	2011-06-17

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 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Sample 269888 (MW-6)	7
Sample 269889 (MW-7)	8
Sample 269890 (MW-8)	9
Method Blanks	10
OC Batch 82374 - Method Blank (1)	10
OC Batch 82469 - Method Blank (1)	10
QC Batch 82469 - Duplicate (1)	10
Laboratory Control Spikes	11
OC Batch 82374 - LCS (1)	11
$\begin{array}{c} OC \text{ Batch } 82469 \text{ - } LCS (1) \end{array}$	11
QC Batch 82374 - MS (1)	11
Calibration Standards	13
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# **Case Narrative**

Samples for project Monsanto #5 were received by TraceAnalysis, Inc. on 2011-06-17 and assigned to work order 11062005. Samples for work order 11062005 were received intact at a temperature of 0.4 C.

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

		Prep	Prep	QC	Analysis
Test	Method	$\operatorname{Batch}$	Date	Batch	Date
Chloride (IC)	E 300.0	69948	2011-06-20 at 09:43	82374	2011-06-20 at 20:44
TDS	SM 2540C	69963	2011-06-21 at 13:26	82469	2011-06-23 at 15:00

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 11062005 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.

Report Date: June 24, 2011 Work Order: 11062005 Page Number: 5 of 14 701047.015.01 Monsanto #5 Hobbs, NM **Analytical Report** Sample: 269883 - MW-1 Laboratory: Midland Analysis: Chloride (IC) **Analytical Method:** E 300.0 Prep Method: N/A QC Batch: 82374 Date Analyzed: 2011-06-20 Analyzed By: AR Prep Batch: 69948 Sample Preparation: 2011-06-20 Prepared By: AR RL Flag Parameter Cert Result Units Dilution RL Chloride 37.0 mg/L 2.50 5 1 Sample: 269883 - MW-1 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 82469 2011-06-23 Analyzed By: AR Date Analyzed: 2011-06-21 Prep Batch: 69963 Sample Preparation: Prepared By: AR  $\mathbf{RL}$ Parameter Flag  $\mathbf{Cert}$ Result Units Dilution  $\mathbf{RL}$ Total Dissolved Solids 387 mg/L 10.0 1 1 Sample: 269884 - MW-2

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#### Laboratory: Midland Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 82374 **Date Analyzed:** 2011-06-20 Analyzed By: AR Prep Batch: 69948 Sample Preparation: 2011-06-20 Prepared By: AR $\mathbf{RL}$ Parameter Flag Cert Result Units Dilution RL Chloride 24.5 mg/L 5 2.501

Report Date: June 24, 2 701047.015.01	011		Page Number: 6 of 14 Hobbs, NM				
Sample: 269884 - MV	V-2						
Laboratory:MidlandAnalysis:TDSQC Batch:82469Prep Batch:69963		Analyti Date A Sample	cal Method: nalyzed: Preparation:	SM 2540C 2011-06-23 2011-06-21	•	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids	·		1	387	mg/L	1	10.0
Sample: 269885 - MV	V-3						
Laboratory: Midland Analysis: Chloride (1 QC Batch: 82374 Prep Batch: 69948	(C)	Anal Date Samj	ytical Method Analyzed: ple Preparatio	: E 300.0 2011-06-20 n: 2011-06-20	)	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Parameter	Flag	Cer	t R	RL esult	Units	Dilution	$\mathbf{RL}$
Chloride	•	1		26.8	mg/L	5	2.50
Sample: 269885 - MV	V-3						
Laboratory:MidlandAnalysis:TDSQC Batch:82469Prep Batch:69963		Analyti Date A Sample	cal Method: nalyzed: Preparation:	SM 2540C 2011-06-23 2011-06-21		Prep Method: Analyzed By: Prepared By:	N/A AR AR
Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids			1	382	mg/L	<u> </u>	10.0
Sample: 269886 - MV	√-4						
Laboratory:MidlandAnalysis:Chloride (QC Batch:82374Prep Batch:69948	(C)	Anal Date Sam	ytical Method Analyzed: ple Preparatio	: E 300.0 2011-06-20 n: 2011-06-20	)	Prep Method: Analyzed By: Prepared By:	N/A AR AR

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Report Date: 701047.015.01	June 24, 2011 1	Work Order: 11062005 Monsanto #5						Page Number: 7 of 14 Hobbs, NM	
Parameter		Flag	Ce	тt	R Besu	L lt	Units	Dilution	RI.
Chloride		1105	1	10	99.	3	mg/L	5	2.50
							<del>-</del>		
Sample: 269	9886 - MW-4								
Laboratory:	Midland								
Analysis:	TDS		Analy	tical Method	1: S	M 2540C		Prep Method:	N/A
QC Batch:	82469	1	Date A	Analyzed:	20	011-06-23		Analyzed By:	AR
Prep Batch:	69963		Sampl	e Preparatio	on: 20	011-06-21		Prepared By:	AR
						ы			
Parameter			Flag	Cert		Result	Units	Dilution	RL
Total Dissolve	ed Solids			1		486	mg/L	1	10.0
Sample: 269	9887 - MW-5								
Laboratory:	Midland								
Analysis:	Chloride (IC)		Ana	alytical Meth	hod:	E 300.0		Prep Method:	N/A
QC Batch:	82374		Dat	e Analyzed:		2011-06-2	0	Analyzed By:	AR
Prep Batch:	69948		San	ple Prepara	ation:	2011-06-2	0	Prepared By:	AR
					R	L			
Parameter `		Flag	Ce	rt	Resu	lt	Units	Dilution	$\mathbf{RL}$
Chloride			1		26.	2	mg/L	5	2.50

#### Sample: 269887 - MW-5

Total Dissolv	ved Solids		1	389	mg/L	1	10.0
Parameter	,	Flag	Cert	RL Result	Units	Dilution	RL
Prep Batch:	69963	Samp	le Preparation	n: 2011-06-21		Prepared By:	AR
QC Batch:	82469	Date .	Analyzed:	2011-06-23		Analyzed By:	$\mathbf{AR}$
Analysis:	TDS	Analy	tical Method	: SM 2540C		Prep Method:	N/A
Laboratory:	Midland						

Sample: 269888 - MW-6 Laboratory: Midland						Page Number: 8 of 14 Hobbs, NM		
Laboratory: Midland								
Analysis:Chloride (IC)QC Batch:82374Prep Batch:69948	•	Analy Date A Sampl	tical Method Analyzed: le Preparatio	: E 300.0 2011-06-2 n: 2011-06-2	D	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
Parameter	Flag	Cort	Þ	RL	Units	Dilution	RL	
Chloride	1 1005	1		<b>210</b>	mg/L	10	2.50	
Sample: 269888 - MW-6Laboratory:MidlandAnalysis:TDSQC Batch:82469Prep Batch:69963		Analytic Date An Sample I	al Method: alyzed: Preparation:	SM 2540C 2011-06-23 2011-06-21		Prep Method: Analyzed By: Prepared By:	N/A AR AR	
Deveryotar		Flor	Cont	RL Bacult	IIm:to	Dilution	DI	
Total Dissolved Solids		r lag	1	678	mg/L	2	10.0	
Sample: 269889 - MW-7								
Laboratory:MidlandAnalysis:Chloride (IC)QC Batch:82374Prep Batch:69948		Analy Date A Sampl	tical Method Analyzed: e Preparatio	: E 300.0 2011-06-2 n: 2011-06-2	) ) ) /	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
Devenuetor	Flor	Cont	D	RL	TI:::ta	Dilution	, DI	
Chloride	r lag		n	268	mg/L	10	2.50	
Sample: 269889 - MW-7 Laboratory: Midland Analysis: TDS QC Batch: 82469 Prep Batch: 69963		Analytic Date An Sample J	al Method: alyzed: Prenaration:	SM 2540C 2011-06-23 2011-06-21	~,	Prep Method: Analyzed By: Prenared By:	N/A AR AR	
				2011-00-21		continued	лц	

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Report Date: June 24, 2011 701047.015.01		• • • • • • • • • • • • • • • • • • • •	Work Order: Monsan	to #5		Page Number: Hobb	9 of 14 os, NM
sample 269889 continued							
				$\mathbf{RL}$			
Parameter		Flag	Cert	Result	Units	Dilution	RL
				RI.			
Parameter		Flag	$\mathbf{Cert}$	Result	Units	Dilution	$\mathbf{RL}$
Total Dissolved Solids	i	×	1	770	mg/L	2	10.0
Sample: 269890 - MW-8							
Laboratory: Midland							
Analysis: Chloride (IC)		A	nalytical Metho	d: E 300.0		Prep Method:	N/A
QC Batch: 82374		Da	ate Analyzed:	2011-06-2	20	Analyzed By:	AR
Prep Batch: 69948		Sa	mple Preparatio	on: 2011-06-2	20	Prepared By:	AR
				RL			
Parameter	Flag	0	Cert F	Result	Units	Dilution	RL
Chloride	. <b></b>		1	352	mg/L	10	2.50
Sample: 269890 - MW-8							
Laboratory: Midland							
Analysis: TDS		Anal	ytical Method:	SM 2540C		Prep Method:	N/A
QC Batch: 82469		Date	Analyzed:	2011-06-23		Analyzed By:	$\mathbf{AR}$
Prep Batch: 69963		Samj	ole Preparation:	2011-06-21		Prepared By:	AR
				$\mathbf{RL}$			
			-	Decuit	Unite	Dilution	RI.
Parameter		Flag	Cert	resuit	Omes	Briddion	1(12

Work Order: 11062005 Page Number: 10 of 14 Report Date: June 24, 2011 Hobbs, NM 701047.015.01 Monsanto #5Method Blanks Method Blank (1) QC Batch: 82374 QC Batch: 82374 2011-06-20 Analyzed By: AR Date Analyzed: Prep Batch: 69948 Prepared By: AR QC Preparation: 2011-06-20 MDL Parameter Flag Cert Result Units RL Chloride 1.02 mg/L 2.51 Method Blank (1) QC Batch: 82469 82469 QC Batch: Date Analyzed: 2011-06-23 Analyzed By: AR 69963 2011-06-21 Prepared By: AR Prep Batch: QC Preparation: MDŁ Units  $\mathbf{RL}$ Parameter Flag Cert Result **Total Dissolved Solids** <9.75 mg/L 10 1 Duplicates (1) Duplicated Sample: 269890

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#### QC Batch: 82469 Date Analyzed: Analyzed By: AR 2011-06-23 Prep Batch: 69963 QC Preparation: 2011-06-21 Prepared By: AR RPD Duplicate Sample Param Result Result Units Dilution RPD Limit **Total Dissolved Solids** 844 804 mg/L 2 5 10 1

Report Date: June 24, 2011 701047.015.01 Work Order: 11062005 Monsanto #5

## Laboratory Control Spikes

#### Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	82374 69948		Da QC	te Analyze C Preparati	d: 2011 on: 2011	-06-20 -06-20			Analyzed By: AR Prepared By: AR	
Param		$\mathbf{F}$	С	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			1	26.1	mg/L	1	25.0	< 0.265	104	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	F	$\mathbf{C}$	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\mathbf{Limit}$
Chloride		1	26.6	mg/L	1	25.0	< 0.265	106	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: Prep Batch:	82469 69963			Date QC F	Analyzed Preparatic	l: 201 on: 201	1-06-23 1-06-21			Ana Pre	alyzed B pared B	y: AR y: AR
Param		F	ק	C .	LCS Result	Units	Dil.	Spike Amount	M Re	atrix esult l	Rec.	Rec. Limit
Total Dissolv	ed Solids			1	1020	mg/L	1	1000	<	9.75	102	90 - 110
Percent recov	ery is based on the	spike r	esul	t. RPD	is based o	on the s	pike and s	pike duplic	eate res	ult.	-	
				LCSD			Spike	Matrix		Rec.		RPD
Param		$\mathbf{F}^{\perp}$	С	Result	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$	RPD	Limit
Total Dissolv	ed Solids		1	989	mg/L	1	1000	<9.75	99	90 - 110	3	10

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)	Spiked Sample: 269890	,
QC Batch: 82374	Date Analyzed: 2011-06-20	Analyzed By: AR
Prep Batch: 69948	QC Preparation: 2011-06-20	Prepared By: AR

Report Date: June 24, 2011 701047.015.01		Work Order: 11062005 Monsanto #5						Page Number: 12 of 14 Hobbs, NM			
Param	F	C	MS Result	Units	Dil.	Spike Amount	M Re	atrix esult	Rec.	Rec. Limit	
Chloride		1	644	mg/L	10	275	÷	352	106	90 - 110	
Percent recovery is based on the spik	e resu	lt. RPD	is based o	on the s	pike and s	pike duplio	ate res	ult.			
		MSD			Spike	Matrix		Rec.		RPD	
Param F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\mathbf{Limit}$	
Chloride	. 1	649	mg/L	10	275	352	108	90 - 110	) 1	20	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: June 24, 2011 701047.015.01 Work Order: 11062005 Monsanto #5 Page Number: 13 of 14 Hobbs, NM

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## Calibration Standards

Standard (ICV-1)

QC Batch:	82374			Date A	Analyzed:	2011-06-20		Analy	zed By: AR
					ICVs	ICVs	ICVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	26.9	108	90 - 110	2011-06-20

### Standard (CCV-1)

QC Batch:	82374			Date	Analyzed:	2011-06-20		Analy	zed By: AR
					CCVs	CCVs	CCVs	Percent	_
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	25.9	104	90 - 110	2011-06-20

Report Date: June 24, 2011 701047.015.01

Work Order: 11062005 Monsanto #5 Page Number: 14 of 14 Hobbs, NM

## Appendix

## 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	NELAP	T104704392-10-TX	Midland

### 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.
- 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.
- U The analyte is not detected above the SDL

### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.



