1R - 441

REPORTS

DATE:

4/17/2006

MACK Energy Corporation

P.O. Box 960
Artesia, NM 88211-0960
Office (505) 748-1288
Fax (505) 746-9539

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

TABLE OF CONTENTS

I. Company Contacts

Name, Company	Telephone	E-mail
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David Boyer, SESI	505-397-0510	dgboyer@sesi-nm.com
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-Cl^-B) 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

* 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.

† 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

Sample Location/ Lab*	Date	Chloride (mg/L)	Chloride (strip, ppm)	Sulfate (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)
MW-1	06/01/04	580	--	47	1,302	<0.002	<0.002	<0.002	<0.006
	10/05/04	520	--	78	1,469	<0.002	<0.002	<0.002	<0.006
	12/16/04	1,300	--	100	2,738	--	--	--	--
	01/18/05	960	--	85.5	2,052	<0.002	<0.002	<0.002	<0.006
	03/04/05	516	--	49	1,393	--	--	--	--
	04/19/05	940	--	75	2,111	--	--	--	--
	05/27/05	380	--	70	953	--	--	--	--
	06/22/05	288	--	77	1,216	--	--	--	--
	07/22/05	412	--	68	1,507	--	--	--	--
	08/19/05	368	--	77	1,197	--	--	--	--
	09/07/05	312	300	--	1,140	--	--	--	--
	10/11/05	568	535	--	1,436	--	--	--	--
Hall	10/11/05	550	--	--	1,400	--	--	--	--
	11/11/05	152	141	80	709	--	--	--	--
Hall	11/11/05	140	--	100	670	--	--	--	--
	11/17/05	140	148	100	710	--	--	--	--
	12/20/05	60	53	115	623	--	--	--	--
Hall	12/20/05	52	--	89	610	--	--	--	--
	01/23/06	92	90	--	601	--	--	--	--
	02/27/06	40	29	--	510	--	--	--	--
	04/04/06	40	29	--	479	--	--	--	--
Argon	04/04/06	33	--	--	460	--	--	--	--
MW-2	07/08/04	40	--	57	473	<0.002	<0.002	<0.002	<0.006
	10/05/04	44	--	86	502	<0.002	<0.002	<0.002	<0.006
	12/16/04	44	--	72	420	--	--	--	--
	01/18/05	44	--	58.6	480	<0.002	<0.002	<0.002	<0.006
	03/04/05	44	--	49	451	--	--	--	--
	04/19/05	40	--	44	412	--	--	--	--
	05/27/05	40	--	58	442	--	--	--	--
	06/22/05	32	--	86	488	--	--	--	--
	07/22/05	40	--	54	420	--	--	--	--
	08/19/05	40	--	67	421	--	--	--	--
	09/07/05	36	32	--	392	--	--	--	--

