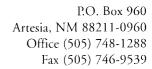
# 1R - 44

## REPORTS

DATE:

4/17/2006





April 17, 2006

Mr. Wayne Price Environmental Bureau Chief New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

RE: Monsanto 30 State #4 Drilling Pit Site, Unit Letter P, Section 30, Township 16 South, Range 37 East Lea County, New Mexico NMOCD Reference 1R-0441

Dear Mr. Price:

Enclosed with this letter are two copies of the Stage 1 Abatement Plan Report for the above site as required by OCD letters of December 30, 2005 and March 10, 2006. Three additional monitor wells were installed in accordance with proposed abatement plan and groundwater sampling performed on both new and existing wells. Sampling results for chloride, TDS, BTEX, among other constituents, show no exceedances of groundwater standards for any constituent in any well. Therefore, in lieu of additional investigation or remediation we propose two years of additional groundwater monitoring as detailed in the report.

No further impacts to groundwater will occur at the site as drilling pit materials have been removed and an impermeable synthetic liner has been installed to prevent infiltration of rain water.

If you have any questions, please contact Johnny Knorr at 505 748-1288.

Sincerely,

Mr. Robert C. Chase

Vice President, Mack Energy Corporation

encl.

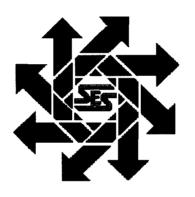
cc. David W. Copeland, COG Operating, LLC Gary Larson, Hinkle, Hensley, Shanor & Martin, L.L.P., Santa Fe

Patrick B. McMahon, Heidel, Samberson, Newell, Cox & McMahon, Lovington NMOCD, Hobbs Office
Bob Allen, Safety and Environmental Solutions

## Mack Energy Corporation Stage 1 Abatement Plan Report Monsanto 30 State #4

Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

**April 15, 2006** 



Prepared for:

Mack Energy Corporation P.O. Box 960 Artesia, New Mexico 88211-0960

Concho Resources Inc.
COG Operating LLC
550 W. Texas Avenue, Suite 1300
Midland, Texas 79701

By:

Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 102 Hobbs, New Mexico 88240 (505) 397-0510

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Appendix C. Copy of Analytical Reports, Monsanto 30, State #4

#### I. Company Contacts

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Johnny Knorr, Mack	505-746-9862	johnnyk@mackenergycorp.com
David W. Copeland, Concho	432-683-7443	dcopeland@conchoresources.com

#### II. Purpose

The purpose of this report to present the results of investigatory work to delineate the extent of possible groundwater contamination at the subject site located at the Mack Monsanto 30 State #4 well approximate to Unit letter P, Section 30, Township 16S, Range 37E Lea County, New Mexico (Figure 1). The location is approximately five miles southeast of Lovington, NM. Previous investigation showed that a pit dug for deposition of drilling sediments released contaminates to the subsurface to a depth of at least 65 ft. below the bottom of the pit.

#### III. Background

In February 2004 SESI was contracted by Mack Energy to perform a site investigation to determine the vertical extent of contamination inside a drilling pit used for drilling fluids storage at the Monsanto 30 State #4 oil well. The contaminated material was removed to a depth of approximately 15 ft.

On February 11, 2004 SESI drilled Borehole #1 to a depth of 60 ft beneath the bottom of the pit. The samples were properly packaged and preserved and sent under chain-of-custody to Cardinal Laboratories of Hobbs, New Mexico for analysis. All samples were analyzed for Chlorides (EPA Method 4500-Clb) and the uppermost sample was analyzed for TPH (EPA Method 418.1) and BTEX (EPA Method SW-846 8260).

On February 16, 2004, following receipt of the results, SESI drilled Borehole #1 an additional 10 feet to a depth of 70 feet beneath the bottom of the pit. Grab samples were retrieved at 65 and 70 feet. As before, both samples were properly packaged and preserved and sent under chain-of-custody to Cardinal Laboratories for analysis. Following drilling, the borehole was backfilled to the surface with bentonite.

Results of the soil sampling showed concentrations of chloride ranging from 5,838 mg/Kg at a distance of 5 ft. below the bottom of the pit to 3,199 mg/Kg at a depth of 65 ft. The minimum concentration in this interval was 1,823 mg/Kg at 25 ft. At 70 ft. (the approximate depth to water from the bottom of the pit) chloride concentration dropped to 160 mg/Kg. This information was reported to Mack Energy and the New Mexico Oil Conservation Division (NMOCD) in a report dated March 9, 2004 together with a recommendation that a 40 mil plastic liner be installed at the bottom of the pit to prevent further downward movement of chloride as a result of rainfall infiltration.

NMOCD District I approved the proposed liner installation on March 10, 2004. Work to install the liner commenced on April 21, 2004 and included doming the

 $<sup>^{\</sup>star}$  On February 27, 2006 the subject property was conveyed to Concho Resources operating as COG Oil & Gas LP

liner to prevent ponding of seepage water. Following liner installation the pit was backfilled with clean material and returned to its natural grade.

On May 21, 2004 a groundwater monitor well was drilled to a depth of approximately 100 ft. southeast of the pit area in the direction of the regional dip of the Ogallala formation which is the host formation for the groundwater aquifer. The well, drilled using an air rotary rig, was completed on May 29 with a hollow-stem auger rig due to fine grained "flowing" sands collapsing the hole. It was sampled on June 1, 2004 and the water contained 580 mg/L of chloride with a total dissolved solids (TDS) concentration of 1,302 mg/L, both of which are in excess of New Mexico WQCC groundwater standards. WQCC groundwater standards for chloride and TDS are 250 and 1,000 mg/L, respectively. No organics such as benzene, toluene, ethylbenzene or xylenes (BTEX) were detected in the sample. The results of the investigation were compiled and presented in a report to Mack Energy and the NMOCD dated June 9, 2004.

Further work was described in a report to Mack Energy and the NMOCD dated November 12, 2004. Two additional monitor wells were drilled during the period June 29-July 1, 2004. The assumed groundwater flow direction was southeast. MW-2 was installed upgradient to a depth of 97 ft. below land surface (BLS) and MW-3 was installed off gradient to a depth of 102 ft. BLS. The subsurface lithology at the completion depth is very fine-grained sand, generally uniform, light brown with only occasional caliche or sandstone fragments. The installed monitor wells are completed above ground in a steel protective casing at a height from 2.5 to 3 ft. above ground surface. Top of casing elevations for the three monitor wells were surveyed by Pettigrew and Associates of Hobbs to allow preparation of a groundwater contour map. The two new monitor wells were developed and sampled on July 8, 2004; depth to water in the wells was approximately 81 to 87 ft. BLS.

Following construction of a groundwater map, a fourth well was drilled on August 9, 2004 to a depth of 100 ft. The subsurface lithology was the same as for the earlier monitor wells. The well was developed and sampled on September 1, 2004. Depth to water was about 87 ft. BLS. The locations and casing elevations of the four wells are shown on the site plan (Figure 2). Groundwater elevations and groundwater flow direction measured on August 24, 2004 are shown in Figure 3.

The first monitor well location was selected based on the assumed regional flow direction of groundwater, which is generally southeasterly and the same as the dip of the Ogallala formation. Sampling results showed chloride contamination in excess of groundwater standards. However, the groundwater flow direction as determined by the first three monitor wells was south-southeasterly. The fourth monitor well (MW-4) was located and drilled downgradient of the pit as determined by the groundwater contour map. This well does not show contamination.

Water level measurements for determination of groundwater flow direction and water samples for constituent analysis were collected quarterly from October 2004 through March 2005. Commencing in April, samples were collected monthly with the results reported to the NMOCD. Results of the analyses for MW-1 through June 2005 showed chloride exceeding the NMWQCC standard of 250 mg/L in all samples and TDS exceeding the standard of 1,000 mg/L in all but one

sample. Groundwater elevation maps for March and September 2005 are shown in Figures 4 and 5, respectively.

By letter dated September 6, 2005, the NMOCD directed Mack Energy to develop and submit a remediation plan for groundwater at the site by September 30. In a letter to Roger Anderson dated September 30, Mack Energy presented information that a remediation plan was not necessary or, at the very least, was premature given that concentrations were decreasing and may approach or drop below the regulatory levels. Mack instead proposed monthly monitoring and reporting through February 2006 with a report proposing additional steps including possible drilling of one or more monitoring wells to delineate the extent of the plume based on information available at that time.

By letter dated November 1, 2005 NMOCD disagreed with the Mack Energy response of September 30 and required an abatement plan for investigation be submitted by November 30, 2005. The date for submittal of the plan was later extended to December 31, 2005 (personal communication from Ed Martin (NMOCD) to Bob Allen (SESI).

The subject abatement plan was submitted to the NMOCD on December 30, 2005 and included a summary of historical and current information together with proposed further investigation activities. On February 9, 2006 NMOCD notified Mack Energy that the December 30 submittal was accepted by the agency but "is insufficient to qualify as a Stage 1 Abatement Plan." Further, the letter directed that an acceptable plan be submitted to the agency by February 28, 2006 or OCD will move forward with appropriate enforcement action.

An extension until March 15 for submittal of the plan was requested on February 23 and approved by Ed Martin on February 24, 2006. Subsequent conversations between Bob Allen of SESI and Mr. Martin resulted in the December 30 submittal being approved. A letter to that effect was sent from OCD on March 10 and required that investigatory work, a report and proposed Stage 2 abatement plan be submitted by April 15, 2006.

#### IV. Investigation Results

#### **Groundwater Flow**

Recent groundwater level elevations taken on November 11 and December 20, 2005, and April 4, 2006 show groundwater movement slightly east of south (Figures 6 through 8). These figures were used to determine the groundwater hydraulic gradient, which is calculated by dividing the difference in hydraulic head between two contours by the distance between them. In this instance, the gradient is 1 foot/275 feet or 0.0036 which is relatively flat.

Hydraulic conductivity is a term which represents the ability of a porous medium to transmit a fluid, in this case water. The hydraulic conductivity of clean, fine-grained sand can be estimated as 24 feet/day† or 8,760 feet/year. Assuming a sand porosity of 0.25, the average linear velocity of the water containing chloride can be estimated at 126 feet/year. Due to the actual hydraulic conductivity being unknown, this value can easily be higher or lower by a factor of from 2 to 5, meaning it may be as low as 25 feet per year, or as high as 630 feet per year.

<sup>†</sup> Davis, S.N., and R.J.M. DeWiest, 1966. "Hydrogeology", John Wiley & Sons, Inc. New York.

However, because drilling has detected numerous lenses of cemented fine to very fine grained sandstone, the actual value is likely lower rather than higher.

The results of the estimated travel time of the groundwater were used in determining the distance to locate additional monitor wells which were placed and drilled as described in the approved investigation plan.

#### **Groundwater Quality**

Results of water quality sampling through April 2006 show several spikes of chloride and TDS in MW-1 for the December 2004 and April 2005 analyses (Table 1 and Figure 9). Maximum chloride and TDS peaked at 1,300 mg/L and 2,738 mg/L, respectively, on December 16, 2004. State groundwater standards for the two parameters are 250 and 1,000 mg/L, respectively. Subsequent samplings show a decline in both chloride and TDS concentrations as discussed below.

MW-1 was sampled November 11 and again on November 17, 2005. The first November sampling was performed by SESI and the second by SESI and Eddie Seay, representing the City of Lovington. Samples were obtained following purging of at least three well volumes, preserved as required, and shipped to an analytical laboratory with a properly completed chain-of-custody. A second laboratory was used to confirm the analytical results. Results from both samplings show chlorides and TDS below state groundwater standards (the two samples average of 145 mg/L chloride and 690 mg/L TDS).

The December sampling results for MW-1 show further improvement in water quality with concentrations approaching background. Chloride was reported at 52 mg/L and TDS at 611 mg/L. Samples taken in January, February and early April 2006 show continued improvement in chloride and/or TDS concentrations in MW-1 with numbers approaching or at background conditions in comparison with the other up-gradient and off-gradient monitor wells (Table 1 and Figure 9).

Sampling of the other three monitor wells (MW-2, 3, and 4) has not shown any significant change in concentration of chloride or TDS from samples collected beginning in July 2004. There is no indication of past or current contamination in these three wells.

#### **Installation of Additional Monitor Wells**

In accordance with the December 30 proposed Stage 1 abatement plan, three additional monitor wells were installed at the site during the period April 4-6 to determine current conditions downgradient of the closed pit. Two-inch monitor wells with a saturated water thickness of approximately ten feet were installed. Well logs for the three wells are provided in Appendix B to this report.

The wells were located pursuant to the approved plan so as to best intercept and bracket a plume of chloride contamination from the old drilling pit location. Between three and five wells were to be drilled to ascertain the location and concentration of the mobile and elevated chloride plume. The first well drilled (labeled MW-5 on Figure 2) was located 100 ft. southeast of MW-1. Field measurements for chloride and specific electrical conductivity were made on site before deciding where to drill the next well.

Field measurements were made using Hach chloride Quantab strips which have been shown to provide excellent correlation between field and laboratory test results. Field testing showed chloride concentration at 46 ppm indicating no groundwater impacts at that location.

Following completion of the well, a second monitor well (MW-6) was installed at the location shown in Figure 2. It too was clean with a field-test chloride concentration of 39 ppm. Finally, a third well (MW-7) was installed upgradient of MW-4 to determine if any contamination was present in that area that had not yet migrated to MW-4. Field tests indicated chloride was elevated at 156 ppm but below the WQCC standard of 250 mg/L.

Because new downgradient wells MW-5 and MW-6 did not show elevated chloride concentrations, additional downgradient wells (located at MW-B and MW-C on Figure 2) were not necessary and were not drilled.

The monitor wells were developed to remove sand and silt on April 7 and 8 and sampled for BTEX and for major cations and anions, including chloride, on April 8. Because of the short time frame for submittal of this report, the hydraulic conductivity and transmissivity of the sediments using groundwater slug-tests were not conducted on the monitor wells as proposed in the plan. Those these tests are not considered necessary in light of the sample results, they can be conducted if required by the OCD.

#### V. Conclusions and Recommendations

Results of the sampling of the existing wells on April 4 and the new wells on April 8 show that groundwater at all well locations meets New Mexico groundwater standards. No hydrocarbon contamination (BTEX) was detected in any of the new wells, and chloride and TDS were slightly elevated only at newly installed well MW-7. Figure 10 graphically depicts chloride and TDS concentrations at all site monitoring wells for the April sampling.

Because results of the testing show concentrations of chloride and TDS at all well locations to be below NMWQCC groundwater standards, no further action is proposed to be taken at the site except groundwater monitoring. The installation of new monitoring wells did not locate any additional contamination above groundwater standards. Further, elevated concentrations of chloride and TDS at the original well have declined and are now close to background levels.

It is recommended that groundwater monitoring be continued at the site for two additional years with quarterly monitoring of the downgradient wells being conducted for the remainder of 2006 and semi-annual monitoring conducted in 2007. Samples will be collected for analysis of cations and anions except for the final sampling which will also include analysis for BTEX. Results will be reported to the NMOCD following receipt from the analytical laboratory.

If sampling of downgradient wells at the end of the two year period shows continued compliance with NM WQCC groundwater standards, the wells will be plugged and abandoned at that time in accordance with NM State Engineer requirements. If sampling during this time period shows that NM groundwater standards have been exceeded, the information will be reviewed with the OCD and appropriate remedial actions proposed.

VI. Tables and Figures

Table 1. Water Quality Sampling Results, Monsanto 30, State #4, Mack Energy Corporation

lable I. water Quality Sampling Results, Monsanto 30, State #4, Mack Energy Corporation	Ethyl-	ppm) (mg/L) (	47 1,302 <0.002 <0.002 <0.002	78 1,469 <0.002 <0.002 <0.002	100 2,738	85.5	49 1,393	2,111	1			77	300	535	550 1,400	152 141 80 709	100	148	53 115	52 89 610	92 90 601	40 29 510	40 29 479	33 460	C C C C C C C C C C C C C C C C C C C	44 86 502 <0.002 <0.002 <0.006	72 420 72	58.6	1	40 44 412	40 58 442	86	54	22
ality sampling Results, IV	Chloride	ppm)		1 1	1			1	1	1 1	1	,	300	535							•			1		7C	72	58.6	49	44	28	86		3.0
Table 1. Water Qua	Chloric	Date (mg/L)					03/04/05 516															02/27/06 40	04/04/06 40	04/04/06 33	01 10100150			01/18/05 44						00/07/05 36
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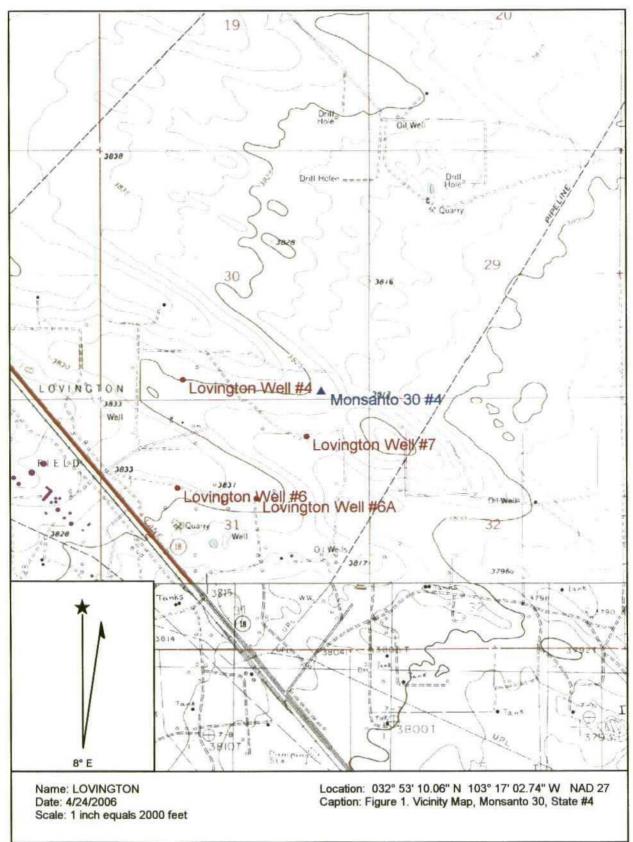
Table 1. Water Quality Sampling Results, Monsanto 30, State #4, Mack Energy Corporation

Sample			147						
l ocation/		Chlorida	(strin	Culfata	SCH		: :	ethyl-	lotal
Lab*	Date	(mg/L)	(aurip, ppm)	(mg/L)	mg/L)	benzene (mg/L)	(mg/L)	ma/L)	Xylenes (ma/L)
	10/11/05	1		1					
	11/11/05	1	1	1	1	1	1	1	1 1
	11/17/05	1	1	t	1 9	1,	1		1 1
	12/20/05	1	9	1	1	1	1	1	1
	01/23/06	1	1	1	1	1	8 1	1	
	02/27/06	1	1	I	1	1		8	-
	04/04/06	40	<29	1	407	1	1	1	1
Argon	04/04/06	27	1		400	-	1		1
	10,00,01								
MW-3	10/06/04	32	-	51	423	<0.002	<0.002	<0.002	<0.006
	12/16/04	32	t I	51	393	1	,		1
	01/18/05	32	1	39.4	428	<0.002	<0.002	<0.002	<0.006
	03/04/05	36	1	37	465	1	ı	1	1
	04/19/05	26	1	47	404	1	1	1	1
	05/27/05	40	1	41	381		1	1	1
	06/22/05	24	1	55	408		1	-	1
	07/22/05	32	-	49	400	1	1	1	, 1
	08/19/05	32		56	404	1	1 1	1	1
	09/07/05	28	32	ī	327	1	1	1	1
	10/11/05	1	1	ı	1	1	1		1
	11/11/05	I.	1	1	1	1		1	1
	11/17/05	ı	1	1	1	,	t 1	1	1
	12/20/05	1	1	1	t t	1		1	-
	01/23/06	1	1	1	1	1		1	1 1
	02/27/06	1	1	1		1	1		
	04/04/06	28	<29	1	365	1	1	1	1
Argon	04/04/06	22	1	1	350	ŀ	1	1	1
MW-4	09/01/04	36	1	49	376	<0.002	<0.002	<0.002	<0.006
	10/06/04	40	1	58	442	<0.002	<0.002	<0.002	<0.006
	12/16/04	40	-	55	408	1	1	1	,
	01/18/05	36	ı	54.4	424	<0.002	<0.002	<0.002	<0.006
	03/04/05	36	1	35	398			.1	1
	04/19/05	40	-	44	388	1	1	1	1

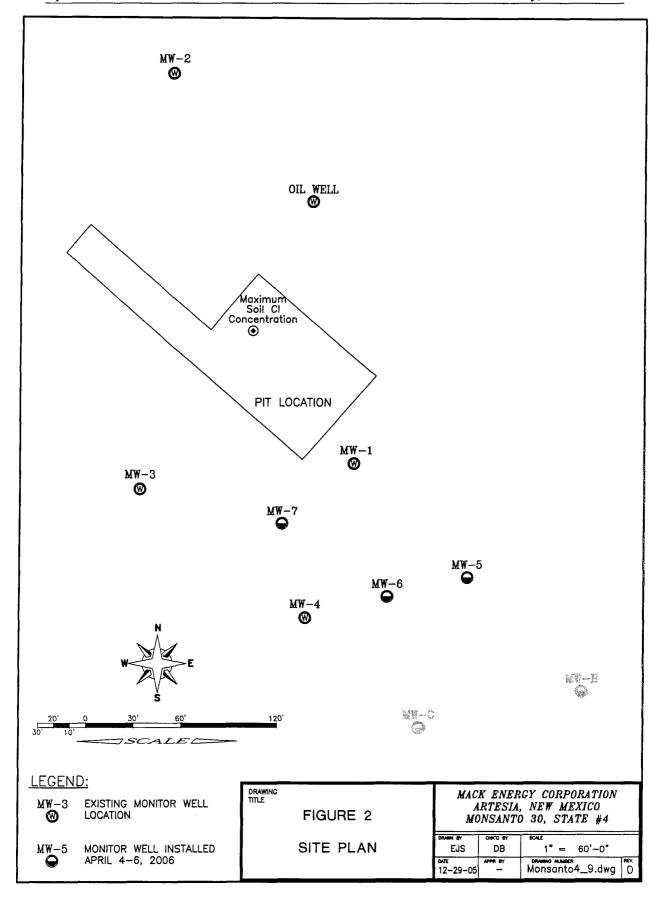
Table 1. Water Quality Sampling Results, Monsanto 30, State #4, Mack Energy Corporation

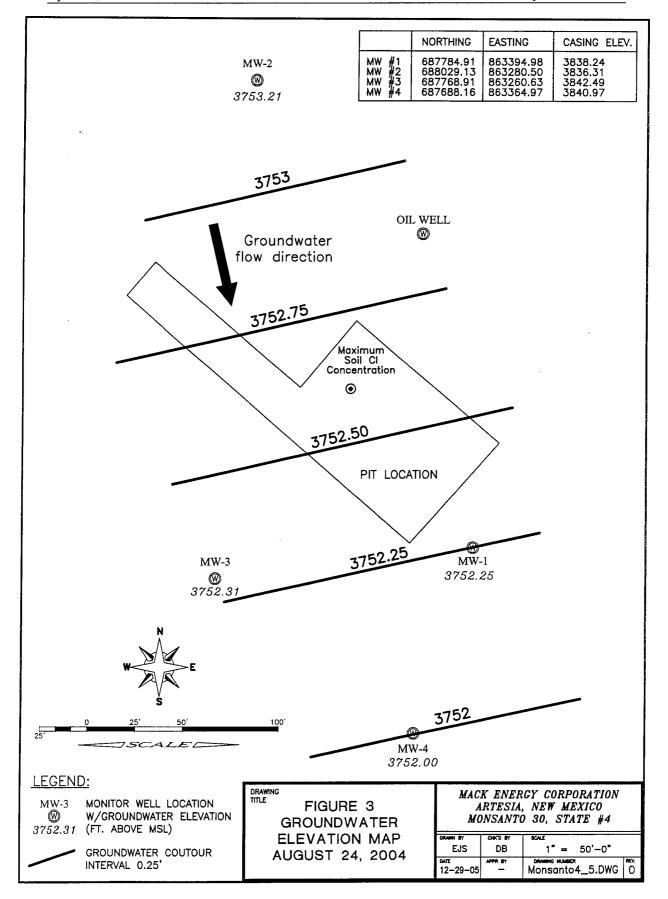
Sulfate (mg/L)         TDS         Benzene (mg/L)         Toluene (mg/L)           56         434             68         436             54         433             53         411              385              345              345              345              346             64         340             64         380             63         380             63         387              377              377              372              372              372              372	Sample			Chloride					Ethyl-	Total
L  (mg/L) (mg/L	Location/		Chloride	(strip,	Sulfate	TDS	Benzene	Toluene	benzene	Xvlenes
4            5            1            5            9            1            2            3       <0.002       <0.002       <0.002         4            5            6            7            8       <0.002       <0.002       <0.002         9       <0.002       <0.002       <0.002         0            0            0            0            0            0            0            0 <td< th=""><th>Lab*</th><th>Date</th><th>(mg/L)</th><th>(mdd</th><th>(mg/L)</th><th>(mg/L)</th><th>(mg/L)</th><th>(mg/L)</th><th>(mg/L)</th><th>(mg/L)</th></td<>	Lab*	Date	(mg/L)	(mdd	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
5            1            5            0            0            1            2            3            4            5            6            7            8       -0.002           9       -0.002           10            2            3            4            5            6            9            2		05/27/05	40		56	434		ı	1	
3		06/22/05	32		68	436	1	1	1	1
1		07/22/05	44	1	54	433	1 1	-	1	
5 5 7 7		08/19/05	40		53	411	1	1	1	
5		09/01/05	32	32	1	385			1	
0            0            0            1            2            3            4            5            6            7            8       -0.002       <0.002		10/11/05	40	<29	1	345		1	1	
0            0            1            2            3       <0.002	Hall	10/11/05	35	•	1 0	400		3	8 1	1
0		11/11/05	32	<29	35	360		1	1	
0	Hall	11/11/05	28	1	64	340				
1	Hall	11/17/05	28	<29	64	380	1			
2		12/20/05	44	46	93	401	1			1
7	Hall	12/20/05	39		63	380	1	1		, ,
2		01/23/06	44	37	1	387	1	ı	1	1
7		02/27/06	52	29		392		1		1
3            3       <0.002		04/04/06	32	<29		377		1	1	
9       <0.002	Argon	04/04/06	26	1	•	370	1	1	1	
9 <0.002 <0.002 <0.002 0										
2 <0.002 <0.002 <0.002 0	MW-5	04/08/06	40	46	1	369	<0.002	<0.002	<0.002	<0.006
2 <0.002 <0.002 <0.002 0	Hall	04/08/06	31	1	83	410	1	1		
2 <0.002 <0.002 <0.002 0	AMA/ C	20100110	C	C						
2 <0.002 <0.002 <0.002 0 0.002 0 0.010 0.750 0.750	O-AAIAI	04/00/00	30	33	1	372	<0.002	<0.002	<0.002	<0.006
2 <0.002 <0.002 <0.002 0	T O	04/08/06	30		76	400	-	1	-	•
00 0.010 0.750 0.750	MW-7	04/08/06	148	156	1	672	<0.002	<0.000	<0.00	9000>
00 0.010 0.750 0.750	Hall	04/08/06	160	•	81	009		100:0		
0.010 0.750 0.750										
00 0.010 0.750 0.750	ΣX	Nacc								
	Grour	ndwater	250		009	1,000	0.010	0.750	0.750	0.650
	-	:								

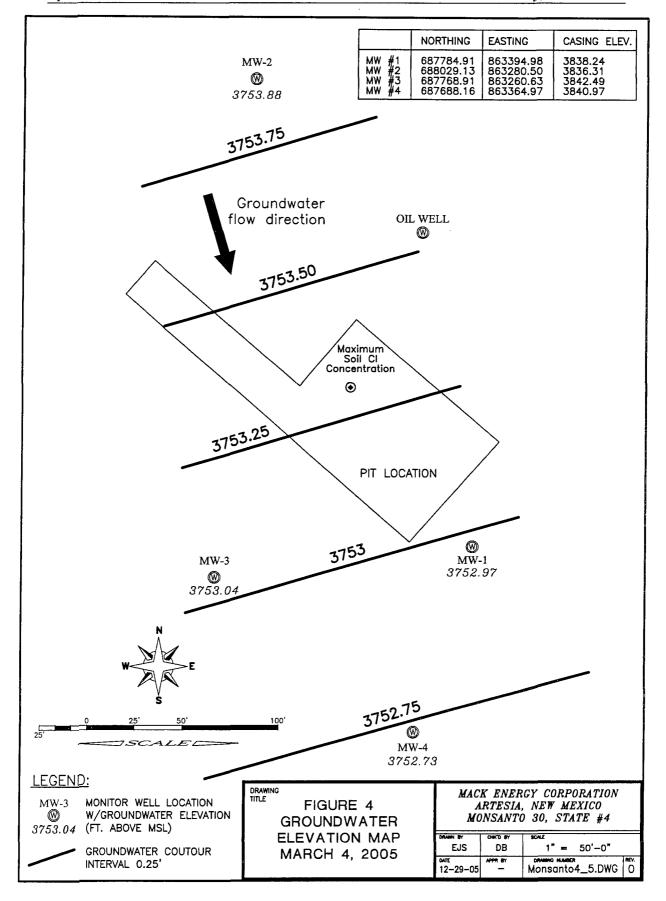
Figure 1. Vicinity Map, Monsanto 30, State #4