#### Page Number: 1 of 2

## **Summary Report**

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX 79706

Project Location:Hobbs, NMProject Name:Monsanto #5Project Number:701047.015.01

Date Time Date Received Sample Description Taken Taken Matrix 269883 2011-06-17 MW-1 water 2011-06-17 11:42 269884 MW-2 2011-06-17 11:50 2011-06-17 water 269885 MW-3 2011-06-17 11:352011-06-17 water 269886MW-4 2011-06-17 10:582011-06-17water **MW-5** 2698872011-06-1711:142011-06-17 water 269888 MW-6 water 2011-06-17 11:292011-06-17 269889 MW-7 water 2011-06-1711:202011-06-17 269890 MW-8 water 2011-06-17 11:05 2011-06-17

Sample: 269883 - MW-1

Param	Flag	Result	Units	RL
Chloride		37.0	mg/L	2.5
Total Dissolved Solids		387	$\mathrm{mg/L}$	10

#### Sample: 269884 - MW-2

Param	Flag	Result	Units	RL
Chloride		24.5	mg/L	2.5
Total Dissolved Solids		387	mg/L	10

Sample: 269885 - MW-3

TraceAnalysis, Inc. • 6701 Aberdeen Avc., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: June 24, 2011 Work Order: 11062005

Report Date: June 24, 2011	Wor	k Order: 11062005	Page Number: 2 of 2		
Param	Flag	Result	Units	RL	
Chloride		26.8	mg/L	2.5	
Total Dissolved Solids		382	mg/L	10	
Sample: 269886 - MW-4					
Param	Flag	Result	Units	$\mathbf{RL}$	
Chloride		99.3	mg/L	2.5	
Total Dissolved Solids		486	mg/L	10	
Sample: 269887 - MW-5					
Param	Flag	Result	Units	RL	
Chloride		26.2	mg/L	2.5	
Total Dissolved Solids	· · · · · · · · · · · · · · · · · · ·	389	mg/L	10	
Sample: 269888 - MW-6				~	
Param	Flag	Result	Units	RL	
Chloride		210	mg/L	2.5	
Total Dissolved Solids		678	mg/L	10	
Sample: 269889 - MW-7					
Param	Flag	Result	Units	$\mathbf{RL}$	
Chloride		268	mg/L	2.5	
Total Dissolved Solids	<u>.</u>	770	mg/L	10	
- Sample: 269890 - MW-8					
Param	Flag	Result	Units	RL	
Chloride		352	mg/L	2.5	
Total Dissolved Solids		804	mg/L	10	

TraceAualysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.



## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX, 79706

Report Date: June 24, 2011

# Work Order: 11062005

Project Location:Hobbs, NMProject Name:Monsanto #5Project Number:701047.015.01

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
269883	MW-1	water	2011-06-17	11:42	2011-06-17
269884	MW-2	water	2011-06-17	11:50	2011-06-17
269885	MW-3	water	2011-06-17	11:35	2011-06-17
269886	MW-4	water	2011-06-17	10:58	2011-06-17
269887	MW-5	water	2011-06-17	11:14	2011-06-17
269888	MW-6	water	2011-06-17	11:29	2011-06-17
269889	MW-7	water	2011-06-17	11:20	2011-06-17
269890	MW-8	water	2011-06-17	11:05	2011-06-17

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 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Sample 269888 (MW-6)	7
Sample 269889 (MW-7)	
Sample 269890 (MW-8)	9
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QC Batch 82374 - Method Blank (1)	10
OC Batch 82469 - Method Blank (1)	10
OC Batch 82469 - Duplicate (1)	10
aboratory Control Spikes	11
QC Batch 82374 - LCS (1)	11
QC Batch 82469 - LCS (1)	11
QC Batch 82374 - MS (1)	11
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## **Case Narrative**

Samples for project Monsanto #5 were received by TraceAnalysis, Inc. on 2011-06-17 and assigned to work order 11062005. Samples for work order 11062005 were received intact at a temperature of 0.4 C.

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

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	Batch	Date
Chloride (IC)	E 300.0	69948	2011-06-20 at 09:43	82374	2011-06-20 at 20:44
TDS	SM 2540C	69963	2011-06-21 at 13:26	82469	2011-06-23 at 15:00

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 11062005 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.

Report Date: June 24, 2011 701047.015.01

Work Order: 11062005 Monsanto #5

Page Number: 5 of 14 Hobbs, NM

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## **Analytical Report**

#### Sample: 269883 - MW-1

Laboratory:	Midland							
Analysis:	Chloride (IC)		Analytical I	Method:	E 300.0		Prep Method:	N/A
QC Batch:	82374		Date Analy	zed:	2011-06-20		Analyzed By:	AR
Prep Batch:	69948	1	Sample Pre	Sample Preparation: 2011-06-20			Prepared By:	AR
				RI				
Parameter		Flag	Cert	Result	t	Units	Dilution	$\mathbf{RL}$
Chloride			. 1	37.0	D	mg/L	5	2.50

#### Sample: 269883 - MW-1

Total Dissolv	ved Solids		1	387	$\mathrm{mg/L}$	1	10.0
Parameter		Flag	Cert	` RL Result	Units	Dilution	RL
Prep Batch:	69963	Samp	le Preparation:	2011-06-21		Prepared By:	AR
QC Batch:	82469	Date	Analyzed:	2011-06-23		Analyzed By:	$\mathbf{AR}$
Laboratory: Analysis:	Midland TDS	Analy	tical Method:	SM 2540C		Prep Method:	N/A

### Sample: 269884 - MW-2

QC Batch:	82374		Date Anal	vzed:	2011-06-20		Analyzed By:	AR
Prep Batch:	69948		Sample Pr	eparation:	2011-06-20		Prepared By:	AR
Prep Batch:				R	L			
Parameter ·		Flag	$\mathbf{Cert}$	Resul	lt	Units	Dilution	$\mathbf{RL}$
Chloride			1	<b>24.</b>	5	mg/L	5.	2.50

701047.015.01			Work Order: Monsante	11062005 5 #5		Page Number: 6 of 14 Hobbs, NM		
Sample: 269884 - MW-2								
Laboratory:MidlandAnalysis:TDSQC Batch:82469Prep Batch:69963		Analy Date Samp	ytical Method: Analyzed: de Preparation:	SM 2540C 2011-06-23 2011-06-21		Prep Method: Analyzed By: Prepared By:	N/A AR AR	
Parameter		Flag	Cert	RL. Result	Units	Dilution	RL	
Total Dissolved Solids			1	387	mg/L	1	10.0	
Sample: 269885 - MW-3								
Laboratory:MidlandAnalysis:Chloride (IC)QC Batch:82374Prep Batch:69948		Ar Da Sa	alytical Method te Analyzed: mple Preparatio	: E 300.0 2011-06-2 n: 2011-06-2	0 0	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
				RL				
Parameter Chloride	Flag	C	ert Re	esult	Units mg/L	Dilution	$\frac{\text{RL}}{2.50}$	
Sample: 269885 - MW-3								
Laboratory: Midland	·	Analy	ytical Method: Analyzed:	SM 2540C 2011-06-23		Prep Method: Analyzed By:	N/A AR	
Analysis:TDSQC Batch:82469Prep Batch:69963		Samp	le Preparation:	2011-06-21		Prepared By:	AR	
Analysis: TDS QC Batch: 82469 Prep Batch: 69963		Samp	le Preparation:	2011-06-21 RL	<b>.</b>	Prepared By:	AR	

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Laboratory: Analysis:	Midland Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	82374	Date Analyzed:	2011-06-20	Analyzed By:	AR
Prep Batch:	69948	Sample Preparation:	2011-06-20	Prepared By:	AR