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

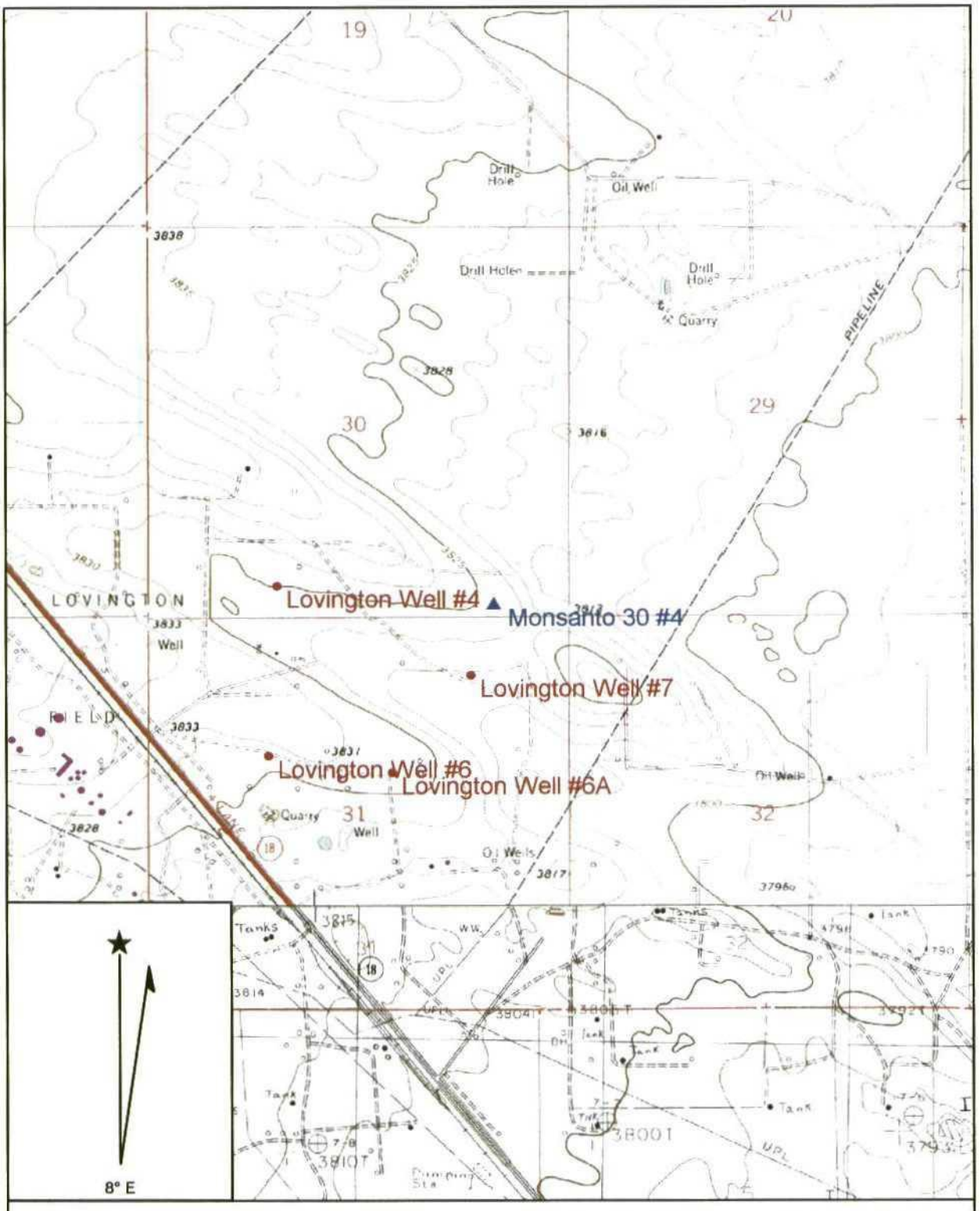
Sample Location/ Lab*	Date	Chloride (mg/L)	Chloride (strip, ppm)	Sulfate (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)
	10/11/05	--	--	--	--	--	--	--	--
	11/11/05	--	--	--	--	--	--	--	--
	11/17/05	--	--	--	--	--	--	--	--
	12/20/05	--	--	--	--	--	--	--	--
	01/23/06	--	--	--	--	--	--	--	--
	02/27/06	--	--	--	--	--	--	--	--
	04/04/06	40	<29	--	407	--	--	--	--
Argon	04/04/06	27	--	--	400	--	--	--	--
MW-3	10/06/04	32	--	51	423	<0.002	<0.002	<0.002	<0.006
	12/16/04	32	--	51	393	--	--	--	--
	01/18/05	32	--	39.4	428	<0.002	<0.002	<0.002	<0.006
	03/04/05	36	--	37	465	--	--	--	--
	04/19/05	26	--	47	404	--	--	--	--
	05/27/05	40	--	41	381	--	--	--	--
	06/22/05	24	--	55	408	--	--	--	--
	07/22/05	32	--	49	400	--	--	--	--
	08/19/05	32	--	56	404	--	--	--	--
	09/07/05	28	32	--	327	--	--	--	--
	10/11/05	--	--	--	--	--	--	--	--
	11/11/05	--	--	--	--	--	--	--	--
	11/17/05	--	--	--	--	--	--	--	--
	12/20/05	--	--	--	--	--	--	--	--
	01/23/06	--	--	--	--	--	--	--	--
	02/27/06	--	--	--	--	--	--	--	--
	04/04/06	28	<29	--	365	--	--	--	--
Argon	04/04/06	22	--	--	350	--	--	--	--
MW-4	09/01/04	36	--	49	376	<0.002	<0.002	<0.002	<0.006
	10/06/04	40	--	58	442	<0.002	<0.002	<0.002	<0.006
	12/16/04	40	--	55	408	--	--	--	--
	01/18/05	36	--	54.4	424	<0.002	<0.002	<0.002	<0.006
	03/04/05	36	--	35	398	--	--	--	--
	04/19/05	40	--	44	388	--	--	--	--

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

Sample Location/ Lab*	Date	Chloride (mg/L)	Chloride (strip, ppm)	Sulfate (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)
	05/27/05	40	--	56	434	--	--	--	--
	06/22/05	32	--	68	436	--	--	--	--
	07/22/05	44	--	54	433	--	--	--	--
	08/19/05	40	--	53	411	--	--	--	--
	09/07/05	32	32	--	385	--	--	--	--
	10/11/05	40	<29	--	345	--	--	--	--
Hall	10/11/05	35	--	--	400	--	--	--	--
	11/11/05	32	<29	35	360	--	--	--	--
Hall	11/11/05	28	--	64	340	--	--	--	--
Hall	11/17/05	28	<29	64	380	--	--	--	--
	12/20/05	44	46	93	401	--	--	--	--
Hall	12/20/05	39	--	63	380	--	--	--	--
	01/23/06	44	37	--	387	--	--	--	--
	02/27/06	52	29	--	392	--	--	--	--
	04/04/06	32	<29	--	377	--	--	--	--
Argon	04/04/06	26	--	--	370	--	--	--	--
MW-5	04/08/06	40	46	--	369	<0.002	<0.002	<0.002	<0.006
Hall	04/08/06	31	--	83	410	--	--	--	--
MW-6	04/08/06	36	39	--	372	<0.002	<0.002	<0.002	<0.006
Hall	04/08/06	30	--	76	400	--	--	--	--
MW-7	04/08/06	148	156	--	672	<0.002	<0.002	<0.002	<0.006
Hall	04/08/06	160	--	81	600	--	--	--	--
NM WQCC Groundwater		**250**		**600**	**1,000**	**0.010**	**0.750**	**0.750**	**0.650**