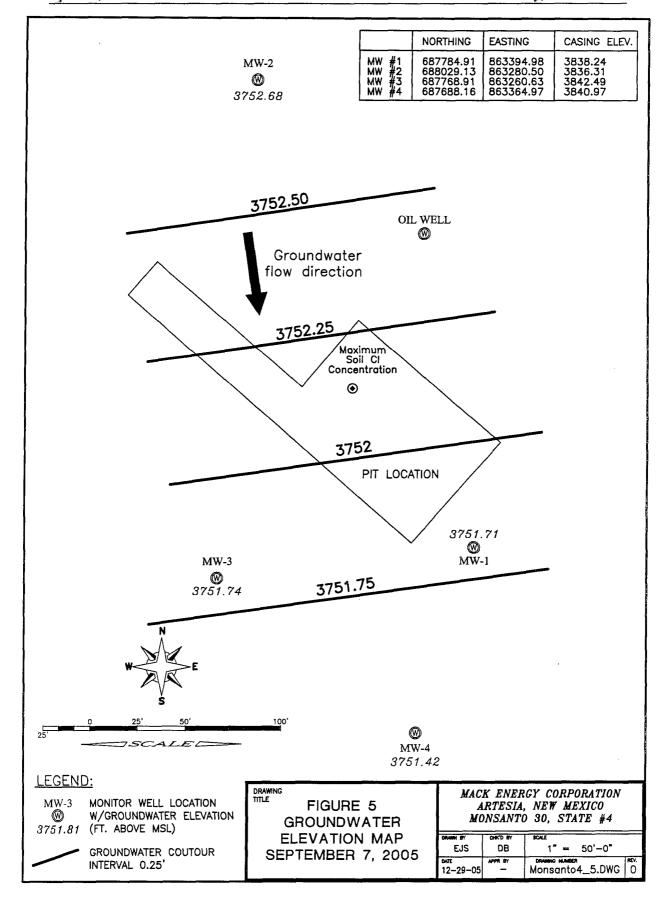


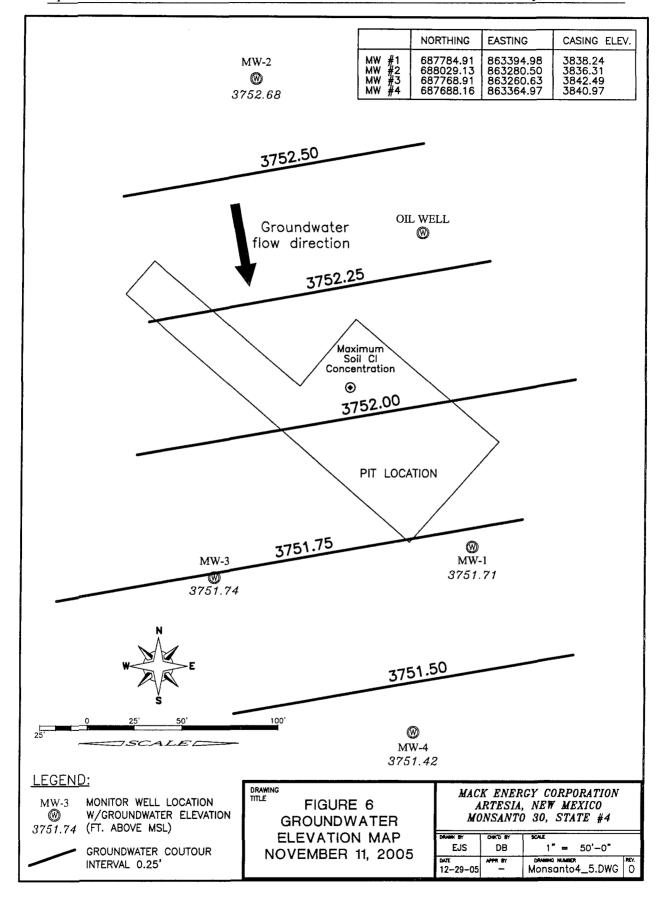
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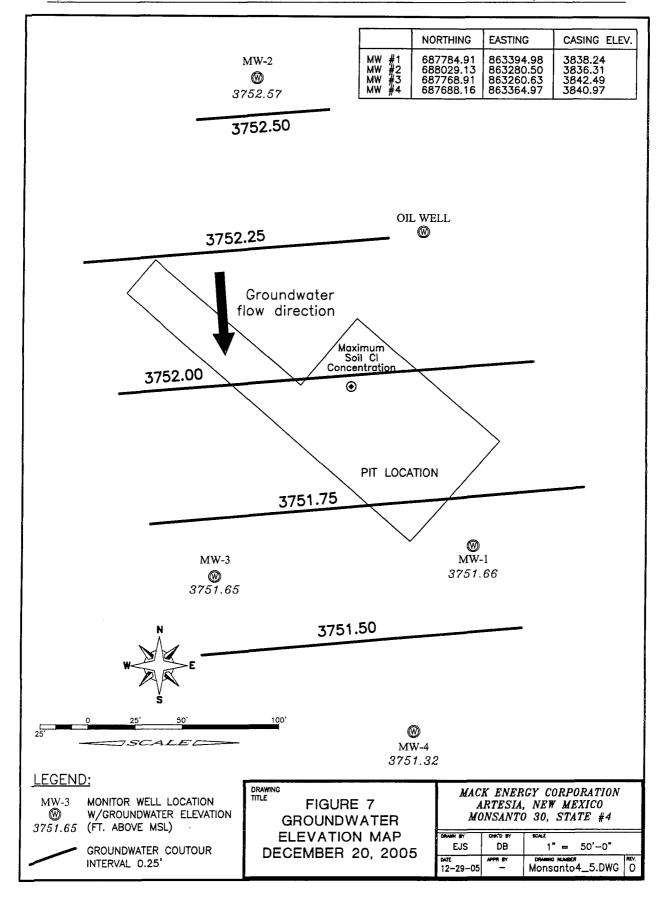


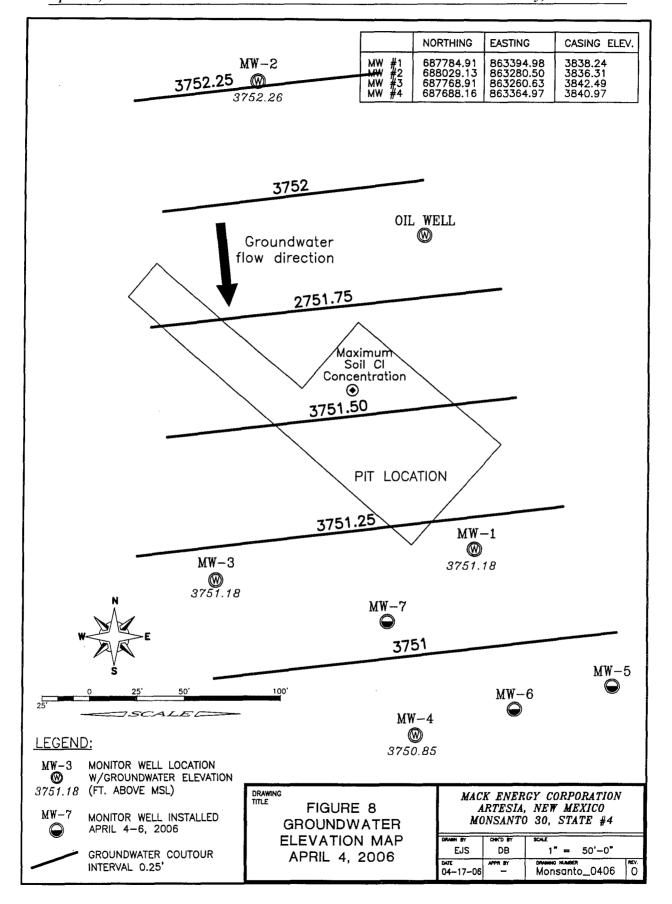


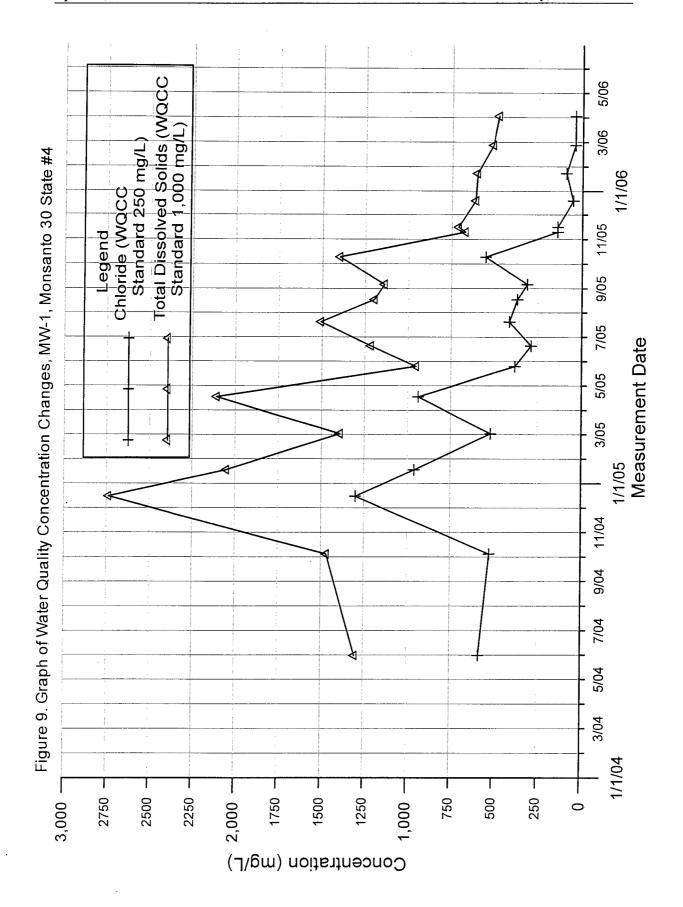


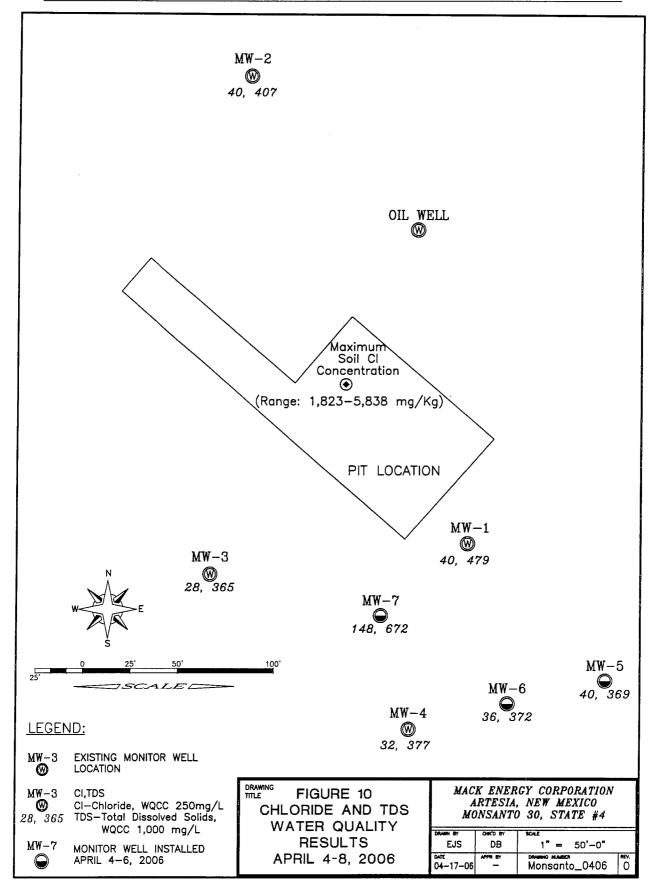












## **Appendices**

### Appendix A

Groundwater Elevation Measurements Monsanto 30, State #4, Mack Energy Corporation

Appendix A - Groundwater Elevation Measurements, Monsanto 30, State #4, Mack Energy Corporation

Monitor Well Name, Total Depth Below TOC (ft.)	Elevation Top of Casing (feet)	Date Measured	Depth to Water Below TOC (feet)	Water Level Elev. (feet)	Water Saturated Thickness (feet)	Change sind last measured (feet)
MW-1	3,838.24	07/01/04	85.99	3,752.25	15.8	
101.81		07/21/04	86.10	3,752.14	15.7	-0.11
		08/24/04	85.99	3,752.25	15.8	0.11
		10/05/04	86.04	3,752.20	15.8	-0.05
		12/16/04	85.82	3,752.42	16.0	0.22
		01/18/05	85.58	3,752.66	16.2	0.24
		03/04/05	85.27	3,752.97	16.5	0.31
		04/19/05	85.53	3,752.71	16.3	-0.26
		05/27/05	86.35	3,751.89	15.5	-0.82
		06/22/05	86.05	3,752.19	15.8	0.30
		07/22/05	86.39	3,751.85	15.4	-0.34
		08/18/05	86.35	3,751.89	15.5	0.04
		09/07/05	86.44	3,751.80	15.4	-0.09
		10/11/05	86.54	3,751.70	15.3	-0.10
		11/11/05	86.53	3,751.71	15.3	0.01
		11/17/05	86.54	3,751.70	15.3	-0.01
		12/20/05	86.58	3,751.66	15.2	-0.04
		01/23/06	86.83	3,751.41	15.0	-0.25
		02/27/06	86.67	3,751.57	15.1	0.16
		04/04/06	87.06	3,751.18	14.8	-0.39
MW-2	3,836.31	07/02/04	83.12	3,753.19	14.8	
97.93		07/08/04	83.03	3,753.28	14.9	0.09
,		07/21/04	83.10	3,753.21	14.8	-0.07
		08/24/04	83.10	3,753.21	14.8	0.00
		10/05/04	83.03	3,753.28	14.9	0.07
		12/16/04	82.92	3,753.39	15.0	0.11
		01/18/05	82.70	3,753.61	15.2	0.22
		03/04/05	82.43	3,753.88	15.5	0.27
		04/19/05	82.69	3,753.62	15.2	-0.26
		05/27/05	83.31	3,753.00	14.6	-0.62
		06/22/05	83.19	3,753.12	14.7	0.12
		07/22/05	83.40	3,752.91	14.5	-0.21
		08/18/05	83.43	3,752.88	14.5	-0.03
		09/07/05	83.55	3,752.76	14.4	-0.12
		10/11/05	83.63	3,752.68	14.3	-0.08
		11/11/05	83.63	3,752.68	14.3	0.00
		12/20/05	83.74	3,752.57	14.2	-0.11
		01/23/06	83.90	3,752.41	14.0	-0.16
		02/27/06	83.80	3,752.51	14.1	0.10
		04/04/06	84.05	3,752.26	13.9	-0.25

Appendix A - Groundwater Elevation Measurements, Monsanto 30, State #4, Mack Energy Corporation

Monitor Well Name, Total Depth Below TOC (ft.)	Elevation Top of Casing (feet)	Date Measured	Depth to Water Below TOC (feet)	Water Level Elev. (feet)	Water Saturated Thickness (feet)	Change sinc last measured (feet)
MW-3	3842.49	07/08/04	90.15	3,752.34	12.8	
102.92	00.20	07/09/04	90.18	3,752.31	12.7	-0.03
		07/21/04	90.32	3,752.17	12.6	-0.14
		08/24/04	90.18	3,752.31	12.7	0.14
		10/05/04	90.40	3,752.09	12.5	-0.22
		12/16/04	90.03	3,752.46	12.9	0.37
		01/18/05	89.81	3,752.68	13.1	0.22
		03/04/05	89.45	3,753.04	13.5	0.36
		04/19/05	89.73	3,752.76	13.2	-0.28
		05/27/05	90.55	3,751.94	12.4	-0.82
		06/22/05	90.27	3,752.22	12.7	0.28
		07/22/05	90.62	3,751.87	12.3	-0.35
		08/18/05	90.58	3,751.91	12.3	0.04
		09/07/05	90.68	3,751.81	12.2	-0.10
		10/11/05	90.82	3,751.67	12.1	-0.14
		11/11/05	90.75	3,751.74	12.2	0.07
		12/20/05	90.84	3,751.65	12.1	-0.09
		01/23/06	91.07	3,751.42	11.9	-0.23
		02/27/06	90.92	3,751.57	12.0	0.15
		04/04/06	91.31	3,751.18	11.6	-0.39
MW-4	3,840.95	08/10/04	89.11	3,751.84	13.2	
102.29		08/24/04	88.95	3,752.00	13.3	0.16
		10/05/04	89.20	3,751.75	13.1	-0.25
		12/16/04	88.81	3,752.14	13.5	0.39
		01/18/05	88.55	3,752.40	13.7	0.26
		03/04/05	88.22	3,752.73	14.1	0.33
		04/19/05	88.47	3,752.48	13.8	-0.25
		05/27/05	89.38	3,751.57	12.9	-0.91
		06/22/05	89.01	3,751.94	13.3	0.37
		07/22/05	89.42	3,751.53	12.9	-0.41
		08/18/05	89.34	3,751.61	13.0	0.08
		09/07/05	89.42	3,751.53	12.9	-0.08
		10/11/05	89.52	3,751.43	12.8	-0.10
		11/11/05	89.53	3,751.42	12.8	-0.01
		11/17/05	89.54	3,751.41	12.8	-0.01
		12/20/05	89.63	3,751.32	12.7	-0.09
		01/23/06	89.84	3,751.11	12.5	-0.21
		02/27/06	89.66	3,751.29	12.6	0.18
		04/04/06	90.12	3,750.83	12.2	-0.46
MW-5		04/07/06	87.24		10.8	
98.08						
MW-6		04/07/06	88.65		9.0	
97.68						
MW-7		04/08/06	88.84		8.4	
97.24						

### Appendix B

Lithologic and Well Completion Logs Monsanto 30, State #4, Mack Energy Corporation



## Safety & Environmental

#### LOG OF WELL MW-1

(Page 1 of 2)

New Monitor Well Installation Monsanto #30. State #4 Unit P. Section 30, Township 16S, Range 37E Lea County, New Mexico

Date, Time Started Date, Time Completed: 05/29/04, 1400

: 05/21/04, 1135

Drilled By Logged By

Survey By

: Eades, Atkins Eng. Assc.

Hole Diameter : 8 1/4" Northing Coordinate

: D.G. Bover : 687784.91

**Drilling Method** Sample Method : Air Rotary, Hollow-Stem Auger : Cuttings

Easting Coordinate

: 863394.98 : Pettigrew & Assoc.

Mack Energy Corporation, Artesia, NM Water Levels ▼ During Drilling Well: MW-1 GRAPHIC Elev.: 3,838.24 (TOC) Depth Well Construction USCS Flip Cover in Feet Information DESCRIPTION Metal 0 Box Log from cuttings COMPLETION DATA 0-5 ft. Top soil, CALICHE, and SAND. . CA/SW Hole Depth : 98.6 ft. Below LS very light brown, sand fine grained. TD Inside casing : 101.81 Below TOC 5 CASING, SCREEN & CAP Material, joints PVC, threaded 2 in. ID Diameter 8-10 ft. SAND, light brown, very fine APSCO Manufacturer grained, no H/C stain or odor Slotted, prepacked Screen type 10 20 ft. 0.020 slot Screen length Screen opening Scrn. placement 80-100 ft. BLS 13-15 ft. SAND, same as above, 0.2 ft PVC Bottom Cap occasional caliche fragments <1/8", no Protector Casing Above-ground steel 15 H/C stain or odor Lock Key # 2001 SEALS & SAND PACK 18-20 ft. SAND, light brown, very fine to Cement seal type : Grout to surface fine grained, uniform, no H/C stain or odor 20 Cem't placement Annular seal type Seal placement 23-25 ft. SAND, light brown, very fine to Sand pack type fine grained, occasional sandstone/ 25 caliche fragments, no H/C stain or odor Sand placement ELEVATIONS. 28-30 ft. SAND, light brown, very fine to PVC Casing Ground elevation fine grained, harder drilling, chatter 31-32 3.838.24 Cement Grout Inner casing, lip Outer casing, top 30 ft., 35-36 ft., no H/C stain or odor SW 33-35 ft. SAND, light brown, very fine to WELL INSTALLATION: fine grained, occasional sandstone 05/21/04: Drilled to 100 feet, with air rotary 35 fragments, hard, brown, slightly damp, no rig. Hole caved and could not complete. H/C stain or odor Adkins onsite 1000 5/29/04 to complete. 38-40 ft. SAND, light brown, very fine Drilled 100 ft., installed 20 ft. prepacked grained, occasional sandstone fragments. screen. Pulled water sample: E.C. 40 no H/C stain or odor 1920@75.9 F, chloride 665 ppm. Installed above-ground steel well protection box and 43-45 ft. SAND, light brown, very fine grained, frequent sandstone fragments, 45 no H/C stain or odor WELL DEVELOPMENT: 06/01/04: Developed well with steel 48-50 ft. SAND, as above, with bailer/air pump. Before development, DTW sandstone fragments, very dry,no H/C 85.80 BTOC, TD 101.63 BTOC. Removed 22 50 stain or odor gallons of water and 3 gallons fo sand. Sampled at 15:25

60

55

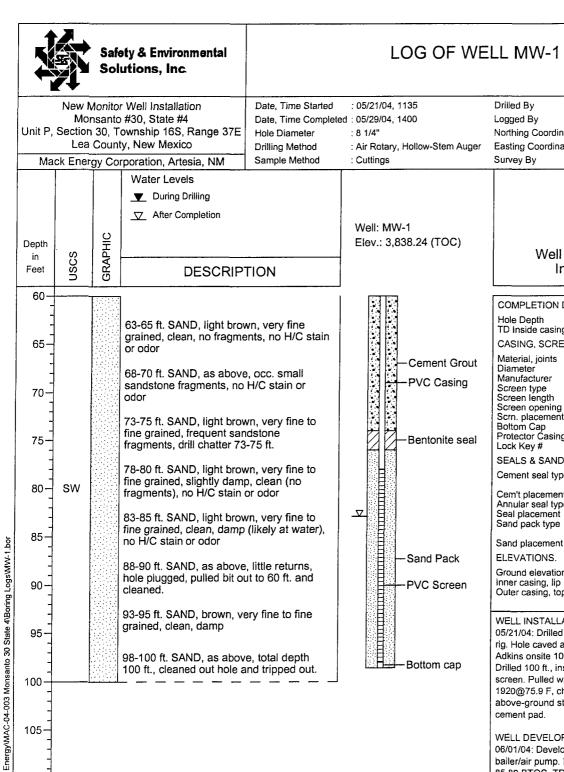
On 07/01/04, DTW 85.99 ft. BTOC

53-55 ft. SAND, light brown, very fine to fine grained, occ. sandstone frags (<1/8")

58-60 ft. SAND, as above, few sandstone fragments, no H/C stain or odor

TOC 3.1 ft. ALS DTW 82.8 ft. BLS

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#### LOG OF WELL MW-1

(Page 2 of 2)

Eades, Atkins Eng. Assc.

: D.G. Boyer Northing Coordinate : 687784.91

**Easting Coordinate** : 863394.98 : Pettigrew & Assoc.

> Well Construction Information

#### COMPLETION DATA

98.6 ft. Below LS TD Inside casing : 101.81 Below TOC

#### CASING, SCREEN & CAP

PVC, threaded Manufacturer **APSCO** Screen type Screen length Slotted, prepacked 20 ft. 0.020 slot

80-100 ft. BLS 0.2 ft PVC Scrn. placement Bottom Cap Protector Casing Above-ground steel

2001 SEALS & SAND PACK

Cement seal type : Grout to surface

Cem't placement Annular seal type Seal placement Sand pack type

Sand placement

ELEVATIONS.

Ground elevation Inner casing, lip

3,838.24

Outer casing, top

#### WELL INSTALLATION:

05/21/04; Drilled to 100 feet, with air rotary rig. Hole caved and could not complete. Adkins onsite 1000 5/29/04 to complete. Drilled 100 ft., installed 20 ft. prepacked screen. Pulled water sample: E.C. 1920@75.9 F, chloride 665 ppm. Installed above-ground steel well protection box and

#### WELL DEVELOPMENT:

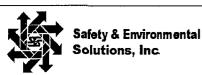
06/01/04: Developed well with steel bailer/air pump. Before development, DTW 85.80 BTOC, TD 101.63 BTOC. Removed 22 gallons of water and 3 gallons fo sand. Sampled at 15:25

120

110

115

On 07/01/04, DTW 85.99 ft. BTOC TOC 3.1 ft. ALS DTW 82.8 ft. BL\$



#### LOG OF WELL MW-2

(Page 1 of 2)

: Jerry Brian

New Monitor Well Installation Monsanto #30, State #4 Unit P. Section 30, Township 16S, Range 37E Lea County, New Mexico

GRAPHIC

USCS

CA

Depth

Feet

0

5

10

15

20

25

30

35

40

45

50

55

SW

Date, Time Started : 07/02/04, 0730 Date, Time Completed: 07/02/04, 1630

Logged By Hole Diameter : 8 1/4"

: Hollow-Stem Auger **Drilling Method** Sample Method : Cuttings

Drilled By : Eco Drillina

Northing Coordinate : 688029.13 : 863280.50 Easting Coordinate : Pettigrew & Assoc. Survey By

Mack Energy Corporation, Artesia, NM Water Levels During Drilling Well: MW-2

DESCRIPTION

Elev.: 3,836.31 (TOC) Flip Cover Metal

Box

-Cement Grout

Bentonite seal

**PVC Casing** 

Well Construction Information

CLAYEY SAND, Log from cuttings 0-5 ft. CALICHE, 1/4" fragments, dry

5-10 ft. Silty CALICHE, 1/4" fragments, dry

10-15 ft. SAND, reddish brown, very fine grained, dry

15-20 ft. SAND, reddish brown, very fine grained, dry

20-25 ft. SAND, reddish brown, very fine grained, dry

25-30 ft. SAND, reddish brown, very fine grained, dry

30-35 ft. SAND, reddish brown, very fine grained, dry

35-40 ft. SAND, reddish brown, very fine grained, dry

40-45 ft. SAND, reddish brown, very fine grained, dry

45-50 ft. SAND, reddish brown, very fine grained, dry

50-55 ft. SAND, reddish brown, very fine grained, dry

55-60 ft. SAND, reddish brown, very fine grained, dry

COMPLETION DATA

Hole Depth 95.35 ft. Below LS : 98.05 Below TOC TD Inside casing

CASING, SCREEN & CAP

Material, joints Diameter Manufacturer

PVC, threaded 2 in. ID

Screen type Screen length Screen opening Scrn. placement Bottom Cap

Slotted 15 ft., prepacked 0.020 slot 80-95 ft. BLS

Protector Casing Lock Key #

0.2 ft PVC Above-ground steel 2001

SEALS & SAND PACK

Cement seal type : Cement

Cem't placement Annular seal type Seal placement Sand pack type

4 bags to surface Bentonite : 24 bags to 2 ft.

Sand placement

: 5 bags to 78 ft.

ELEVATIONS.

Ground elevation

3,836,31 Inner casing, lip Outer casing, top

WELL INSTALLATION:

07/02/04: Drilled to 95 feet, with hollow stem auger. Installed 15 ft. prepacked screen, used 5 bags sand, 24 bags bentonite, 4 bags cement. Pulled water sample: E.C. 1920@75.9 F, chloride 665 ppm. Installed above-ground steel well protection box and cement pad.

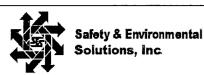
WELL DEVELOPMENT:

07/08/04: Developed well with steel bailer/air pump. Before development, DTW 83.03 BTOC, TD 97.95 BTOC. Removed 28 gallons of water and 3 gallons fo sand. Sampled at 15:30

60 Notes:

On 07/02/04, DTW 83.12 ft. BTOC TOC 2.7 ft. ALS DTW 80.42 ft. BLS

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#### LOG OF WELL MW-2

(Page 2 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P. Section 30, Township 16S, Range 37E Lea County, New Mexico

Mack Energy Corporation, Artesia, NM

: 07/02/04, 0730 Date, Time Started Date, Time Completed: 07/02/04, 1630

Hole Diameter . 8 1/4"

: Hollow-Stem Auger Drilling Method Sample Method : Cuttings

Drilled By Logged By Northing Coordinate

: Eco Drillina : Jerry Brian : 688029.13

Easting Coordinate Survey By

: 863280.50 : Pettigrew & Assoc.

			Water Levels	
			▼ During Drilling	
Depth in	S	GRAPHIC		Well: I Elev.:
Feet	nscs	GRA	DESCRIPTION	
60			60-65 ft. SAND, reddish brown, very fine grained, dry	
65-	sw		65-70 ft. SAND, reddish brown, very fine grained, dry	
70			70-75 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor	
75	:		75-80 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor	
80-	SM		80-85 ft. SILTY SAND, reddish brown, very fine grained, slightly damp, no H/C	┚

85-90 ft. SILTY SAND, reddish brown,

89-90 ft., no H/C stain or odor

very fine grained, less returns, saturated

90-95 ft. SAND, saturated, no H/C stain or

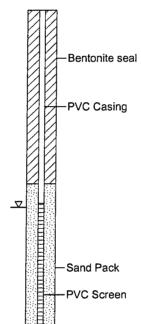
stain or odor

odor

MW-2

3,836.31 (TOC)

Well Construction Information



Bottom cap

COMPLETION DATA

95.35 ft. Below LS 98.05 Below TOC Hole Depth TD Inside casing

CASING, SCREEN & CAP

Material, joints Diameter Manufacturer

PVC, threaded 2 in. ID

Screen type Screen length Screen opening Scm. placement

Slotted 15 ft., prepacked 0.020 slot 80-95 ft. BLS

Bottom Cap Protector Casing Lock Key #

0.2 ft PVC Above-ground steel 2001

SEALS & SAND PACK

Cement seal type : Cement

Cem't placement Annular seal type Seal placement Sand pack type

: 4 bags to surface : Bentonite 24 bags to 2 ft.

Sand placement

: 5 bags to 78 ft.

ELEVATIONS.

Ground elevation

Inner casing, lip Outer casing, top

3,836.31

#### WELL INSTALLATION:

07/02/04: Drilled to 95 feet. with hollow stem auger. Installed 15 ft. prepacked screen, used 5 bags sand, 24 bags bentonite, 4 bags cement. Pulled water sample: E.C. 1920@75.9 F, chloride 665 ppm. Installed above-ground steel well protection box and cement pad.

#### WELL DEVELOPMENT:

07/08/04: Developed well with steel bailer/air pump. Before development, DTW 83.03 BTOC, TD 97.95 BTOC. Removed 28 gallons of water and 3 gallons fo sand. Sampled at 15:30

Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-2.bor

85

90

95

100

105

110

115

120

SW

Notes: On 07/02/04, DTW 83.12 ft. BTOC TOC 2.7 ft. ALS DTW 80.42 ft. BLS



ica/sw

SW

10

15

20

25

30

35-

40

45

50

55

SM

#### Safety & Environmental Solutions, Inc.

#### LOG OF WELL MW-3

(Page 1 of 2) : Eco Drillina

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

Date, Time Started : 07/06/04, 1125 Date, Time Completed: 07/07/04, 1300 Hole Diameter : 8 1/4"

Logged By Northing Coordinate

Drilled By

: Jerry Brian : 687768.91 : 863260.63

Mack Energy Corporation, Artesia, NM

**Drilling Method** Sample Method : Hollow-Stem Auger : Cuttings

Easting Coordinate Survey By

: Pettigrew & Assoc.

Water Levels During Drilling After Completion GRAPHIC Depth in Feet DESCRIPTION

0 Log from cuttings 0-5 ft. CALICHE, 1/4" fragments, dry, CA some light brown, very fine grained sand 5

5-10 ft. CALICHE, 1/4 in. fragments, SAND, light brown, very fine grained, no H/C stain or odor

12-15 ft. SAND, tan to reddish-brown, very fine grained, damp

15-20 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or

20-25 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or

25-30 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or

30-35 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor

35-40 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or

40-45 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or

45-50 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or

50-55 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or

55-60 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor

Well: MW-3

Elev.: 3,842.49 (TOC)

Flip Cover

Metal

Cement Grout

**PVC Casing** 

Bentonite seal

Box

Well Construction Information

COMPLETION DATA

Hole Depth 100.0 ft. Below LS : 102.91 Below TOC TD Inside casing

CASING, SCREEN & CAP

Material, joints Diameter Manufacturer

PVC, threaded 2 in, ID

Screen type Screen length Screen opening Scrn. placement

15 ft., prepacked 0.020 slot 85-100 ft. BLS 0.2 ft PVC

Bottom Cap Protector Casing Lock Key #

Above-ground steel 2001

**SEALS & SAND PACK** 

Cement seal type : Cement

Cem't placement Annular seal type Seal placement Sand pack type

4 bags to surface Bentonite 24 bags to 2 ft.

Sand placement

: 3 bags to 78 ft.

ELEVATIONS.

Ground elevation

Inner casing, lip 3,842.49 Outer casing, top

WELL INSTALLATION:

07/06/04: Drilled to 100 feet with hollow stem auger. Installed 15 ft. prepacked screen, used 3 bags sand, 24 bags bentonite, then cement. Installed above-ground steel well protection box and cement pad.

WELL DEVELOPMENT:

07/09/04: Developed well with steel bailer/air pump. Before development, DTW 90.18 BTOC, TD 102.88 BTOC. Removed 16 gallons of water and 2 gallons fo sand.

Sampled at 11:15

60

On 07/07/04, DTW 90.15 ft. BTOC TOC 2.91 ft. ALS

DTW 87.24 ft. BLS



#### Safety & Environmental Solutions, Inc.

#### LOG OF WELL MW-3

(Page 2 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

Date, Time Started : 07/06/04, 1125 Date, Time Completed: 07/07/04, 1300 : 8 1/4" Hole Diameter

Logged By Northing Coordinate

Drilled By

: Eco Drilling : Jerry Brian : 687768.91 : 863260,63

Mack Energy Corporation, Artesia, NM

**Drilling Method** Sample Method : Hollow-Stem Auger : Cuttings

Easting Coordinate Survey By

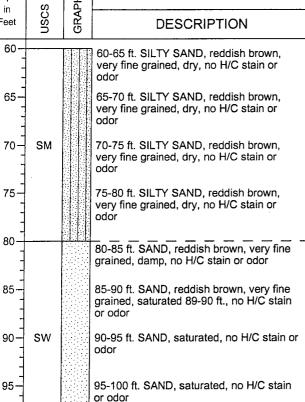
: Pettigrew & Assoc.