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Parameter     Flag     Cert     Result     Units     Dilution     R       Chloride     1     99.3     mg/L     5     2.5       Sample: 269886 - MW-4     Laboratory:     Midland     Analysis:     TDS     Analytical Method:     SM 2540C     Prep Method:     N/       QC Batch:     82469     Date Analyzed:     2011-06-23     Analyzed By:     AR       Prep Batch:     69963     Sample Preparation:     2011-06-21     Prepared By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R       Total Dissolved Solids     1     10     1     10       Sample:     269887 - MW-5     Laboratory:     Midland       Analysis:     Chloride (IC)     Analytical Method:     E 300.0     Prep Method:     N/       QC Batch:     82374     Date Analyzed:     2011-06-20     Analyzed By:     AR       Prep Batch:     69948     Sample Preparation:     2011-06-20     Prepared By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R       Chloride     1     26.2     mg/L     5     2.5       Sample:     269887 - MW-5     Laboratory:     Midland     Analyzis: <th colspan="2">Report Date: June 24, 2011 701047.015.01</th> <th></th> <th>Work Order: Monsant</th> <th colspan="3">Page Number: 7 of 14 Hobbs, NM</th>	Report Date: June 24, 2011 701047.015.01			Work Order: Monsant	Page Number: 7 of 14 Hobbs, NM				
Parameter     Plag     Cert     Result     Units     Ditution     R       Chloride     1     99.3     mg/L     5     2.5       Sample: 269886 - MW-4     Laboratory:     Midland     Analysics     TDS     Analytical Method:     SM 2540C     Prep Method:     N/       QC Batch:     82469     Date Analyzed:     2011-06-23     Analyzed By:     AR       Prep Batch:     69963     Sample Preparation:     2011-06-21     Prepared By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R       Total Dissolved Solids     1     10     1     10       Sample:     269887 - MW-5     Laboratory:     Midland     Analysics     Chloride     1     10       Sample:     269887 - MW-5     Laboratory:     Midland     Analyzed:     2011-06-20     Prep Method:     N/       QC Batch:     82374     Date Analyzed:     2011-06-20     Prepared By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R       Chloride     1     26.2     mg/L     5     2.5       Sample:     269887 - MW-5     Laboratory:     Midland     Analysis:     DS     Analytical Method:	D			0		RL	<b>TT</b> • (		DI
Chloride       i       39.3       ing/L       5       2.4         Sample:       269886 - MW-4       Laboratory:       Midland       Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/         QC Batch:       63963       Date Analyzed:       2011-06-23       Analyzed By:       A/R         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       A/R         Parameter       Flag       Cert       Result       Units       Dilution       R         Total Dissolved Solids       i       486       mg/L       1       10         Sample:       269887 - MW-5       Laboratory:       Midland       Analyzei:       2011-06-20       Analyzed By:       A/R         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       A/R         Parameter       Flag       Cert       Result       Units       Dilution       R         Parameter       Flag       Cert       Result       Units       Dilution       R         Sample:       269887 - MW-5       Laboratory:       Midland       Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method: <th>Parameter</th> <th></th> <th>Flag</th> <th>U</th> <th>ert R</th> <th>esuit</th> <th>Units</th> <th>Dilution</th> <th></th>	Parameter		Flag	U	ert R	esuit	Units	Dilution	
Sample: 269886 - MW-4         Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Total Dissolved Solids       i       486       mg/L       1       10.         Sample:       269887 - MW-5       Laboratory:       Midland       Analysis:       Choride (IC)       Analytical Method:       E 300.0       Prep Method:       N/.         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       i       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Laboratory:       Midland       Analytical Method:       SM 254	Chloride					99.3	mg/L	0	2.50
Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Total Dissolved Solids       1       486       mg/L       1       10         Sample:       269887 - MW-5       Laboratory:       Midland       Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Analyzed By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         QC Batch:       82374       Date Analyzed:       2011-06-20       Prepared By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Choride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Laboratory:       Midland	Sample: 26	9886 - MW-4							
Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Total Dissolved Solids       1       486       mg/L       1       10         Sample:       269887 - MW-5       Laboratory:       Midland       Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         QC Batch:       82374       Date Analyzed:       2011-06-20       Prepared By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5      <	Laboratory:	Midland							
QC Batch:       \$2469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Total Dissolved Solids       1       486       mg/L       1       10         Sample:       269887 - MW-5       Laboratory:       Midland       Analytical Method:       E 300.0       Prep Method:       N/.         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Parameter       Flag       Cert       Result       Units       Dilution       R         Sample:       269887 - MW-5       Laboratory:       Midland       Analytical Method:       SM 2540C       Prep Method:       N/.         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparat	Analysis:	TDS ·		Analy	rtical Method:	SM 2540C		Prep Method:	N/A
Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Total Dissolved Solids       1       486       mg/L       1       10         Sample:       269887 - MW-5       Image: Solid Side       1       10         Sample:       269887 - MW-5       Image: Solid Side       1       10         Sample:       269887 - MW-5       Image: Solid Side       1       10         QC Batch:       63948       Sample Preparation:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Image: Solid Side       N/A         Laboratory:       Midland       Analytical Method:       SM 2540C       Prep Method:       N/A         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR	QC Batch:	82469		Date	Analyzed:	2011-06-23		Analyzed By:	$\mathbf{AR}$
Parameter     Flag     Cert     Result     Units     Dilution     R       Total Dissolved Solids     1     486     mg/L     1     10       Sample: 269887 - MW-5       Laboratory:     Midland       Analysis:     Chloride (IC)     Analytical Method:     E 300.0     Prep Method:     N/.       QC Batch:     82374     Date Analyzed:     2011-06-20     Analyzed By:     AR       Prep Batch:     69948     Sample Preparation:     2011-06-20     Prepared By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R       Chloride     1     26.2     mg/L     5     2.5       Sample:     269887 - MW-5     Laboratory:     Midland       Analysis:     TDS     Analytical Method:     SM 2540C     Prep Method:     N/.       QC Batch:     82469     Date Analyzed:     2011-06-23     Analyzed By:     AR       Prep Batch:     69963     Sample Preparation:     2011-06-23     Analyzed By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R	Prep Batch:	69963		Samp	le Preparation:	2011-06-21		Prepared By:	AR
Parameter       Flag       Cert       Result       Units       Dilution       R         Total Dissolved Solids       1       486       mg/L       1       10         Sample: 269887 - MW-5         Laboratory:       Midland         Analysis:       Chloride (IC)       Analytical Method:       E 300.0       Prep Method:       N/.         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/.         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution	• •					BL			
Total Dissolved Solids       1       486       mg/L       1       10         Sample: 269887 - MW-5         Laboratory:       Midland         Analysis:       Chloride (IC)       Analytical Method:       E 300.0       Prep Method:       N/.         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/.         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R	Parameter			Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Sample: 269887 - MW-5         Laboratory:       Midland         Analysis:       Chloride (IC)       Analytical Method:       E 300.0       Prep Method:       N/.         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/.         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R	Total Dissolv	ved Solids			1	486	mg/L	1	10.0
Sample: 269887 - MW-5         Laboratory:       Midland         Analysis:       Chloride (IC)       Analytical Method:       E 300.0       Prep Method:       N/.         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/.         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R									i
Sample: 269887 - MW-5         Laboratory:       Midland         Analysis:       Chloride (IC)       Analytical Method:       E 300.0       Prep Method:       N/         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R									
Sample: 269887 - MW-5         Laboratory: Midland         Analysis: Chloride (IC)       Analytical Method: E 300.0       Prep Method: N/.         QC Batch: 82374       Date Analyzed: 2011-06-20       Analyzed By: AR         Prep Batch: 69948       Sample Preparation: 2011-06-20       Prepared By: AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample: 269887 - MW-5         Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/.         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By: AR         Prep Batch:       69963       Sample Preparation:       2011-06-23       Analyzed By: AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By: AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By: AR         Parameter       Flag       Cert       Result       Units       Dilution       R									
Laboratory:       Midland         Analysis:       Chloride (IC)       Analytical Method:       E 300.0       Prep Method:       N/.         QC Batch:       82374       Date Analyzed:       2011-06-20       Analyzed By:       AR         Prep Batch:       69948       Sample Preparation:       2011-06-20       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5       Eaboratory:       Midland       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/.         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R	Sample: 26	9887 - MW-5							
Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/. QC Batch: 82374 Date Analyzed: 2011-06-20 Analyzed By: AR Prep Batch: 69948 Sample Preparation: 2011-06-20 Prepared By: AR Parameter Flag Cert Result Units Dilution R Chloride 1 26.2 mg/L 5 2.5 Sample: 269887 - MW-5 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/. QC Batch: 82469 Date Analyzed: 2011-06-23 Analyzed By: AR Prep Batch: 69963 Sample Preparation: 2011-06-21 Prepared By: AR Prep Batch: 69963 Sample Preparation: 2011-06-21 Prepared By: AR Parameter Flag Cert Result Units Dilution R	Laboratory	Midland							
Analysist     Outer Analysed:     2011-06-20     Analyzed By:     AR       Prep Batch:     69948     Sample Preparation:     2011-06-20     Prepared By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R       Chloride     1     26.2     mg/L     5     2.5       Sample:     269887 - MW-5       Laboratory:     Midland       Analysis:     TDS     Analytical Method:     SM 2540C     Prep Method:     N//       QC Batch:     82469     Date Analyzed:     2011-06-23     Analyzed By:     AR       Prep Batch:     69963     Sample Preparation:     2011-06-21     Prep Method:     N//       RL     RL       Parameter     Flag     Cert     Result     Units     Dilution     R	Analysis:	Chloride (IC)		An	alvtical Method	E 300.0		Prep Method:	N/A
Prep Batch:     69948     Sample Preparation:     2011-06-20     Prepared By:     AR       RL     RL       Parameter     Flag     Cert     Result     Units     Dilution     R       Chloride     1     26.2     mg/L     5     2.5       Sample:     269887 - MW-5     Laboratory:     Midland       Analysis:     TDS     Analytical Method:     SM 2540C     Prep Method:     N//       QC Batch:     82469     Date Analyzed:     2011-06-23     Analyzed By:     AR       Prep Batch:     69963     Sample Preparation:     2011-06-21     Prepared By:     AR       RL     RL       Parameter     Flag     Cert     Result     Units     Dilution     R	QC Batch:	82374	•	Da	te Analyzed:	2011-06-2	0	Analyzed By:	AR
Parameter     Flag     Cert     Result     Units     Dilution     R       Chloride     1     26.2     mg/L     5     2.5       Sample: 269887 - MW-5       Laboratory:     Midland       Analysis:     TDS     Analytical Method:     SM 2540C     Prep Method:     N/A       QC Batch:     82469     Date Analyzed:     2011-06-23     Analyzed By:     AR       Prep Batch:     69963     Sample Preparation:     2011-06-21     Prepared By:     AR       Parameter     Flag     Cert     Result     Units     Dilution     R	Prep Batch:	69948		Sai	nple Preparatio	n: 2011-06-2	<b>0</b> .	Prepared By:	AR
RL         Parameter       Flag       Cert       Result       Units       Dilution       R         Chloride       1       26.2       mg/L       5       2.5         Sample:       269887 - MW-5         Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/J         QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       69963       Sample Preparation:       2011-06-21       Prepared By:       AR         RL       RL       RL       RL       RL       RL       RL         Parameter       Flag       Cert       Result       Units       Dilution       R								1 5	
Parameter     Prag     Cert     Result     Onits     Dilution     R       Chloride     1     26.2     mg/L     5     2.5       Sample: 269887 - MW-5       Laboratory:     Midland       Analytical Method:     SM 2540C     Prep Method:     N/A       QC Batch:     82469     Date Analyzed:     2011-06-23     Analyzed By:     AR       Prep Batch:     69963     Sample Preparation:     2011-06-21     Prepared By:     AR       RL     Parameter     Flag     Cert     Result     Units     Dilution     R	Demomentor		Flor	C	ant D	RL	Unito	Dilution	ÐĪ
Sample:     269887 - MW-5       Laboratory:     Midland       Analysis:     TDS       QC Batch:     82469       Prep Batch:     69963       Sample Preparation:     2011-06-23       RL       Parameter     Flag	Chloride		riag	0		26.2	mg/L	5	2 50
Sample: 269887 - MW-5 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 82469 Date Analyzed: 2011-06-23 Analyzed By: AR Prep Batch: 69963 Sample Preparation: 2011-06-21 Prepared By: AR RL Parameter Flag Cert Result Units Dilution R						20.2	mg/D	0	2.00
Sample: 269887 - MW-5       Iaboratory: Midland         Laboratory: Midland       Analysis: TDS       Analytical Method: SM 2540C       Prep Method: N/A         QC Batch: 82469       Date Analyzed: 2011-06-23       Analyzed By: AR         Prep Batch: 69963       Sample Preparation: 2011-06-21       Prepared By: AR         RL       RL         Parameter       Flag       Cert       Result       Units       Dilution       R									
Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 82469 Date Analyzed: 2011-06-23 Analyzed By: AR Prep Batch: 69963 Sample Preparation: 2011-06-21 Prepared By: AR RL Parameter Flag Cert Result Units Dilution R	Sample: 26	9887 - MW-5							
Analysis:TDSAnalytical Method:SM 2540CPrep Method:N/.QC Batch:82469Date Analyzed:2011-06-23Analyzed By:ARPrep Batch:69963Sample Preparation:2011-06-21Prepared By:ARRLParameterFlagCertResultUnitsDilutionR	Laboratory:	Midland							
QC Batch:       82469       Date Analyzed:       2011-06-23       Analyzed By:       AR         Prep Batch:       .69963       Sample Preparation:       2011-06-21       Prepared By:       AR         Parameter       Flag       Cert       Result       Units       Dilution       R	Analysis:	TDS		Analy	tical Method:	SM 2540C		Prep Method:	N/A
Prep Batch: 69963 Sample Preparation: 2011-06-21 Prepared By: AR RL Parameter Flag Cert Result Units Dilution R	QC Batch:	82469		Date	Analyzed:	2011-06-23		Analyzed By:	AR.
RL Parameter Flag Cert Result Units Dilution R	Prep Batch:	69963		Samp	le Preparation:	2011-06-21		Prepared By:	AR
Parameter Flag Cert Result Units Dilution R						рт			
riag Cert Result Units Dilution R	Doromotor			Flog	Cort	KL Rogult	Unite	Dilution	ÐI
Total Dissolved Solids	Total Dissol	red Solids		1 lag	, ,	389	mg/L	1	10.0

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Report Date 701047.015.0	: June 24, 2011 1		V	Vork Order: Monsant	11062005 o #5		Page Number: 8 of 1 Hobbs, NM			
Sample: 26	9888 - MW-6									
Laboratory:	Midland				•					
Analysis:	Chloride (IC)		Analy	tical Method	l: E 300.0		Prep Method:	N/A		
QC Batch: Prop. Botch:	82374		Date A	Analyzed:	2011-06-2	0	Analyzed By: Propared By:			
r lep baten.	09940		Sampi	егератало	·II. 2011-00-2	0	Trepared by.	лц		
					RL					
Parameter		Flag	Cert	R	esult	Units	Dilution	RL		
Chloride			1		210	mg/L	10	2.50		
			·							
Sample: 26	9888 - MW-6									
Laboratory:	Midland									
Analysis:	TDS		Analytic	al Method:	SM 2540C		Prep Method:	N/A		
QC Batch:	82469		Date An	alyzed:	2011-06-23		Analyzed By:	AR		
Prep Batch:	69963		Sample F	Preparation:	2011-06-21		Prepared By:	AR		
					, BI					
Parameter			Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$		
Total Dissolv	red Solids	•	0	1	678	mg/L	2	10.0		
						-				
							•			
Sample: 26	9889 - MW-7									
Laboratory	Midland									
Analysis:	Chloride (IC)		Analy	tical Method	E 300.0		Prep Method:	N/A		
OC Batch:	82374		Date A	Analyzed:	2011-06-2	0	Analyzed By:	AR		
Prep Batch:	69948		Sampl	e Preparatio	n: 2011-06-2	0	Prepared By:	$\mathbf{AR}$		
					<b>N</b> -			•		
Daramatar		Flog	Cort	P	RL	Unite	Dilution	BI		
$\frac{r \text{arameter}}{Chloride}$		riag	Cert	n	268	$\frac{0 \text{ mg}}{\text{ mg}}$	10	2 50		
			1		200	m6/12	10	2.00		
G 1 000										
Sample: 26	9889 - MW-7									
Laboratory:	Midland									
Analysis:	TDS		Analytic	al Method:	SM 2540C		Prep Method:	N/A		
QC Batch:	82469		Date Ana	alyzed:	2011-06-23		Analyzed By:	AR		
Prep Batch:	69963		Sample I	Preparation:	2011-06-21		Prepared By:	AR		
						(	continued			