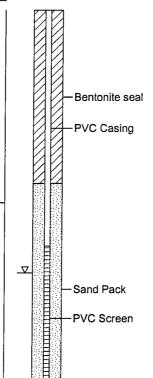
Water Levels During Drilling GRAPHIC Depth in Feet

Well: MW-3

Elev.: 3,842.49 (TOC)

#### Well Construction Information





Bottom cap

COMPLETION DATA

: 100.0 ft. Below LS : 102.91 Below TOC Hole Depth TD Inside casing

CASING, SCREEN & CAP

Material, joints PVC, threaded Diameter Manufacturer Screen type

2 in. ID Slotted

Screen length Screen opening Scrn. placement Bottom Cap Protector Casing

15 ft., prepacked 0.020 slot 85-100 ft. BLS 0.2 ft PVC Above-ground steel

Lock Key # 2001 SEALS & SAND PACK

Cement seal type : Cement

Cem't placement Annular seal type Seal placement Sand pack type

: 4 bags to surface Bentonite 24 bags to 2 ft.

Sand placement

: 3 bags to 78 ft.

ELEVATIONS.

Ground elevation

3,842.49 Inner casing, lip Outer casing, top

#### WELL INSTALLATION:

07/06/04: Drilled to 100 feet with hollow stem auger. Installed 15 ft. prepacked screen, used 3 bags sand, 24 bags bentonite, then cement. Installed above-ground steel well protection box and cement pad.

#### WELL DEVELOPMENT:

07/09/04: Developed well with steel bailer/air pump. Before development, DTW 90.18 BTOC, TD 102.88 BTOC. Removed 16 gallons of water and 2 gallons fo sand. Sampled at 11:15

120 Notes:

100

105

110

115

On 07/07/04, DTW 90.15 ft. BTOC TOC 2.91 ft. ALS

DTW 87.24 ft. BLS

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### LOG OF WELL MW-4

(Page 1 of 2) : Eco Drilling

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

Date, Time Started : 08/10/04, 0815 Date, Time Completed: 08/10/04, 1500

Hole Diameter : 8 1/4" Drilled By

Logged By Northing Coordinate

: Dave Boyer : 687688.16 : 863364.97

	Lea	Cour	ity, New Mexico	Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: 863364.97
Ma	ck Ene	rgy Co	orporation, Artesia, NM	Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.
Depth in Feet	nscs	GRAPHIC	Water Levels  ▼ During Drilling  ▼ After Completion  DESCRIP		Well: MW-4 Elev.: 3,840.97 (TOC) Flip Cover		onstruction rmation
		10			Metal		
5	CA/ML	\$2 X X X X X X X X X X X X X X X X X X X	Log from cuttings 0-5 ft. CALICHE and SAN caliche fragments to 2", co	IDY SILT, large reme color	Box Cement Grout	COMPLETION DAT Hole Depth TD Inside casing CASING, SCREEN	: 99.28 ft. Below LS : 102.28 Below TOC
10	SM		5-10 ft. SILTY SAND, ven very fine grained, occasio fragments to 1/4"	nal caliche		Material, joints Diameter Manufacturer Screen type	: PVC, threaded : 2 in. ID
15			10-15 ft. SAND, light brow grained, minor silt, occasi- caliche fragments, no H/C 15-20 ft. SAND, reddish b	onal small stain or odor		Screen length Screen opening Scrn. placement Bottom Cap Protector Casing	: 15 ft., prepacked : 0.020 stot : 85-100 ft. BLS : 0.2 ft PVC : Above-ground steel
20-			grained, drylight brown, ve occasional small caliche fi	ery fine grained, ragments <1/8"		Lock Key # SEALS & SAND PA Cement seal type	: Cement
25-			grained, occasional white 25-30 ft. SAND, same as a	caliche chips		Cem't placement Annular seal type Seal placement Sand pack type	: 2 ft. to surface : Bentonite : 62 ft. to 2 ft.
30-	i		30-35 ft. SAND, same as a	above	PVC Casing  —Bentonite seal	Sand placement ELEVATIONS. Ground elevation Inner casing, lip Outer casing, top	: to 62 ft. : : 3,840.97
35	sw		35-40 ft. SAND, light brow grained, uniform, occasion caliche/sandstone chips to stain or odor	ıal			00 feet with hollow
40-			40-45 ft. SAND, same as a	above		box and cement pac chloride at 38 ppm. WELL DEVELOPME	I. chloride strip showed
45-			45-50 ft. SAND, same as a	above		09/01/04: Developed bailer/air pump. Befo	well with steel ore development, DTW 2.05 BTOC. Removed 15
50-	,		50-55 ft. SAND, same as a	above		Sampled at 14:15	
55-			55-60 ft. SAND, same as a	above			
60							

Notes:

On 08/10/04, DTW 88.80 ft. BTOC TOC 3.0 ft. ALS

DTW 85.80 ft. BLS

NSescentraNe\SESCentraNCompany Files\Mack Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-4.bor



### Safety & Environmental Solutions, Inc.

### LOG OF WELL MW-4

(Page 2 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E . Lea County, New Mexico Date, Time Started : 08/10/04, 0815 Date, Time Completed : 08/10/04, 1500

Hole Diameter : 8 1/4"

Drilling Method : Hollow-Stem Auger Sample Method : Cuttings Drilled By : Eco Drilling Logged By : Dave Boyer

: Dave Boyer : 687688.16

Northing Coordinate Easting Coordinate Survey By

COMPLETION DATA

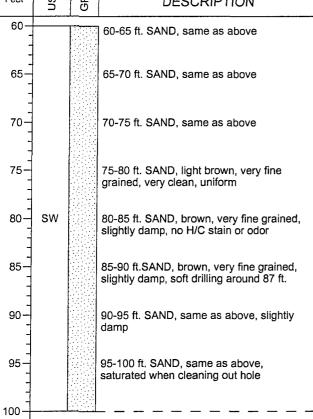
: 863364.97 : Pettigrew & Assoc.

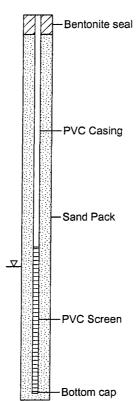
ма	CK Ener	gy Co	rporation, Artesia, NM	Sample Method	
			Water Levels		ľ
		•	▼ During Drilling		
Depth	S	APHIC			
Feet	nscs	GRA	DESCRIP	TION	

Well: MW-4

Elev.: 3,840.97 (TOC)

### Well Construction Information





Hole Depth : 99.28 ft. Below LS
TD Inside casing : 102.28 Below TOC
CASING, SCREEN & CAP
Material, joints : PVC, threaded
Diameter : 2 in. ID
Manufacturer
Screen type : Slotted

Screen type
Screen length
Screen opening
Scrn. placement
Bottom Cap
Protector Casing
Lock Key #

Slotted
15 ft., prepacked
16 ft., prepack

SEALS & SAND PACK

Cement seal type : Cement

Cem't placement : 2 Annular seal type : E Seal placement : 6 Sand pack type :

: 2 ft. to surface : Bentonite : 62 ft. to 2 ft.

Sand placement ELEVATIONS.

: to 62 ft.

Ground elevation

Inner casing, lip
Outer casing, top

3,840.97

### WELL INSTALLATION:

08/10/04: Drilled to 100 feet with hollow stem auger. Installed 15 ft. prepacked screen, used sand, bentonite, then cement. Installed above-ground steel well protection box and cement pad. chloride strip showed chloride at 38 ppm.

### WELL DEVELOPMENT:

09/01/04: Developed well with steel bailer/air pump. Before development, DTW 88.80 BTOC, TD 102.05 BTOC. Removed 15 gallons of water and 1.5 gallons fo sand. Sampled at 14:15

120 -Notes:

105

110

115

On 08/10/04, DTW 88.80 ft. BTOC TOC 3.0 ft. ALS DTW 85.80 ft. BLS

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Depth

in

Feet

15

20

25

30

35

40-

45-

50-

55

SW

### Safety & Environmental Solutions, Inc.

### LOG OF WELL MW-5

(Page 1 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

Date, Time Started : 04/04/06 0900 Date, Time Completed: 04/04/06 1700 Drilled By Logged By : EcoEnviro Drilling : Dave Boyer

: 8 1/4" Hole Diameter : Hollow-Stem Auger **Drilling Method** 

Northing Coordinate Easting Coordinate

; - -:--

Sample Method

: Cuttings

Survey By

:--

Mack Energy Corporation, Artesia, NM Water Levels

During Drilling After Completion DESCRIPTION

Well: MW-5 Elev.: - - (TOC) - Flip Cover Metal

Box

Cement Grout

PVC Casing

Bentonite seal

Well Construction Information

GRAPHIC USCS 0 Log from cuttings CA drilling. 5 10 stringers, less than 2" thick (from driller)

0-3.5 ft. CALICHE, creame white, hard

3.5-5 ft. SAND, light brown, very fine grained, dry

5-10 ft. SAND, very light brown, very fine grained, uniform, dry 10-15 ft. SAND, very light brown, very fine grained, dry, occasional sandstone

15-20 ft. SAND, same as above

20-25 ft. SAND, same as above

25-30 ft. SAND, same as above

30-35 ft. SAND, same as above, slightly damp

35-40 ft. SAND, same as above

40-45 ft. SAND, same as above

45-50 ft. SAND, same as above

50-55 ft. SAND, same as above

55-60 ft. SAND, same as above

COMPLETION DATA

Hole Depth : 95.6 ft. Below LS : 98.08 Below TOC TD Inside casing

CASING, SCREEN & CAP

Material, joints Diameter

: PVC, threaded

Manufacturer

: 2 in. ID

Screen type Screen length

Slotted 15 ft., U-pack, packed with 16/32 sand

Screen opening Scrn. placement **Bottom Cap** 

0.010 slot 80-95 ft. BLS 0.2 ft PVC

Protector Casing Lock Key #

Above-ground steel 2001

SEALS & SAND PACK

Cement seal type : Cement

Cem't placement Annular seal type 2 ft. to surface Hole-plug bentonite

Seal placement Sand pack type Sand placement

3/8" chips 28 bags to 2 ft. 16/32 Oglebay-Norton

to 70 ft.

**ELEVATIONS** 

Ground elevation Inner casing, lip Outer casing, top

WELL INSTALLATION:

04-04-06: Drilled to 96 feet with hollow stem auger. Installed 15 ft. prepacked screen, used 16/32 sand, 28 bags bentonite, then cement. Installed above-ground steel well protection box and cement pad. Chloride strip showed chloride at 33 ppm, EC 512 mmhos/cm.

WELL DEVELOPMENT:

04/07/06: Developed well with steel bailer/air pump. Before development, DTW 87.24 ft. BTOC, TD 98.08 ft. BTOC. Removed 3 gallons of water to dryness. Sampled at 1745 04/08/06

60

On 04/07/06 DTW 87.24 ft. BTOC TOC 2.5 ft. ALS DTW 84.74 ft. BLS

Well elevation not surveyed due to other closeby wells providing elevation control for groundwater flow direction measurements.

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Depth

in

Feet

65

70

75

80

85

90

95

100

105

110

115

SW

SS

SW

### Safety & Environmental Solutions, Inc.

### LOG OF WELL MW-5

(Page 2 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

: 04/04/06 0900 Date, Time Started Date, Time Completed: 04/04/06 1700

Hole Diameter : 8 1/4"

**Drilling Method** Sample Method Drilled By

: EcoEnviro Drilling

Logged By Northing Coordinate

: Dave Boyer :--

**Easting Coordinate** Survey By

:--

Mack Energy Corporation, Artesia, NM

GRAPHIC

Water Levels During Drilling 

Well: MW-5 Elev.: - - (TOC)

Bentonite seal

PVC Casing

Sand Pack

PVC Screen

Bottom cap

: Hollow-Stem Auger

: Cuttings

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Well Construction Information

60 60-65 ft. SAND, same as above

65-70 ft. SAND, same as above

DESCRIPTION

70-75 ft. SAND, same as above

75-80 ft. SAND, same as above

80-85 ft. SAND, same as above

85-87 ft.SAND, same as above

87-89 ft. SANDSTONE, hard drilling 89-95 ft. SAND, light brown, very fine

grained

COMPLETION DATA

Hole Depth : 95.6 ft. Below LS TD Inside casing : 98.08 Below TOC

CASING, SCREEN & CAP

Material, joints Diameter Manufacturer

: PVC, threaded : 2 in. ID

Screen type Screen length

15 ft., U-pack, packed with 16/32 sand

Screen opening 0.010 slot 80-95 ft. BLS 0.2 ft PVC Scrn. placement Bottom Cap Protector Casing Above-ground steel

Lock Key # 2001 SEALS & SAND PACK

Cement seal type : Cement

Cem't placement Annular seal type

2 ft. to surface Hole-plug bentonite 3/8" chips

Seal placement Sand pack type Sand placement

28 bags to 2 ft. 16/32 Oglebay-Norton to 70 ft.

**FLEVATIONS** 

Ground elevation Inner casing, lip Outer casing, top

WELL INSTALLATION:

04-04-06: Drilled to 96 feet with hollow stem auger. Installed 15 ft. prepacked screen, used 16/32 sand, 28 bags bentonite, then cement. Installed above-ground steel well protection box and cement pad. Chloride strip showed chloride at 33 ppm, EC 512 mmhos/cm.

WELL DEVELOPMENT:

04/07/06: Developed well with steel bailer/air pump. Before development, DTW 87.24 ft. BTOC, TD 98.08 ft. BTOC. Removed 3 gallons of water to dryness. Sampled at 1745 04/08/06

120

On 04/07/06 DTW 87.24 ft. BTOC

TOC 2.5 ft. ALS DTW 84.74 ft. BLS Well elevation not surveyed due to other closeby wells providing elevation control for groundwater flow direction measurements.

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0

5

10

15

20

25

30

35

40

45-

50.

55

SW

SS

SW

### Safety & Environmental Solutions, Inc.

### LOG OF WELL MW-6

(Page 1 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

Date, Time Started : 04/05/06 0830 Date, Time Completed: 04/05/06 1700 Drilled By Logged By : EcoEnviro Drilling

Hole Diameter

: 8 1/4"

Northing Coordinate

: Dave Boyer :--

Mack Energy Corporation, Artesia, NM

**Drilling Method** Sample Method : Hollow-Stem Auger : Cuttings

Easting Coordinate Survey By

: - -.\_\_

Water Levels During Drilling GRAPHIC Depth USCS in Feet DESCRIPTION

Well: MW-6 Elev .: - - (TOC) Flip Cover

Metal

Bentonite seal

**PVC Casing** 

Box

Well Construction Information

Log from cuttings CA 0-4 ft. CALICHE, creame white, hard 4-10 ft. SAND, light brown, very fine grained, dry, uniform

10-20 ft. SAND, light brown, very fine grained, dry, occasional thin sandstone stringers

20-30 ft. SAND, same as above

30-32 ft. SAND, same as above

32-34 ft. SANDSTONE, hard drilling 34-40 ft. SAND, SAND, light brown, very fine grained, dry, uniform, occasional thin

sandstone lens

40-50 ft. SAND, same as above with thin sandstone lens

50-60 ft. SAND, same as above with thin sandstone lens

Cement Grout COMPLETION DATA

> Hole Depth : 95 ft. Below LS : 97.68 Below TOC TD Inside casing

CASING, SCREEN & CAP

Material, joints PVC, threaded 2 in. ID U-Pack Diameter Manufacturer Screen type Screen, bottom 10'

Slotted 0.010 in.

Screen, top 10' (see install notes) Scrn. placement Bottom Cap Protector Casing

10 ft., U-pack with 16/32 sand 10 ft. 0.020 in. with 5' 16/32 sand, 5' 8/16 sand 75-95 ft. BLS 0.2 ft PVC

Above-ground steel Lock Key # 2001 SEALS & SAND PACK

Cement seal type · Cement

Cem't placement Annular seal type 2 ft. to surface Hole-plug bentonite 3/8" chips

Seal placement Sand pack type Sand placement

28 bags to 2 ft. 8/16 Oglebay-Norton 6 bags to 73.9 ft.

ELEVATIONS.

Outer casing, top

Ground elevation Inner casing, lip

WELL INSTALLATION:

04-054-06: Drilled to 95 feet with hollow stem auger. Installed 20 ft. screen. 10 ft. 0.010 slot U-pack with 16/32 sand. 10 ft. 0.020 slot screen (due to lack of Upack couplings for 5 ft. sections). Used 6 bags 8/16 sand to 73.9 ft., 28 bags bentonite to 2 ft., then cement. Installed above-ground steel well protection box and cement pad. Chloride strip showed chloride at 43 ppm, EC 497 mmhos/cm.

WELL DEVELOPMENT:

04/07/06: Developed well with steel bailer/air pump. Before development, DTW 88.65 ft. BTOC, TD 97.68 ft. BTOC. Removed 5 gallons of water to dryness. Sampled at 1748255 04/08/06

60

On 04/07/06 DTW 88.65 ft. BTOC

TOC 2.7 ft. ALS DTW 90.0 ft. BLS Well elevation not surveyed due to other nearby wells providing elevation control for groundwater flow direction measurements.

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in

60

65

70

75

80

85

90

95

100

105

110

115

SW

### Safety & Environmental Solutions, Inc.

### LOG OF WELL MW-6

(Page 2 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

Date, Time Started : 04/05/06 0830 Date, Time Completed: 04/05/06 1700

Hole Diameter · 8 1/4"

**Drilling Method** : Hollow-Stem Auger Sample Method : Cuttings

: EcoEnviro Drilling Drilled By

:--

Logged By : Dave Boyer

Northing Coordinate Easting Coordinate :--Survey By

Mack Energy Corporation, Artesia, NM

Water Levels ▼ During Drilling GRAPHIC Depth DESCRIPTION Feet

sandstone lens

sandstone lens

sandstone lens

grained

60-70 ft. SAND, same as above with thin

70-80 ft. SAND, same as above with thin

80-90 ft. SAND, same as above with thin

90-95 ft. SAND, light brown, very fine

Well: MW-6 Elev .: - - (TOC)

Bentonite seal

**PVC Casing** 

Sand Pack

**PVC Screen** 

Bottom cap

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Well Construction Information

COMPLETION DATA

Hole Depth : 95 ft. Below LS : 97.68 Below TOC TD Inside casing

CASING, SCREEN & CAP

Material, joints Diameter Manufacturer Screen type

2 in. ID U-Pack Slotted 0.010 in. Screen, bottom 10' 10 ft., U-pack with 16/32 sand

PVC, threaded

Screen, top 10' (see install notes) Scrn. placement **Bottom Cap** Protector Casing

10 ft. 0.020 in. with 5' 16/32 sand, 5' 8/16 sand 75-95 ft. BLS 0.2 ft PVC

Lock Key #

Above-ground steel 2001

SEALS & SAND PACK

Cement seal type : Cement

Cem't placement Annular seal type 2 ft. to surface Hole-plug bentonite 3/8" chips

Seal placement Sand pack type Sand placement

28 bags to 2 ft 8/16 Öglebay-Norton 6 bags to 73.9 ft.

ELEVATIONS.

Ground elevation Inner casing, lip Outer casing, top

WELL INSTALLATION:

04-054-06: Drilled to 95 feet with hollow stem auger. Installed 20 ft. screen. 10 ft. 0.010 slot U-pack with 16/32 sand. 10 ft. 0.020 slot screen (due to lack of Upack couplings for 5 ft. sections). Used 6 bags 8/16 sand to 73.9 ft., 28 bags bentonite to 2 ft., then cement. installed above-ground steel well protection box and cement pad. Chloride strip showed chloride at 43 ppm, EC 497 mmhos/cm.

WELL DEVELOPMENT:

04/07/06: Developed well with steel bailer/air pump. Before development, DTW 88.65 ft. BTOC, TD 97.68 ft. BTOC. Removed 5 gallons of water to dryness. Sampled at 1748255 04/08/06

120

On 04/07/06 DTW 88.65 ft. BTOC

TOC 2.7 ft. ALS DTW 90.0 ft. BLS Well elevation not surveyed due to other nearby wells providing elevation control for groundwater flow direction measurements.

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### Safety & Environmental Solutions, Inc.

### LOG OF WELL MW-7

(Page 1 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

: 04/06/06 0700 Date, Time Started Date, Time Completed: 04/06/06 1200

Hole Diameter : 8 1/4"

**Drilling Method** : Hollow-Stem Auger : Cuttings

: EcoEnviro Drilling Drilled By

Logged By : Dave Boyer

Northing Coordinate Easting Coordinate :--Survey By : - -

Sample Method Mack Energy Corporation, Artesia, NM Water Levels During Drilling After Completion GRAPHIC uscs **DESCRIPTION** 

Well: MW-7 Elev .: - - (TOC) Flip Cover Metal Box Cement Grout

Bentonite seal

PVC Casing

Sand Pack

Well Construction Information

**COMPLETION DATA** Hole Depth TD Inside casing

95 ft Below LS : 97.24 Below TOC

CASING, SCREEN & CAP

Material, joints Diameter Manufacturer Screen type Screen length

PVC, threaded 2 in. ID U-pack Slotted 15 ft., packed with 16/32 sand

Screen opening Scrn. placement Bottom Cap Protector Casing

0.010 slot 80-95 ft. BLS Above-ground steel

Lock Key # 2001

SEALS & SAND PACK Cement seal type : Cement

Cem't placement Annular seal type

2 ft. to surface Hole-plug bentonite 3/8" chips

Seal placement Sand pack type Sand placement

30 bags to 2 ft. 16/32 Oglebay-Norton Native sand to 42 ft.

**ELEVATIONS** 

Ground elevation Inner casing, lip Outer casing, top

WELL INSTALLATION:

04-06-06: Drilled to 95 feet with hollow stem auger. Installed 15 ft. prepacked screen, used 16/32 sand in U-pack screen, hole caved to 42 ft. pulling augers, native sand from 42 to 80 ft. 30 bags bentonite to 2 ft., then cement. Installed above-ground steel well protection box and cement pad. Chloride strip showed chloride at 206 ppm,

EC 836 mmhos/cm.

WELL DEVELOPMENT: 04/08/06: Developed well with steel bailer/air pump. Before development, DTW 88.84 ft. BTOC, TD 97.24 ft. BTOC.

Removed 13 gallons of water to clean.

Sampled at 1850 04/08/06

Depth in Feet 0 Log from cuttings CA 0-4 ft. CALICHE, gray-white, hard, well cemented 4-10 ft. SAND, light brown, very fine 5 grained 10 10-20 ft. SAND, light brown, very fine grained, uniform, dry, occasional thin sandstone lens 15 20 20-30 ft. SAND, and thin SS lens, same as above 25 30 30-40 ft. SAND, same as above and occasional thin (inches) sandstone SW stringers 35 40 40-50 ft. SAND and SS stringers, same as above 45 50-50-60 ft. SAND and SS stringers, same as above 55

On 04/08/06 DTW 88.84 ft. BTOC TOC 2.3 ft. ALS DTW 86.5 ft. BLS

Well elevation not surveyed due to other nearby wells providing elevation control for groundwater flow direction measurements.

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### LOG OF WELL MW-7

(Page 2 of 2)

New Monitor Well Installation Monsanto #30, State #4 Unit P, Section 30, Township 16S, Range 37E Lea County, New Mexico

: 04/06/06 0700 Date, Time Started Date, Time Completed: 04/06/06 1200

Logged By

Drilled By

: EcoEnviro Drilling

Hole Diameter : 8 1/4" : Hollow-Stem Auger **Drilling Method** 

Northing Coordinate

: Dave Boyer

Mack Energy Corporation, Artesia, NM

Sample Method : Cuttings **Easting Coordinate** Survey By

:--:--

Water Levels During Drilling After Completion GRAPHIC Depth in Feet **DESCRIPTION** 

Well: MW-7 Elev.: - - (TOC)

**PVC Casing** 

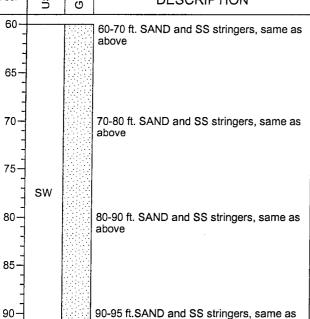
Sand Pack

PVC Screen

Bottom cap

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Well Construction Information



above

TD Inside casing CASING, SCREEN & CAP Material, joints Diameter Manufacturer Screen type Screen length

Hole Depth

COMPLETION DATA

PVC, threaded 2 in. ID U-pack Slotted 15 ft., packed with 16/32 sand

95 ft. Below LS : 97.24 Below TOC

Screen opening 0.010 slot Scrn. placement 80-95 ft. BLS Bottom Cap 0.2 ft PVC Protector Casing Above-ground steel Lock Key # 2001

SEALS & SAND PACK

Cement seal type : Cement

Cem't placement Annular seal type 2 ft. to surface Hole-plug bentonite 3/8" chips

Seal placement Sand pack type Sand placement 30 bags to 2 ft. 16/32 Oglebay-Norton Native sand to 42 ft.

Ground elevation Inner casing, lip Outer casing, top

WELL INSTALLATION:

04-06-06: Drilled to 95 feet with hollow stem auger. Installed 15 ft. prepacked screen, used 16/32 sand in U-pack screen, hole caved to 42 ft. pulling augers, native sand from 42 to 80 ft. 30 bags bentonite to 2 ft., then cement. Installed above-ground steel well protection box and cement pad. Chloride strip showed chloride at 206 ppm, EC 836 mmhos/cm.

WELL DEVELOPMENT:

04/08/06: Developed well with steel bailer/air pump. Before development, DTW 88.84 ft. BTOC, TD 97.24 ft. BTOC. Removed 13 gallons of water to clean. Sampled at 1850 04/08/06

Notes: On 04/08/06 DTW 88.84 ft. BTOC TOC 2.3 ft. ALS DTW 86.5 ft. BLS

Well elevation not surveyed due to other nearby wells providing elevation control for groundwater flow direction measurements.

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95

100

105

110

115

120

### Appendix C

Copy of Analytical Reports Monsanto 30, State #4, Mack Energy Corporation





ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 05/21/043

Reporting Date: 05/24/04

Project Number: MAC-04-003

Project Name: MONSANTO 30, STATE #4

Project Location: NOT GIVEN

Analysis Date: 05/24/04

Sampling Date: 05/21/04

Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: HM

Analyzed By: AH

		CI <sup>-</sup>
LAB NUMBER	SAMPLE ID	(mg/Kg)

H8728-1	MW-1, 50'	64
H8728-2	MW-1, 70'	80
H8728-3	MW-1, 95'	96
Quality Control		990
True Value QC		1000
% Recovery		99.0
Relative Perce	nt Difference	4.0

r		
METHOD:	Standard Methods	4500-Cl <sup>*</sup> B

Note: Analyses performed on 1:4 w:v aqueous extracts.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service) of the property of the pr affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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RDINAL LABORATORIES. INC.	2111 Reachwood Abilene TY 70603 40
LABOF	Reschwood
ARDINAL L	2111
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2111 Beechwood, Abilene, TX 79603. 101 East Mariand, Hobbs, NM 88240	(915) 873-7001 Fax (915) 873-7020 (505) 393-2326 Fax (505) 393-2476
2111 Beechwood, Abilene, TX 79603.	(915) 873-7001 Fax (915) 673-7020 (505) 3

+ Cardinal cannot accept verbal changes. Please tax written changes to 915-673-7020.

CHECKED BY: (Initials)

Sample Condition
Cool Intact
Tyes Tes

Sampler - UPS - Bus - Other; Delivered By: (Circle One)





ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 06/02/04

Reporting Date: 06/03/04

Project Number: NAV-04-003
Project Name: MONSANTO #4

Project Location: LOVINGTON, NM

Sampling Date: 06/01/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

LAB NUMBER SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	06/02/04	06/02/04	06/02/04	06/02/04
H8765-1 MW-1	<0.002	<0.002	<0.002	<0.006
Quality Control	0.093	0.094	0.089	0.263
True Value QC	0.100	0.100	0.100	0.300
% Recovery	93.2	94.1	88.8	87.6
Relative Percent Difference	1.2	3.4	2.7	2.3

METHOD: EPA SW-846 8260

Buyes Ja Cooke

Date



ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 06/02/04
Reporting Date: 06/03/04
Project Number: NAV-04-003

Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 06/01/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: AH

	Na	Ca	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(u S/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	06/02/04	06/02/04	06/02/04	06/02/04	06/02/04	06/02/04
H8765-1 MW1	166	177	41	6.96	2135	115
Quality Control	NR	50	55	4.58	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	100	110	91.6	93.6	NR
Relative Percent Difference	NR	0	0	7.2	0.7	NR
METHODS:	CNAC	3500-Ca-D	0500 Ma F	8049	120.1	310.1
METHODS:	SIVIS	3500-Ca-D	SOUU-IVIG E	8049	120.1	310.1
	CI	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	Нq	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	06/02/04	06/02/04	06/02/04	06/02/04	06/02/04	06/03/04
H8765-1 MW1	580	47	0	140	7.25	1302
Quality Control	950	48.21	NR	1007	7.08	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	95.0	96.4	NR	101	101	NR
Relative Percent Difference	6.0	6.2	NR	1.1	0.9	1.4
				212.1		
MÉTHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1
Imm Hill					3/04	
Chemist	-		Ī	Date (		

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service and any of the above stated to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240 (915) 673-7001 Fax (915) 873-7020 (505) 393-2326 Fax (505) 393-2476

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Company name, SEST					ANALYSI	ANALYSIS REQUEST	ST			
Project Manager;		BILL 7.0 PO #;							$\vdash$	T
Address: 703 E, CLINTON, #103	/103	Company: SAME							-	
Clly: HOBBS	State: NM Zlp: 88240	Altn: Brand;			:_				·	
Phone #: (505) 397-0510		Address;							<del></del> -	
Fax #: (505)_393_4388		Ćlfy:					· · ·			-
Project #: 1/4 U - OV -003 Project Owner:	ect Owner: Mack Engrey	State: Zlp:		ς						
Project Hame: MONSanto #		Phone #:					<u>-</u>			
Project Location: Loung to, Nh	Nh	Fax #;		 !?u						
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LAB I.D. Sample I.D.	,SMO(C) Re BREMI RETER	. ж	XI	740!H						· ·
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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 07/09/04
Reporting Date: 07/09/04
Project Number: MAC-04-003

Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 07/08/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

LAB NUMBER SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	07/09/04	07/09/04	07/09/04	07/09/04
H8889-1 MW #2	<0.002	<0.002	<0.002	<0.006
Quality Control	0.105	0.103	0.096	0.280
True Value QC	0.100	0.100	0.100	0.300
% Recovery	105	103	96.3	93.2
Relative Percent Difference	0.8	1.4	5.3	3.0

METHOD: EPA SW-846 8260

ist C

Date



ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 07/09/04
Reporting Date: 07/12/04
Project Number: MAC-04-003

Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 07/08/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: AH

	Na	Са	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(u S/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	07/09/04	07/09/04	07/09/04	07/09/04	07/09/04	07/09/04
H8889-1 MW #2	47	59	16	3.73	696	204
Quality Control	NR.	40	52	4.87	1322	NR
True Value QC	NR:	50	50	5.00	1413	NR
% Recovery	NR	80	104	97.4	93.6	NR
Relative Percent Difference	NR NR	2.0	6.0	5.8	0.7	NR
METHODS:	SMS	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	Cl	SO <sub>4</sub>	CO <sub>3</sub>	HCO₃	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	07/09/04	07/09/04	07/09/04	07/09/04	07/09/04	07/12/04
H8889-1 MW #2	40	57	0	249	7.59	473
Quality Control	990	50.67	NR	976	7.04	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	99.0	101	NR	97.6	101	NR
Relative Percent Difference	1.0	4.9	NR	2.2	0.1	1.4
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1
11.00				$\sim$ 1	1010	, j

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable services what Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

### ARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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	Company Name:SAFETY & ENVIRONMENTAL SOLUTIONSP.O. #:Project Manager:P.O. #:Address:703 E.CLINTON, #102Company:	9) 393-2416 B111.TO P.O.#: Company: SAME	ANALYSIS REQUEST
	Project Location: Lair for IVM  Sampler Name: Distin Parim	#	ָלעע'יַ
NUM Phone 4: Fax #:	яатыматыр яатыматыр яатыматыр лук ж ж ж ж ж ж ж ж ж ж ж ж ж ж ж ж ж ж ж	PRESERV. SAMPLING F1 COOL F1 COOL F1 COOL F2 COOL F3 COOL F4 COOL F5 COOL F6 C	73181 . 54,000
State:  Av Pr.  COUTAINERS  ROUNDWATER MATRIX  ROUNDWATER COOL  IL  COOL  THER:  EX COOL  THER:  THER:  THER:  CA T:  CA	s 0 8 w 5 ×	8-2 0 X	+
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Terms and Conditions: Inferest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of celections, including attorney's tees. PLESE HOTE: Labbity and Danuges, Cardinal's labbity and client's encloser remetry for any client acting whether based in contract or lost, sould be lartical to the amount part by the client for the the seminary took for registers and any other cause inhalteners shall be deemed which desired by Cardinal which States are consistent to the performance of the supplication of the application of the supplication of the supplicat

2 2 2 2 3 7 Yes Phone Result Fax Result REMARKS: (Initials) Mact? Yes Received By: (Lab Staff) Dete: 7-8-0/ Time: 4.50 Times, Date: Sampler - UPS - Bus - Other: Delivered By: (Circle One) Relinquished By:

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.





ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240

FAX TO: (505) 393-4388

Receiving Date: 09/01/04
Reporting Date: 09/03/04

Reporting Date: 09/03/04 Project Number: MAC-04-003

Project Name: MACK ENERGY STATE #4

Project Location: LOVINGTON, NM

Sampling Date: 09/01/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

LAB NUMBER SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE	09/02/04	09/02/04	09/02/04	09/02/04
H9117-1 MW #4	<0.002	<0.002	<0.002	<0.006
Quality Control	0.094	0.096	0.097	0.297
True Value QC	0.100	0.100	0.100	0.300
% Recovery	94.1	96.1	97.2	99.1
Relative Percent Difference	5.6	0.7	4.9	7.7

METHOD: EPA SW-846 8260

Chemist

Date



ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 09/01/04 Reporting Date: 09/07/04 Project Number: MAC-04-003

Project Name: MACK ENERGY STATE #4

Project Location: LOVINGTON, NM

Sampling Date: 09/01/04

Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

	Na	Ca	Mg	K	Conductivity (u S/cm)	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(a S/GIII)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	09/02/04	09/02/04	09/02/04	09/02/04	09/02/04	09/02/04
H9117-1 MW #4	5	59	24	4	610	160
Quality Control	NR	40	52	4.87	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	80	104	97.4	93.6	NR
Relative Percent Difference	NR	2.0	6.0	5.8	0.7	NR
METHODS:	SM3	3500-Ca-D	8500-Mg E	8049	120.1	310.1
	cr	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	09/02/04	09/02/04	09/02/04	09/02/04	09/02/04	09/02/04
1104474 8884444	00			40=	7.50	070
H9117-1 MW #4	36	49	0	195	7.58	376
H9117-1 WW #4	36	49	0	195	7.58	3/6
Quality Control	1040	50.67	0 NR	976	7.58	NR
Quality Control True Value QC % Recovery	1040	50.67	NR	976	7.05	NR
Quality Control True Value QC	1040 1000	50.67 50.00	NR NR	976 1000	7.05 7.00	NR NR

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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ARDINAL LABORATORIES, INC.
2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240

(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476	
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x (915) 673-7020	
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Company Name:	ヘガヘナ						)   			0 1t 4 000 (000) was seen	- ?							- age -	5			Γ
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City: ttbbs	State: M/Zip: 882 YO	88	χ (γ	0		⋖	Attn:															
Phone #: ふoら -	397-0510					4	Address:	55:										**				
Fax #:							City:															
Project #: MUC.	Project #: MUC-04-003 Project Owner: Mack Fragy	M	25	NE	1969		State:			Zip:			Ĉ١				····					•
Project Name: 17	Project Name: Mack Einery State #	10.7	4	_	,		Phone #:	#					<u>\val_l</u>			•						
ect Location:	Louington Mm					ш	Fax#:						J			•					·	
FOR LAB USE ONLY				MA	MATRIX		Ľ	PRES.	S	SAMPLING			0									
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS	ВЭТАWGNUOЯЭ	MASTEWATER SOIL	OIL	SLUDGE OTHER :	ACID:	ICE / COOL OTHER :	` ` `		or. ₹3. TIME	XII8	Cations,	 					<del></del>			
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analyses. All claims including thos	The ASE NOTE: Labority and Damages, Cardnal's lability and client's exclusive remedy for any claim anising whether based in contract or tort, shall be initied to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardnal within 30 days after compalition or this confidence.	remedy for rer shall be	any clair deemed	m arising f waived u	whether Inless ma	based in ade in wr	contrac iting and	or tort, s	hall be limit by Cardina	ed to the amo	unt paid by the	he client for t	the	Tell S	s and Con	ditions: Int	erest will be	charged on	Terms and Conditions: Interest will be charged on all accounts more than	more than	-	7
service. In no event shall Cardina	service. In no event shall Cardnal be liable for incidental or consequental damages, including without limitation, business integrals or encourage or encourage and the second se	es, including	g withou	t imitation	, busine	ss intern	ptions,	oss of us	e, or loss o	terruptions, loss of use, or loss of profits incurred by client, its substidiaries,	ed by client,	its subsidiari	applicable ies,	30 de anda	ys past due Il costs of d	at the rate ollections	30 days past due at the rate of 24% per annum from and all costs of collections, including attorney's feed	annum from	n the original	30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections. Including attorney's feets	oice,	
Campalor Dollar	ammare's or successors as similar or or related to the performance of services hereunder by Cardhal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	ereunder by	Card	al, regard	ess of w	ether st	ich clain	is based	upon any c	f the above s	ated reason	s or otherwis	se.				P					

Phone Result | Yes | No Additional Fax#: Fax Result: | Yes | No REMARKS: Received By: (Lab Staff) Date:  $q_{-1}$ -O(f Received Bv. Time: Relinquished By:

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

Sample Condition Cool Intact ☐ Yes ☐ Yes ☐ No ☐ No

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

. • .



ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 10/05/04 Reporting Date: 10/11/04

Project Number: 0400
Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 10/05/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: GP

Analyzed By: BC

LAB NUMBER SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	10/07/04	10/07/04	10/07/04	10/07/04
H9211-1 MW #1	<0.002	<0.002	<0.002	<0.006
H9211-2 MW #2	<0.002	<0.002	<0.002	<0.006
Quality Control	0.088	0.092	0.098	0.305
True Value QC	0.100	0.100	0.100	0.300
% Recovery	87.6	91.8	98.2	102.0
Relative Percent Difference	4.5	0.8	0.3	1.2

METHOD: EPA SW-846 8260

Chemist/

Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or expresses evicing out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.





ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 10/05/04 Reporting Date: 10/08/04 Project Number: 0400

Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 10/05/04

Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT

Sample Received By: GP

Analyzed By: AH

	Na	Са	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mS/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04
H9211-1 MW #1	118	213	52	6.5	2343	197
H9211-2 MW #2	14	74	32	5.5	653	202
Quality Control	NR	40	52	4.87	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	80.0	104	97.4	93.6	NR
Relative Percent Difference	NR	2.0	6.0	5.8	8.0	NR
METHODS:	SMC	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI <sup>-</sup>	SO <sub>4</sub>	CO <sub>3</sub>	HCO₃	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04	10/08/04
H9211-1 MW #1	520	78	0	241	7.10	1469
H9211-2 MW #2	44	86	0	246	7.44	502
Quality Control	1050	50.98	NR	976	6.98	NR NR
True Value QC % Recovery	1000	50.00	NR NR	1000 97.6	7.00	NR NR
Relative Percent Difference	2.9	102	NR	2.2	99.7	NR 1.4
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1
Amy Hill			_	10/8	104	
'Chemist /			Ē	Date /	/	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable services arising avent shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

\* ARDINAL LABORATORIES, INC.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of involce, and all costs of collections, including attorwy's fees. ŏ ANALYSIS REOUEST ☐ No Additional Fax#; ☐ No PLEASE NOTE: Liability and Damages, Cardnaf's fability and clerif's exclusive famedy for airy claim sirising whether based in contract or for, shall be familied to the clear for the blank for held gives and any other cause whatsoever shall be deemed walved these made in withing and received by Cardnal within 30 days after competen of the applicable sind any other cause whatsoever shall be deemed walved these made in withing and received by Cardnal withing the consequents in contraction of the support of the subsidences. Phone Result 🛘 Yes Fax Result: ☐ Yes REMARKS: 101 East Marland, Hobbs, NM 88240 TIME (505) 393-2326 Fax (505) 393-2476 SANE BANE SAMPLING # Od 10-5-0i Zip: DATE 01 1118 : ABHTO PRES. Company: ICE / COOF Address: Phone #: Received By: (Lab Staff) State: Fax #: ACID: Ċţċ. Attn: STHER SLUDGE Received By: MATRIX اا TIOS 2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020 06288 MASTEWATER 7 3 3 4 7 7 lates or successors arising out of or related to the performance of services hereunder by Cardinal GROUNDWATER Date: CC - S - Coff Time: CL 20 7 mg # CONTAINERS (G)RAB OR (C)OMP. 13 4388 Project Owner: State: NMZip: というしょうし 3970510 Time: Sample I.D. VIONSGOOSD 104/2010/ AWK #MK U MW # ) | |} 40555 SOS 20 Sampler Relinquished . D L Project Manager: Project Location: FOR LAB USE ONLY Company Name: Relinguished By: N -1126H Project Name: LAB I.D. Project #: Address: Phone #: Fax#: City:

† Cardinal cannot accept verbal changes. Please fax written changes to 915-573-7020.

CHECKED BY:

(Initials)

Sample Condition
Cool Infact
Let Fes Fes

Delivered By (Circle Oper) Sampler, UPS - Bus - Other: 1

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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 10/06/04 Reporting Date: 10/11/04 Project Number: 04-003

Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 10/06/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: GP

Analyzed By: BC

LAB NUMBER SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	10/07/04	10/07/04	10/07/04	10/07/04
H9214-1 MW #3	<0.002	<0.002	<0.002	<0.006
H9214-2 MW #4	<0.002	<0.002	<0.002	<0.006
Quality Control	0.088	0.092	0.098	0.305
True Value QC	0.100	0.100	0.100	0.300
% Recovery	87.6	91.8	98.2	102.0
Relative Percent Difference	4.5	0.8	0.3	1.2

METHOD: EPA SW-846 8260

Chemist

Date'

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates provides and all profits arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.





ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 10/06/04 Reporting Date: 10/08/04 Project Number: 04-003

Project Name: MONSANTO #4

Project Location: LOVINGTON, NM

Sampling Date: 10/06/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: AH

	Na	Ca	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mS/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04
H9214-1 MW #3	15	61	21	5.9	576	181
H9214-2 MW #4	26	55	25	7.7	596	189
Quality Control	NR	40	52	4.87	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	80.0	104	97.4	93.6	NR
Relative Percent Difference	NR	2.0	6.0	5.8	0.8	NR
METHODS:	SM3	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI <sup>-</sup>	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	10/07/04	10/07/04	10/07/04	10/07/04	10/07/04	
l	10/01/01	10,01,01			10/01/04	10/08/04
H9214-1 MW #3	32	51	0	220	7.43	
H9214-1 MW #3 H9214-2 MW #4						10/08/04 423 442
H9214-2 MW #4	32 40	51 58	0	220 231	7.43 7.44	423 442
H9214-2 MW #4  Quality Control	32 40 1050	51 58 50.98	0 0 NR	220 231 976	7.43 7.44 6.98	423 442 NR
H9214-2 MW #4  Quality Control  True Value QC	32 40 1050 1000	51 58 50.98 50.00	0 0 NR NR	220 231 976 1000	7.43 7.44 6.98 7.00	423 442 NR NR
H9214-2 MW #4  Quality Control	32 40 1050	51 58 50.98	0 0 NR	220 231 976	7.43 7.44 6.98	423 442 NR

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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ARDINAL LABORATORIES, INC.

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

(505) 393-2326 Fax (505) 393-2476 (915) 673-7001 Fax (915) 673-7020

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per arrum from the original date of involce, and all costs of collections, including attorney's fees. ANALYSIS REOUEST O No Additional Fax #: PLEASE NOTE: Liability and Danagas, Cardnafs fability and clerk's exclusive homedy for sny chilm smishing whether based in contract or tort, shall be familiar to the clerk for the liability floors for redigence and any other cause what be deemed waked unless made in writing and received by Cardnal within 30 days after competion of the applicable service. In his event shall Cardnal by a label for instights a consequental chinages, including without limitigifion, business inferruptions, loss of uses, or loss of profits incurred by cient, its subsidances, of the above stated reasons or otherwise Phone Result 🗍 Ye Fax Result: REMARKS: TIME SAMPLING JANK! # Qd 10-60 77-624 Zip: DATE BILL TO : A3HTO PRES. Company: ICE / COOF Address: Phone # State: Fax批 :CIDY Attn: CES. SHITO STUDGE Received By: MATRIX TIOS **2** 8884 40 **MASTEWATER BETAWGNUORD** MARC 50 # CONTAINERS G) RAB OR (C)OMP. State: N/Zlp: Project Owner: नीविहर or successors affishig out of or related to the performance of services her Sampler Relinquished: くらん Time: 597-0510 595-4588 5 Allen Sample I.D. MENSANTO 5000 COO MW # 3 507 4554 SOS Son 70% Project Manager: 4 oject Location: FOR LAB USE ONLY Company Name: Project Name: LAB I.D. 4214 Project #: Address: Phone #: Fax#: City: 7

KED BY: (Initials) Sample Condition Cool Intact
Thes Thes グラグでで Date: 6-04 Time: Sampler UPS - Bus - Other: Delivered By: (Circle One)

Received By: (Lab Staff)

Relinquished By:

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

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ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/16/04 Reporting Date: 12/17/04

Project Number: MAC 04 003

Project Name: MONSANTO 30 STATE #4
Project Location: LOVINGTON, NM

Sampling Date: 12/16/04

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	12/17/04	12/17/04	12/17/04	12/17/04	12/17/04	12/17/04
H9412-1 MW #1	268	545	34	11	3618	164
H9412-2 MW #2	31	72	10	3.06	610	155
H9412-3 MW #3	10	67	18	5.04	550	172
H9412-4 MW #4	6	59	28	4.75	580	168
Quality Control	NR	58	54	4.90	1322	NR
True Value QC	NR	50	_50	5.00	1413	NR NR
% Recovery	NR	116	108	98.0	93.6	NR
Relative Percent Difference	NR	3.1	3.8	8.0	0.7	NR
METHODS:	SM3	3500-Ca-D	3500-Mg E	8049	120.1	310.1
•	CI	SO <sub>4</sub>	CO <sub>3</sub>	HCO₃	Hq	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	12/16/04	12/17/04	12/17/04	12/17/04	12/17/04	12/17/04
H9412-1 MW #1	1300	100	0	200	6.72	2738
H9412-2 MW #2	44	72	0	190	6.83	420
H9412-3 MW #3	32	51	0	210	6.87	393
H9412-4 MW #4	40	55	0	205	6.90	408
Quality Control	1000	50.33	NR	961	6.97	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	100	101	NR	96.1	99.6	NR
Relative Percent Difference	3.0	0.2	NR	1.6	0.6	1.4
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

PLEASE NOTE: Llability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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# ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	(343) 5/3-7001 Fax (325) 5/3-7020 (505) 393-2326 Fax (505) 393-2476	505) 393-2476	e.C.	Page of
		BILL TO	ANALYSIS REQUEST	ST
Project Manager:		P.O. #: AME	_	
Address: 703 E.Clinton		Company:		
5	State: NM ZIp: 88240	Attn:		: .
Phone #: 505 - 597 - 0510	Fax#: 505-593-4383	Address:		
Project #: NAC 04-003	Project Owner:	CIP:	5	
AS WATO 3	30 #4	State: Zip:	<u>N</u> -	
٤	MM	**	<b>∀</b>	
Seraio (b	LTREKON	Fax #:		
FOR LAB USE ONLY	MATRIX	PRESERV. SAMPLING		
Lab I.D. Samule I.D.	R (C)OMP.		SLY	
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service. In no event shall Cardinal be liable for incidental or consequental dam affistes or stocessors arising out of or related to the performance of services	service. In no event shall Cardinal be liable for incidental or consequental danages, hickding without limitaton, business themptons, loss of use, or loss of portist incured by client, its subsidiations.  Officials or successors arising out of or related to the performance of services hereunder by Cardinal, regardees of whether such delim is based upon any of the above stated seasons or chanvious.	from the state of the subsidiaries, the state of the state of the subsidiaries of the state of t	30 days past due at the rate of 24% per amurm from the original date of invoice, and all costs of collections, including attomey's fees.	the original date of invoice,
Sampler Kelinquished:	Sampler Relinquished: Date: Received By:		ift: Cl Yes	
	Time:	<u>m</u>  ∞	Fax Result:	
	Date: DEC 04 Received By: (Lab Staff) Time:			
Delivered By: (Circle One)	Sample Condition Temp.\c Intact?	Checked		-
Samplen - UPS - Bus - Other:				

† Cardinal cannot accept verbal changes. Please fax written changes to (325) 673-7020.



ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENATL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 01/18/05
Reporting Date: 01/20/05
Project Number: MAC-04-003

Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 01/18/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DAT	E	01/19/05	01/19/05	01/19/05	01/19/05
H9483-1	MW#`1	<0.002	<0.002	<0.002	<0.006
H9483-2	MW#`2	<0.002	<0.002	<0.002	<0.006
H9483-3	MW#`3	<0.002	<0.002	<0.002	<0.006
H9483-4	MVV#`4	<0.002	<0.002	<0.002	<0.006
Quality Control		0.098	0.091	0.096	0.304
True Value QC		0.100	0.100	0.100	0.300
% Recovery		97.8	91.3	95.8	101.0
Relative Percen	t Difference	2.0	1.2	1.7	1.6

METHOD: EPA SW-846 8260

Date

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ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 01/18/05
Reporting Date: 01/20/05
Project Number: MAC-04-003

Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 01/18/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

H9483-2 MW #2 44 58 20 2.46	m) (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE: 01/19/05 01/19/	, (w.g = 1.0 + 3.2)
H9483-1     MW #1     368     277     38     8.83     2       H9483-2     MW #2     44     58     20     2.46	
H9483-2 MW #2 44 58 20 2.46	9/05 01/19/05
	2203 220
H9483-3 MW #3 38 45 17 4.47	626 204
	572 184
H9483-4 MW #4 35 52 19 4.93	608 184
Quality Control         NR         58         54         4.90         1	1322 NR
True Value QC NR 50 50 5.00 1	413 NR
% Recovery NR 116 108 98.0	93.6 NR
Relative Percent Difference NR 3.1 3.8 0.8	0.7 NR
METHODS: SM3500-Ca-D 3500-Mg E 8049 12	20.1 310.1
CI SO <sub>4</sub> CO <sub>3</sub> HCO <sub>3</sub>	pH TDS
(mg/L) (mg/L) (mg/L) (s	s.u.) (mg/L)
ANALYSIS DATE: 01/19/05 01/19/05 01/19/05 01/19/05 01/19/05 01/19/05	9/05 01/20/05
H9483-1 MW #1 960 85.5 0 268 6	6.24 2052
H9483-2 MW #2 44 58.6 0 249 6	6.38 480
H9483-3 MW #3 32 39.4 0 224 6	6.46 428
H9483-4 MW #4 36 54.4 0 224 6	6.51 424
Quality Control 970 50.33 NR 961 7	7.03 NR
True Value QC 1000 50.00 NR 1000 7	7.00 NR
	103 NR
	0.6 1.4
METHODS: SM4500-CI-B 375.4 310.1 310.1 150	

Chemist

Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service Service Services have shall be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by Circle, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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Company Name:	5E52					ļ										A	ANALYSIS	LYSI		REQUEST	ST				ŀ	Γ
Project Manager:	Bob Alltn							BILL TO		9	# Od								_	L	L	L	L	L	L	Γ
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city: Hobbs	State:(I) M Zip: \$824/	p: A	82	5			Ã	tt:	Z	Attn: Band												<del></del>				
Phone #: 505	Phone #: 505-397-0570						₹	Address:	SS:																	
Fax #:							ပ	City:															_			
Project #: 1/19(-01-003	OFOOS Project Owner: Mack English	r: M	ach	山 し	NOF	1		State:			Zip:								···-							
ject Name: M	Ject Name: MONSanto 44 4				ĺ			Phone #:	#			}	R											<del></del>		
Project Location:	Project Location: Laying tun, Win						ŭ.	Fax#:					TY							,						
FOR LAB USE ONLY					MA	MATRIX		Ë	PRES.	L	SAMPLING			_ _												
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER BATTAMATER	MASTEWATER SOIL	OIL	SLUDGE OTHER:	ACID:	ICE / COOF	: яэнто ≾_	CESS	TIME	SUPTI	77/8/												·.
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7-	MWHY	0	(1)	×					×		-18 6	9,45	Q	Q									-			
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analyses. All claims including th	The control of the co	/e remec yever sha	2√ tor 2≝ 200 2≝ 200 24	ny claim eemed w	artsing v valved ur	whether pless ma	based in tde in w	n contrac nifing and	or tort directive	; shall be	ed in contract or tort, shall be limited to the amount paid by the client for the in writing and received by Cardinal within 30 days after normals in a fitter and install	nount paid by	the client f.	for the	1		Ten	rms and (	Condition	Terms and Conditions: Interest will be charged on all accounts more than	will be cha	arged on a	accounts	more than		1
service. In no event shall Carding	service. In no event shall Cardnal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by citer, its subsidiaries,	ages, inc	luding \	without fis	mitation	, busine	ss intern	uptions,	loss of t	ise, or for	ss of profits incu	ured by clien.	its subsid	ure applic. faries.	ane		g t	sed skeo	t one at th	30 days past due at the rate of 24% per annum from the original date of invoice.	4% per an	num from t	he original	date of invo	ojce,	

☐ No Additional Fax#: ☐ No Phone Result | Yes | Fax Result: | Yes | REMARKS: CHECKED BY: (Initials) Date; // S/CE Received By: (Lab Staff) 50-8/2 7), 1, 4 6 Sampler -)UPS - Bus - Other: Dejixered Bv: (Circle One) Sampler Relinquished: Relinquished By:

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

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ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 03/04/05 Reporting Date: 03/08/05 Project Number: MAC 04 003

Project Name: MONSANTO 30 STATE #4
Project Location: LEA COUNTY, NM

Sampling Date: 03/04/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: AH

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	03/07/05	03/07/05	03/07/05	03/07/05	03/07/05	03/07/05
H9608-1 MW #1	181	191	20	4.62	2618	180
H9608-2 MW #2	47	57	16	2.03	610	200
H9608-3 MW #3	54	49	10	3.37	550	196
H9608-4 MW #4	29	53	17	4.22	580	184
Quality:Control	NR	58	54	4.90	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	116	108	98.0	93.6	NR
Relative Percent Difference	NR	3.1	3.8	0.8	0.7	NR
METHODS:	SM3	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI	SO <sub>4</sub>	CO3	HCO <sub>3</sub>	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	03/07/05	03/07/05	03/07/05	03/07/05	03/07/05	03/08/05
H9608-1 MW #1	516	49	0	220	6.55	1393
H9608-2 MW #2	44	49	0	244	6.7	451
H9608-3 MW #3	36	37	0	239	6.81	465
H9608-4 MW #4	36	35	0	224	6.83	398
Quality Control	950	50.33	NR	961	7.09	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	95.0	101	NR	96.1	101	NR
Relative Percent Difference	0	0.2	NR	1.6	0.3	1.4
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Chemist J

3 8 05 Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable services ADV whether shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

### ARDINAL LABORATORIES INC

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	101 Fast Mariand
ことにいることものともことにいっていること	2111 Beechwood, Abliene, TX 79603

	915)	'020 (505) 393-2328 Fax (505) 393-2476	15) 393-2476			Page
Company Name:	SAFETY & ENVIRONMENTAL	Š	BILLTO		ANAI VSIS DE	
Project Manager:	BB Mich	1	P.O. #:			1000
Address: 703	اذعا		Company SAME		,	
CIty: HOBBS	State: NM	Zip: 88240				
Phone #: (505)	5) 39.7-0510 Fax#: (505	39	Address:		***********	······
Project#: 1714C-	17746 - 0 4 - 60 3 Project Owner:	MIKU GNERUN	City:			
Project Name: //	MANGERT 20 STATE AY		State: Zin:			
Project Location:	ry h					
Sampler Name:	Lines Con		Fax#:			
FOR LAB USE ONLY		MATRIX	ESFRV	ON MAN	·	`
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Lab I.D.	Sample I.D.	S OR (C) S OR (C) S OR (C) S OR (C)	OOF V2E:	1/16	)1!0/J	
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effactor, 1970 over stall Cardinal be la effactor of successors arising out of or	service. His every shall Cardwill be jable for indential or consequental dampes, including without finishing, business teamptions, loss of last, or loss of profits from the Price or unconsequential for the performance of services besunded by checking reproduce when the consequence of the share stated reasons or otherwise.	for, between interruptions, loss of last, or loss of profits incurad by client, he absidesries, offers of whether such claims is bessel upon any of its above stated reasons on otherwise,	ured by clert, is arbidaries, e stated reasons or otherwise,	and all	or ways pass whe at the rate of crys, per annum was and all costs of collections, including attorney's hee.	orn worn the original card /s hee.
Dausinbullar jartimec	Date	Received By:	-	Ę		
france la	Time: 450	·		Fax Result: [	□ Yes □ No □	
Relinquished By:	Date:	Received By: (Lab Staff)	•	<del></del>		

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

Checked By: (Initials)

Received By: (Lab Staff)

Time:

Sample Condition
Temp, C infact B † Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.





ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240

FAX TO: (505) 393-4388

Receiving Date: 04/19/05

Reporting Date: 04/21/05 Project Number: MAC04003

Project Name: MONSANTO 30 STATE #4

Project Location: LOVINGTON, NM

Sampling Date: 04/19/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: NF

Analyzed By: AH

	Na	Ca	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(uS/cm)	(mgCaCO <sub>3</sub> /L)

ANALYSIS DATE:	04/20	/05	04/20/05	04/20/05	04/20/05	04/20/05	04/20/05
H9729-1 MW	¥1 2	254	226	111	8.75	3612	184
H9729-2 MW	<b>#</b> 2	29	45	25	2.66	694	180
H9729-3 MW	¥3	41	42	18	3.90	623	188
H9729-4 MW	<del>†</del> 4	20	42	29	4.32	664	172
Quality Control		NR	58	54	4.90	1322	NR
True Value QC		NR	50	50	5.00	1413	NR
% Recovery		NR	116	108	98.0	93.6	NR
Relative Percent Diffe	rence	NR	3.1	3.8	0.8	0.7	NR
METHODS:		SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1

CI <sup>-</sup>	SO <sub>4</sub>	$CO_3$	HCO <sub>3</sub>	рН	TDS
(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)

ANALYSIS DATE:	04/20/05	04/20/05	04/20/05	04/20/05	04/20/05	04/21/05
H9729-1 MW #1	940	75	0	224	5.81	2111
H9729-2 MW #2	40	44	0	220	5.97	412
H9729-3 MW #3	26	47	0	229	6.05	404
H9729-4 MW #4	40	44	0	210	6.04	388
Quality Control	998	50.33	NR	961	6.99	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	99.8	101	NR	96.1	99.9	NR
Relative Percent Difference	0.2	0.2	NR	1.6	2.9	1.4
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for anadyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. H9729 t shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its substitiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

R ARDINAL LABORATORIES, INC.

AN MANUAL SAMPLES AND STATE ST		(313) 673-7001 Fax (313) 673-7020 (505) 393-2326 Fax (505) 393-2476	t (505) 393-2476	Pa	Page of
Ses: 703 C () Lev. Company:  Ses: 703 C () Lev. Company:  Set SCS Strosto Fare # No. SCS-4388 Address:  Strong No. Scyclo O Strote # 4 State:  Strong No. Scyclo O Strote # 4 State:  Sample LD. Sample LD. Reference	Company Name:			ANALYSIS REQU	EST
140565 States/NM ZIP. SQC 4C Attr.  14 MAC CHOOS Project Counce: NNK 2 State: Zip:  14 MAC CHOOS Project Counce: NNK 2 State: Zip:  14 MARINE: Market Counce: NNK 2 State: Zip:  15 MAC CHOOS Project Counce: NNK 2 State: Zip:  16 Name: Market Counce: NNK 2 State: Zip:  16 Name: Market Counce: NNK 2 State: Zip:  16 Name: Scate Counce: NNK 2 State: Zip:  16 Name: Scate Counce: NNK 2 State: Zip:  17 MARINE: Market Counce: NNK 2 State: Zip:  18 Sample I.D. OK COUNCE: State: Zip:  19 NAW 11	Project Manage				
14 Cholos States NM Zip: 362 40 Attn:  14 MAC CHOOS Project Owner. MAKE CHO.  14 Mame: Mons Aurto 30 Stripe for fitting the fitting of the fi	Address:	() () () () () () () () () () () () () (	ĺ		
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	ļ	4333	Address:	5	
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7-7-7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Project Name:	30 State #4		717	
	Project Location	VN €P	Phone #:	1/7	
	pler Name:	Speke ( Cantageri	Fax #:		
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	enelyses. All claims includi	40 those for negigence and any other cause whethoewer shall be deemed waived arioss made in writing and roos	aired by Cardinal within 30 days after completion of the applicable		A WE DO OTHER OF OR DESCRIPE THE STREET AND SHAPES

☐ No Add'l Phone i Samples. No claims including those for neglegence and any other cause whetherower strate be deemed variety and received by Cardinal within 30 days after completen of the applicable strategies of the strategies of services.

Sampler Relinquished:

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Time: CHEČKED BY: (Initials) Sample Condition
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I No I No Received By: (Lab Staff) ン/-(ペーンン Time: Date: Sampler - UPS - Bus - Other: Delivered By: (Ciryle One) Relinquished By:

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.



ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 05/27/05 Reporting Date: 06/01/05

Project Number: MAC-04-003

Project Name: MONSANTO 30 STATE 4
Project Location: LEA COUNTY, NM

Sampling Date: 05/27/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

		Na	Ca	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(uS/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE	E:	05/31/05	05/31/05	05/31/05	05/31/05	05/31/05	05/31/05
H9826-1	MW 1	14	161	98	3.03	913	171
H9826-2	MW 2	11	55	35	1.70	611	190
H9826-3	MW 3	11	42	40	2.77	552	171
H9826-4	MW 4	49	50	12	3.19	582	171
Quality Control	****	NR	48	47	5.59	1322	NR
True Value QC		NR	50	50	5.00	1413	NR
% Recovery		NR	96.0	94.0	112	93.6	NR
Relative Percent	Difference	NR	1.8	2.0	9.0	0.7	NR
METHODS:		SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1
		CI <sup>-</sup>	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE	<u> </u>	05/31/05	05/31/05	05/31/05	05/31/05	05/31/05	06/01/05
H9826-1 I	MW 1	380	70	0	209	6.14	953

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SM4500-CI-B

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0

NR

NR

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Chemist HIII

MW<sub>2</sub>

MW<sub>3</sub>

MW 4

H9826-2

H9826-3

H9826-4

Quality Control

True Value QC

Relative Percent Difference

% Recovery

METHODS:

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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In 2020 this shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiarries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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Z111 Beechwood, Abliene, 1X 79503	(915) 673-7001 Fax (915) 673-7020
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	10 10 10 (010) WHI 1001 010 (010)				
Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	BILL TO		ANALYSIS REQUEST	EST
Project Manager:	BUB MIZEN	P.O.#:			
Address: 703	E.CLINTON, #102	Company: SAME			
clty: HOBBS	State: NM . Zip: 88240	Attn:			
Phone #: (505)	5) 397-0510 Fax#; (505) 393-4388	Address:			
Project#: 7790-	17191 - 84 - 445 Project Owner, MACK ENERGY	Offy:			
Project Name: Me,	MENSANTO 30 STATE 4	State: Zlp:			
Project Location: A	Project Location: Lan County, Non	Phone #:			
Sampler Name:	may leven	Fax #:			
FOR LAB USE ONLY	MATRIX	IX PRESERV. SAMPLING	NG		
Lab I.D.	Sample I.D. в ок (с)оме, иометек	900F 3V8E: 8:	7)v"1-4-66	5,401.M2 5,401.66	
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Sampler Pollnguish	F	Of the above states remain of potential.	Phone Result	D Yes D No	
	5-22-05		Fax Result:	☐ Yes ☐ No	
Jun 6	1445		REMARKS:		
Ralinguished By:	Date: Recalfed By: (Lab Staff)	Staff)			
	Time:	$\times$			
Delivered By: (Circle One)	ircie One) Sample Condition	intact? By:			
Sampler - UPS - Bus - Other:					

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.



ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 06/22/05 Reporting Date: 06/27/05

Project Number: MAC-04-003
Project Name: MONSANTO 30 STATE #4

Project Location: LEA CO, NM

Sampling Date: 06/22/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: GP

Analyzed By: HM

	Na	Са	Mg	К	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(u S/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	06/24/05	06/24/05	06/24/05	06/24/05	06/23/05	06/23/05
H9886-1 MW 1	126	123	20	3.39	1482	182
H9886-2 MW 2	64	54	12	1.67	661	190
H9886-3 MW 3	53	41	12	2.65	595	179
H9886-4 MW 4	43	36	27	2.60	631	182
Quality Control	NR	51	46	14.4	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	102	92.0	99.2	93.6	NR
Relative Percent Difference	NR	12.0	0	0.0	0.7	NR
METHODS:	SMS	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI <sup>-</sup>	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	06/23/05	06/24/05	06/23/05	06/23/05	06/23/05	06/25/05

ANALYSIS DAT	<b>E</b> :	06/23/05	06/24/05	06/23/05	06/23/05	06/23/05	06/25/05
H9886-1	MW 1	288	77	0	223	6.26	1216
H9886-2	MW 2	32	86	0	232	6.36	488
H9886-3	MW 3	24	55	0	218	6.55	408
H9886-4	MW 4	32	68	0	223	6.51	436
Quality Control		1020	50.92	NR	985	7.00	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		102	102	NR	98.5	100	NR
Relative Percen	t Difference	1.0	7.9	NR	0.9	0.4	1.1
METHODS:		SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Chemist

6 0 10 5

Date

ANALYSIS REQUEST

ARDINAL LABORATORIES, INC. 2111 Beechwood, Ahllens, TY 700

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	(915) 673-7001 Fax (915) 673-7020 (605) 383-2326 Fax (605) 393-2476	5) 393-2476
Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	BILL TO
roject Manager:	Lab men	P.O.#;
Address: 70.	3 E.CLINTON, #102	Company: SAME
The HOBBC	01/089 MM	

Zlp:

State: City:

Address:

393-4388

(505)

Fax#;

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Phone #:

city: HOBBS

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Project Owner:

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STATE

Project Name: Menseurs Project#: MAC -04-

Project Location:

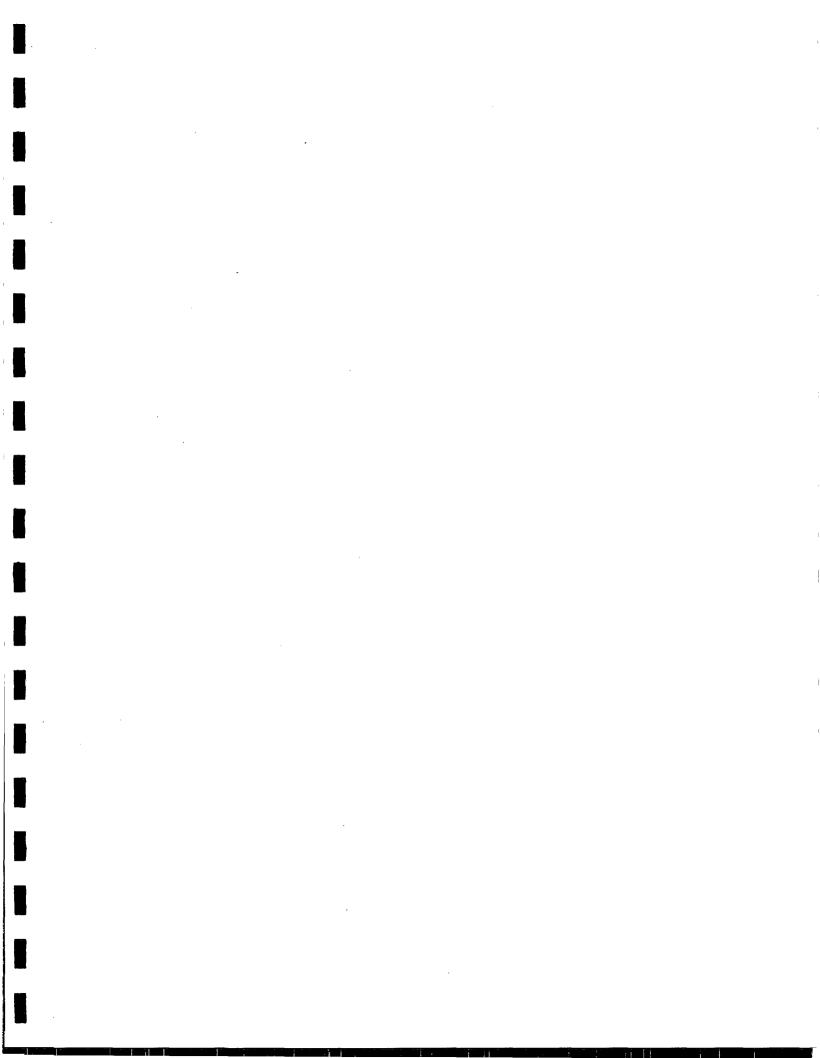
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Phone Result Fax Result REMARKS: By: (Inidats) serice. In the seried that Cardinia be label for indicated or consequents assessed, included the cardinia transfers of white such clarks is based upon say of the above stated Sampler Received By:

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Tomp, Y intact Received By: (LathStaff) Date: | Date: Time: 57 C Sampler - UPS - Bus - Other: Delivered By: (Circle One) WHOW. Relinquished By:

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.





ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 07/22/05 Reporting Date: 07/26/05

Project Number: MAC-04-003

Project Name: MONSANTO 30 STATE #4

Project Location: LEA COUNTY, NM

MW<sub>2</sub>

MW<sub>3</sub>

MW 4

Sampling Date: 07/22/05

Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT

7.46

7.45

7.42

7.04

7.00

101

150.1

2

420

400

433

NR

NR

NR

1.1

160.1

Sample Received By: BC

Analyzed By: AH

		Na	Са	Mg	К	Conductivity	T-Alkalinity
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(uS/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DAT	<b></b>	07/26/05	07/25/05	07/25/05	07/25/05	07/25/05	07/25/05
H9988-1	MW 1	152	162	20	3.10		171
H9988-2	MW 2	39	57	14	2.08	646	175
H9988-3	MW 3	24	53	21	2.14	584	179
H9988-4	MW 4	23	55	27	2.30	612	182
Quality Control		NR	46	54	5.24	1391	NR
True Value QC		NR	50	50	5.00	1413	NR
% Recovery		NR	92.0	108.0	105.0	98.4	NR
Relative Percen	t Difference	NR	1.0	1.6	5.6	4.9	NR
METHODS:		SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1
		CI <sup>—</sup>	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DAT	E:	07/25/05	07/25/05	07/25/05	07/25/05	07/25/05	07/26/05
H9988-1	MW 1	412	68	0	209	7.30	1507

40

32

44

1020

1000

102

7.0

SM4500-CI-B

54

49

54

48.52

50.00

97.0

4.8

375.4

Chemist

H9988-2

H9988-3

H9988-4

Quality Control

True Value QC

Relative Percent Difference

% Recovery

METHODS:

Date

0

0

0

NR

NR

NR

NR

310.1

213

218

223

985

1000

98.5

0.9

310.1

### ARDINALLA

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC.
2111 Beechwood, Abilene, TX 79603 101 East Mariand, Hobbs, NM 88240
10451 57127011 Fav 19151 673-7020 (605) 383-2328 Fax (605) 393-2476

	(915) 673-7001 Fax (915) 673-7020	(605) 383-2328 Fax (605) 393-2476	05) 393-2476		Page 1 of 1
Company Name:	SAFETY & ENVIRONMENTAL	$\Gamma \cap \Gamma$	BILL TO		ANALYSIS REQUEST
Project Manager:	BIB Allen		P.O.#:		
Address: 703	E.CLINTON, #102		Company: SAME		
city: HOBBS	State: NM	Zlp: 88240	Attn:		· · ·
Phone #: (505)	5) 397-0510 Fax#. (505)	393-4388	Address:		
Project#: MHC-	MHC- 04-003 Project Owner: M	MACK EVENES	ctty:		
Project Name: Mex Savra	customo #30 state #4		State: Zlp:		
Project Locations CA	of Court Now		Phone #:		
Sampler Name:	The loses		Fax #:		
FORLABUSEONLY		MATRIX	PRESERV. SAMPLING		
Lab I.D.	Sample I.D.	G)RAB OR (C)OMP.  # CONTAINERS   CEICOOL COIDABASE: COIDABASE: COIDABASE: COIDABASE: COIDABASE:	TWE SNO 1741D	S WO JWA	
1-385 pH	May 1		Z X Z	X 100//	
7 2-00171	MW Z			0930	
-2	MW 3			1089.	
1,6,1	NW Y		7.	1005	
		-			
				,	
PLEASE HOTE: Lathity and Di aminous. At chims including those service. Into event shall Cardinal	PLASE HOTE. Labelty and Damages. Cardinals labelty and client's reduser namedy for any client annual whether based in contract or tort, shall be lambed to the knowing pad by the client analyses. At dains, including those for neglescore and any other cause whethere with the deepend made in withing and received by Certaid with 30 days after completion of the applicable service. Into event that Cardinal be libble for hiddened or consequented damages, houseful without without a family and the property from the product interest by cleent in abuildance.	whether based an contract or tort, shall be made in writing and received by Certifical with the betteruptions, bee of use, or bee of profit	DESCO in CONTRACT OF CONT, Studied by Instituted to the Emmourn pared by The client by the riting and recorded by Contract with 30 days, asher completion of the explicitable options, less of use, or less of profits incurred by client, be subsidiaries.	30 d	Terms and Conditioner, Interest will be charged on all accounts more than 30 days past due at the rate of 24%, per annum from the original date of Invoica, and all costs of collections, including attorneys hea.
Sampler Relinquish	Sampler Relinquished?   Date:   Racelyed By:	Received By:	above littled resident of officewise.	Phone Result	
Railinguished By:	Ting: C. 25.00	Received By: (Lab Staff)		FAX Result: REMARKS;	□ Yes □ No
4 %.	Time:	Burg lord	Mark!	<del></del>	
Delivered By: (Circle One)	ircle One)	AS SECTION			
Sampler - UPS - Bus - Other:	kıs - Other:	I Samp C	No (Initials)		
	شروب بير يبريون بينديرون بالمستدرين بيني والمستحرب والمستحرب والمستحرب والمستحرب والمستحرب والمستحرب				الأنسانين الإبادات التعالية التعالية المساورة ال

<sup>†</sup> Cardinal cannot accept verbal changes, Please fax written changes to (915) 673-7020.

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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 08/18/05 Reporting Date: 08/23/05

Project Number: MAC-04-003 Project Name: MONSANTO 30 STATE #4

Project Location: LEA COUNTY, NM

Sampling Date: 08/18/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: AH

	Na	Ca	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	( <i>u</i> S/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	08/16/05	08/19/05	08/19/05	08/19/05	08/19/05	08/19/05
H10096-1 MW 1	43	143	41	6.66	1578	163
H10096-2 MW 2	11	52	19	2.83	611	182
H10096-3 MW 3	14	52	25	3.57	553	175
H10096-4 MW 4	18	58	27	3.33	580	167
Quality Control	2.001	46	54	5.24	1391	NR
True Value QC	2.000	50	50	5.00	1413	NR
% Recovery	101	92.0	108.0	105.0	98.4	NR
Relative Percent Difference	0.4	1.0	1.6	5.6	4.9	NR
METHODS:	273.1	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI <sup>-</sup>	SO <sub>4</sub>	CO3	HCO <sub>3</sub>	На	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	08/19/05	08/19/05	08/19/05	08/19/05	08/19/05	08/23/05
H10096-1 MW 1	368	77	0	199	7.16	1197
H10096-2 MW 2	40	67	0	223	7.53	421
H10096-3 MW 3	32	56	0	213	7.58	404
H10096-4 MW 4	40	53	0	204	7.56	411
Quality Control	980	48.52	NR	985	7.00	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	98.0	97.0	NR	98.5	100	NR
Relative Percent Difference	1.0	4.8	NR	0.9	0.1	1.1
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In the event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

		101 East Marfand, Hobbs, NM 88240
ADDIMAL LABORATORIES INC.	r	2111 Beechwood, Abllene, TX 79603 101 East Marfand

	(915) 673-7001 Fax (915) 673-7020 (505) 383-2328	(505) 393-2328 Fax (505) 393-2476				Page	δ
Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	8	BILL TO	₹	ANALYSIS	REQUEST	
Project Manager:	BOB ALLEN	P.O.#:					
Address: 70	703 E.CLINTON, #102	Company:	SAME				<del></del>
city: HOBBS	State: NM 21p: 88240	Attn:				<u> </u>	
Phone #: (5)	(505) 397-0510 Fax#. (505) 393-4388	Address:					·
Project #: MM	Project #: MMC-04-003 Project Owner: MACK GNORG,	CHy:					
Project Name: //	16 4U	State:	Zlp:				
Project Location:	Project Location: Lan County, NM	Phone #:				-	
Sampler Name:	Limes (soul	Fax #:					
FOR LAB USE ONLY		MATRIX PRESERV.	SAMPLING				
Lab I.D.	Sample ID.  (G)RAB OR (C)OMP.  * COUTAINERS GROUNDWATER GROUNDWATER	ICE ) COOF VOID/BYZE: OJHEK : PINDGE	TWE TIME	SNOTTAN			
いながん	~	X	2/1/8/1/8/5	X			
7 ,	MW 2.		10938				
~	MW 3		1000				
1	Mr 4	<i>د</i> :	V 1033	ララ			
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service. In no event spall Card	series. Into event gall Cardenia de indental en consequent d'amages, baselig without furbanes interruptors, less of less in the consequent d'amages, baselig without furbanes interruptors, less of less, et poss of professionaries de la consequent d'amages, baselig man de la consequent de la cons	we of profits frouted by client, its aubi	deries,	and all costs of co	and all costs of collections, including attorney's ters.	attorney's tees.	

service. Into event that Cardina he labb for bridgenial or consequental duranges, handing haltened, handing the of use, or has of profits fromted by clerri, he absolute in.

Sampler fellinguished:

Determine.

Determine.

Phone Result Fax Result REMARKS: By: (Initials) Sample Condition

Sample Condition

Temp & Maserr

Temp Nos Received By: (Lab Staff) Tim9:44 Time: Sampler - UPS - Bus - Other: Delivered By: (Circle One) Relinquished By:

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.

	C	Cations an	d Anions	Calculati	ion Check	<b>K</b>		
	Lab. Number	H10096-1	H10096-2	H10096-3	H10096-4			
	Sample ID	MW1	MW2	MW3	MW4			
	Date	08/23/05	08/23/05	08/23/05	08/23/05			
Equivalent								
Weight:	Customer	SESI	SESI	SESI	SESI			
22.99	Sodium (mg/L)	43	11	14	18			
20.04	Calcium (mg/L)	143	52	52	58			
12.15	Magnesium (mg/L)	41	19	25	27			
39.09	Potassium (mg/L)	6.7	2.8	3.6	3.3			
35.45	Chloride (mg/L)	368	40	32	40			
48.04	Sulfate (mg/L)	77	67	56	53			
30.00	Carbonate (mg/L)	0.0	0.0	0.0	0.0			
61.01	Bicarbonate (mg/L)	199	223	213	204			
50.04	Bicarbonate (mg/L)	163	183	175	167	0	o	#NAME
62.00	NITRATE (mg/L)							
	Sum Cations (meq/L)	12.6	4.7	5.4	6.0	0.0	0.0	0.0
	Sum Anions (meq/L)	15.2	6.2	5.6	5.6	0.0	0.0	#NAME
	Percent Difference	9.7	13.5	1.9	-3.5	#DIV/0!	#DIV/0!	#REF!
	Measured TDS (evap., mg/L)	1,197	421	404	411			
	TDS (calc. USGS sum, mg/L)	777	302	287	300	0	0	#NAME?
	TDS (meas.) / TDS (calc. USGS)	1.5	1.4	1.4	1.4	#DIV/0!	#DIV/0!	#NAME?
	TDS (calc. sum, mg/L)	878	415	396	403	0	0	0
	Elect. Conductivity (umhos/cm)	1,578	611	553	580			
	TDS (C*0.7, mg/L)	1,105	428	387	406	0	0	0
	TDS (calc. USGS) / Conductivity	0.49	0.49	0.52	0.52	#DIV/0!	#DIV/0!	#NAME?
T	est Criteria							
	ion Balance:		Anion Sum	Max % diff.				
. Imon Cat	Amininos			0.2meg/L				1
			3.0 - 10.0	± 2				
			10.0 - 800	± 5				
TDS, Meas	sured to Calculated:		1.0 < (measu	ıred TDS/ca	lculated TE	OS) < 1.2		
TDC	lated USGS) to EC Rat		Calculated T	ana/				





ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 09/07/05

Reporting Date: 09/08/05 Project Number: MAC-04-003

Project Name: MONSANTO #30 STATE #4

Project Location: LEA COUNTY, NM

Sampling Date: 09/07/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: HM

		TDS	C
LAB NUMBER	SAMPLE ID	( mg/L )	(mg/L)

ANALYSIS DATE:	09/08/05	09/07/05
H10164-1 MW 1	1140	312
H10164-2 MW 2	392	36
H10164-3 MW 3	327	28
H10164-4 MW 4	385	32
Quality Control	NR	1000
True Value QC	NR	1000
% Recovery	NR	100
Relative Percent Difference	1.4	2.0

METHODS: EPA 600/4-79-02 160.1 4500-Cl'B\*

\*Std. Methods

Chemist

H10164

 $\frac{9/8/05}{\text{Date}}$ 

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for amalyses.

All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by Cient, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

		CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	'SIS REQUEST
- 1	(505) 393-2328 Fax (505) 393-2476		7
LE ALEN	S. HILL TO	ANALYSIS F	Page of P
Address: 703 E. CLINTON, #102	P.O.#:	_	- Coro
}	Company: SAME		
0510 Fax#: (505) 39			
00 3 Project Owner: Mg			
170 #30 ght 4	City:		
11: Ling lant, Now	State: Zlp:		
Sampler Name:	Phone #:		
	Fax#:		
<u> </u>	MATRIX PRESERV. SAMPLING	Ī	
'awc			
Lab I.D. Sample I.D. (6) 第 日本		נייב	
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7 7 7	1-1	1.30 PX	
		1.0	
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andres. At dates bedard mass for neglectors and my other course the same which be deemed which which based in contract or loct sucks. Into event of a foreign to labble for highering we consequent which be deemed when make in without and received by Carl	ther based in contract or fort, that he knined to the amount paid by the client for the in writing and received by Centeral with 30 does not	ferms and Conditioner Islaming	
of the or wecessay sing out of a related to the performent of services brought to Cortical representations between the services the services of services brought to Cortical representations with their break your or to the both thind remove the services to the services of the services to the services the services the services the services to the services t	best of profit joint of profit of the applicable of the profit joint of the profit of the above that of presence or otherwise.	30 days post due at the rate of the presence in the constitution of the constitution of the constitution be defined to the devoted.	Affect no all accounts more litter north from the original date of knoice,
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T Cardinal cannot accept verbal changes, Please fax written channes to fores era mone	17030		
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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240

FAX TO: (505) 393-4388

Receiving Date: 10/12/05 Reporting Date: 10/13/05

Project Number: MAC-04-003

Project Name: MONSANTO 30 STATE #4

Project Location: SE LOVINGTON

Sampling Date: 10/11/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: HM

LAB NUMBER SAMPLE ID	TDS (mg/L)	CI (mg/L)

ANALYSIS DATE:	10/12/05	10/12/05
H10292-1 MW-4	345	40
H10292-2 MW-1	1436	568
Overlik Combrel		070
Quality Control		970
True Value QC		1000
% Recovery		97
Relative Percent Difference		6

METHODS: EPA 600/4-79-02	160.1	4500-Cl <sup>-</sup> B*

\*Std. Methods

Chemist :

Date

H10292

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2111 Beechwood, Abliene, TX 79603 - ARDINAL LABORATORIES, INC.

30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's here. sopple For passible Morion Anolyty Lerms and Conditions: Interest will be charged on all accounts more than 8 P80 ANALYSIS REQUEST TWE SAMPLING BILL TO 8 § whether based in contract or lart, shall be larthed to the amount part by the client by the made is writing and received by Certiesis with 30 days after completion of the applicable SAME KRAN Zip: eterruptions, loss of use, or loss of profits incurred by client, its subsidiaries 101 East Marfand, Hobbs, NM 88240 ; яанто PRESERV. (505) 393-2328 Fax (505) 393-2476 Company: KICE I COOF Checked Address: Phone #: P.O. # State: Fax# VCID/BYSE: Attn: City: : ЯЭНТО Sample Condition Temp, Condition STADGE MATRIX 710 SOLUTIONS 201 393-4388 88240 MASTEWATER **ВЕКОПИВМАТЕР** Zip: 9AA(0) AO 8AA(0) (915) 673-7001 Fax (915) 673-7020 (505)ENVIRONMENTAL [LASE NOTE: Labitry and Danages, Cardinals labitry and Clear's exclusive mately for any clean arbage Project Owner: State: NM 00 see. Al chains including those for regispence and any other counc whitsoever shall be deeme Fax #: #102 6 Sample I.D. ROUPA 39.7-0510 E.CLINTON, 20-40service. In no event shall Carolinal to table for (505)Project#: MADC 703 Project Manager: CIty: HOBBS Project Location; Company Name: H10.393-1 Relinquished By: Sampler Name: Delivered By: Project Name: FOR LAB USE ONLY Lab I.D. Address: Phone #:

Sampler - UPS - Bus - Other:

(Initials)

Intact?

f Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.

, 



### COVER LETTER

October 25, 2005

Bob Allen Safety & Environmental Solutions PO Box 1613 Hobbs, NM 88241 TEL: (505) 397-0510 FAX (505) 393-4388

RE: Mack Energy Monsanto #4, #5

Order No.: 0510113

Dear Bob Allen:

Hall Environmental Analysis Laboratory received 4 samples on 10/12/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager



Date: 25-Oct-05

CLIENT:

Safety & Environmental Solutions

Client Sample ID: State #4 MW-4

Lab Order:

0510113

Collection Date: 10/11/2005 2:05:00 PM

Project:

Mack Energy Monsanto #4, #5

Lab ID:

0510113-01

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	ÐF	Date Analyzed
EPA METHOD 300.0: ANIONS Chloride	35	0.10	mg/L	1	Analyst: <b>MAP</b> 10/13/2005
EPA METHOD 160.1: TDS Total Dissolved Solids	400	50	mg/L	1	Analyst: <b>MAP</b> 10/18/2005

- \* Value exceeds Maximum Contaminant Level
- S Spike Recovery outside accepted recovery limits
- R RPD outside accepted recovery limits
- E Value above quantitation range

**Date:** 25-Oct-05

CLIENT:

Safety & Environmental Solutions

Lab Order:

0510113

Project:

Mack Energy Monsanto #4, #5

Lab ID:

0510113-02

Client Sample ID: State #4 MW-1

Collection Date: 10/11/2005 2:35:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS Chloride	550	2.0	mg/L	20	Analyst: <b>MAP</b> 10/18/2005
EPA METHOD 160.1: TDS Total Dissolved Solids	1400	50	mg/L	1	Analyst: <b>MAP</b> 10/18/2005

B - Analyte detected in the associated Method Blank

<sup>\* -</sup> Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Safety & Environmental Solutions CLIENT:

0510113 Work Order: Mack Energy Monsanto #4, #5

Project:

Method Blank

QC SUMMARY REPORT

Date: 25-Oct-05

Sample ID MBLK	Batch ID: R16964	Test Code: E300	0	Units: mg/L		Analysis Date 10/13/2005	7/13/2005	Prep Date		1
Client ID:		Run ID: LC_	LC_051013A			SeqNo: 41	411254			
Analyte	Result	POL SF	PK value	SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref Val	nit RPD Ref Val	%RPD RPDLimit	nit Qual	<u>=</u>
Chloride	Q	0.1	:		:	:				
Sample ID MBLK	Batch ID: R17006	Test Code: E300	0	Units: mg/L		Analysis Date 10/17/2005	3/17/2005	Prep Date		ı

		1	:					
Chloride	ON.	0.1						
Sample ID MB-8971	Batch ID: <b>8971</b>	Test Code: E160.1	160.1	Units: mg/L		Analysis Date	Analysis Date 10/18/2005	Prep Date 10/17/2005
Client ID:		Run ID: V	WC_051018A			SeqNo:	412508	
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit Higl	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids	QN	50				The same and the s		•

Qual

%RPD RPDLimit

LowLimit HighLimit RPD Ref Val 412687

%REC

SPK value SPK Ref Val

PQL

Result

LC\_051017A

Run ID:

Client ID:

Analyte

5/8

SeqNo:

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Safety & Environmental Solutions

Work Order: 0510113

Mack Energy Monsanto #4, #5

Project:

**Date:** 25-Oct-05

QC SUMMARY REPORT

Sample Duplicate

Sample ID 0510113-01A DUP Batch ID; R16964	Batch ID: R16964	Test Code: E300	: E300	Units: mg/L		Analysis	Analysis Date 10/13/2005	05	Prep Date	te	
Client ID: State #4 MW-4		Run ID:	LC_051013A			SeqNo:	411262				
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	'D Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Chloride	34.95	0.1		0	0	0	0	35.16	0.610	20	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

 $\boldsymbol{B}$  - Analyte detected in the associated Method Blank

6/8

### Sample Receipt Checklist

Client Name SAFETY ENV SOLUTIONS	_			Date and Time	Received:	10/12/2005
Work Order Number 0510113				Received by	AT	
Checklist completed by Signature	Mu		Date	10/	12/05	
Matrix	Carrier name	Grey	hound			
Shipping container/cooler in good condition?		Yes	<b>✓</b>	No 🗆	Not Present	
Custody seals intact on shipping container/coo	ler?	Yes	<b>✓</b>	No 🗌	Not Present	☐ Not Shipped ☐
Custody seals intact on sample bottles?		Yes		No 🗹	N/A	
Chain of custody present?		Yes	<b>✓</b>	No 🗌		
Chain of custody signed when relinquished and	d received?	Yes	$\checkmark$	No 🗌		
Chain of custody agrees with sample labels?		Yes	<b>✓</b>	No 🗆		
Samples in proper container/bottle?		Yes	$\checkmark$	No 🗆		
Sample containers intact?		Yes	<b>~</b>	No 🗆		
Sufficient sample volume for indicated test?		Yes	<b>✓</b>	No 🗌		
All samples received within holding time?		Yes	<b>V</b>	No 🗆		
Water - VOA vials have zero headspace?	No VOA vials subm	itted	<b>✓</b>	Yes	No 🗆	
Water - pH acceptable upon receipt?		Yes	V	No 🗆	N/A	
Container/Temp Blank temperature?			1°	4° C ± 2 Accepta If given sufficient		
COMMENTS:				-		
1						
Client contacted	Date contacted:			Perso	on contacted	
Contacted by:	Regarding					
Comments:						
1						
Corrective Action						

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com ANALYSIS FIEUDIST  ANALYSIS FIEUDIST  ANALYSIS FIEUDIST  ANALYSIS FIEUDIST	EDC (Method 50 EDC (Method 80 8310 (PNA or PA Anions (F, Cl, NO <sub>3</sub> 8081 Pesticides A 8270 (Semi-VOA) 7 S C	XXX	XXX	XXX	XXX			67	as/Asiens
Std O Level 4 O  MACK Enters of  MACK En	er/Volume HgCl <sub>2</sub> HNO <sub>3</sub> $\mathcal{I}_{Ce}$ HEAL No.		1500 X -2	(502) X -3	5-20 J			Received By: (Signature) 1043/5 Remarks: Hold	Signatured
OF-CUSTODY RECORD  S. E. Chalen 4/87  Box 16 13  665, MM 88341	Date Time Matrix Sample I.D. No.	1405 H2 MW2-4	H20 STATE-1 3	19/11 1605 H30 SALLES 4 31	15 1-000 State#31 31			Date: Time: Relinquished By: (Signature)  Odd Relinquished By: (Signature)	



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 11/11/05

Reporting Date: 11/17/05 Project Number: MAC-04-003

Project Name: MONSANTO 30 STATE #4

Project Location: LEA COUNTY, NM

Sampling Date: 11/11/05

Sample Type: GROUNDWATER

Sample Condition: COOL AND INTACT

Sample Received By: BC Analyzed By: AH/HM

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	11/15/05	11/16/05	11/16/05	11/18/05	11/15/05	11/16/05
H10402-1 MW 1	143	35	18	3.44	1148	260
H10402-2 MW 4	33	30	22	3.01	559	180
Quality Control	0.206	57	46	3.20	1424	NR
True Value QC	0.200	50	50	3.00	1413	NR
% Recovery	103	113	91.4	107	101	NR
Relative Percent Difference	5.1	8.0	4.0	8.7	2.3	NR
METHODS:	273.1	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI <sup>-</sup>	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	11/16/05	11/18/05	11/16/05	11/16/05	11/15/05	11/16/05
H10402-1 MW 1	152	80	0	317	7.51	709
H10402-2 MW 4	32	35	0	220	7.59	360
Quality Control	1000	30.04	NR	940	6.98	NR
True Value QC	1000	30.00	NR	1000	7.00	NR
% Recovery	100	100	NR	94.0	99.7	NR
Relative Percent Difference	5.0	0.8	NR	10.9	0.0	1.1
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. He was expected to the contract of the applicable service. The was expected to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

# ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 78603 101 East Mariand, Hobbs, NM 88240 (915) 673-7001 Fax (815) 673-7020 (605) 393-2328 Fax (605) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: SAFETY	TTY & ENVIRONMENTAL SOL	UTIONS.	OL THE		ANALYSIS	rsis request	JEST
Project Manager Silk	HUEN		P.O.*				
Address: 703 E.CL	E.CLINTON, #102	•	Company: SAME			· ·	
city: HOBBS	State: NM Zlp:	88240	Attn:			<del></del>	
Phone ★. (505) 39.7	97-0510 Fax#: (505) 3	3-4388	Address:				
Project#: MAPC- 64-0	Project 0	( THERE Y	Clly:				
Project Name: Mercant	to 30 some Ay		State: Zlp:				
Project Location: Kry	lowshy Mm		Phone #:			- 	
Sampler Name: Affine	" (Even		Fax#:	-			
FOR USB USE ONLY		MATRIX	PRESERV. SAMPLING				
Lab I.D.	Sample I.D.	CONTAINERS SCOUNDWATER SOUNDIL SOIL SILDER	OTHER;	MLLU)	SHOWN P		
M16462-1 MW	( 6	3 1	0	OX DEVI	12		
July	2	- 2	11-11	0855	2	-	
					-		
							-
-				,			
PLEAR WHIE LEADING and DEFINESS. CONT embras. N duine that de florid for reflects sector. Into ever that Confiding to table for he effects or successor, which old of or catalod in	PLLAR NOTE, LODGY and Damages, Cardinal substry and cheefs waters homego be an entract of loct, build be kinted to the amount paid by the chemical builds and Damages, Cardinal substraints and an entraction of the respective of the superior of the explaint and the chemical processes and completely that the complete of the explaints and the chemical second-substraint second-substraints and the chemical second-substraints and the chemical second-substraints and the chemical second-substraints. Only the chemical second-substraints are consequently substraints.	Fossed in contract of fort, shift by knifted to the amouity goad by it makes and received by Cardinal width 30 days latter compelsor of the symptoms. I have all two, it was all twoth plants of the symptoms	based an contract of lord, that be beined to the amount paid by the client for the three and received by Contract within 90 days either completion of the explicitly propose, here of they, are all proble protection that he beddering, and they discuss the beddering, and the form of the house		Names and Conditioned influences will be charged on 80 days past due at the rate of 24% per annium from and all costs of balketione, including attornisy's best	nlerest wil be charg ate of 24% per ann a, including attorney	Terms and Dondsione, followed will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of horiza, and at easis of bakerlow, including attentials hea.
Sampler Rellinguished:	Sampler Relleguished:   Date;   Received By:	elved By:		Phone Result	O Y88 C	1011	
Mina and	Times			Fax Regult Remarks:		D 76	
Rollnquished By:	Date III	Received By: (Lab Staff)	1001		,		
Dolivered Bir ( ma	My Collins	Mary Cold	1/20/		٠		
Denveted by, Tollore Of		Temp, C Intac	Ę				
Sampler-UPS - Bus - Other:	ther		Yes (initials) No				

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.

			d Anions			·		
	Sample Name		H10401-2	·	<del></del>	Sample 5	Sample 6	Sample
	Well Number	MW 1	MW 4	MW1	MW2			
	Date	11/18/05	11/18/05	11/18/05	11/18/05			
Equivalent					1	,		
, Weight:	Lab	Cardinal	Cardinal	Cardinal				
22.99	Sodium (mg/L)	284	28	143	33			
20.04	Calcium (mg/L)	44	35	35	30			
12.15	Magnesium (mg/L)	40	27	18	22			
39.09	Potassium (mg/L)	7.9	3.0	3.4	3.0			
35.45	Chloride (mg/L)	616	32	152	32			
48.04	Sulfate (mg/L)	58	52	80	35			
30.00	Carbonate (mg/L)	0.0	0.0	0.0	0.0			
61.01	Bicarbonate (mg/L)	215	215	317	220			- <del></del>
50.04	Alkalinity (mg/L CaCO3)	176	176	260	180	0	0	0
62.00	Nitrate (mg/L)	0.0	0.0					
	Sum Cations (meq/L)	18.0	5.3	9.5	4.8	0.0	0.0	0.0
	Sum Anions (meq/L)	22.1	5.5	11.1	5.2	0.0	0.0	0.0
	Percent Difference	10.1	2.2	7.8	4.1	#DIV/0!	#DIV/0!	#DIV/0!
	Measured TDS (evap., mg/L)	1,480	365	709	360			
	TDS (calc. USGS sum,	1,100	303	707	300			
}	mg/L)	1,155	283	587	263	0	0	0
	TDS (meas.) / TDS (calc.			-	1	1	-	
	USGS)	1.3	1.3	1.2	1.4	#DIV/0!	#DIV/0!	#DIV/0!
	TDS (calc. sum, mg/L)	1,265	392	748	375	0	0	0
	Elect. Conductivity -							
	(umhos/cm)	2,380	554	1,148	559		-	
	TDS (C*0.7, mg/L)	1,666	388	804	391	0	0	0
	TDS (calc. USGS) / Conductivity	0.49	0.51	0.51	0.47	#DIV/0!	#DIV/0!	#DIV/0!
<u>T</u>	est Criteria							
			I .	Max %				
Anion-Cati	ion Balance:		Sum	diff.				
			0 - 3.0	± 0.2				
			3.0 - 10.0	±2				
	:		0.0 - 800	± 5				
ΓDS, Meas	ured to Calculated:	1.	0 < (measur	ed TDS/cal	culated TD:	S) < 1.2		
TDS (calcu	lated USGS) to EC Ratio	):  C	alculated TI	S/conducti	vity = 0.55	- 0.7		

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### **COVER LETTER**

November 28, 2005

Dave Boyer Safety & Environmental Solutions PO Box 1613 Hobbs, NM 88241 TEL: (505) 390-7067

RE: MAC Monsanto #4

FAX (505) 393-4388

Order No.: 0511183

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 2 samples on 11/17/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager



Date: 28-Nov-05

CLIENT:

Safety & Environmental Solutions

Lab Order:

0511183

Project:

MAC Monsanto #4

Lab ID:

0511183-01

Client Sample ID: MW-4

Collection Date: 11/11/2005 8:55:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	1.1	0.10		mg/L	1	11/17/2005
Chloride	28	0.10		mg/L	1	11/17/2005
Bromide	ND	0.50		mg/L	1	11/17/2005
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	11/17/2005
Sulfate	64	0.50		mg/L	1	11/17/2005
Nitrate (As N)+Nitrite (As N)	1.8	0.50		mg/L	5	11/17/2005
EPA METHOD 310.1: ALKALINITY						Analyst: MAP
Alkalinity, Total (As CaCO3)	190	2.0		mg/L CaCO3	1	11/21/2005
Carbonate	ND	2.0		mg/L CaCO3	1	11/21/2005
Bicarbonate	190	2.0		mg/L CaCO3	1	11/21/2005
EPA 120.1: SPECIFIC CONDUCTANCI	Ξ.					Analyst: CMC
Specific Conductance	590	0.010		µmhos/cm	1	11/17/2005
EPA METHOD 6010B: DISSOLVED ME	ETALS					Analyst: NMO
Calcium	74	1.0		mg/L	1	11/23/2005 2:53:11 PM
Magnesium	15	1.0		mg/L	1	11/23/2005 1:34:16 PM
Potassium	2.8	1.0		mg/L	1	11/23/2005 1:34:16 PM
Sodium	32	1.0		mg/L	1	11/23/2005 1:34:16 PM
EPA METHOD 150.1: PH						Analyst: MAP
pH	8.08	0.010		pH units	1	11/21/2005
EPA METHOD 160.1: TDS						Analyst: TES
Total Dissolved Solids	340	50		mg/L	1	11/21/2005

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

\* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Page 1 of 2

Date: 28-Nov-05

CLIENT:

Safety & Environmental Solutions

Lab Order:

0511183

The second control of the second control of

Project:

MAC Monsanto #4

Lab ID:

0511183-02

Client Sample ID: MW-1

Collection Date: 11/11/2005 11:30:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	1.9	0.10		mg/L	1	11/17/2005
Chloride	140	0.50		mg/L	5	11/18/2005
Bromide	ND	0.50		mg/L	1	11/17/2005
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	11/17/2005
Sulfate	100	2.5		mg/L	5	11/18/2005
Nitrate (As N)+Nitrite (As N)	1.7	0.50		mg/L	5	11/17/2005
EPA METHOD 310.1: ALKALINITY						Analyst: MAP
Alkalinity, Total (As CaCO3)	290	2.0		mg/L CaCO3	1	11/21/2005
Carbonate	ND ND	2.0		mg/L CaCO3	1	11/21/2005
Bicarbonate	290	2.0		mg/L CaCO3	1	11/21/2005
EPA 120.1: SPECIFIC CONDUCTANC	E					Analyst: CMC
Specific Conductance	1200	0.010		µmhos/cm	1	11/17/2005
EPA METHOD 6010B: DISSOLVED MI	ETALS					Analyst: NMO
Calcium	91	5.0		mg/L	5	11/23/2005 2:16:01 PM
Magnesium	17	1.0		mg/L	1	11/23/2005 1:50:09 PM
Potassium	3.3	1.0		mg/L	1	11/23/2005 1:50:09 PM
Sodium	140	5.0		mg/L	5	11/23/2005 2:16:01 PM
EPA METHOD 150.1: PH						Analyst: MAP
рН	7.90	0.010		pH units	1	11/21/2005
EPA METHOD 160.1: TDS						Analyst: TES
Total Dissolved Solids	670	50		mg/L	1	11/21/2005

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

<sup>\* -</sup> Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

# CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	AM	MW-4	MW-1	1-1								
HEAL LAB NUMBER	0511183-1	183-1	0511183-2	83-2								
CATIONS	mg/L	meq/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	meq/L
Sodium	32	1.39	140	60.9					<u>.</u>			
Potassium	2.8	0.07	3.3	0.08								
Calcium	74	3.69	91	4.54								
Magnesium	15	1.23	17	1.40								•
Total Cations		6.39		12.11								
ANIONS	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	meg/L
Sulfate	64	1.33	100	2.08								
Chloride	28	0.79	140	3.95						1.		•
Bicarbonate (CaCO3)	190	3.80	290	5.80								
Carbonate (CaCO3)	9	*	2	*								
Phosphate (P)	Q	*	2	*								
Nitrite (N)	9	*	Q.	*								
Nitrate (N)	1.8	0.13	1.7	0.12								
Fluoride	<del>-</del>	90.0	1.9	0.10								
Bromide	Q	*	QN	*								
Total Anions		6.11		12.05								
Elect. Cond. (μMhos/cm)	290		1200									
CATION/ANION RATIO		1.05		1.01								
% Difference		2		0								
TOTAL DISSOLVED SOLIDS RATIOS	RATIOS											
TDS (measured)	340		029									
TDS (calculated)	339		675									
Ratio meas TDS:calc TDS		1.0		1.0								
Ratio Meas. TDS:EC		0.58		0.56				-				
Ratio Calc. TDS:EC		0.57		0.56								
Ratio of anion sum:EC		1.0		1.0	,						į	
Ratio of cation sum:EC		1.1		1.0								

Analyte not detected (below method detection limit).

### GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC --

Ratio of cation sum:EC -- 0.9-1.1

<sup>\*\*</sup> Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

Safety & Environmental Solutions 0511183 CLIENT:

Work Order:

MAC Monsanto #4 Project:

**Date:** 28-Nov-05

## QC SUMMARY REPORT

Method Blank

Sample ID MBLK	Batch ID: R17348	Test Code:	le: E300	Units: mg/L	Analysis D	Analysis Date 11/17/2005	Prep Date	
Client ID:		Run ID:	LC_051117A		SeqNo:	423732		
Analyte	Result	Pal	SPK value	SPK Ref Val %REC		LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	QN	0.1	:		1			
Chloride	QN	0.1						
Nitrogen, Nitrite (As N)	QN	0.1						
Bromide	ΩN	0.5						
Nitrogen, Nitrate (As N)	QN	0.1						
Phosphorus, Orthophosphate (As P)	ate (As P) ND	0.5						
Sulfate	QN	0.5						
Sample ID MBLK	Batch ID: R17358	Test Code: E300	E300	Units: mg/L	Analysis D	Analysis Date 11/18/2005	Prep Date	
Client ID:		Run ID:	LC_051118A		SeqNo:	423979		
Analyte	Result	PQL	SPK value	SPK Ref Val %REC		LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	ΩN	0.1						
Chloride	QN	0.1						
Nitrogen, Nitrite (As N)	ΩN	0.1						
Bromide	ΩN	0.5						
Nitrogen, Nitrate (As N)	ΩN	0.1						
Phosphorus, Orthophosphate (As P)	late (As P)	0.5						
Sulfate	QV	0.5						
Sample ID MBLK	Batch ID: R17379	Test Code: E310.1	E310.1	Units: mg/L CaCO3	Analysis D	Analysis Date 11/21/2005	Prep Date	
Client ID:		Run ID:	WC_051121C		SeqNo:	424678		
Analyte	Result	Pal	SPK value	SPK Ref Val %REC		LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Alkalinity, Total (As CaCO3)	3) ND	2						
Carbonate	QN	2						
Bicarbonate	QN	7						
Qualifiers: ND-N	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	recovery limits	B - Analyte detected	B - Analyte detected in the associated Method Blank	Blank
J - An	J - Analyte detected below quantitation limits	mits	R - RP	R - RPD outside accepted recovery limits	imits			I

Work Order: 0511183

Project: MAC Monsanto #4

Safety & Environmental Solutions

CLIENT:

Sample ID MB	Batch ID: R17417	Test Code:	Code: SW6010A	Units: mg/L		Analysis Date 11/23/2005 12:21:06 P	1:06 P	Prep Date		
Client ID:		Run ID:	ICP_051123C			SeqNo: <b>425570</b>		-		
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref Val	<u>77</u>	%RPD F	%RPD RPDLimit	Qual
Calcium	QN	. —	ŧ							
Magnesium	QN	₹-								
Potassium	QN	<b>t</b>								
Sodium	QN	-								
Sample ID MB-9221 Client ID:	Batch ID: 9221	Test Code: Run ID:	Sode: <b>E160.1</b> D: WC_051118D	Units: mg/L	: : :	Analysis Date 11/21/2005 SeqNo: 424453		Prep Date	Prep Date 11/18/2005	ϋ

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

ND - Not Detected at the Reporting Limit

Qualifiers:

 $\boldsymbol{B}$  - Analyte detected in the associated Method Blank

5/10

Total Dissolved Solids

Analyte

Qual

%RPD RPDLimit

LowLimit HighLimit RPD Ref Val

%REC

SPK value SPK Ref Val

Pal 50

Result

Safety & Environmental Solutions 0511183 CLIENT:

Work Order:

MAC Monsanto #4

Project:

**Date:** 28-Nov-05

### QC SUMMARY REPORT

Sample Duplicate

Sample ID 0511183-02A DUP Batch ID: 9221	Batch ID: <b>9221</b>	Test Code: <b>E160.1</b>	E160.1	Units: mg/L		Analysis	Analysis Date 11/21/2005	Prep D	Prep Date 11/18/2005	2
Client ID: MW-1		Run ID:	Run ID: WC_051118D			SeqNo:	SeqNo: 424475			
Analyte	Result	Pal	SPK	SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val		%RPD RPDLimit Qual	Qual
Total Dissolved Solids	989	90		0 0	0 0	0	0 672	2.06	20	

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Safety & Environmental Solutions 0511183 CLIENT:

Work Order:

MAC Monsanto #4 Project:

**Date:** 28-Nov-05

### QC SUMMARY REPORT

Sample Matrix Spike

Sample ID 0511183-02A MS	Batch ID: 9221	Test Code: E160.1	E160.1	Units: mg/L		Analysis	Analysis Date 11/21/2005		Prep D	Prep Date 11/18/2005	05
Client ID: MW-1		Run ID:	WC_051118D			SeqNo:	SeqNo: 424476				
Analyte	Result	Pol	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	Val	%RPD	%RPD RPDLimit Qual	Qual
Total Dissolved Solids	1711	20	1000	672	104	80	120	. 0			

7/10

ND - Not Detected at the Reporting Limit

Qualifiers:

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Safety & Environmental Solutions CLIENT:

0511183 Work Order: MAC Monsanto #4

Project:

### **QC SUMMARY REPORT**

Laboratory Control Spike - generic

Sample ID LCS-ST300-05023	Batch ID: R17348	Test Code: E300	E300	Units: mg/L		Analysis	Analysis Date 11/17/2005	2005	Prep Date	
Client ID:		Run ID:	LC_051117A			SeqNo:	423733			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	0.4649	0.1	0.5	0	93.0	06	110	0		
Chloride	4.848	0.1	S	0	0.76	06	110	0		
Nitrogen, Nitrite (As N)	0.975	0.1	<b>+</b> -	0	97.5	06	110	0		
Bromide	2.565	0.5	2.5	0	103	90	110	0		
Nitrogen, Nitrate (As N)	2.494	0.1	2.5	0	8.66	06	110	0		
Phosphorus, Orthophosphate (As P)	P) 4.968	0.5	ß	0	99.4	90	110	0		
Sulfate	10.04	0.5	10	0	100	06	110	0		
Sample ID LCS	Batch ID: R17358	Test Code: E300	E300	Units: mg/L		Analysis	Analysis Date 11/18/2005	2005	Prep Date	
Client ID:		Run ID:	LC_051118A			SeqNo:	423983			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	0.5001	0.1	0.5	0	100	06	110			
Chloride	4.925	0.1	5	0	98.5	06	110	0		
Nitrogen, Nitrite (As N)	0.9703	0.1	-	0	97.0	06	110	0		
Bromide	2.651	0.5	2.5	0	106	06	110	0		
Nitrogen, Nitrate (As N)	2.568	0.1	2.5	0	103	90	110	0		
Phosphorus, Orthophosphate (As P)	P) 5.178	0.5	5	0	104	06	110	0		
Sulfate	10.29	0.5	10	0	103	06	110	0		

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Qualifiers:

### QC SUMMARY REPORT

Laboratory Control Spike - generic

MAC Monsanto #4 0511183 Work Order: Project:

Safety & Environmental Solutions

CLIENT:

Sample ID LCS	Batch ID: R17417	Test Code:	Test Code: SW6010A	Units: mg/L		Analysis	5 Date 11/23	Analysis Date 11/23/2005 12:24:06 P	Prep Date	ate	
Client ID:		Run ID:	ICP_051123C	<b>(</b> )		SeqNo:	425571	5			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	52.66		50.5		104	80	120	0			
Magnesium	53.18	_	50.5	0	105	80	120	0			
Potassium	56.31	-	55	0	102	80	120	0			
Sodium	56.84	τ-	50.5	0	113	80	120	0			
Sample ID LCSD	Batch ID: R17417	Test Code:	Test Code: SW6010A	Units: mg/L		Analysis	5 Date 11/2:	Analysis Date 11/23/2005 12:27:24 P	Prep Date	ate	
Client ID:		Run ID:	ICP_051123C	0		SeqNo:	425572	72			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Quaf
Calcium	53.03		50.5	. 0	105	80	120	52.66	0.690	20	
Magnesium	53.54	_	50.5	0	106	80	120	53.18	0.681	20	
Potassium	56.73	-	55	0	103	80	120	56.31	0.750	20	
Sodium	56.98	~	50.5	0	113	80	120	56.84	0.233	20	
Sample ID LCS-9221	Batch ID: <b>9221</b>	Test Code: <b>E160.1</b>	E160.1	Units: mg/L		Analysis	Analysis Date 11/21/2005	1/2005	Prep Da	Prep Date 11/18/2005	05
Client ID:		Run ID:	WC_051118D	0		SeqNo:	424454	54			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	991	20	1000	. 0	99.1	. 80	120	0			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

S - Spike Recovery outside accepted recovery limits

### Sample Receipt Checklist

Client Name SAFETY ENV SOLUTIONS				Date and Time	Received:		11/	17/2005
Work Order Number 0511183	1 1			Received by	GLS			
Checklist completed by Signature	leppe		// Date	17/05				
Matrix	Carrier name	<u>UPS</u>	<u> </u>					
Shipping container/cooler in good condition?		Yes	<b>✓</b>	No 🗆	Not Present			
Custody seals intact on shipping container/cool	er?	Yes	<b>✓</b>	No 🗀	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗆	N/A	<b>✓</b>		
Chain of custody present?		Yes	$\checkmark$	No 🗆				
Chain of custody signed when relinquished and	received?	Yes	<b>✓</b>	No 🗀				
Chain of custody agrees with sample labels?		Yes	$\checkmark$	No 🗆				
Samples in proper container/bottle?		Yes	$\checkmark$	No 🗆				
Sample containers intact?		Yes	<b>✓</b>	No 🗆				
Sufficient sample volume for indicated test?		Yes	<b>✓</b>	No 🗀				
All samples received within holding time?		Yes	<b>✓</b>	No 🗆				
Water - VOA vials have zero headspace?	No VOA vials subn	nitted	<b>✓</b>	Yes	No 🗌			
Water - pH acceptable upon receipt?		Yes	V	No 🗆	N/A			
Container/Temp Blank temperature?			9°	4° C ± 2 Acceptal.  If given sufficient				
COMMENTS:								
			===					===:
Client contacted	Date contacted:			Perso	on contacted			
Contacted by:	Regarding							
Comments:								
Der Simo		ر ر م	L	fim	0 621		( )	
fer Jino	1/17/05	4	1100	10110	, ,,	<u> </u>	<u> </u>	
$-\omega''$	-111100							
Corrective Action								
Concessive Addion								
		<del></del>			<del> </del>			

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel Role 24E 207E	www.hallenvironmental.com	ANALYSIS REQUEST	Gasoline Onl	480158 (GS) 480158 (GS) 48017) 6408.1) 6408.1) 6408.1) 6408.1) 6408.1) 6408.1) 6408.1) 6408.1	TPH Metho TPH (Metho EDB (Metho EDC (Metho 8310 (PNA PCRA 8 Met	X 1 X	X				Remarks: per Simon callection time on la issolvent
QA / QC Package: Std ☐ Level 4 ☐ Other:	West to Es	Project #: MAC - & 4 - 003	Project Manager:	Sampler: Smen Coscos + + Sample Temperature: 4°C	Preservative HgCl <sub>2</sub> HNO <sub>3</sub> H X X C C S N 1 & S	, X , X	2 X X			( 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD	1	P.O. Roy 1613	Hobbs NM 8834)	Phone #: 505-397-0575 Fex #: 505-393-4388	Sample 1.	11/11 DESTADOMA- 4	1/11 HOOM 2 /			Nate: Time: Relinnushed Rv. (Sendature)	LS / S ON

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### **COVER LETTER**

December 13, 2005

Dave Boyer Safety & Environmental Solutions PO Box 1613 Hobbs, NM 88241

TEL: (505) 390-7067 FAX (505) 393-4388

RE: Monsanto 30 State #4

Order No.: 0511222

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 2 samples on 11/21/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager



Date: 13-Dec-05

CLIENT:

Safety & Environmental Solutions

Lab Order:

0511222

Project:

Monsanto 30 State #4

Lab ID:

0511222-01

Client Sample ID: MW-1

Collection Date: 11/17/2005 9:45:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	2.2	0.10		mg/L	1	12/12/2005
Chloride	140	1.0		mg/L	10	12/12/2005
Bromide	ND	0.50		mg/L	1	12/12/2005
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	12/12/2005
Sulfate	100	5.0		mg/L	10	12/12/2005
Nitrate (As N)+Nitrite (As N)	1.7	0.50		mg/L	5	12/12/2005
EPA METHOD 310.1: ALKALINITY						Analyst: <b>TES</b>
Alkalinity, Total (As CaCO3)	270	2.0		mg/L CaCO3	1	11/23/2005
Carbonate	ND	2.0		mg/L CaCO3	1	11/23/2005
Bicarbonate	270	2.0		mg/L CaCO3	1	11/23/2005
EPA 120.1: SPECIFIC CONDUCTANCI	<b>=</b>					Analyst: TES
Specific Conductance	1200	0.010		µmhos/cm	1	11/30/2005
EPA METHOD 6010B: DISSOLVED ME	TALS					Analyst: NMO
Calcium	73	1.0		mg/L	1	12/2/2005 11:55:34 AM
Magnesium	13	1.0		mg/L	1	12/2/2005 11:55:34 AM
Potassium	2.6	1.0		mg/L	1	12/2/2005 11:55:34 AM
Sodium	140	10		mg/L	10	12/5/2005 11:36:20 AM
EPA METHOD 150.1: PH						Analyst: TES
pH	8.08	0.010		pH units	1	11/23/2005
EPA METHOD 160.1: TDS						Analyst: <b>TES</b>
Total Dissolved Solids	710	50		mg/L	1	11/23/2005

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

\* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Date: 13-Dec-05

CLIENT:

Safety & Environmental Solutions

Lab Order:

0511222

Project:

Monsanto 30 State #4

Lab ID:

0511222-02

Client Sample ID: MW-4

Collection Date: 11/17/2005 9:00:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	1.2	0.10		mg/L	1	12/12/2005
Chloride	28	0.10		mg/L	1	12/12/2005
Bromide	ND	0.50		mg/L	1	12/12/2005
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	12/12/2005
Sulfate	64	0.50		mg/L	1	12/12/2005
Nitrate (As N)+Nitrite (As N)	1.8	0.50		mg/L	5	12/12/2005
EPA METHOD 310.1: ALKALINITY						Analyst: TES
Alkalinity, Total (As CaCO3)	200	2.0		mg/L CaCO3	1	11/23/2005
Carbonate	ND	2.0		mg/L CaCO3	1	11/23/2005
Bicarbonate	200	2.0		mg/L CaCO3	1	11/23/2005
EPA 120.1: SPECIFIC CONDUCTANCE	E					Analyst: TES
Specific Conductance	590	0.010		µmhos/cm	1	11/30/2005
EPA METHOD 6010B: DISSOLVED ME	ETALS					Analyst: NMO
Calcium	65	1.0		mg/L	1	12/2/2005 11:58:46 AM
Magnesium	12	1.0		mg/L	1	12/2/2005 11:58:46 AM
Potassium	2.4	1.0		mg/L	1	12/2/2005 11:58:46 AM
Sodium	27	1.0		mg/L	1	12/2/2005 11:58:46 AM
EPA METHOD 150.1: PH						Analyst: TES
рН	8.04	0.010		pH units	1	11/23/2005
EPA METHOD 160.1: TDS						Analyst: TES
Total Dissolved Solids	380	50		mg/L	1	11/23/2005

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

\* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Page 2 of 2

# CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	F/V//4	7/4	V/V/V4									
	2	 >	2	<u></u>								-
HEAL LAB NUMBER	0511222-1	222-1	0511222-2	222-2								
CATIONS	mg/L	med/L	mg/L	med/L	mg/L	T/bem	mg/L	med/L	mg/L	med/L	mg/L	med/L
Sodium	140	60.9	27	1.17								
Potassium	2.6	0.07	2.4	90.0								
Calcium	73	3.64	69	3.24						•		
Magnesium	13	1.07	12	0.99								
Total Cations		10.87		5.47								
ANIONS	J/bw	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L
Sulfate	100	2.08	64	1								
Chloride	140	3.95	28									
Bicarbonate (CaCO3)	270		200									
Carbonate (CaCO3)	QN N	*	QN							,		
Phosphate (P)	Q.	*	Q.									
Nitrite (N)	g	*	Q.									
Nitrate (N)	1.7	0.12	1.8									
Fluoride	2.2	0.12	1.2	90.0								
Bromide	ND	*	ND									
Total Anions		11.66		6.31								
Elect. Cond. (μMhos/cm)	1200		290									
CATION/ANION RATIO		0.93		0.87								
% Difference		4		7		_						
TOTAL DISSOLVED SOLIDS RATIOS	RATIOS											
TDS (measured)	710		380									
TDS (calculated)	640		328									
Ratio meas TDS:calc TDS		1.1		1.2								
Ratio Meas. TDS:EC		0.59		0.64								
Ratio Calc. TDS:EC		0.53		0.56								
Ratio of anion sum:EC		1.0		1.1								
Ratio of cation sum:EC		0.9		6.0								

Analyte not detected (below method detection limit).

## GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5% Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC --0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

<sup>\*\*</sup> Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

CLIENT: Safety & Environmental Solutions

Work Order: 0511222

Monsanto 30 State #4

Project:

**Date:** 13-Dec-05

: 1

### QC SUMMARY REPORT

Method Blank

Sample ID: MBLK	Batch ID: R17586	Test Code: E300	E300	Units: mg/L	:	Analysis [	Analysis Date: 12/12/2005	Prep Date:	
Client ID:		Run ID:	LC_051212A			SeqNo:	431295		
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Fluoride Chloride Bromide	ON ON ON	0.1							
Phosphorus, Orthophosphate (As P) Sulfate Nitrate (As N)+Nitrite (As N)		0.5 0.5 0.1							
Sample ID: MBLK Client ID:	Batch ID: R17412	Test Code: E310.1 Run ID: WC_05	E310.1 WC_051123C	Units: mg/L CaCO3		Analysis I SeqNo:	Analysis Date: 11/23/2005 SeqNo: 425449	Prep Date:	
Analyte Alkalinity, Total (As CaCO3)	Result 1	PQL 2	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Carbonate Bicarbonate	ON L	2 2							, 7
Sample ID: MB Client ID:	Batch ID: R17494	Test Code: Run ID:	Test Code: SW6010A Run ID: ICP_051202B	Units: mg/L		Analysis SeqNo:	Analysis Date: 12/5/2005 11:04:47 AM SeqNo: 428405	Prep Date:	
Analyte Calcium Magnesium	Result ND ND ND	POL L L	SPK value	SPK value SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Sodium									

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

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CLIENT: Safety & Environmental Solutions

Work Order: 0511222

Project: Monsanto 30 State #4

Method Blank

QC SUMMARY REPORT

Sample ID: MB	Batch ID: R17494	Test Code: SW6010A	ļ	Units: mg/L	Analysis	Analysis Date: 12/2/2005 10:40:23 AM	Prep Date:
Client ID:		Run ID: ICP	ICP_051202B		SeqNo:	428425	
Analyte	Result	PQL SF	SPK value SPK Ref Val		REC LowLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Calcium	QN	٢					
Magnesium	QN	-					
Potassium	ON.	τ-					
Sodium	QN	~					
Sample ID: MB-9250 Client ID:	Batch ID: <b>9250</b>	Test Code: <b>E160.1</b> Run ID: <b>WC_05</b>	1122C	Units: mg/L	Analysis SeqNo:	Analysis Date: 11/23/2005 SeqNo: 425359	Prep Date: 11/22/2005
Analyte	Result	PQLS	SPK value SPK Ref Val		REC LowLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids	ΩN	20			:		

ND - Not Detected at the Reporting Limit

Qualifiers:

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

COVERY TIMES DE AMBRICA DESECTEUR

B - Analyte detected in the associated Method Blank

Safety & Environmental Solutions 0511222 CLIENT:

Work Order:

Monsanto 30 State #4 Project:

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS-ST300-05023	Batch ID: R17586	Test Code: E300	E300	Units: mg/L		Analysis	Analysis Date: 12/12/2005	2005	Prep Date:	
Client ID:		Run ID:	LC_051212A			SeqNo:	431296			
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD RP□	RPDLimit Qual
Fluoride	0.4942	0.1	0.5	0	98.8	06	110	0		
Chloride	4.565	0.1	S	0	91.3	06	110	0		
Bromide	2.447	0.5	2.5	0	97.6	90	110	0		
Phosphorus, Orthophosphate (As P)	4.856 4.856	0.5	S.	0	97.1	06	110	0		
Sulfate	969.6	0.5	10	0	97.0	06	110	0		
Nitrate (As N)+Nitrite (As N)	3.279	0.1	പ	0	93.7	06	110	0		
Sample ID: LCS	Batch ID: R17494	Test Code:	SW6010A	Units: mg/L		Analysis	Date: 12/5/20	Analysis Date: 12/5/2005 11:07:48 AM	Prep Date:	
Client ID:		Run ID:	ICP_051202B			SeqNo:	428406			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD RP[	RPDLimit Qual
Całcium	52.9	₩.	50.5	0	105	80	120	0		
Magnesium	53.2	-	50.5	0	105	80	120	0		
Potassium	56.47	_	55	0	103	80	120	0		
Sodium	56.26	_	50.5	0	11	80	120	0		
Sample ID: LCSD	Batch ID: R17494	Test Code	Test Code: SW6010A	Units: mg/L		Analysis	Date: 12/5/20	Analysis Date: 12/5/2005 11:10:10 AM	Prep Date:	
Client ID:		Run ID:	ICP_051202B	_		SeqNo:	428407			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	Ref Val	%RPD RP[	RPDLimit Qual
Calcium	52.74	_	50.5	0	104	80	120	52.9	0.302	20
Magnesium	53.03	_	50.5	0	105	80	120	53.2	0.318	20
Potassium	55.94	_	52	0	102	80	120	56.47	0.940	20
Sodium	55.92	_	50.5	0	111	80	120	56.26	609.0	20

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

Safety & Environmental Solutions

Monsanto 30 State #4

0511222

CLIENT: Work Order:

Project:

Sample ID: LCS	Batch ID: R17494	Test Code:	Test Code: SW6010A	Units: mg/L		Analysis	Date: 12/2/20	Analysis Date: 12/2/2005 10:51:57 AM	Prep Date:	.i.	
Client ID:		Run ID:	ICP_051202B			SeqNo:	428428				
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	53.86	-	50.5	0	107	80	120	0			
Magnesium	54.15	~	50.5	0	107	80	120	0			
Potassium	57.77	٢	52	0	105	80	120	0			
Sodium	57.22	£	50.5	0	113	80	120	0			
Sample ID: LCSD	Batch ID: R17494	Test Code:	Test Code: SW6010A	Units: mg/L		Analysis	Date: 12/2/20	Analysis Date: 12/2/2005 10:55:03 AM	Prep Date:	.: e:	
Client ID:		Run ID:	ICP_051202B			SeqNo:	428429				
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	54.32	Ψ-	50.5	0	108	80	120	53.86	0.843	20	
Magnesium	54.39	~	50.5	0	108	80	120	54.15	0.444	20	
Potassium	58.14	-	55	0	106	80	120	57.77	0.634	20	
Sodium	57.32	<b>←</b>	50.5	0	113	80	120	57.22	0.167	20	
Sample ID: LCS-9250	Batch ID: <b>9250</b>	Test Code: E160.1	E160.1	Units: mg/L		Analysis	Analysis Date: 11/23/2005	2005	Prep Dat	Prep Date: 11/22/2005	5
Client ID:		Run ID:	WC_051122C			SeqNo:	425360				
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1035	50	1000	0	104	80	120	0			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