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Report Date: 701047.015.01	June 24, 2011		Work Order: 11062005 Monsanto #5			<i>.</i> .	Page Number: 9 Hobb		
sample 269889	continued								
<u>ب</u>		-			RL				
Parameter		÷	Flag	Cert	Result	Units	Dilution	RL	
					$\mathbf{RL}$				
Parameter			Flag	$\mathbf{Cert}$	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$	
Total Dissolved	d Solids			1	770	m mg/L	2	10.0	
Sample: 2698	890 - MW-8								
Laboratory: 1	Midland	F							
Analysis:	Chloride (IC)		A	nalytical Metho	d: E 300.0		Prep Method:	N/A	
QC Batch: 8	82374		D	ate Analyzed:	2011-06-2	0	Analyzed By:	AR	
Prep Batch: (	69948		Sa	ample Preparati	on: 2011-06-2	0	Prepared By:	AR	
					RL				
Parameter		Flag	(	Cert I	Result	Units	Dilution	$\mathbf{RL}$	
Chloride				1	352	mg/L	10	2.50	
		1							
Sample: 2698	890 - MW-8								
Laboratory: 1	Midland								
Analysis:	TDS		Anal	ytical Method:	SM 2540C		Prep Method:	N/A	
QC Batch: 8	82469		Date	e Analyzed:	2011-06-23		Analyzed By:	$\mathbf{AR}$	
Prep Batch: 0	69963		Sam	ple Preparation	: 2011-06-21		Prepared By:	AR	
					RL.				
Parameter	:		Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$	
	d Solide				804	mg/L	2	10.0	

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Report Date: June 24, 2011 Work Order: 11062005 Page Number: 10 of 14 Hobbs, NM 701047.015.01 Monsanto #5 **Method Blanks** Method Blank (1) QC Batch: 82374 QC Batch: 82374 Date Analyzed: 2011-06-20 Analyzed By: AR Prep Batch: 69948 QC Preparation: 2011-06-20 Prepared By: AR MDL Parameter Flag Cert Result Units  $\mathbf{RL}$ Chloride 1.02 mg/L 2.5 1 Method Blank (1) QC Batch: 82469 Analyzed By: AR QC Batch: 82469 Date Analyzed: 2011-06-23 Prep Batch: 69963 2011-06-21 Prepared By: AR QC Preparation: MDL Cert Units  $\mathbf{RL}$ Parameter Flag Result **Total Dissolved Solids** <9.75 mg/L 10 1

#### Duplicates (1) Duplicated Sample: 269890

QC Batch: 82469 Prep Batch: 69963		Date Analyzed: QC Preparation:		2011-06-23 2011-06-21			Analyzed By: Prepared By:	AR AR
Param			Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolv	ed Solids	 1	844	804	mg/L	2	5	10

Report Date: June 24, 2011 701047.015.01 Work Order: 11062005 Monsanto #5 Page Number: 11 of 14 Hobbs, NM

## Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:	82374	Date Analyzed:	2011-06-20	Analyzed By:	AR
Prep Batch:	69948	QC Preparation:	2011-06-20	Prepared By:	AR

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	С	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$
Chloride		1	26.1	mg/L	1	25.0	< 0.265	104	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	F,	С	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	26.6	mg/L	1	25.0	< 0.265	106	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: 82469			Date Analyzed: 2011-06-23						Analyzed By: AR		
Prep Batch:	69963		Q	C Preparati	on: 2011	-06-21	•		Prepared	By: AR	
				LCS			Spike	Matrix		Rec.	
Param	·	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	
Total Dissolv	ed Solids		1	1020	mg/L	1	1000	<9.75	102	90 - 110	
Percent recov	very is based on t	he spike result	t. RP	D is based	on the spi	ike and s	pike duplicat	e result.			

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	$\mathbf{Amount}$	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	989	mg/L	1	1000	<9.75	99	90 - 110	3	10

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spil	ke (MS-1)	Spiked Sample: 269890			
QC Batch:	82374	Date Analyzed:	2011-06-20	Analyzed By:	AR
Prep Batch:	69948	QC Preparation:	2011-06-20	Prepared By:	AR

Report Date: June 24, 2011 701047.015.01				Work O Mo	rder: 11 nsanto ;	.062005 #5			Page Number: 12 of 14 Hobbs, NM			
Param		F	С	MS Result	Units	Dil.	Spike Amount	M R	atrix esult ]	Rec.	Rec. Limit	
Chloride			1	644	mg/L	10	275		352	106	90 - 110	
Percent recovery is based o	n the spike	resu	lt. RPD	is based	on the s	pike and s	pike duplie	cate res	sult.			
			MSD			Spike	Matrix		Rec.		RPD	
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\mathbf{Limit}$	
Chloride		1	649	mg/L	10	275	352	108	90 - 110	1	20	

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Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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## **Calibration Standards**

Standard (ICV-1)

QC Batch:	82374			Date A	Analyzed:	2011-06-20		Analyzed By: AR		
					ICVs	ICVs	ICVs ·	Percent		
					True	Found	Percent	Recovery	Date	
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Chloride			1	mg/L	25.0	26.9	108	90 - 110	2011-06-20	

### Standard (CCV-1)

QC Batch:	82374		1	Date Analyzed: 2011-06-20		Analy	zed By: AR		
					CCVs	CCVs	CCVs Democrat	Percent	Data
					Irue	Found	Percent	Recovery	Date
Param		Flag	$\mathbf{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	25.9	104	90 - 110	2011-06-20

Report Date: June 24, 2011 701047.015.01 Work Order: 11062005 Monsanto #5 Page Number: 14 of 14 Hobbs, NM

## Appendix

### Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

### **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.
- 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.
- U The analyte is not detected above the SDL

### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.



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#### Page Number: 1 of 2

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## Summary Report

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX 79706

Project Location:Hobbs, NMProject Name:Monsanto #5Project Number:701047.015.01

Date Time Date Sample Description Matrix Taken Taken Received 278551 MW-1 2011-09-28 11:15 2011-09-28 water 278552MW-2 2011-09-28 11:30 2011-09-28 water 278553 MW-3 2011-09-28 11:35 2011-09-28 water 2011-09-28 2011-09-28 278554MW-4 11:40water 278555 MW-5 2011-09-28 12:00 2011-09-28 water 2011-09-28 278556 MW-6 water 2011-09-28 12:10 278557 MW-7 water 2011-09-28 12:20 2011-09-28 278558 MW-8 2011-09-28 12:30 2011-09-28 water

#### Sample: 278551 - MW-1

Param	$\mathbf{Flag}$	Result	Units	$\mathbf{RL}$
Chloride	Qa	16.6	mg/L	2.5
Total Dissolved Solids		385.0	mg/L	10

#### Sample: 278552 - MW-2

Param	Flag	Result	Units	$\mathbf{RL}$
Chloride	· Qs	16.8	mg/L	2.5
Total Dissolved Solids		1320	$\mathrm{mg/L}$	. 10

Sample: 278553 - MW-3

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: October 5, 2011

Work Order: 11092902

Report Date: October 5, 2011	We	ork Order: 11092902	Page Number: 2 of 2		
Param	Flag	Result	Units	RL	
Chloride	Q8	20.6	mg/L	2.5	
Total Dissolved Solids		402.0	mg/L	10	
Sample: 278554 - MW-4					
Param	Flag	Result	Units	RL	
Chloride	Qs	70.6	mg/L	2.5	
Total Dissolved Solids		449.0	mg/L	10	
Sample: 278555 - MW-5		1			
Param	Flag	Result	Units	RL	
Chloride	Qs	19.1	mg/L	2.5	
Total Dissolved Solids		350.0	mg/L	10	
Sample: 278556 - MW-6					
Param	$\mathbf{Flag}$	Result	Units	RL	
Chloride	Qs	112	m mg/L	2.5	
Total Dissolved Solids	·	561.0	mg/L	10	
Sample: 278557 - MW-7					
Param	Flag	Result	Units	$\mathbf{RL}$	
Chloride	Q8	210	mg/L	2.5	
Total Dissolved Solids		566.0	mg/L	10	
Sample: 278558 - MW-8					
Param	Flag	Result'	Units	RL	
Chloride	Qs	405	mg/L	2.5	
Total Dissolved Solids		1356	$\mathrm{mg/L}$	10	

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#### 6701 Aberdeen Avenue, Suite 9 Lubbrick Texas 79424 800 • 378 • 1295 806 • 794 • 1296 FAX 806 • 794 • 1298 200 East Sunset Road, Suite E El Paso, Texas 79922 FAX 915•585•4944 888•588•3443 915+585+3443 TAX 432+689+6313 5002 Basin Street, Suite A1 / Midiarid Texas 79703 432 689 6301 5015 Herris Parkway, Suite 110.3 Ft, Worth, Texas 76132 817+201+5260> 322 2 <u>ç</u>... Ń E-Mail: lab@traceanalysis.com Certifications

### WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX, 79706

Report Date: October 5, 2011

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# Work Order: 11092902

Project Location:Hobbs, NMProject Name:Monsanto #5Project Number:701047.015.01

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
278551	MW-1	water	2011-09-28	11:15	2011-09-28
278552	MW-2	water	2011-09-28	11:30	2011-09-28
278553	MW-3	water	2011-09-28	11:35	2011-09-28
278554	<b>MW-4</b>	water	2011-09-28	11:40	2011-09-28
278555	MW-5	water	2011-09-28	12:00	2011-09-28
278556	MW-6	water	2011-09-28	12:10	2011-09-28
278557	MW-7	water	2011-09-28	12:20	2011-09-28
278558	MW-8	water	2011-09-28	12:30	2011-09-28