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### Sample Receipt Checklist

Client Name SAFETY ENV SOLUTIONS	S .		Date and Time	Received:	11/21	1/2005
Work Order Number 0511222			Received by	AT		
Checklist completed by Signature	le Clim	Oate	1//2//	65		
Matrix	Carrier name	Greyhound				
Shipping container/cooler in good condition	on?	Yes 🔽	No 🗌	Not Present		
Custody seals intact on shipping contained	er/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?		Yes 🗌	No 🗹	N/A		
Chain of custody present?		Yes 🔽	No 🗌			
Chain of custody signed when relinquished	d and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labe	els?	Yes 🗹	No 🗌			
Samples in proper container/bottle?		Yes 🗸	No 🗌			
Sample containers intact?		Yes 🗹	No 🗆			
Sufficient sample volume for indicated tes	it?	Yes 🗹	No 🗆			
All samples received within holding time?		Yes 🔽	No 🗆			
Water - VOA vials have zero headspace?	No VOA vials subn	nitted 🔽	Yes	No 🗀		
Water - pH acceptable upon receipt?		Yes 🗹	No 🗆	N/A		
Container/Temp Blank temperature?		<b>2</b> °	4° C ± 2 Acceptal			
COMMENTS:						
Client contacted	Date contacted:		Perso	on contacted		
Contacted by:	Regarding				-	
Comments:						
					-	
Corrective Action						

<b>/</b> <u> </u>	### BTEX + MTBE + TMB's (8021)  ### Method 8015B (Gas/Diesel)  #### Method 8015B (Gas/Diesel)  #### TPH (Method 8021)  ###################################	
Other: Std □ Level 4 □ Other: Project Name:    Marshire ≥ Strate = 1	Project #:  Project Manager:  Sampler:  Sample Temperature:  Sample Temperature:  Number/Volume  HgCl <sub>2</sub> HNO <sub>3</sub> H, Survey HEAL No.	nature nature
CHAIN-OF-CUSTODY RECORD  Client Specify ( Chineshinger.  Solutions Inc.	Additions.  Additions.  Additions.  Additions.  Additions.  Phone #: (505) 397-05'9  Fax #: (505) 397-05'9  Bate Time Matrix Sample 1.D. No.	My Commercial March Marc



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/20/05
Reporting Date: 12/29/05

Project Number: MAC-04-003

Project Name: MONSANTO 30 STATE #4
Project Location: LEA COUNTY, NM

Sampling Date: 12/20/05

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: HM

	Na	Са	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mS/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	12/27/05	12/26/05	12/26/05	12/26/05	12/23/05	12/26/05
H10523-1 MW 1	229	32	10	1.94	966	152
H10523-2 MW 4	185	64	29	2.11	589	200
Quality Control	1.988	54	49	3.40	1412	NR
True Value QC	2.000	50	50	3.00	1413	NR
% Recovery	99.0	108	97.0	113	99.9	NR
Relative Percent Difference	1.4	1.0	1.0	0.1	0	NR
METHODS:	273.1	500-Ca-D	3500-Mg E	8049	120.1	310.1
	cı <sup>-</sup>	SO <sub>4</sub>	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	12/26/05	12/26/05	12/26/05	12/26/05	12/23/05	12/23/05
H10523-1 MW 1	60	115	0	185	7.74	623
H10523-2 MW 4	44	93	0	244	7.80	401
Quality Control	500	49.27	NR	940	7.04	NR
True Value QC	500	50.00	NR	1000	7.00	NR
% Recovery	100	98.5	NR	94.0	100	NR
Relative Percent Difference	0	0.7	NR	2.4	0.1	1.4
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Chemist / Movimo

12.29-05

Date

	C	ations an	d Anions	Calculat	ion Checl	<b>K</b>		
	Sample Name	H10523-1	H10523-2					
	Well Number	MW1	M <del>W2</del> -	NW4				
	Date	12/29/05	12/29/05					
Equivalent								
Weight:	Lab	Cardinal	Cardnial					
22.99	Sodium (mg/L)	229	185					
20.04	Calcium (mg/L)	32	64					
12.15	Magnesium (mg/L)	10	29					
39.09	Potassium (mg/L)	1.9	2.1					
35.45	Chloride (mg/L)	60	44					
48.04	Sulfate (mg/L)	115	93					
30.00	Carbonate (mg/L)	0.0	0.0					
61.01	Bicarbonate (mg/L)	185	244					
50.04	Alkalinity (mg/L CaCO3)	152	200	0	0	0	0	0
62.00	Nitrate (mg/L)	0.0	0.0					
		10:					0.0	
	Sum Cations (meq/L)	12.4	13.7	0.0	0.0	0.0	0.0	0.0
	Sum Anions (meq/L)	7.1	7.2	0.0	0.0	0.0	0.0	0.0
	Percent Difference	-27.1	-31.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0
	Measured TDS (evap.,							
	mg/L)	623	401					
	TDS (calc. USGS sum,							
	mg/L)	539	537	0	0	0	0	0
	TDS (meas.) / TDS (calc.							
	USGS)	1.2	0.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0
	TDS (calc. sum, mg/L)	633	661	0	0	0	0	0
	Elect. Conductivity							
	(umhos/cm)	966	589					
	TDS (C*0.7, mg/L)	676	412	0	0	0	0	0
	TDS (calc. USGS) /							
	Conductivity	0.56	0.91	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0
T	est Criteria							
			Anion	Max %				
. Anion-Ca	tion Balance:		Sum	diff.				
			0 - 3.0	± 0.2				
			3.0 - 10.0	± 2				
			10.0 - 800	± 5				
TDS, Mea	sured to Calculated:		1.0 < (measi	ıred TDS/c	alculated TI	OS) < 1.2		
TDS (calcu	ulated USGS) to EC Rat	io:	Calculated T	DS/conduc	tivity = 0.5	5 - 0.7		

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

VAL L	. 05	1 101 East Mariand, Hobba, NM 88240 7 (505) 393-2328 Fax (505) 393-2476		CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	TODY AND A	NALYSIS F	REQUEST
Snager And Mell	1 1	CALCAL CALC	P.O. W.		ANAL	ANALYSIS REQUEST	
505) 397	#102 State: NM Fax#: (505 Project Owner:	zip: 88240 ) 393-4388	Company: SAME Attn: Address:				
Project Name: Wingelfo 2014. Project Location: Key Canh & Samples Hame:	le of		State: Zip: Phone #:				
Lab I.D. Sample I.D.		яатымс яатымс яатымс жү	PRESERV.	SAMPLING 1925	5101		
H10523-1 1900			ACID/BAS ACI	TIME	401.14/ × X		
MESSE NOTE: Lability and Diringer. Cardinals inhibity and clients reclaim transity for my client arrange whether Descript Confined or last, 1318 in hambol of the amount good by the section of the character of the confined or last and the complete of the confined or last and the confined of the amount good by the confined or the confined of the conf	Terchism remedy for any claim arrang with the seven claim arrang with the seventh want or their make dermore, because which the foreign their foreign the seventh for controlled in the deep at a way foreign.	Alter based in contract or lost, 23,38 b. B. It within and received by Carteria with 3 Manghous, less of the at the of pocks in the same and a second a sec	based in contract or lors, abid to benied to the amount good by the cleart to the and are seen by Carsten with, 36 days this completion of the specially places, see of the , as bee of points fronted by clear, is been of positional and the clear of the special seen.	,	Terms and Chaddioner fill 30 days part due at the rat	Terms and Conditione, follower will be classed on all Accounts more than 30 days peat due at the rate of 24% per amount from the original date of house.	ectobols more lisan
Ralinguished By:	Time:	lacelyad By:	ve filled reason or observes	Phone Result: Fax Result: REMARKS:	10 Y 88   10 No	ora, industring attentings hea.  D. No.  C. No.	
Circle	Time:	Received By: (Lab Staff)	12				
Sampier - UPS - Bus - Other: T Cardinal cannot accept verbal chan	And District Property of the Control	V Temp.°C Intact	s (Initials)				
in the season of	iges, riegge fax written cha	nges to (915) 673-7020.					



### **COVER LETTER**

January 06, 2006

Dave Boyer Safety & Environmental Solutions PO Box 1613 Hobbs, NM 88241 TEL: (505) 390-7067

FAX (505) 393-4388

RE: Monsanto 30 State #4

Order No.: 0512265

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 2 samples on 12/21/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

AZ license # AZ0682 ORELAP Lab # NM100001



Date: 06-Jan-06

CLIENT: Lab Order: Safety & Environmental Solutions

0512265

Project: Monsanto 30 State #4

Lab ID:

0512265-01

Client Sample ID: MW-1

Collection Date: 12/20/2005 10:00:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	9.2	1.0		mg/L	10	12/29/2005
Chloride	52	1.0		mg/L	10	12/29/2005
Bromide	ND	0.50		mg/L	1	1/4/2006
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	1/4/2006
Sulfate	89	5.0		mg/L	10	12/29/2005
Nitrate (As N)+Nitrite (As N)	1.8	0.50		mg/L	5	12/29/2005
EPA METHOD 310.1: ALKALINITY						Analyst: TES
Alkalinity, Total (As CaCO3)	300	2.0		mg/L CaCO3	1	12/30/2005
Carbonate	ND	2.0		mg/L CaCO3	1	12/30/2005
Bicarbonate	300	2.0		mg/L CaCO3	1	12/30/2005
EPA 120.1: SPECIFIC CONDUCTANCE	E					Analyst: <b>TES</b>
Specific Conductance	990	0.010		µmhos/cm	1	12/28/2005
EPA METHOD 6010B: DISSOLVED METALS						Analyst: NMO
Calcium	28	1.0		mg/L	1	1/3/2006 9:30:24 AM
Magnesium	4.8	1.0		mg/L	1	1/3/2006 9:30:24 AM
Potassium	3.0	1.0		mg/L	1	1/3/2006 9:30:24 AM
Sodium	220	10		mg/L	10	1/3/2006 11:00:50 AM
EPA METHOD 150.1: PH						Analyst: TES
рН	8.20	0.010		pH units	1	12/23/2005
EPA METHOD 160.1: TDS						Analyst: TES
Total Dissolved Solids	610	50		mg/L	1	12/27/2005

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

\* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

**Date:** 06-Jan-06

CLIENT:

Safety & Environmental Solutions

0512265

Lab Order: Project:

Monsanto 30 State #4

Lab ID:

0512265-02

Client Sample ID: MW-4

Collection Date: 12/20/2005 9:30:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: <b>MAP</b>
Fluoride	1.2	0.10		mg/L	1	1/4/2006
Chloride	39	0.10		mg/L	1	1/4/2006
Bromide	ND	0.50		mg/L	1	1/4/2006
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	1/4/2006
Sulfate	63	0.50		mg/L	1	1/4/2006
Nitrate (As N)+Nitrite (As N)	1.6	0.50		mg/L	5	12/29/2005
EPA METHOD 310.1: ALKALINITY						Analyst: TES
Alkalinity, Total (As CaCO3)	180	2.0		mg/L CaCO3	1	12/30/2005
Carbonate	ND	2.0		mg/L CaCO3	1	12/30/2005
Bicarbonate	180	2.0		mg/L CaCO3	1	12/30/2005
EPA 120.1: SPECIFIC CONDUCTANCE	<u> </u>					Analyst: <b>TES</b>
Specific Conductance	610	0.010		µmhos/cm	1	12/28/2005
EPA METHOD 6010B: DISSOLVED ME	TALS					Analyst: NMO
Calcium	80	1.0		mg/L	1	1/3/2006 9:34:09 AM
Magnesium	13	1.0		mg/L	1	1/3/2006 9:34:09 AM
Potassium	2.3	1.0		mg/L	1	1/3/2006 9:34:09 AM
Sodium	33	1.0		mg/L	1	1/3/2006 9:34:09 AM
EPA METHOD 150.1: PH						Analyst: <b>TES</b>
рH	8.08	0.010		pH units	1	12/23/2005
EPA METHOD 160.1: TDS						Analyst: TES
Total Dissolved Solids	380	50		mg/L	1	12/27/2005

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

<sup>\* -</sup> Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

# CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	MW-1	V-1	MW-4	4-								
HEAL LAB NUMBER	0512265-1	265-1	0512265-2	65-2								
CATIONS	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L
Sodium	220	9.57	33	1.44							)	
Potassium	3.0	0.08	2.3	90.0								
Calcium	28	1.40	80	3.99								
Magnesium	4.8	0.40	13	1.07								
Total Cations		11.44		99.9								
ANIONS	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	meg/L	mg/L	med/L	mg/L	med/L
Sulfate	88	1.85	63	1							) )	
Chloride	52	1.47	39									
Bicarbonate (CaCO3)	300	00.9	180									
Carbonate (CaCO3)	Q	*	QN									
Phosphate (P)	2	*	Q									
Nitrite (N)	2	*	Q									
Nitrate (N)	1.8	0.13	1.6	0.11								
Fluoride	9.5	0.48	1.2			-						
Bromide	ND	*	QN									
Total Anions		9.93		6.19							}	
Elect. Cond. (µMhos/cm)	066		610									
CATION/ANION RATIO		1.15		1.06								
% Difference		7		က								
TOTAL DISSOLVED SOLIDS RATIOS	RATIOS											
TDS (measured)	610		380									
TDS (calculated)	594		347									
Ratio meas TDS:calc TDS		1.0		7.								
Ratio Meas. TDS:EC		0.62		0.62								
Ratio Calc. TDS:EC		09.0		0.57								
Ratio of anion sum:EC		1.0		1.0								
Ratio of cation sum:EC		1.2		7.								

Analyte not detected (below method detection limit).

### GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC --

Ratio of cation sum:EC -- 0.9-1.1

<sup>\*\*</sup> Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

Safety & Environmental Solutions 0512265 CLIENT:

Work Order:

Monsanto 30 State #4 Project:

QC SUMMARY REPORT

**Date:** 06-Jan-06

Method Blank

Sample ID: MBLK Client ID:	Batch ID: <b>R17761</b>	Test Code: E300 Run ID: LC_0	E300 LC_051229A	Units: mg/L		Analysis I SeqNo:	Analysis Date: 12/29/2005 SeqNo: 436555	2	Prep Date:		
Analyte	Result	PaL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	Ref Val	%RPD	RPDLimit	Qual
Fluoride Chloride Bromide Phosphorus, Orthophosphate (As P) Sulfate Nitrate (As N)+Nitrite (As N)	ND ND ND ND ND ND	6.0 6.0 7.0 7.0 7.0 7.0 7.0			:		:				
Sample ID: MBLK Client ID:	Batch ID: <b>R17805</b>	Test Code: E300 Run ID: LC_0	E300 LC_060104A	Units: mg/L		Analysis SeqNo:	Analysis Date: 1/4/2006 SeqNo: 437805		Prep Date:	ö	
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	) Ref Val	%RPD	RPDLimit	Qual
Fluoride Chloride Bromide Phosphorus, Orthophosphate (As P) Sulfate Nitrate (As N)+Nitrite (As N)	AS P)  ND  ND  ND  ND	0. 0.5 0.5 0.5 0.5					:				
Sample ID: MBLK Client ID:	Batch ID: <b>R17770</b>	Test Code: <b>E310.1</b> Run ID: <b>WC_05</b>	E310.1 WC_051230A	Units: mg/L CaCO3	S S	Analysis SeqNo:	Analysis Date: 12/30/2005 SeqNo: 436772	5	Prep Date:	ä	
Analyte	Result	POL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	) Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3) Carbonate Bicarbonate	L Ö L	000									٦ ٦

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

ND - Not Detected at the Reporting Limit

Qualifiers:

CLIENT: Safety & Environmental Solutions

Work Order: 0512265

Monsanto 30 State #4

Project:

Method Blank

QC SUMMARY REPORT

Sample ID: MB	Batch ID: <b>R17777</b>	Test Code:	Test Code: SW6010A Units: mg/L	Units: mg/L		Analysis Da	Analysis Date: 1/3/2006 9:17:58 AM	Prep Date:	
Client ID:		Run ID:	ICP_051229C			SeqNo:	437165		
Analyte	Result	Pal	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit High	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Calcium	QN				:				
Magnesium	QN	~-							
Potassium	QN	~							
Sodium	QN	~							
Sample ID: MB-9448 Client ID:	Batch ID: 9448	Test Code: <b>E160.1</b> Run ID: <b>WC_05</b>	E160.1 WC_051223C	Units: mg/L		Analysis Dar SeqNo:	Analysis Date: 12/27/2005 SeqNo: 435571	Prep Date: 12/22/2005	05
Analyte	Result	Pal	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit Hig	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

Total Dissolved Solids

20

2

Safety & Environmental Solutions 0512265 CLIENT:

Work Order:

Monsanto 30 State #4 Project:

**Date:** 06-Jan-06

## QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS-ST300-05023	023 Batch ID: R17761	Test Code:	le: E300	Units: mg/L		Analysis	Analysis Date: 12/29/2005	005	Prep Date:	
Client ID:		Run ID:	LC_051229A			SeqNo:	436556			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	0.518	0.1	0.5	0	104	06	110	0		
Chloride	4.679	0.1	ro	0	93.6	06	110	0		
Bromide	2.453	0.5	2.5	0	98.1	90	110	0		
Phosphorus, Orthophosphate (As P)	Ite (As P) 4.778	0.5	ß	0	92.6	06	110	0		
Sulfate	9.615	0.5	10	0	96.2	06	110	0		
Nitrate (As N)+Nitrite (As N)	3.28	0.1	3.5	0	93.7	06	110	0		
Sample ID: LCS-ST300-05023	023 Batch ID: R17805	Test Code:	E300	Units: mg/L		Analysis	Analysis Date: 1/4/2006	9	Prep Date:	
Client ID:		Run ID:	LC_060104A			SeqNo:	437806			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RI	RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	0.4762	0.1	0.5	0	95.2	06	110	0		
Chloride	4.786	0.1	ß	0	95.7	06	110	0		
Bromide	2.529	0.5	2.5	0	101	06	110	. 0		
Phosphorus, Orthophosphate (As P)	ite (As P) 4.916	0.5	5	0	98.3	06	110	0		
Sulfate	9.981	0.5	10	0	96.8	06	110	0		
Nitrate (As N)+Nitrite (As N)	3.369	0.1	3.5	0	96.3	06	110	0		
Sample ID: LCS	Batch ID: <b>R17777</b>	Test Code: SW6010A	SW6010A	Units: mg/L		Analysis	Analysis Date: 1/3/2006 9:19:58 AM	6 9:19:58 AM	Prep Date:	
Client ID:		Run ID:	ICP_051229C			SeqNo:	437166			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD RPDLimit	Qual
Calcium	51.86	~	50.5	. 0	103	: 80 :	120	0		
Magnesium	51.69	_	50.5	0	102	80	120	0		
Potassium	54.63	~	55	0	99.3	80	120	0		
Sodium	54.45	-	50.5	0	108	80	120	0		
		:			1			1		
Qualifiers: ND - No	ND - Not Detected at the Reporting Limit		S-Sp	S - Spike Recovery outside accepted recovery limits	e accepted rec	overy limits	В	- Analyte detected	B - Analyte detected in the associated Method Blank	d Blank
J - Ana	J - Analyte detected below quantitation limits	imits	R - RI	R - RPD outside accepted recovery limits	гесоvегу Ііті	ts				1

Safety & Environmental Solutions

Work Order: 0512265

CLIENT:

Monsanto 30 State #4

Project:

Laboratory Control Spike Duplicate

QC SUMMARY REPORT

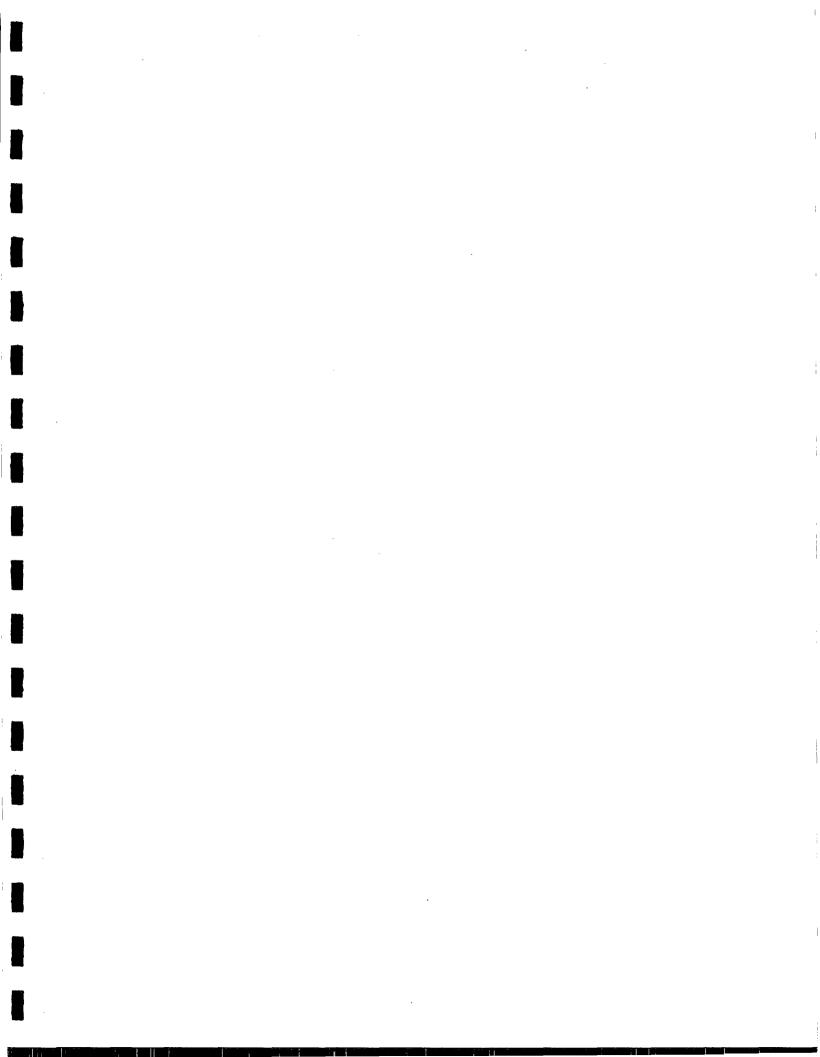
Sample ID: LCSD	Batch ID: <b>R17777</b>	Test Code	Test Code: SW6010A	Units: mg/L		Analysis	Date: 1/3/2	Analysis Date: 1/3/2006 9:22:48 AM	Prep Date:	ate:	
Client ID:		Run ID:	ICP_051229C	0		SeqNo:	437167	75			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.81	_	50.5	0	103	80	120	51.86	0.0991	. 50	
Magnesium	51.7	_	50.5	0	102	80	120	51.69	0.0291	20	
Potassium	54.58	_	55	0	99.2	. 80	120	54.63	0.0846	20	
Sodium	53.94	_	50.5	0	107	80	120	54.45	0.952	20	
Sample ID: LCS-9448	Batch ID: <b>9448</b>	Test Code: <b>E160.1</b>	E160.1	Units: mg/L		Analysis	Analysis Date: 12/27/2005	7/2005	Prep Da	Prep Date: 12/22/2005	5
Client ID:		Run ID:	WC_051223C	()		SeqNo:	435572	7			
Analyte	Result	PaL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1045	50	1000	0	105	80	120				

B - Analyte detected in the associated Method Blank S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

### Sample Receipt Checklist

Client Name SAFETY ENV SOLUTIONS	7			Date and Time	Received:	12/21/2005
Work Order Number 0512265				Received by	AT	
Checklist completed by Signature		<u> </u>	Date	12/2	1/05	
Matrix	Carrier name	<u>Grey</u>	hound			
Shipping container/cooler in good condition?		Yes	V	No 🗆	Not Present	]
Custody seals intact on shipping container/coole	r?	Yes	<b>✓</b>	No 🗆	Not Present	Not Shipped
Custody seals intact on sample bottles?		Yes		No 🗸	N/A	
Chain of custody present?		Yes	<b>✓</b>	No 🗆		
Chain of custody signed when relinquished and r	eceived?	Yes	<b>✓</b>	No 🗆		
Chain of custody agrees with sample labels?		Yes	$\checkmark$	No 🗆		
Samples in proper container/bottle?		Yes	<b>V</b>	No 🗆		
Sample containers intact?		Yes	<b>✓</b>	No 🗆		
Sufficient sample volume for indicated test?		Yes	<b>✓</b>	No 🗆		
All samples received within holding time?		Yes	<b>~</b>	No 🗆		
Water - VOA vials have zero headspace?	No VOA vials subm	nitted	<b>✓</b>	Yes	No 🗌	
Water - pH acceptable upon receipt?		Yes		No 🗹	N/A	
Container/Temp Blank temperature?		•		4° C ± 2 Acceptab If given sufficient t		
COMMENTS:						
	=======================================					
Client contacted	Date contacted:			Perso	n contacted	
Contacted by:	Regarding					
Comments:						
Corrective Action						
Corrective Action						

HALL ENVIRONMENTAL ANALYSIS LABORATORY	4901 Hawkins NE, Suite D	Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107	www.hallenvironmental.com	ANALYSIS REQUEST		(3)	808) s	W (22,€ NO <sup>51</sup> I	tals to NO3 of PA	i Pesti (VV) (Sem (Sem	37.58 208 208 205 207 207 207 207 207 207 207 207 207 207	7 2	>							
					λ)	ln0 ər	S08) s' milose0 eei0\ze	1PH (I 58 (G 4.1)	oq 20 oq 441 oq 804	( + M. Metha (Meth	(318) TPH TPH TPH								Bemarks:	<b>)</b>
QA/ QC Package: Std □ Level 4 □	Other:	Project Name:	MONSANTO 30 STATE #4	Project #:	MAC- 44-463	Project Manager:	DAVE BOYER	Sampler: (asso	Sample Temperature:	Preservative HFAI No	HgCl <sub>2</sub> HNO <sub>3</sub>	3 / 1852 >152	1	\$				~	Received By Constitution (2.27-c) (Manufacture)	Received By: (Signature) //
CHAIN DE PIETONY BEGORD	COSTODY RECORD	Clienti (1)		E. CLINTON SUITE # 102	11 8 24 C			397-4518	393-4388	Matrix Samole I.D. No.		the min 1	His My 4					J	Helinglished By: (Signature)	Relinquished By: (Signature)
PHAIN DE		Olient: (1)		Address: 763 E.	HOBE			Phone #:(5-05-)	Fax #: (5 c 5)	Date Time		1200/ pr1/	DE619 DE-71					i	Ime:	Date: Time:







PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240

FAX TO: (505) 393-4388

Receiving Date: 01/23/06

Reporting Date: 01/25/06

Project Number: MAC-04-003

Project Name: MONSANTO #30, STATE #4

Project Location: LEA COUNTY, NM

Sampling Date: 01/23/06

Sample Type: WATER

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: HM

		CI	TDS
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)

ANALYSIS DATE:	01/24/06	01/24/06
H10653-1 MW-1	92	601
H10653-2 MW-4	44	387
Quality Control	490	NR
True Value QC	500	NR
% Accuracy	98	NR
Relative Percent Difference	2	NR

METHODS: Cl: Std. Methods 4500-Cl/B; TDS: EPA 600 160.1

Chemist Mount

01-25-06

Date

H10653

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	INC.	, TX 7960.
•	ORIES,	d, Abllene,
	SORAT	2111 Beschwood, Abllene, TX 78607
	IL LAE	2111
	ARDINAL LABORATORIES, INC.	
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To be a second	TO ANALYSIS REQUEST		SAME	1,			Zlp:			SAMPLING	56	DATE TIME	1-23-01/023 XX	1-13-06 0959 XX			Editor And Mark English Editor and Mark Editor (Mark Editor) and M				
	AL SOLUTIONS STATEM WITH THE	**04	Company: S.	. ziņ: 88240	505) 393-4388 Address:	k Emrau	) State:	Phone #:-	¥ XB⊔	MATRIX PRESERV.	RETA RETA	(G)RAB O SROUND' SOIL SOIL SOIL SOIL SOIL SOIL SOIL SOIL	X	X			A The state shalls based a contact of low shall be brained to the second by the charles received by the	webs of orbest reach in writing and reached by Carolina with 52 days with completion problem, but the completion of brickers between boundaries, less of the section of posts from the completion of the completio	-Z3 'n. Racelved By:		23/b Received By: (Lab Staff)
2111 Bascinwood, Abliers, TX 79803	Company Name: SAFETY & ENVIRONMENTAL	F	CLINTOR	HOBBS State: NM	(505) 397-0510 Fax#: (5	WARC - 174-003 Project Owner: Mac	lonsento #30	Project Location: / - p.c. ( )	5	-	Samule I	· · · · · · · · · · · · · · · · · · ·	13-1 MW-1	17 mm-4			SERSE WITE LENGTH SOUTH COMMENT CONTROLS WINDOWS TO COMMENT FOR THE SERVICE OF COMMENTS OF SERVICES AND SERVICES OF SERVICES O	expose N that produces are for market for the course that have been had a continued to the course of the course that the course of the course that the course of the cours	Sampler Relinquished: Dete: -23 m. Raceived By:	Time:	Ralinquished But:

† Cardinal cannot accept verbal changes. Please lax written changes to (915) 671-7020.





PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 02/27/06

Reporting Date: 03/01/06 Project Number: MAC-04-003

Project Name: MONSANTO 30 STATE #4
Project Location: LEA COUNTY, NM

Sampling Date: 02/27/06

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: NF Analyzed By: AB/HM

		TDS	CI
LAB NUMBER	SAMPLE ID	( mg/L )	(mg/L)

ANALYSIS DATE:	02/28/06	02/28/06
,		
H10819-1 MW 1	510	40
H10819-2 MW 4	392	52
Quality Control	NR	500
True Value QC	NR	500
% Recovery	NR	100
Relative Percent Difference	NR	0

METHODS: EPA 600/4-79-02	160.1	4500-Cl <sup>-</sup> B*

\*Std. Methods

Chemist

03 03

Date

H10819

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC.	CHAI	N-OF-CUS	ТОВУ А	ND ANAL	CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	EST
2111 Beechwood, Abilene, TX 79603 101 East Mariand, Hobbs, NM 88240 [Company Name: SAFETY & ENVIRONMENTAL SOLUTIONS	40				7	
anager: 208 Access	BILL TO			ANALYSIS		
** /03 E.CLIN						
OBBS	company: SAME					
(505) 397-0510 Fax#: (505) 393	Atm:					
Gumber	Address:					
	City:					
2000	State: Zip:					
7	Phone #:					
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Date: A State of the state of t	bove stated ressors at otherwise.		and 43 COS 3 O	and as costs of conections, including attorney's here.	tomeys ten.	
TIMO TIMO		Phone Result	□ Yes	S C No		
Rallburished Dur		REMARKS:	□ Yes			
Date: Received By: (Lab Staff)	6				-	
Time:						
	$\prec$					
Sample Cond	Checked					
_1	\$			-		

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 573-7020.





PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS

ATTN: SIMON CASAS 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 04/04/06

Reporting Date: 04/05/06 Project Number: MAC-04-003

Project Name: MONSANTO 30 STATE #4
Project Location: LEA COUNTY, NM

Sampling Date: 04/04/06

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: NF Analyzed By: AB/HM

		TDS	CI
LAB NUMBER	SAMPLE ID	( mg/L )	(mg/L)

ANALYSIS D	ATE:	04/04/06	04/04/06	
H10977-1	MW 1	479	40	
H10977-2	MW 2	407	40	
H10977-3	MW 3	365	28	
H10977-4	MW 4	377	32	
Quality Contr	ol	NR	500	
True Value Q	C	NR	500	
% Recovery	(1	NR	100	
Relative Perc	ent Difference	NR	0	
METHODS: EPA 600/4-79-02		160.1	4500-Cl <sup>-</sup> B*	

\*Std. Methods

Chemist

04-05-06

Date

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST  Page 1 of 1	505	Ferris and Obeditions. Militarist Will be that god on all accounts more than and all costs of others founding attentions. It is not the or principal to the others.	1 Yes B holy 1 A SAMPLE Containing to Compose Somple To Compose So
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101 East Martand, Hobs (505) 393-2328 Fax (504 SOLUTIONS	20 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PLASE NOTE I upbery and Daringes. Cardinals labelity and clearl's rections member to be an arrange whether based in constant of trit, stall be britted to the amount part of the strong to any other cause whatever shall be been all any other cause whatever shall be been and in things and received to the britted to the amount part of the strong to the amount part of the cardinals be been be brittened to be been and the property of the part of the cardinals of the applicant of the applicant of the applicant to the part of the applicant of the appli	runshed By:  Time:  Date:  Dat
ARDINAL LABORATORIES, INC. 2111 Baechwood, Abilene, Tx 79603 (915) 673-7801 Fax (915) 673-7020 www. SAFETY & ENVIRONMENTAL 30000 CMMS	State: NIM  State: NIM  D Fax #: (505  Project Owner:  NM  ple I.D.	REASE HOTE LADER and Danges. Cardinal a labely and clear's rectume receiver to an estimate and services and services and services are an estimated and the services are any clear cardinal and the services are an estimated as the services and any clear cardinal and the services and the services are and the services and the services are and the services and the services are and the services are an estimated as a service services and the services are an estimated as a service services become and the services are an estimated as a service services become and the services are an estimated as a service services become and the services are as a service services because and the services are as a service services because and the services are as a service services and the services are as a service services and the services are as a service services as a service services are as a service services and as a service services are as a service service service service services are as a service service service service services are as a service service service service service service service services are as a service service ser	Time: 20 Date: Time: 11 Time:
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2 5	City: HOBBS Phone #: (50 Project #: MAC Project Name: Project Location: Sampler Name: FORLABUSE CHLY Lab I.D.  H109 777-1	PLEASE ROTE LUBBEY and leaves and leaves to their states to serve the states to serve the serve	Relinquished By:  Delivered By: (Circle One) Sampler- UPS - Bus - Other:  † Cardinal cannot accept

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### **DATA FAX**

### **ARGON LABS**

2126 W. Marland Ave., Hobbs, NM 88240 (505)397-0295 Fax (505)397-0; 96

То:	Bob Allen	From:	Hiram	
Company:	SESI	Pages:	] 6	·
Phone:	1	Date:	04/10/06 Time: 1:23 P	N
Re:	Project data for Monsanto 30 St. 4			
Вор:				
Faxing data fr	om the above mentioned project.			
	follow by mail			

Huram Custo

### argon laboratories

Safety & Environmental Solutions, Inc.

703 E. Clinton, Suite 102

Project Number: MAC-04-003 Project Name: Monsunto 30 St.4 Project Manager: Bob Allen

Work Ordc #: A04061

Hobbs, NM 88240

Anions by Ion Chromatography - EPA Method 300.0

			Reporting	,			
Analyte		Result	l_imit	Units	Analyzed	Method	Votes
MWI	(A04061 Water)	Sampled: 04/04/06	Received: 04/04/06				<del></del>
Chloride		33	1.0	mg/L	04/10/06	EPA 300.0	
			Total Dissolved Solids - El	'A Method 160.1			
MW I	(A64061 Water)	Sampled: ()4/04/06	Received: 04/04/06				
Total Dis	ssolved Solids	460	10	mu/l.	04/07/06	EPA 160.1	

Approved By Argon Laboratories QC Of leer

### argon laboratories

Safety & Environmental Solutions, Inc.

703 E. Clinton, Suite 102 Hobbs, NM 88240 Project Number: MAC-04-003

Project Name: Monsanto 30 St.4
Project Manager: Bob Allen

Work Orde #: A04061

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Votes
MW 2 (A04062 Water)	Sampled: 04/04/06	Received: 04/04/06				
Chloride	27	1.0	mg/L	04/10/06	0.00E A9H	
	,	otal Dissolved Solids - El	'A Method 160.1			
MW 2 (A04062 Water)	Sampled: 04/04/06	Received: 04/04/06				

Total Dissolved Solids

400

10

mg/L

04/07/06 EPA 160.1

Approved By Argon Laboratories QC Of icer

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0276

email: info@argonlabs.com

04/07/06 EPA 160.1

### argon laboratories

Project Manager: Bob Allen

Safety & Environmental Solutions, Inc.

703 E. Clinton, Suite 102 Hobbs, NM 88240

Total Dissolved Solids

Project Number: MAC-04-003

Project Name: Monsanto 30 St.4

Work Order 4: A04061

Anlons by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
MW 3 (A04063 Water)	Sampled: 04/04/06	Received: 04/04/06				
Chloride	22	1.0	mg/L	04/10/06	EPA 300.0	
	7	otal Dissolved Solids - El	'A Method 160,1			
MW 3 (A04063 Water)	Sampled: 04/04/06	Received: 04/04/06	· · · · · · · · · · · · · · · · · · ·			

10

mg/l..

350

Approved By Argon Laboratories QC Officer

### argon laboratories

Safety & Environmental Solutions, Inc.

703 E. Clinton, Suite 102 Hobbs, NM 88240 Project Number: MAC-04-003

Project Name: Monsanto 30 St.4 Project Manager: Bob Allen Work Order # A04061

### Anions by Ion Chromatography - EPA Method 300.0

		Reporting		Analyzed Method Notes
	Result	Limit	Units	Analyzed Method Notes
Analyte	Sampled: 04/04/06 Rece	elycd: 04/04/06		A STATE OF THE STA
MW 4 (A04064 Water)	Samplea, 04/04/00			
	26	1.0	mg/L	04/10/06 EPA 300.0
Chloride	20		·	- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10

### Total Dissolved Solids - EPA Method 160.1

MW 4 (A04064 Water)	Sampled: 04/04/06	Received: 04/04/06				
Total Dissolved Solids	370	10	mg/L	04/07/06	EPA 160.1	

Approved By Argon Laboratories QC Office

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0296 email: info@argonlabs.com

### ANM 04-1005

### Argon Laboratories CHAIN OF CUSTODY

	Project Information:	24				Report To:				Samples Submitted To:	
Droises Mr. 77 A	- od-bo		ŭ	Consultant	Safety & Fry	Tryangal Sol	Ufinare for		f aftergrange		
Project Title: Man and	Project Tille: As and Character of the		<u> </u>	Address:	783 E. CEND	203 E. CEnton State 102	) (g		Address.		
Location:	10 10 1 m				Hobbs, NM 88240	\$8240		-			
LEA CONTY, NOT	Jan's Noor		Ü	Contact	Bob Allen				Contact		*****
Sampler's Name: C.	Janes / Charles		ř.	P'hone:	(505)397-0510				Phone:		
(print)	More more		<u>u</u>	Fax:	(505)393-4388	€2			Fax:		
Sampler's Signature	0					Bill To:			Date Results Required:	uired:	
#	to the		<u> </u>	Clent: Address:	SAME				Date Report Required:	ired:	
	TURN AROUND TIME	ME.					AMALYSIS				
RUSH	24 Hour 48 Hour	Standard (5 days)	Special (10-14 days)								
				1.814 H9T X378	Chloride	лагов-нчт 2				COMMENTS	
Sample ID.	Date Thre	# Containers	Matrix	H	H					Preservative	
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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: DAVE BOYER 703 E. CLINTON, #102 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 04/10/06

Reporting Date: 04/11/06 Project Number: MAC-04-003

Project Name: MAC MONSANTO STATE #4

Project Location: LOVINGTON, NM

Sampling Date: 04/08/06

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: HM

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DAT	E	04/10/06	04/10/06	04/10/06	04/10/06
H11010-1	MW-5	<0.002	<0.002	<0.002	<0.006
H11010-2	MW-6	<0.002	<0.002	<0.002	<0.006
H11010-3	MW-7	<0.002	<0.002	<0.002	<0.006
Quality Control		0.097	0.094	0.091	0.293
True Value QC		0.100	0.100	0.100	0.300
% Recovery		97.4	93.7	91.0	97.8
Relative Percer	nt Difference	5.5	3.8	2.5	7.9

METHOD: EPA 624/ SW-846 8260

Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. Thin be well shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.





PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR

SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: DAVE BOYER 703 E. CLINTON, #102 HOBBS, NM 88240

FAX TO: (505) 393-4388

Receiving Date: 04/10/06

Reporting Date: 04/11/06 Project Number: MAC-04-003

Project Name: MAC MONSANTO STATE #4

Project Location: LOVINGTON, NM

Sampling Date: 04/08/06

Sample Type: GROUNDWATER Sample Condition: COOL & INTACT

Sample Received By: HM Analyzed By: AB/HM

		TDS	CI
LAB NUMBER	SAMPLE ID	( mg/L )	(mg/L)

ANALYSIS DATE:	04/11/06	04/11/06
H11010-1 MW-5	369	40
H11010-2 MW-6	372	36
H11010-3 MW-7	672	148
Quality Control	NR	500
True Value QC	NR	500
% Recovery	NR	100
Relative Percent Difference	NR	2

	1	
METHODS: EPA 600/4-79-02	160.1	4500-Cl <sup>-</sup> B*

\*Std. Methods

Chemist

<u>07-</u>

Date

H11010

# ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79803 101 East Marland, Hobbs, NM 88240

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Marne: SAFETY & FNVTRONMENMANT	5) 673-7020 (505) 393-2328 Fax (505) 393-2476	5) 393-2476	•			8	· •
	SNOTTO SOFT	BILL TO			AMALVEIS		<b>B</b>
Address: 703 E.CLINTON, #102		P.O.#:		7		KEGUES	
70-11		Company: SAME					
05) 307 0510	NM Zip: 88240	Attn: RRAM 1/1		· ·			
M 20 - 150 - 100 M	5) 393-4388	Address:					
Project Owner:	MACONONACI	City					
Berlinand: M. F. M. P. Sanda	51050 #4						
The section of the se		State. Zip:					
Sampler Name:		Phone #:		<u></u>			
FOR LAB USE ONLY		FBX株		1		<del></del>	
	MATRIX	PRESERY.	971	21			
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ampless. All china including those for regisence and any other nature whethere remedy for any service. In manuscriptus one could be serviced.	where a raing whether based in contract or tort, shall be limite	OF immed to the amount part for the clear to the					
States a movement with the factorial or consequents duringes, including without historial business etemptons, has a functioned by Cardinal with 30 days after compelent of the applicable of the	Initiation, business sharingtons, has no less of bridge liverand in the completion of the so	I'm effer completion of the applicable		Terms and Conditions: Interest will be charged on all accounts more than 30 days test due at the charge of the charged on all accounts more than	E interest will be	charged on all acco	unts more than
Sampler Relinquished:	I reportions of whether won claim is based upon any of the above stated reasons or observate.	ou of each, is nordering, titled reason it offerwise.		and all costs of collections, including attorney's lees.	cost induding att	r amount from the or omery's fees.	Time date of invoice,
	XX Macanaga By:		Phone Result	Y.	272		
Time:	PM S		Fax Result	N.Yes	2 2		
Kalinquished By:			REMARKS:				
1-10-16							
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Sampler - UPS - Bus - Other	Temp, C Inact?	By:					
+ Cardinal	Cont Trees	(Initials)					
i Calinial Cannot accept verbal changes. Please fax written chan	10e to (04e) cra zoon						•
	0207-579 (c.f.a.f.a.f.) 973-7020.						



### COVER LETTER

Friday, April 14, 2006

Dave Boyer Safety & Environmental Solutions PO Box 1613 Hobbs, NM 88241

TEL: (505) 390-7067 FAX (505) 393-4388

RE: MAC Monsanto State #4

Dear Dave Boyer:

Order No.: 0604087

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/11/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

AZ license # AZ0682 ORELAP Lab # NM100001



Date: 14-Apr-06

CLIENT:

Safety & Environmental Solutions

Lab Order:

0604087

Project:

MAC Monsanto State #4

Lab ID:

0604087-01

Client Sample ID: MW-5

Collection Date: 4/8/2006 5:45:00 PM

Date Received: 4/11/2006

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: CMC
Bromide	ND	0.50		mg/L	1	4/11/2006
Chloride	31	0.10		mg/L	1	4/11/2006
Fluoride	1,1	0.10		mg/L	1	4/11/2006
Nitrate (As N)+Nitrite (As N)	1.4	0.50		mg/L	5	4/11/2006
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/11/2006
Sulfate	83	2.5		mg/L	5	4/12/2006
EPA METHOD 6010B: DISSOLVED MET	ΓALS					Analyst: NMO
Calcium	70	1.0		mg/L	1	4/12/2006 12:49:29 PM
Magnesium	13	1.0		mg/L	1	4/12/2006 12:49:29 PM
Potassium	3.0	1.0		mg/L	1	4/12/2006 12:49:29 PM
Sodium	33	1.0		mg/L	1	4/12/2006 12:49:29 PM
EPA METHOD 310.1: ALKALINITY						Analyst: ks
Alkalinity, Total (As CaCO3)	160	2.0		mg/L CaCO3	1	4/11/2006
Carbonate	ND	2.0		mg/L CaCO3	1	4/11/2006
Bicarbonate	160	2.0		mg/L CaCO3	1	4/11/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: ks
Specific Conductance	580	0.010		μmhos/cm	1	4/11/2006
EPA METHOD 150.1: PH	•					Analyst: ks
pH	7.90	0.010		pH units	1	4/11/2006
EPA METHOD 160.1: TDS						Analyst: ks
Total Dissolved Solids	410	20		mg/L	1	4/11/2006

-0	11	១រ	i	ſi	r	rs

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Date: 14-Apr-06

CLIENT:

Safety & Environmental Solutions

Lab Order:

0604087

Project:

MAC Monsanto State #4

Lab ID:

0604087-02

Client Sample ID: MW-6

Collection Date: 4/8/2006 6:25:00 PM

Date Received: 4/11/2006

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	<del></del>	- <b>15</b> -411				Analyst: CMC
Bromide	ND	0.50		mg/L	1	4/11/2006
Chloride	30	0.10		mg/L	1	4/11/2006
Fluoride	1.1	0.10		mg/L	1	4/11/2006
Nitrate (As N)+Nitrite (As N)	1.7	0.50		mg/L	5	4/11/2006
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	4/11/2006
Sulfale	76	0.50		mg/L	1	4/11/2006
EPA METHOD 6010B: DISSOLVED ME	ETALS					Analyst: NMO
Calcium	69	1.0		mg/L	1	4/12/2006 12:54:31 PM
Magnesium	13	1.0		mg/L	1	4/12/2006 12:54:31 PM
Potassium	3.2	1.0		mg/L	1	4/12/2006 12:54:31 PM
Sodium	29	1.0		mg/L	1	4/12/2006 12:54:31 PM
EPA METHOD 310.1: ALKALINITY		•				Analyst: ks
Alkalinity, Total (As CaCO3)	160	2.0		mg/L CaCO3	1	4/11/2006
Carbonate	ND	2.0		mg/L CaCO3	1	4/11/2006
Bicarbonate	160	2.0		mg/L CaCO3	1	4/11/2006
EPA 120.1: SPECIFIC CONDUCTANCE	Ē					Analyst: ks
Specific Conductance	560	0.010		µmhos/cm	1	4/11/2006
EPA METHOD 150.1: PH pH	7.92	0.010		pH units	1	Analyst: ks 4/11/2006
EPA METHOD 160.1: TDS Total Dissolved Solids	400	20		mg/L	1	Analyst: ks 4/11/2006

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Date: 14-Apr-06

CLIENT:

Safety & Environmental Solutions

Lab Order:

0604087

Project:

MAC Monsanto State #4

Lab ID:

0604087-03

Client Sample ID: MW-7

Collection Date: 4/8/2006 6:50:00 PM

Date Received: 4/11/2006

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: CMC
Bromide	0.78	0.50		mg/L	1	4/11/2006
Chloride	160	1.0		mg/L	10	4/12/2006
Fluoride	0.88	0.10		mg/L	1	4/11/2006
Nilrate (As N)+Nilrite (As N)	1.7	0.50		mg/L	5	4/11/2006
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	4/11/2006
Sulfate	81	5.0		mg/L	10	4/12/2006
EPA METHOD 6010B: DISSOLVED ME	TALS					Analyst: NMO
Calcium	110	2.0		mg/L	2	4/12/2006 1:52:54 PM
Magnesium	21	1.0		mg/L	1	4/12/2006 1:05:44 PM
Potassium	3.6	1.0		mg/L	1	4/12/2006 1:05:44 PM
Sodium	40	1.0		mg/L	1	4/12/2006 1:05:44 PM
EPA METHOD 310.1: ALKALINITY						Analyst: ks
Alkalinity, Total (As CaCO3)	170	2.0		mg/L CaCO3	1	4/11/2006
Carbonate	ND	2.0		mg/L CaCO3	1	4/11/2006
Bicarbonale	170	2.0		mg/L CaCO3	1	4/11/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: ks
Specific Conductance	930	0.010		µmhos/cm	1	4/11/2006
EPA METHOD 150.1: PH						Analyst: ks
рН	7.74	0.010		pH units	1	4/11/2006
EPA METHOD 160.1: TDS						Analyst: ks
Total Dissolved Solids	600	20		mg/L	1	4/11/2006

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

# CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	MW-5	5-7	MW-6	9-	MW-7	-7						
HEAL LAB NUMBER	0604087-1	1-78	0604087-2	87-2	0604087-3	87-3						
CATIONS	mg/L	meq/L	mg/L	med/L	mg/L	meq/L	mg/L	med/L	mg/L	med/L	mg/L	med/L
Sodium	33	1.44	29	1.26	40	1.74						
Potassium	3.0	0.08	3.2	0.08	3.6	0.09						
Calcium	20	3.49	69	3.44	110	5.49						_
Magnesium	13	1.07	13	1.07	21	1.73						
Total Cations		6.08		5.86		9.05						
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	J/baw	mg/L	med/L	mg/L	med/L	mg/L	meq/L
Sulfate	83	1.73	92		81	i						
Chloride	31	0.87	30		160							
Bicarbonate (CaCO3)	160	3.20	160	3.20	170	3.40						
Carbonate (CaCO3)	QN.	+	2		2							
Phosphate (P)	S	*	QN N		S	þ						_
Nitrite (N)	Q	+	S	*	ON.							
Nitrate (N)	1.4	0.10	1.7		1.7	0.12						
Fluoride		90.0	7		0.88							
Bromide	ND	+	Q		0.78	0.01					;	
Total Anions		5.96		5.81		9.77						
Elect. Cond. (μMhos/cm)	280		260		930							
CATION/ANION RATIO		1.02		1.01		0.93						
% Difference		-		0		4						
TOTAL DISSOLVED SOLIDS RATIOS	RATIOS											
TDS (measured)	410		400		009							
TDS (calculated)	336		325		527							***************************************
Ratio meas TDS:calc TDS		1.2		1.2		7:						
Ratio Meas. TDS:EC		0.71		0.71		0.65						
Ratio Calc. TDS:EC		0.58		0.58		0.57						
Ratio of anion sum:EC		1.0		1.0		1.1						
Ratio of cation sum:EC		1.0		1.0		1.0						

\* Analyte not detected (below method detection limit).

\*\* Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

## GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC --

Ratio of cation sum:EC -- 0.9-1.1

CLIENT: Safety & Environmental Solutions

Work Order: 0604087

Project: MAC Monsanto State #4

Date: 14-Apr-06

# ANALYTICAL QC SUMMARY REPORT

TestCode: 300 W

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	300 W	Units: mg/L		Prep Date:		RunNo: 18912	
Client ID: ZZZZZ	Batch ID: R18912	TestNo: E300	E300		4	Analysis Date: 4	4/12/2006	SeqNo: 469720	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit High	HighLimit RPD Ref Val	%RPD RPDLimit	nit Qual
Fluoride	ON	0.10							
Chloride	ON	0.10							
Bromide	Q	0.10							
Nitrate (As N)+Nitrite (As N)	QN	0.10							
Phosphorus, Orthophosphate (As P)	As P) ND	0.50							
Sulfate		0.50							
Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	300_W	Units: mg/L		Prep Date:		RunNo: 18913	
Client ID: ZZZZZ	Batch ID: R18913	Testino: E300	E300		*	Analysis Date: 4	4/11/2006	SeqNo: 469742	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit High	HighLimit RPD Ref Val	%RPD RPDLimit	nit Oual
Fluoride	QN	0.10							
O Chloride	QN	0.10							
Bromide	QN	0.10							
Nitrate (As N)+Nitrite (As N)	QN.	0.10							
Phosphorus, Orthophosphate (As P)	4s P) ND	0.50							
Sulfate	ON	0.50							
Sample ID: LCS ST300-06006	SampType: LCS	TestCode: 300_W	300_W	Units: mg/L		Prep Date:		RunNo: 18912	
Client ID: ZZZZZ	Batch ID: R18912	TestNo: E300	E300		1	Analysis Date: 4	4/12/2006	SeqNo: 469721	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit High	HighLimit RPD Ref Val	%RPD RPDLimit	nit Qual
Fluoride	0.5192	0.10	0.5	0	104	06	110		
Chloride	4,840	0.10	S	0	96.8	06	110		
Bromide	2.522	0.10	2.5	O	101	06	110		
Nitrate (As N)+Nitrite (As N)	3,425	0.10	3.5	0	97.9	06	110		
Phosphorus, Orthophosphate (As P)		0.50	ιΩ	0	99.8	06	110		
Sulfate	9.790	0.50	10	0	67.6	06	110		
Ounlifiers: E Value above	Value above quantitation range	:	H Holding	Holding times for preparation or analysis expended	ar analysis	רים של אם אינו אינו של אינו	Land of the Charles		
N	Not Detected at the Reporting Limit			RPD outside accepted recovery limits	or undry and ry limits	ראברנחנת		Anaryte uciecteu bearw quantitation timits Spike Recovery outside accented recovery limits	ji.
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ANALYTICAL QC SUMMARY REPORT

CLIENT: Safety & Environmental Solutions Work Order: 0604087

MAC Monsanto State #4

Project:

TestCode: 300\_W

Sample ID: LCS ST300-06006	SampType: LCS	TestCo	TestCode: 300_W	Units: mg/L		Prep Date:	:e:		RunNo: 18913	913	
Client ID: ZZZZZ	Batch ID: R18913	Test	Tes(No: E300		•	4nalysis Dal	Analysis Date: 4/11/2006		SeqNo: 469739	9739	
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	D Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Fluoride	0.5164	0.10	0.5	0	103	06	110				
Chloride	4.933	0.10	5	0	98.7	8	110				
Bromide	2.565	0.10	2.5	0	103	80	110				
Nitrate (As N)+Nitrite (As N)	3.513	0.10	3.5	0	100	06	110				
Phosphorus, Orthophosphate (As P)	; P) 5.124	0.50	ເວ	0	102	8	110				
Sulfate	10.01	0.50	10	0	101	06	110				

sis exceeded	
notding times for preparation or analysis exceeded	RPD outside accepted recovery limits
Ε,	<b>~</b>

Safety & Environmental Solutions

Work Order: 0604087

CLIENT:

MAC Monsanto State #4

Project:

TestCode: 310.1\_W

ANALYTICAL QC SUMMARY REPORT

Sample ID: MB	SampType: MBLK	TestCod	TestCode: 310.1_W	Units: mg/L CaCO3	Prep Date:	le:	RunNo: 18889
Client ID: ZZZZZ	Batch ID: R18889	TestN	TestNo: E310.1		Analysis Da	Analysis Date: 4/11/2006	SeqNo: 468697
Analyte	Result	Pal	SPK value	SPK value SPK Ref Val %RE0	: LowLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	QN	2.0					
Carbonate	QN	2.0					
Bicarbonate	Q	2.0					

Page 4

ANALYTICAL QC SUMMARY REPORT

Safety & Environmental Solutions

MAC Monsanto State #4

0604087

Work Order: CLIENT:

Project:

TestCode: METALS\_DISS

Sample ID: MB	SampType: MBLK	TestCode: METALS DIS Units: mg/L	Prep Date:	Runno 18909
Client ID: ZZZZZ	Batch ID: R18909	TestNo: SW6010A	Analysis Date: 4/12/2006	SeqNo: 469643
Analyte	Result	POL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Calcium	QN	1,0		
Magneslum	Q	1.0		
Potassium		1.0		
Sodium	DN	1.0		
Sample ID: LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R18909	TestCode: METALS_DIS Units: mg/L TestNo: SW6010A	Prep Date: Analysis Date: 4/12/2006	RunNo: 18909 SeqNo: 469644
Analyte	Result	POL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual

Magnesium         52.10         1.0         50.5         0         103         60         120           Adalytis         LCSD         SampType: LCSD         TestIno: Sugarism         TestIno: Sugarism         Magnesium         Free Date: Magnesium         Magnesium         Free Date: Magnesium	Calcium	51.81	1.0	50.5	Ö	103	80	120				
Potassium         53.98         1.0         55.         0         98.1         80         120           Sodium         54.69         1.0         50.5         0         108         80         120         RunNo: 1890           Sample ID: LCSD         SampType: LCSD         TestCode: METALS_DIS         Units: mg/L         Analysis Date: 4/12/2006         Analysis Date: 4/12/2006         RunNo: 1890         RunNo: 1890         RunNo: 1890           Analyte         ZZZZZ         Batch ID: R18909         TestNo: SW6010A         NREC Val         VREC         LowLimit         HighLimit         RPD Ref Val         RPD Limit           Calcium         51.90         1.0         50.5         0         103         RB         120         51.81         0.167         20           Magnesium         52.03         1.0         50.5         0         98.5         RB         120         53.18         0.167         20           Potassium         54.19         1.0         50.5         0         98.5         RB         120         53.98         0.388         20           Sodium         56.51         1.0         50.5         0         106         120         54.69         0.386         20 <td>Magnesium</td> <td>52.10</td> <td>1.0</td> <td>50.5</td> <td>0</td> <td>103</td> <td>80</td> <td>120</td> <td></td> <td></td> <td></td> <td></td>	Magnesium	52.10	1.0	50.5	0	103	80	120				
Sample ID: LCSD         Sample ID: LCSD         TestCode: METALS_DIS         Units: mg/L         Free Date: Analysis Date: A112/2006         Free Date: A112/2006         Round: A112/2006         <		53.98	1.0	52	0	98.1	80	120				
SampType:         LCSD         TestCode:         METALS_DIS         Units:         mg/L         Analysis Date:         4/12/2006         Analysis Date:         4/12/2006         RunNo:         18909           Result         PQL         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPD Limit           52.03         1.0         50.5         0         103         80         120         51.81         0.167         20           54.19         1.0         50.5         0         98.5         80         120         53.98         0.388         20           54.19         1.0         50.5         0         103         80         120         53.98         0.388         20           54.19         1.0         50.5         0         108.5         80         120         53.98         0.388         20           54.15         1.0         50.5         0         108.5         80         120         53.98         0.388         20		54.69	1.0	50.5	0	108	80	120				
ZZZZZ         Batch ID:         R18909         TestNo: SW6010A         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPD Limit           51.90         1.0         50.5         0         103         80         120         51.81         0.167         20           54.19         1.0         50.5         0         103         80         120         52.1         0.128         20           54.19         1.0         55.6         0         98.5         80         120         53.98         0.388         20           54.51         1.0         50.5         0         108.5         80         120         53.98         0.388         20	O Sample ID; LCSD	SampType: LCSD	TestCod	e: METALS	DIS Units: mg/L		Prep Date	:0	RunNo	18909		
Result         PQL         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit           51.90         1.0         50.5         0         103         80         120         51.81         0.167         20           54.19         1.0         50.5         0         103         80         120         52.1         0.128         20           54.19         1.0         55.5         0         98.5         80         120         53.98         0.388         20           54.51         1.0         50.5         0         108         80         120         53.98         0.388         20	Client ID: ZZZZZ	Batch ID: R18909	TestN	o: SW6010A			Analysis Dat	e: 4/12/2006	SeqNo:	469645		
51.90     1.0     50.5     0     103     80     120     51.81     0.167       52.03     1.0     50.5     0     103     80     120     52.1     0.128       54.19     1.0     55     0     98.5     80     120     53.98     0.388       54.51     1.0     50.5     0     108     80     120     54.69     0.336	Analyte	Result	Pal	SPK value	SPK Ref Val	"REC	LowLimit	HighLimit RPD Re		PD RPC	Limit	Qual
52.03 1.0 50.5 0 103 80 120 52.1 0.128 54.19 1.0 55 0 98.5 80 120 53.98 0.388 54.51 1.0 50.5 0 108 80 120 54.69 0.336	Calcium	51.90	1.0	50.5	0	103	8			167	2	
54.19 1.0 55 0 98.5 80 120 53.98 0.388 54.51 1.0 50.5 0 108 80 120 54.69 0.336	Magnesium	52.03	1.0	50.5	0	103	80			128	2 5	
54.51 1.0 50.5 0 108 80 120 54.69 0.336	Potassium	54.19	1.0	55	0	98.5	80			388	2 5	
	Sadium	54.51	1.0	50.5	0	108	80			336	2 22	

Not Detected at the Reporting Limit Value above quantitation range ъΩ Qualifiers:

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits **I** ~

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits

ANALYTICAL QC SUMMARY REPORT

Safety & Environmental Solutions

MAC Monsanto State #4

0604087

Work Order: CLIENT:

Project:

TestCode: TDS\_W

Sample ID: MB-10157	SampType: MBLK	TestCoc	TestCode: TDS_W	Units: mg/L		Prep Date: 4/11/2006	11/2006	RunNo: 18906	
Client ID: ZZZZZ	Batch ID: 10157	Testh	TestNo: E160,1		*	Analysis Date: 4/11/2006	11/2006	SeqNo: 469618	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit Hight	%REC LowLimit HighLimit RPD Ref Val	"RPD RPDLimit Qual	ii Quel
Total Dissolved Solids	20.00	20							
Sample ID: LCS-10157 Client ID: ZZZZZ	SampType: LCS Batch ID: 10157	TestCor	TestCode: TDS_W TestNo: E160.1	Units: mg/L	,	Prep Date: 4/11/2006 Analysis Date: 4/11/2006	11/2006 11/2006	RunNo: 18906 SeqNo: 469619	
Analyte	Result	PaL	SPK value	SPK Ref Val	%REC	LowLimil HighL	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual	it Quaf
Total Dissolved Solids	0.666	20	1000	20	6,76	80	120		

E Value above quantitation range ND Not Detected at the Reporting Limit Qualifiers:

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits **#** &

### Sample Receipt Checklist

	Client Name SAFETY ENV SOLUTIONS			Date and Time	Received:		4/11/2006	
	Work Order Number 0604087			Received by	AT			
	Checklist completed by Sighaldre		Date	4111/06				
	Matrix Carrier n	ame <u>Gre</u> y	hound					
	Shipping container/cooler in good condition?	Yes	$ \mathbf{V} $	No 🗆	Not Present		•	
	Custody seals intact on shipping container/cooler?	Yes	V	No 🗀	Not Present	☐ Not Ship	ped 🗌	
	Custody seals intact on sample bottles?	Yes		No 🗹	N/A			
	Chain of custody present?	Yes	V	No 🗀				
	Chain of custody signed when relinquished and received?	Yes	$\checkmark$	No 🗆				
	Chain of custody agrees with sample labels?	Yes	V	No 🗆				
	Samples in proper container/bottle?	Yes	$\checkmark$	No 🗀				
	Sample containers intact?	Yes	<b>V</b>	No 🗆				
	Sufficient sample volume for indicated test?	Yes	V	No 🗀				
	All samples received within holding time?	Yes	<b>✓</b>	No 🗆				
	Water - VOA vials have zero headspace? No VOA vials	submitted	V	Yes 🗌	No 🗆			
	Water - pH acceptable upon receipt?	Yes	V	No 🗆	N/A		42	
	Container/Temp Blank temperature?		1°	4° C ± 2 Acceptab				
}	COMMENTS:							
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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4801 Hawkins NE, Suite D Albuquerque. New Mexico 87109 Tel. 505.345.3875 Fax 505.345.  Www.hallenvironmental.com ANALYSIS REQUEST  ROBY OF CR. CI., NO. 21. CO.													
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