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 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Sample 278551 (MW-2)       5         Sample 278555 (MW-2)       5         Sample 278555 (MW-3)       6         Sample 278555 (MW-4)       6         Sample 278555 (MW-5)       7         Sample 278555 (MW-6)       7         Sample 278555 (MW-7)       8         Sample 278556 (MW-8)       7         Sample 278557 (MW-7)       8         Sample 278558 (MW-8)       9         Method Blanks       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - MS (1)       12         QC Batch 85209 - MS (2)       13         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (1)       15	Analytical Report	о г
Sample 278502 (MW-2)       9         Sample 278555 (MW-3)       6         Sample 278555 (MW-4)       7         Sample 278555 (MW-6)       7         Sample 278556 (MW-6)       7         Sample 278557 (MW-7)       8         Sample 278558 (MW-8)       8         Sample 278558 (MW-8)       9         Method Blanks       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - LCS (1)       13         QC Batch 85209 - LCS (1)       13         QC Batch 85209 - MS (2)       13         QC Batch 85209 - MS (2)       13         QC Batch 85209 - MS (2)       13         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85209 - CCV (2)       15	Sample 2/8001 ( $MW-1$ )	о г
Sample 278953 (MW-3)       6         Sample 278556 (MW-4)       6         Sample 278556 (MW-5)       7         Sample 278556 (MW-6)       7         Sample 278557 (MW-7)       8         Sample 278558 (MW-8)       9         Method Blanks       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85206 - LCS (1)       12         QC Batch 85206 - MS (1)       12         QC Batch 85209 - MS (2)       13         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)	Sample $2/8002$ (MW-2)	0 0
Sample 278555 (MW-5)       7         Sample 278555 (MW-5)       7         Sample 278555 (MW-6)       7         Sample 278557 (MW-7)       8         Sample 278558 (MW-8)       9         Method Blanks       9         Method Blanks       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85209 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       13         QC Batch 85209 - CCV (1)       13         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85209 - CCV (2) <td< td=""><td>Sample 2/8003 (MW-3) $\ldots$ $\ldots$ $\ldots$ $\ldots$ $\ldots$ $\ldots$ $\ldots$ $\ldots$ $\ldots$ $\ldots$</td><td>D C</td></td<>	Sample 2/8003 (MW-3) $\ldots$	D C
Sample 278556 (MW-6)       7         Sample 278556 (MW-6)       7         Sample 278557 (MW-7)       8         Sample 278558 (MW-8)       9         Method Blanks       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85209 - Method Blank (1)       10         QC Batch 85209 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       13         QC Batch 85209 - CCV (1)       13         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85266 - CCV (1)       15         QC Batch 85266 - CCV (2)       15         QC Batch 85266 - CCV (2)       15         QC Batch 85266 - CCV (2)       15         QC Batch 85266 -	Sample $2/8554$ (MW-4)	b 7
Sample 278556 (MW-6)       7         Sample 278557 (MW-7)       8         Sample 278558 (MW-8)       9         Method Blanks       9         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85206 - LCS (1)       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       13         QC Batch 85208 - MS (2)       15         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1) <td>Sample 2/8555 (MW-5)</td> <td>- 7</td>	Sample 2/8555 (MW-5)	- 7
Sample 278557 (MW-7)       8         Sample 278558 (MW-8)       9         Method Blanks       9         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       12         QC Batch 85209 - MS (2)       13         QC Batch 85209 - CCV (1)       13         QC Batch 85209 - CCV (2)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16         Laboratory Certifications <td>Sample 278556 (MW-6)</td> <td>7</td>	Sample 278556 (MW-6)	7
Sample 278558 (MW-8)       9         Method Blanks       10         QC Batch 85206 - Method Blank (1)       10         QC Batch 85286 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - MS (1)       12         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       13         QC Batch 85209 - CCV (1)       14         Calibration Standards       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	Sample 278557 (MW-7)	8
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QC Batch 85286 - Method Blank (1)       10         QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85286 - LCS (1)       12         QC Batch 85286 - LCS (1)       12         QC Batch 85209 - MS (2)       13         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       14         Calibration Standards       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	OC Batch 85209 - Method Blank (1)	10
QC Batch 85206 - Duplicate (1)       10         Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - MS (1)       12         QC Batch 85209 - MS (2)       13         QC Batch 85209 - MS (2)       13         QC Batch 85208 - MS (2)       13         QC Batch 85286 - MS (2)       14         Calibration Standards       15         QC Batch 85299 - CCV (1)       15         QC Batch 85286 - CV (1)       15         QC Batch 85286 - CV (2)       15         Appendix       16         Laboratory Certifications       16	OC Batch 85286 - Method Blank (1)	10
Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - MS (1)       12         QC Batch 85209 - MS (1)       13         QC Batch 85209 - MS (2)       13         QC Batch 85209 - MS (2)       13         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       14         Calibration Standards       15         QC Batch 85209 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	QC Batch 85206 - Duplicate (1)	10
Laboratory Control Spikes       12         QC Batch 85206 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85209 - MS (1)       12         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       14         Calibration Standards       15         QC Batch 85209 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16		
QC Batch 85206 - LCS (1)       12         QC Batch 85209 - LCS (1)       12         QC Batch 85286 - LCS (1)       12         QC Batch 85209 - MS (1)       13         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       13         QC Batch 85209 - CCV (1)       13         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	Laboratory Control Spikes	12
QC Batch 85209 - LCS (1)       12         QC Batch 85286 - LCS (1)       12         QC Batch 85209 - MS (1)       13         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       14         Calibration Standards         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	QC Batch $85206 - LCS(1)$	12
QC Batch 85286 - LCS (1)       12         QC Batch 85209 - MS (1)       13         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       13         QC Batch 85286 - MS (2)       14         Calibration Standards         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       16         Laboratory Certifications       16	QC Batch $85209 - LCS(1)$	12
QC Batch 85209 - MS (1)       13         QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       14         Calibration Standards         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         IS       15         QC Batch 85286 - CCV (2)       15         IS       15         IS       16         Laboratory Certifications       16	QC Batch 85286 - LCS (1)	12
QC Batch 85209 - MS (2)       13         QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       14         Calibration Standards       15         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         IS       15         QC Batch 85286 - CCV (2)       15         IS       15         QC Batch 85286 - CCV (2)       15         IS       15         IS       15         IS       16         Laboratory Certifications       16	QC Batch 85209 - MS (1)	13
QC Batch 85286 - MS (1)       13         QC Batch 85286 - MS (2)       14         Calibration Standards       15         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         If Laboratory Certifications       16         Laboratory Certifications       16	QC Batch 85209 - MS (2)	13
QC Batch 85286 - MS (2)       14         Calibration Standards       15         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	QC Batch 85286 - MS (1)	13
Calibration Standards       15         QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	QC Batch 85286 - MS (2)	14
QC Batch 85209 - CCV (1)       15         QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	Calibration Standards	15
QC Batch 85209 - CCV (2)       15         QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	OC Batch 85209 - CCV (1)	15
QC Batch 85286 - CCV (1)       15         QC Batch 85286 - CCV (2)       15         Appendix       16         Laboratory Certifications       16	OC Batch 85209 - CCV (2)	15
QC Batch 85286 - CCV (2)         15           Appendix         16           Laboratory Certifications         16	OC Batch 85286 - CCV (1)	15
Appendix       16         Laboratory Certifications       16	QC Batch 85286 - CCV (2)	15
Appendix       16         Laboratory Certifications       16		~•
Laboratory Certifications	Appendix	16
	Laboratory Certifications	16
Standard Flags	Standard Flags	16
Attachments	Attachments	16

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## **Case Narrative**

Samples for project Monsanto #5 were received by TraceAnalysis, Inc. on 2011-09-28 and assigned to work order 11092902. Samples for work order 11092902 were received intact at a temperature of 5.0 C.

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

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	Batch	Date
Chloride (IC)	E 300.0	72344	2011-10-03 at 11:42	85209	2011-10-03 at 11:48
Chloride (IC)	E 300.0	72403	2011-10-05 at 10:29	85286	2011-10-05 at 10:42
TDS	SM 2540C	72341	2011-10-03 at 11:11	85206	2011-10-03 at 11:13

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 11092902 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.

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## **Analytical Report**

#### Sample: 278551 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 85209 72344		Analytical Date Analy Sample Pro	Method: E yzed: 20 eparation: 20	300.0 011-10-03 011-09-30	Prep Method: Analyzed By: Prepared By:	N/A CR CR
			•	$\mathbf{RL}$			
Parameter		Flag	Cert	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$
Chloride		Qs	1	16.6	mg/L	6	2.50

#### Sample: 278551 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TDS 85206 72341	Analy Date Samp	vtical Method: Analyzed: le Preparation:	SM 2540C 2011-10-03 2011-09-30		Prep Method: Analyzed By: Prepared By:	N/A RL RL
Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolv	ed Solids	<u> </u>	1	385.0	$\mathrm{mg/L}$	1	10.00

#### Sample: 278552 - MW-2

Laboratory:	Lubbock							
Analysis:	Chloride (IC)		Analytical	Method:	E 300.0		Prep Method:	N/A
QC Batch:	85286		Date Analy	yzed:	2011-10-05		Analyzed By:	$\mathbf{CR}$
Prep Batch:	72403		Sample Pre	eparation:	2011-10-04	l ·	Prepared By:	CR
1				R	L			
Parameter		Flag	Cert	Resul	lt	Units	Dilution	$\mathbf{RL}$
Chloride		Qs	1	16.	8	mg/L	5	2.50

Report Date 701047.015.0	e: October 5, 2011	5, 2011 Work Order: 11092902 Monsanto #5					Page Number: 6 of 16 Hobbs, NM		
Sample: 27	8552 - MW-2								
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TDS 85206 72341		Anal Date Sam	ytical Method Analyzed: ple Preparatic	l: SM 2540C 2011-10-03 on: 2011-09-30		Prep Method: Analyzed By: Prepared By:	N/A RL RL	
				· · · · · · · ·	DI		1 5		
Parameter			Flag	Cert	Result	Units	Dilution	RL	
Total Dissolv	red Solids			1	1320	mg/L	20	10.00	
Sample: 27	8553 - MW-3								
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 85209 72344		Aı Da Sa	nalytical Metł ate Analyzed: .mple Prepara	od: E 300.0 2011-10-( tion: 2011-09-3	) <b>3</b> ·	Prep Method: Analyzed By: Prepared By:	N/A CR CR	
					RL				
Parameter		Flag		Cert	Result	Units	Dilution	RL	
Chloride		Qs		1	20.6	mg/L	0	2.50	
Sample: 27	8553 - MW-3								
Laboratory:	Lubbock								
Analysis:	TDS		Anal	ytical Method	l: SM 2540C		Prep Method:	N/A DI	
Prep Batch:	.72341		Sam	ple Preparatic	2011-10-05 on; 2011-09-30		Prepared By:	RL	
					RI.				
Parameter			Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$	
Total Dissolv	ved Solids			1	402.0	mg/L	1	10.00	
Sample: 27 Laboratory: Analysis: QC Batch:	8554 - MW-4 Lubbock Chloride (IC) 85209 72344		Aı Da Sa	nalytical Meth ate Analyzed: mple Prepara	nod: E 300.0 2011-10-( tion: 2011-09-;	D3 30	Prep Method: Analyzed By: Prepared By:	N/A CR CR	

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Report Date 701047.015.0	Report Date: October 5, 2011 701047.015.01			Work ( M	Page Number: 7 of 16 Hobbs, NM				
•					RI				
Parameter		Flag	(	Cert	Result	- J	Units	Dilution	$\mathbf{RL}$
Chloride	<b>`</b>	Qs		1	70.6	;	mg/L	5	2.50
<u> </u>	· · · · · · · · · · · · · · · · · · ·								
Sample: 27	8554 - MW-4							,	
Laboratory:	Lubbock								
Analysis:	TDS		Ana	lytical Metl	hod: SN	A 2540C		Prep Method:	N/A
QC Batch:	85206		Date	e Analyzed:	20	11-10-03		Analyzed By:	$\mathbf{RL}$
Prep Batch:	72341		Sam	ple Prepara	tion: 20	11-09-30		Prepared By:	$\mathbf{RL}$
						пт			
Parameter			Flag	Cert	R	KL esult	Units	[•] Dilution	BI.
Total Dissolv	ved Solids		1 145	1	4	49.0	mg/L	1	10.00
							8/	···· ··· ·	
	,								
Sample: 27	8555 - MW-5								
Laboratory:	Lubbock								
Analysis:	Chloride (IC)		A	nalytical M	ethod:	E 300.0		Prep Method:	N/A
QC Batch:	85209		D	ate Analyze	ed:	2011-10-0	3	Analyzed By:	$\dot{CR}$
Prep Batch:	72344		Sa	ample Prepa	aration:	2011-09-3	0	Prepared By:	$\mathbf{CR}$
					DI				
Parameter	`	Flag	(	Cert	RESULT		Units	Dilution	RL
Chloride		Qs		1	19.1	-	mg/L	6	2.50
		<b>~</b> -							
<b>a</b> •									
Sample: 27	8555 - MW-5								
Laboratory:	Lubbock								
Analysis:	TDS		Ana	lytical Metl	hod: · SN	A 2540C		Prep Method:	N/A
QC Batch:	85206		Date	e Analyzed:	20	11-10-03		Analyzed By:	$\mathbf{RL}$
Prep Batch:	72341		Sam	ple Prepara	ation: 20	11-09-30		Prepared By:	$\mathbf{RL}$

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1			$\mathbf{RL}$			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		1	350.0	mg/L	1	10.00

Report Date 701047.015.0	e: October 5, 2011 01		Work N	Order: 11092902 Ionsanto #5		Page Number: 8 of 16 Hobbs, NM		
Sample: 27	78556 - MW-6							
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 85209 72344		Analytical M Date Analyz Sample Prep	Method: E 300. zed: 2011-1 paration: 2011-0	0 0-03 9-30	Prep Method: Analyzed By: Prepared By:	N/A CR CR	
Demonstern		Ele -	Cast	RL Banalt	T	Dilution	זמ	
Chloride		r lag	Cert	112	mg/L	6	2.50	
		৬০	1	114	IIIg/ L		2.00	
Sample: 27	'8556 - MW-6							
Laboratory:	Lubbock							
Analysis:	TDS		Analytical Me	thod: SM 2540	С	Prep Method:	N/A	
QC Batch:	85206		Date Analyzed	: 2011-10-0	)3	Analyzed By:	RL	
Prep Batch:	72341		Sample Prepar	ation: 2011-09-3	30	Prepared By:	RL	
			,	$\mathbf{RL}$				
Parameter			Flag Cert	Result	Units	Dilution	$\mathbf{RL}$	
Total Dissolv	ved Solids		1	561.0	mg/L	1	10.00	
Sample: 27	'8557 - MW-7							
Laboratorra	Lubbook							
Applyeig	Chlorida (IC)		Analytical N	Acthody F 200	n	Prop Method	N/A	
OC Batch	85200 [°]		Data Analysi	$2011_{-1}$	0 በ_በ3	Analyzed By:	CR	
Prèn Batch	79344		Sample Pret	2011-1 paration: 2011-0	0-00 0-30	Prepared By:	CR	
Trep Daten.	12011		Dampie I fer	2011-0	5-50	ricparcu by.	on	
Parameter		Flag	Cert	RL Besult	Units	Dilution	RI.	
Chloride		- I lag Os	1	210	mg/L	10	2.50	
	· · ·	<u> </u>		,	&/			
Sample: 27	'8557 - MW-7					·		
L aboratore	Lubbook							
Analysis:	TDS		Analytical Mod	hode SM 2540	с.	Pren Method	N/A	
OC Batch	1 D3 85206		Date Analyzed	9011_10 (	0	Analyzed Rue	RI.	
Pren Batch	72341		Sample Prepar	ation: 2011-10-0	30	Prenared By	RL	
					- <del>-</del> -			

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sample 278557 continued							
Parameter	FI	or Co	<b>n</b> t	RL Bosult	Unite	Dilution	P
r arameter	<u> </u>		<u>я</u> с	nesuit	Onits	Dilucion	
				RL			
Parameter	Fla	ıg Ce	ert	Result	Units	Dilution	F
Total Dissolved Solids		1	L	566.0	mg/L	2	10.
Sample: 278558 - MW-8							
Laboratory: Lubbock							
Analysis: Chloride (IC)		Analytica	l Method:	E 300.0		Prep Method:	N,
QC Batch: 85209		Date Ana	lyzed:	2011-10-0	13	Analyzed By:	CI
Prep Batch: 72344		Sample P	reparation	n: 2011-09-3	iU	Prepared By:	CI
				RL			
Parameter	Flag	Cert	Re	sult	Units	Dilution	Ι
Chloride	Qs	1	4	405	mg/L	10	2.
Sample: 278558 - MW-8							
Laboratory: Lubbock		Ampletical	Acthody	SM DEADC		Prop Mathadi	N
OC Batch: 85206		Date Analy	zed.	2011-10-03		Analyzed Ry	- RI
Prep Batch: 72341		Sample Prei	paration:	2011-09-30		Prepared By:	RI
•		1				• •	
		~		RL	TT *·	15-11	-
	Fla	ig Cé	ert	Result	Units	Dilution	F
Parameter		-		1050	/T	9	10

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Method B	lanks					
· · · · · · · · · · · · · · · · · · ·						
Method Blank (1)	QC Batch: 85206					
QC Batch: 85206 Prep Batch: 72341		Date Analyzed: QC Preparation:	2011-10-03 2011-10-03		Analyzed By: Prepared By:	RL RL
				MDL		
Parameter		Flag	Cert	Result	Units	RI
Total Dissolved Solids			1	<5.000	mg/L	10
Method Blank (1) QC Batch: 85209 Prep Batch: 72344	QC Batch: 85209	Date Analyzed: QC Preparation:	2011-10-03 2011-10-03		Analyzed By: Prepared By:	CR CR
<b>D</b>				MDL		DI
Parameter Chloride	Flag	Cert		Result	Units mg/L	<u>RI</u>
Chioride						
				,		
Method Blank (1)	OC Batch: 85286					
Method Dialik (1)	QC Datell. 05200					
QC Batch: 85286 Prep Batch: 72403		Date Analyzed: QC Preparation:	2011-10-05 2011-10-05		Analyzed By: Prepared By:	CR CR
Parameter	Flag	Cort		MDL Besult	Units	RI
	I lag	Cert		10000		

Duplicates (1) Duplicated Sample: 278558

,

QC Batch:	85206	Date Analyzed:	2011-10-03	Analyzed By:	RL
Prep Batch:	72341	QC Preparation:	2011-10-03	Prepared By:	$\mathbf{RL}$

ł,
Report Date: October 5, 2011 701047.015.01		Work Or Mor	rder: 1109290 nsanto #5	Page Number: 11 of 16 Hobbs, NM			
Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	1312	1356	mg/L	2	3	10

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# Laboratory Control Spikes

#### Laboratory Control Spike (LCS-1)

QC Batch:	85206			Date	Analyzed	l: 201	11-10-03			Ana	lyzed B	By: RL
Prep Batch:	72341			QC I	Preparatio	on: 201	11-10-03			Prej	pared B	y: RL
					LCS			Spike	M	atrix		Rec.
Param			$\mathbf{F}$	С	Result	Units	Dil.	Amount	Re	esult R	.ec.	$\mathbf{Limit}$
Total Dissolv	ed Solids			1	1010	mg/L	1	1000	. <	5.00 1	01	90 - 110
Percent recov	very is based on the s	spike	resul	lt. RPD	is based o	on the s	pike and sj	pike duplic	ate res	ult.		
				LCSD			Spike	Matrix		Rec.		RPD
Param		$\mathbf{F}$	С	Result	$\mathbf{Units}$	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$	RPD	$\mathbf{Limit}$
Total Dissolv	red Solids		· 1	1020	mg/L	1	1000	<5.00	102	90 - 110	1	10
Percent recov	very is based on the s	spike	resul	lt. RPD	is based o	on the s	pike and s	pike duplic	ate res	ult.		

#### Laboratory Control Spike (LCS-1)

QC Batch:	85209	Date Analyzed:	2011-10-03	Analyzed By:	$\mathbf{CR}$
Prep Batch:	72344	QC Preparation:	2011-10-03	Prepared By:	CR

				LCS			Spike	Matrix		Rec.
Param		$\mathbf{F}$	С	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$
Chloride	· · · · · · · · · · · · · · · · · · ·	•	1	24.1	mg/L	1	25.0	<0.0319	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		1	23.8	mg/L	1	25.0	<0.0319	95	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:	85286	Date Analyzed:	2011-10-05	Analyzed By:	$\mathbf{CR}$
Prep Batch:	72403	QC Preparation:	2011-10-05	Prepared By:	$\mathbf{CR}$

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				LCS			Spike	Ma	ıtrix		Rec.
Param		$\mathbf{F}$	C I	Result	Units	Dil.	Amount	Re	sult R	lec.	Limit
Chloride			1	23.9	mg/L	1	25.0	0.1	108	95	90 - 110
Percent recovery is based on	the spike	e resul	t. RPD	is based o	on the s	oike and sp	oike duplica	ate resu	ılt.		
			LCSD			Spike	Matrix		Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	23.4	mg/L	1	25.0	0.108	93-	90 - 110	2	20
Matrix Spike (MS-1)	Spiked Sa	mple:	278554								
QC Batch: 85209 Prep Batch: 72344			Date QC F	Analyzed Preparatio	l: 201 on: 201	1-10-03 1-10-03			Ana Prep	lyzed B pared B	y: CR y: CR
<b>.</b> .				MS			Spike	Ma	atrix		Rec
Param		F	С	Result	Units	Dil	Amount	Re	sult B	lec.	Limit
Chloride		Os	1	198	mg/L	6	150	7	0.6	85	90 - 110
Percent recovery is based on	the spike	e resul	t. RPD	is based o	on the s	oike and sp	oike duplica	ate resu	ılt.		
			MSD			Spike	Matrix		Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	Q	5 1	195	mg/L	6	150	70.6	83	90 - 110	2	20
Percent recovery is based on Matrix Spike (MS-2) QC Batch: 85209 Prep Batch: 72344	the spike	mple:	t. RPD 278575 Date QC F	is based o Analyzed Preparatio	on the sj 201 on: 201	pike and sp 1-10-03 1-10-03	oike duplica	ate resu	ılt. Ana Preț	lyzed B	y: CR y: CR
				MS			Spike	Ma	atrix		Rec.
Param		$\mathbf{F}$	С	Result	Units	Dil.	Amount	Re	sult R	lec.	Limit
Param Chloride		F Qs	C 1	Result 148	Units mg/L	Dil.	Amount 150	Re	esult R	lec. 82	Limit 90 - 110
Param Chloride Percent recovery is based on	the spike	F Qs e resul	C 1 t. RPD	Result 148 is based o	Units mg/L on the sp	Dil. 6 pike and sp	Amount 150 pike duplica	Re 2 ate resu	esult R 25 1lt.	lec. 82	Limit 90 - 110
Param Chloride Percent recovery is based on	the spike	F Qs e resul	C 1 t. RPD MSD	Result 148 is based o	Units mg/L on the sp	Dil. 6 pike and sp Spike	Amount 150 Dike duplica Matrix	Re ate resu	sult R 25 1lt. Rec.	lec. 82	Limit 90 - 110 RPD
Param Chloride Percent recovery is based on Param	the spike	F Qs e resul C	C 1 t. RPD MSD Result	Result 148 is based of Units	Units mg/L on the sp Dil.	Dil. 6 pike and sp Spike Amount	Amount 150 Dike duplica Matrix Result	Re ate resu Rec.	sult R 25 1lt. Rec. Limit	RPD	Limit 90 - 110 RPD Limit

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Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Matrix Spike (MS-1)	Spiked	l San	nple:	278694								
QC Batch: 85286				Date	Analyzed	l: 201	1-10-05			Ana	lyzed By	CR
Prep Batch: 72403				QC P	reparatio	on: 201	1-10-05			Prep	ared By	r: CR
					MS			Spike	М	atrix		Rec.
Param			F	C I	Result	Units	Dil.	Amount	R	esult R	.ec.	Limit
Chloride				1	561	mg/L	12	300		275	95 9	90 - 110
Percent recovery is based of	on the s	pike	result	t. RPD	is based o	on the s	pike and s	pike duplic	ate res	sult.		
		•		MSD			Spike	Matrix		Rec.		RPD
Param		$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			1	549	mg/L	12	300	275	91	90 - 110	2	20
Percent recovery is based of	on the s	pike	result	t. RPD	is based of	on the sj	pike and sj	pike duplic	ate res	sult.		
Matrix Spike (MS-2)	Spiked	l San	nple:	278887								
QC Batch: 85286				Date	Analyzed	l: 201	1-10-05			Ana	lyzed By	: CR
Prep Batch: 72403	·			QC P	reparatio	on: 201	1-10-05			Prep	ared By	r: CR
					-							
					MS	·		Spike	М	latrix		Rec.
Param			F.	С	Result	Units	Dil.	Amount	R	esult R	.ec.	Limit
Chloride	·		Qs	1	166	mg/L	6	150		42	83 9	90 - 110
Percent recovery is based of	on the s	pike	result	t. RPD	is based o	on the s	pike and s	pike duplic	ate res	sult.		
				MSD			Spike	Matrix		Rec		RPD
Param	•	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		Qs	1	163	mg/L	6	150	42	81	90 - 110	2	20
	.1				<u></u>	.1	.1 1	.1 1. 1.				

[·] Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: October 5, 2011 701047.015.01 Work Order: 11092902 Monsanto #5 Page Number: 15 of 16 Hobbs, NM

# **Calibration Standards**

Standard (CCV-1)

QC Batch:	85209			Date	Analyzed:	2011-10-03		Analyzed By: CR		
1					CCVs	CCVs	CCVs	Percent	i i	
					True	Found	Percent	Recovery	Date	
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Chloride			1	mg/L	25.0	23.3	93	90 - 110	2011-10-03	

### Standard (CCV-2)

QC Batch:	85209			Date .	Analyzed:	2011-10-03		Analyzed By: CR			
					CCVs	CCVs	CCVs	Percent			
					True	Found	Percent	Recovery	Date		
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Chloride			1	mg/L	25.0	26.6	106	90 - 110	2011-10-03		

### Standard (CCV-1)

QC Batch:	85286			Date	Analyzed:	2011-10-05		Analy	zed By: CR
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	24.9	100	90 - 110	2011-10-05

#### Standard (CCV-2)

QC Batch:	85286			Date .	Analyzed:	2011-10-05		Analyzed By: CR		
			,		CCVs	CCVs	CCVs	Percent		
					True	Found	Percent	Recovery	$\mathbf{Date}$	
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Chloride			1	mg/L	25.0	23.4	94	90 - 110	2011-10-05	

Report Date: October 5, 2011 701047.015.01 Work Order: 11092902 Monsanto #5 Page Number: 16 of 16 Hobbs, NM

# Appendix

### Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-11-4	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.
- 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.
- U The analyte is not detected above the SDL

#### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

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Report Date: December 30, 2011

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#### Page Number: 1 of 2

## Summary Report

Report Date: December 30, 2011

# Work Order: 11122205

2901 State Highway 349 Midland, TX 79706 Project Location: Hobbs, NM

Steve Killingsworth

Talon LPE-Midland

Project Name: Monsanto #5 Project Number: 701047.015.01

			Date	Time	Date
Sample	Description	Matrix	$\mathbf{Taken}$	$\mathbf{Taken}$	Received
285035	MW-1	water	2011-12-21	12:45	2011-12-21
285036	MW-2	water	2011-12-21	12:50	2011-12-21
285037	MW-3	water	2011-12-21	12:55	2011-12-21
285038	MW-4	water	2011-12-21	13:05	2011-12-21
285039	MW-5	water	2011-12-21	13:15	2011-12-21
285040	MW-6	water	2011-12-21	13:20	2011-12-21
285041	MW-7	water	2011-12-21	13:25	2011-12-21
285042	MW-8	water	2011-12-21	13:35	2011-12-21

#### Sample: 285035 - MW-1

Param	Flag	Result	Units	$\mathbf{RL}$
Chloride	Qs	60.6	mg/L	2.5
Total Dissolved Solids		431.0	mg/L	10

#### Sample: 285036 - MW-2

Param	Flag	$\mathbf{Result}$	Units	$\mathbf{RL}$
Chloride	Qs	20.7	mg/L	2.5
Total Dissolved Solids		421.0	mg/L	10

#### Sample: 285037 - MW-3

TraceAnalysis, Inc. • 6701 Aberdeen Avc., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: December 30, 2011		Work Order: 11122205	Page Number: 2 of 2	
Param	Flag	Result	Units	RL
Chloride	Qs	17.8	mg/L	2.5
Total Dissolved Solids		343.0	m mg/L	10
Sample: 285038 - MW-4				
Param	Flag	Result	Units	$\mathbf{RL}$
Chloride		127	mg/L	2.5
Total Dissolved Solids		595.0	mg/L	10
Sample: 285039 - MW-5				
Param	Flag	Result	Units	RI.
Chloride	1 165	16.8	mg/L	2.5
Total Dissolved Solids		1256	mg/L	10
Sample: 285040 - MW-6 Param Chloride Total Dissolved Solids	Flag	Result 248 654.0	Units mg/L mg/L	RL 2.5 10
Sample: 285041 - MW-7				
Param	Flag	Result	Units	RL
Unioride Tatal Disselved Selid-			mg/L	2.5
TOTAL DISSOLVED SOLIDS		052.0	mg/L	10
Sample: 285042 - MW-8				
Param	Flag	Result	Units	RL
Chloride		376	mg/L	2.5
Total Dissolved Solids		1102	mg/L	10

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## Analytical and Quality Control Report

Steve Killingsworth Talon LPE-Midland 2901 State Highway 349 Midland, TX, 79706

Report Date: December 30, 2011

# Work Order: 11122205

Project Location:	Hobbs, NM
Project Name:	Monsanto $#5$
Project Number:	701047.015.01

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

				Date	Time	Date
Sample	Description		Matrix	Taken	Taken	Received
285035	MW-1	•	water	2011-12-21	12:45	2011-12-21
285036	MW-2		water	2011-12-21	12:50	2011-12-21
285037	· MW-3		water .	2011-12-21	12:55	2011-12-21
285038	MW-4		water .	2011-12-21	13:05	2011-12-21
285039	MW-5		water	2011-12-21	13:15	2011-12-21
285040	MW-6	•	water	2011-12-21	13:20	2011-12-21
285041	MW-7		water	2011-12-21	13:25	2011-12-21
285042	MW-8		water	2011-12-21	13:35	2011-12-21

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 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

4 KLA 7

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Analytical Report	5
Sample 285035 (MW-1)	5
Sample 285036 (MW-2)	5
Sample 285037 (MW-3)	6
Sample 285038 (MW-4)	6
Sample 285039 (MW-5)	7
Sample 285040 (MW-6)	-7
Sample 285041 (MW-7)	8
Sample 285042 (MW-8)	ę
Method Blanks	1(
QC Batch 87430 - Method Blank (1)	10
QC Batch 87431 - Method Blank (1)	10
QC Batch 87516 - Method Blank (1)	10
QC Batch 87516 - Duplicate (1)	1(
Laboratory Control Spikes	12
QC Batch 87430 - LCS (1)	12
QC Batch 87431 - LCS (1)	12
QC Batch 87516 - LCS (1)	12
QC Batch 87430 - MS (1)	13
QC Batch 87431 - MS (1)	13
Calibration Standards	14
QC Batch 87430 - CCV (1)	14
QC Batch 87430 - CCV (2)	14
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## **Case Narrative**

Samples for project Monsanto #5 were received by TraceAnalysis, Inc. on 2011-12-21 and assigned to work order 11122205. Samples for work order 11122205 were received intact at a temperature of 3.4 C.

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

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	$\operatorname{Batch}$	Date
Chloride (IC)	E 300.0	74245	2011-12-27 at 11:24	87430	2011-12-27 at 11:25
Chloride (IC)	E 300.0	74246	2011-12-27 at 11:43	87431	2011-12-27 at 11:48
TDS	SM 2540C	74312	2011-12-30 at 14:39	87516	2011-12-30 at 14:40

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 11122205 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.

Report Date: December 30, 2011 701047.015.01

#### Work Order: 11122205 Monsanto #5

Page Number: 5 of 15 Hobbs, NM

# **Analytical Report**

#### Sample: 285035 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 87430 74245	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-12-27 2011-12-23	Prep Method: Analyzed By: Prepared By:	N/A RL RL
Trop Daten.	11210	Bampie Trepatation.	2011-12-20 T.		102

Parameter	Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Chloride	Q8	1	60.6	mg/L	5	2.50

#### Sample: 285035 - MW-1

Laboratory:	Lubbock						
Analysis:	TDS	Α	nalytical Method	: SM 2540C	,	Prep Method:	N/A
QC Batch:	87516	D	Date Analyzed:			Analyzed By:	RL
Prep Batch: 74312		Sa	ample Preparation	n: 2011-12-28		Prepared By:	RL
				RL			
Parameter		Flag	Cert	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$
Total Dissolv	ed Solids		1	431.0	mg/L	1	10.00

#### Sample: 285036 - MW-2

Laboratory:	Lubbock							
Analysis:	Chloride (IC)		Analytical	Method:	E 300.0		Prep Method:	N/A
QC Batch:	87430		Date Analy	zed:	2011-12-27		Analyzed By:	RL
Prep Batch:	74245		Sample Pre	paration:	2011-12-23		Prepared By:	RL
				R	L			
Parameter ·		Flag	Cert	Resul	lt	Units	Dilution	$\mathbf{RL}$
Chloride		Qs	1	20.	7	mg/L	5	2.50

Report Date 701047.015.0	: December 30, 201 11	1		Work Ord Mons	er: 11122205 anto #5		Page Number: 6 of 15 Hobbs, NM		
Sample: 28	5036 - MW-2								
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TDS 87516 74312		Ana Date Sam	lytical Method: e Analyzed: ple Preparation:	SM 2540C 2011-12-30 2011-12-28		Prep Method: Analyzed By: Prepared By:	N/A RL RL	
Parameter			Flag	Cert	$\operatorname{RL}$ Result	Units	Dilution	$\mathbf{RL}$	
Total Dissolv	ed Solids			1	421.0	mg/L	1	10.00	
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch:	5037 - MW-3 Lubbock Chloride (IC) 87430 74245		A D Sa	nalytical Methoo ate Analyzed: ample Preparatio	l: E 300.0 2011-12-2 on: 2011-12-2	7 3	Prep Method: Analyzed By: Prepared By:	N/A RL RL	
Parameter		Flag	(	Cert R	RL esult	Units	Dilution	RL	
Chloride		Qs		1	17.8	mg/L	5	2.50	
Sample: 28	5037 - MW-3								
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TDS 87516 74312		Ana Date Sam	lytical Method: e Analyzed: ple Preparation:	SM 2540C 2011-12-30 2011-12-28		Prep Method: Analyzed By: Prepared By:	N/A RL RL	
Parameter			Flag	Cert	RL Result	Units	Dilution	RL	
Total Dissolv	red Solids			1	343.0	mg/L	. 1 .	10.00	
Sample: 28 Laboratory:	5038 - MW-4 Lubbock Chlorida (IC)			nalutical Matha	4. F 200 0		Prep Mathada	N/A	
QC Batch: Prep Batch:	87431 74246		D Sa	ate Analyzed: ample Preparatio	2011-12-2 on: 2011-12-2	7 3	Analyzed By: Prepared By:	RL RL	

Report Date: December 30, 2 701047.015.01	UII 		Mork M	Order: 11122205 Ionsanto #5		Page Number: Hobl	7 of 15 os, NM
				$\mathbf{RL}$			
Parameter	Flag	C	ert	Result	Units	Dilution	RL
hloride			1	127	mg/L	5	2.50
Sample: 285038 - MW-4							
Laboratory: Lubbock							
Analysis: TDS		Anal	ytical Metho	od: SM 2540C	3	Prep Method:	N/A
QC Batch: 87516		Date	Analyzed:	2011-12-3	0	Analyzed By:	$\mathbf{RL}$
Prep Batch: 74312		Samj	ole Preparat	ion: 2011-12-2	8	Prepared By:	RL
				$\mathbf{RL}$			
Parameter		Flag	Cert	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$
Total Dissolved Solids			1	595.0	mg/L	1	10.00

### Sample: 285039 - MW-5

Laboratory:	Lubbock							
Analysis:	Chloride (IC)		Analytical	Method:	E 300.0		Prep Method:	N/A
QC Batch:	87431	Date Analy	zed:	2011-12-27		Analyzed By:	RL	
Prep Batch:	74246		Sample Preparation: 2011-12-23			Prepared By:	RL	
				RI	L			
Parameter		Flag	Cert	Resul	t	Units	Dilution	$\mathbf{RL}$
Chloride			1	16.8	8	mg/L	5	2.50

#### Sample: 285039 - MW-5

Total Dissolv	ed Solids		1	1256	mg/L	1	10.00
Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Prep Batch: 74312		Samp	le Preparation:	2011-12-28		Prepared By:	$\mathbf{RL}$
QC Batch:	87516	Date	Analyzed:	2011-12-30		Analyzed By:	$\mathbf{RL}$
Analysis:	TDS	Analy	tical Method:	SM 2540C		Prep Method:	N/A
Laboratory:	Lubbock						

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Sample: 28	5040 - MW-6							
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 87431 74246		Analytica Date Ana Sample P	d Method dyzed: reparation	: E 300.0 2011-12-2 n: 2011-12-2	7 3	Prep Method: Analyzed By: Prepared By:	N/A RL RL
					RL			
Parameter		Flag	Cert	Re	sult	Units	Dilution	RL
Chloride			1		248	mg/L	5	2.50
Sample: 28	5040 - MW-6							
Laboratory:	Lubbock							
Analysis:	TDS		Analytical I	Method:	SM 2540C		Prep Method:	N/A
QC Batch:	87516		Date Analy	zed:	2011-12-30		Analyzed By:	RL
Prep Batch:	74312		Sample Pre	paration:	2011-12-28		Prepared By:	RL
2					BL			
Parameter			Flag Ce	ert	Result	Units	Dilution	$\mathbf{RL}$
Total Dissolv	ved Solids			1	654.0	mg/L	1	10.00
Sample: 28	5041 - MW-7							
Sample: 28	5041 - MW-7 Lubbock							
Sample: 28 Laboratory: Analysis:	5041 - MW-7 Lubbock Chloride (IC)		Analytica	l Method	: E 300.0		Prep Method:	N/A
Sample: 28 Laboratory: Analysis: QC Batch:	5041 - MW-7 Lubbock Chloride (IC) ·87431		Analytica Date Ana	ıl Method ılyzed:	: E 300.0 2011-12-2	7	Prep Method: Analyzed By:	N/A RL
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch:	5041 - MW-7 Lubbock Chloride (IC) 87431 74246		Analytica Date Ana Sample P	ıl Method ılyzed: 'reparation	: E 300.0 2011-12-2 a: 2011-12-2	7 3	Prep Method: Analyzed By: Prepared By:	N/A RL RL
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch:	<b>5041 - MW-7</b> Lubbock Chloride (IC) 87431 74246		Analytica Date Ana Sample P	l Method lyzed: reparation	: E 300.0 2011-12-2 n: 2011-12-2 RL	7 3	Prep Method: Analyzed By: Prepared By:	N/A RL RL
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	5041 - MW-7 Lubbock Chloride (IC) 87431 74246	Flag	Analytica Date Ana Sample P Cert	l Method lyzed: reparation Re	: E 300.0 2011-12-2 n: 2011-12-2 RL ssult	7 3 Units	Prep Method: Analyzed By: Prepared By: Dilution	N/A RL RL
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride	5041 - MW-7 Lubbock Chloride (IC) 87431 74246	Flag	Analytica Date Ana Sample F Cert	l Method lyzed: reparation Re	: E 300.0 2011-12-2 a: 2011-12-2 RL sult 188	7 3 Units mg/L	Prep Method: Analyzed By: Prepared By: Dilution 5	N/A RL RL 2.50
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride	5041 - MW-7 Lubbock Chloride (IC) 87431 74246	Flag	Analytica Date Ana Sample P Cert	l Method lyzed: reparation Re	: E 300.0 2011-12-2 n: 2011-12-2 RL sult 188	7 3 <u>Units</u> mg/L	Prep Method: Analyzed By: Prepared By: Dilution 5	N/A RL RL 2.50
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 28	5041 - MW-7 Lubbock Chloride (IC) 87431 74246 5041 - MW-7	Flag	Analytica Date Ana Sample P Cert	l Method lyzed: reparation Re	: E 300.0 2011-12-2 a: 2011-12-2 RL sult 188	7 3 <u>Units</u> mg/L	Prep Method: Analyzed By: Prepared By: Dilution 5	N/A RL RL 2.50
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 28 Laboratory:	5041 - MW-7 Lubbock Chloride (IC) 87431 74246 5041 - MW-7 Lubbock	Flag	Analytica Date Ana Sample P <u>Cert</u>	al Method alyzed: Preparation Re	: E 300.0 2011-12-2 n: 2011-12-2 RL sult 188	7 3 <u>Units</u> mg/L	Prep Method: Analyzed By: Prepared By: Dilution 5	N/A RL RL 2.50
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 28 Laboratory: Analysis:	5041 - MW-7 Lubbock Chloride (IC) 87431 74246 5041 - MW-7 Lubbock TDS	Flag	Analytica Date Ana Sample P Cert 1 Analytical I	ll Method llyzed: reparation Re Method:	: E 300.0 2011-12-2 n: 2011-12-2 RL sult 188 SM 2540C	7 3 <u>Units</u> mg/L	Prep Method: Analyzed By: Prepared By: Dilution 5 Prep Method:	N/A RL RL 2.50
Sample: 28 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 28 Laboratory: Analysis: QC Batch:	5041 - MW-7 Lubbock Chloride (IC) 87431 74246 5041 - MW-7 Lubbock TDS 87516	Flag	Analytica Date Ana Sample P Cert 1 Analytical I Date Analy	l Method lyzed: reparation Re Method: zed:	E 300.0 2011-12-2 a: 2011-12-2 RL sult 188 SM 2540C 2011-12-30	7 3 Units mg/L	Prep Method: Analyzed By: Prepared By: Dilution 5 Prep Method: Analyzed By:	N/A RL RL 2.50 N/A RL

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Report Date: 701047.015.0	December 30, 20	)11		Work Or Mon		Page Number: 9 of 15 Hobbs, NM		
sample 28504	1 continued							
					$\mathbf{RL}$			
Parameter			Flag	Cert	Result	Units	Dilution	RL
					$\mathbf{RL}$			
Parameter			Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Total Dissolve	ed Solids	· · · . · · · · · · · · · · · · · · · ·		1	652.0	mg/L	1	10.00
Sample: 28	5042 - MW-8							
Laboratory: Analysis:	Lubbock Chloride (IC)			Analytical Meth	od: E 300.0		Prep Method:	N/A
QC Batch:	87431		Ι	Date Analyzed:	2011-12-2	27	Analyzed By:	ŔĹ
Prep Batch:	74246		S	Sample Preparat	ion: 2011-12-2	3	Prepared By:	$\mathbf{RL}$
					RL			
Parameter		Flag		Cert	Result	Units	Dilution	$\mathbf{RL}$
Chloride				1	376	mg/L	10	2.50
					·· -	•		
Sample: 28	5042 - MW-8							
Laboratory:	Lubbock							
Analysis:	TDS		An	alytical Method	SM 2540C		Prep Method:	N/A
QC Batch:	87516		Dat	te Analyzed:	2011-12-30		Analyzed By:	$\mathbf{RL}$
Prep Batch:	74312		Sar	nple Preparation	n: 2011-12-28		Prepared By:	RL
					$\mathbf{RL}$			
Parameter			Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Total Dissolve	ed Solids			1	1102	mg/L	1	10.00

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Report Date: December 30, 2011 701047.015.01

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Work Order: 11122205 Monsanto #5

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# Method Blanks

	Datcii. 01400					
QC Batch: 87430		Date Analyzed:	2011-12-27		Analyzed By:	RL
Prep Batch: 74245		QC Preparation:	2011-12-27		Prepared By:	$\mathbf{RL}$
		_		MDL		
Parameter	Flag	Cert		Result	Units	RL
Chloride		1		0.613	mg/L	2.5
Method Blank (1) QC	Batch: 87431					
OC Batch: 87431		Date Analyzed:	2011-12-27		Analyzed By:	RL
Prep Batch: 74246		QC Preparation:	2011-12-27		Prepared By:	RL
				MDL		
Parameter	Flag	Cert		Result	Units	RL.
Chloride		1		0.0679	mg/L	2.5
Method Blank (1) QC	Batch: 87516			,		
OC Batch: 87516		Date Analyzed	·2011-12-30		Analyzed By:	RL
Prep Batch: 74312		QC Preparation:	2011-12-30		Prepared By:	RL
		_				
				MDL		
Parameter		Flag	Cert	Result	Units	$\mathbf{RL}$
Total Dissolved Solids			1	<5.000	mg/L	10

Duplicates (1) Duplicated Sample: 285042

QC Batch:	87516	Date Analyzed:	2011-12-30	Analyzed By:	$\mathbf{RL}$
Prep Batch:	74312	QC Preparation:	2011-12-30	Prepared By:	$\mathbf{RL}$

Report Date: December 30, 2011 701047.015.01		Work O M	Order: 111222 onsanto #5	Page Number: 11 of 15 Hobbs, NM			
Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	1042	1102	mg/L	1	6	10

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Report Date: December 30, 2011 701047.015.01

Work Order: 11122205 Monsanto #5

# Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	87430 74245		Dat QC	e Analyze Preparati	d: 20 on: 20	11-12-27 11-12-27			Anal Prep	yzed By ared By	y: RL y: RL
				LCS			Spike	Matr	rix		Rec.
Param		$\mathbf{F}$ ·	С	Result	Units	Dil.	Amount	Resu	ilt Ro	ec.	Limit
Chloride			1	24.7	mg/L	1	25.0	<0.03	319 9	9 9	90 - 110
Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.											
			LCSI	)		Spike	Matrix		Rec.		RPD
Param	F	С	Resul	t Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	23.5	mg/L	1	25.0	< 0.0319	94	90 - 110	5	20
Percent recov	very is based on the spik	e resu	lt. RPI	) is based	on the s	pike and s	spike duplic	ate resul	t.		
Laboratory	Control Spike (LCS-	1)									x
QC Batch:	87431		Dat	e Analyze	d: 20	11-12-27			Anal	yzed By	r: RL
Prep Batch:	74246		QC	Preparati	on: 20	11-12-27			Prep	ared By	r: RL
•				LCS			Spike	Matu	rix		Rec.
Param		$\mathbf{F}$ ·	С	Result	Units	Dil.	Amount	Resu	ılt Re	ec.	Limit
Chloride	•	•	1	22.5	mg/L	1	25.0	< 0.03	B19 9	0 9	0 - 110
Percent recov	very is based on the spik	e resu	lt. RPI	) is based	on the s	pike and s	spike duplic	ate resul	t		
			LCSE	)		Spike	Matrix		Rec.		RPD

Chloride 1 24.1 mg/L 1 25.0 <0.0319 96 90 - 110

Units

Dil.

Amount

Result

Rec.

Limit

RPD

7

Limit

20

Result

F C

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

Param

QC Batch:	87516	Date Analyzed: 2011-12-30	Analyzed By:	RL
Prep Batch:	74312	QC Preparation: 2011-12-30	Prepared By:	RL

Report Date: December 30 701047.015.01	), 2011				Work N	Order: Ionsante		Page Number: 13 of 15 Hobbs, NM						
					LCS			Spike	M	atrix		Rec.		
Param		F		C I	Result	Units	Dil.	Amount	Re	esult I	lec.	Limit		
Total Dissolved Solids				1	989	mg/L	1	1000	<	5.00	99	90 - 110		
Percent recovery is based o	n the spi	ike re	sult	. RPD	is based o	on the s	pike and sp	oike duplic	ate res	ult.				
,				LCSD			Spike	Matrix		Rec.		RPD		
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit		
Total Dissolved Solids			1	999	mg/L	1	. 1000	< 5.00	100	90 - 110	1	10		
Percent recovery is based o	n the spi	ike re	sult	. RPD	is based o	on the sj	pike and sp	oike duplic	ate res	ult.				
Matrix Spike (MS-1)	Spiked 3	Samp	ole: 2	285037										
OC Batch: 87430				Date	Analyzed	l: 201	1-12-27			An	alvzed B	v: RL		
Prep Batch: 74245	Batch:87430Date ABatch:74245QC Pre									Pre	pared B	y: RL		
<b>r</b>				<b>--</b> -								J		
								<i>a</i>						
<b>5</b>	•	-	_	0	MS		<b>D</b> .1	Spike	M	atrix	-	Rec.		
Param		ł	! <b>`</b>	С	Result	Units	Dil.	Amount	R	esult I	tec.	Limit		
Chloride	Qs	<u>م</u>	)a 	1	379	mg/L	5	125		.1.8	289	90 - 110		
Percent recovery is based o	n the spi	ike re	sult	. RPD	is based o	on the s	pike and sp	oike duplic	ate res	ult.				
				MSD			Spike	Matrix		Rec.		RPD		
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit		
Chloride	Qs	Qs	1	372	mg/L	5	125	17.8	283	90 - 110	2	20		
Percent recovery is based o	n the spi	ike re	sult	. RPD	is based o	on the s	pike and sp	pike duplic	ate res	ult.				
Matrix Spike (MS-1)	Spiked a	Samp	ole: 2	285047										
QC Batch: 87431				Date	Analyzed	l: 201	1-12-27			Ana	alvzed B	y: RL		
Prep Batch: 74246				QC P	reparatio	on: 201	1-12-27			Pre	pared B	y: RL		
•				•	-									
					MS			Spike	M	atrix		Rec.		
Param		F		СІ	Result	Units	Dil.	Amount	Re	esult I	lec.	Limit		
Chloride			·	1	182	mg/L	5	104		78	100	90 - 110		
Percent recovery is based o	n the spi	ike re	sult	. RPD	is based o	on the s	pike and s	oike duplic	ate res	ult.				
				MSD			Spike	Matrix		Rec.		RPD		
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit		
Chloride			1	183	mg/L	5	104	78	101	90 - 110	0	20		

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Report Date: December 30, 2011 701047.015.01

Work Order: 11122205 Monsanto #5

# **Calibration Standards**

Standard (CCV-1)

QC Batch:	87430			Date	Analyzed:	2011-12-27		Analy	Analyzed By: RL				
					CCVs	CCVs	CCVs	Percent					
					True	Found	Percent	Recovery	Date				
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed				
Chloride			1	mg/L	25.0	25.5	102	90 - 110	2011-12-27				

#### Standard (CCV-2)

QC Batch:	87430			Date A	Inalyzed:	2011-12-27		Analy	zed By: RL
					CCVs True	• CCVs Found	CCVs Percent	Percent Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	22.5	⁻ 90	90 - 110	2011-12-27

### Standard (CCV-1)

QC Batch:	87431			Date .	Analyzed:	2011-12-27		Analy	zed By: RL
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	22.5	90	90 - 110	2011-12-27

### Standard (CCV-2)

QC Batch:	87431			Date		Analy	zed By: RL		
a.				•	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	25.0	100	90 - 110	2011-12-27

Report Date: December 30, 2011 701047.015.01

Work Order: 11122205 Monsanto #5 Page Number: 15 of 15 Hobbs, NM

# 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	NELAP	T104704219-11-5	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.
- 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.
- U The analyte is not detected above the SDL

### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

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