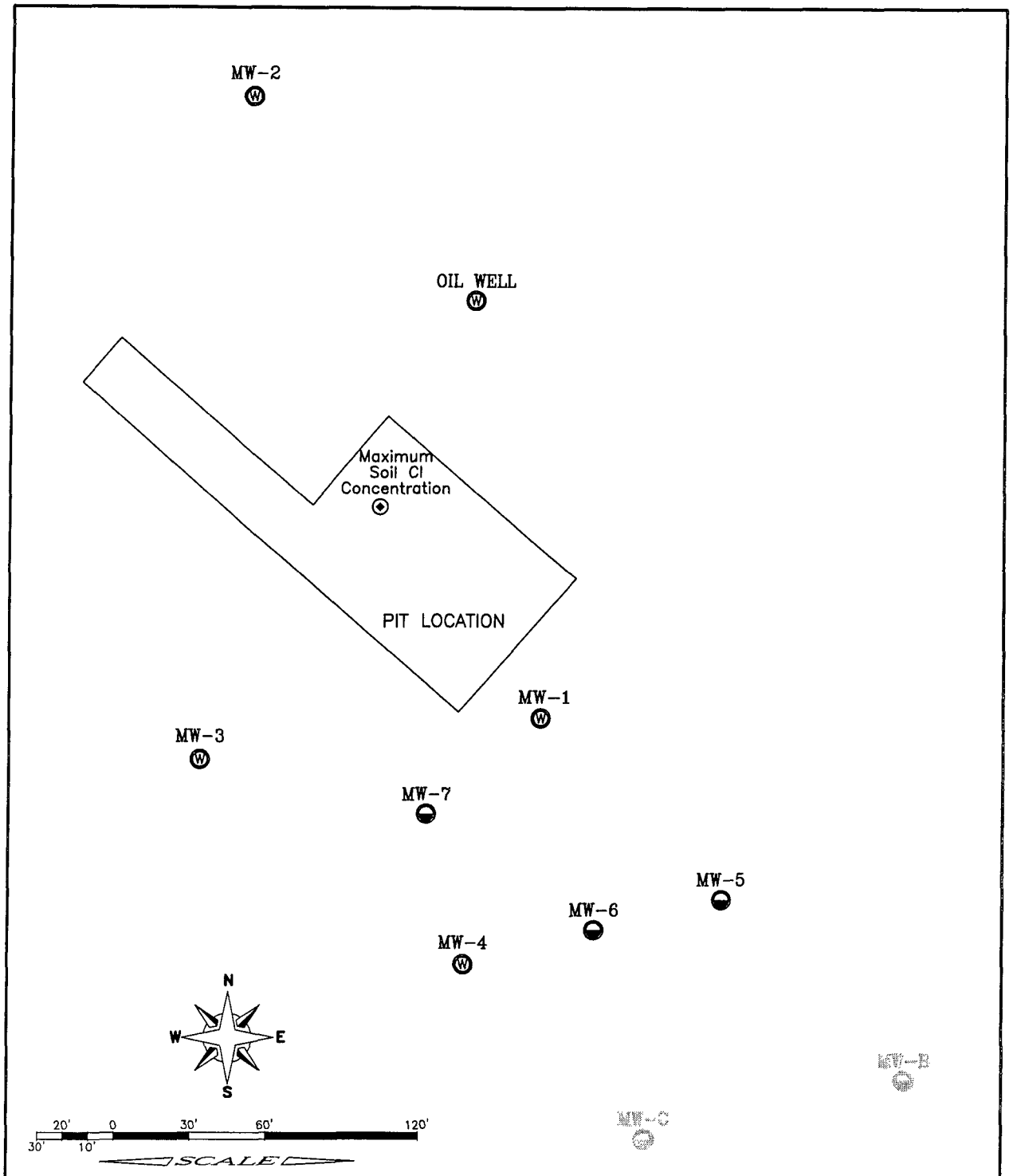
*Analyses by Cardinal Laboratories, Hobbs NM unless otherwise shown

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



Name: LOVINGTON
Date: 4/24/2006
Scale: 1 inch equals 2000 feet

Location: 032° 53' 10.06" N 103° 17' 02.74" W NAD 27
Caption: Figure 1. Vicinity Map, Monsanto 30, State #4



LEGEND:

MW-3 EXISTING MONITOR WELL LOCATION

MW-5 MONITOR WELL INSTALLED APRIL 4-6, 2006

DRAWING TITLE

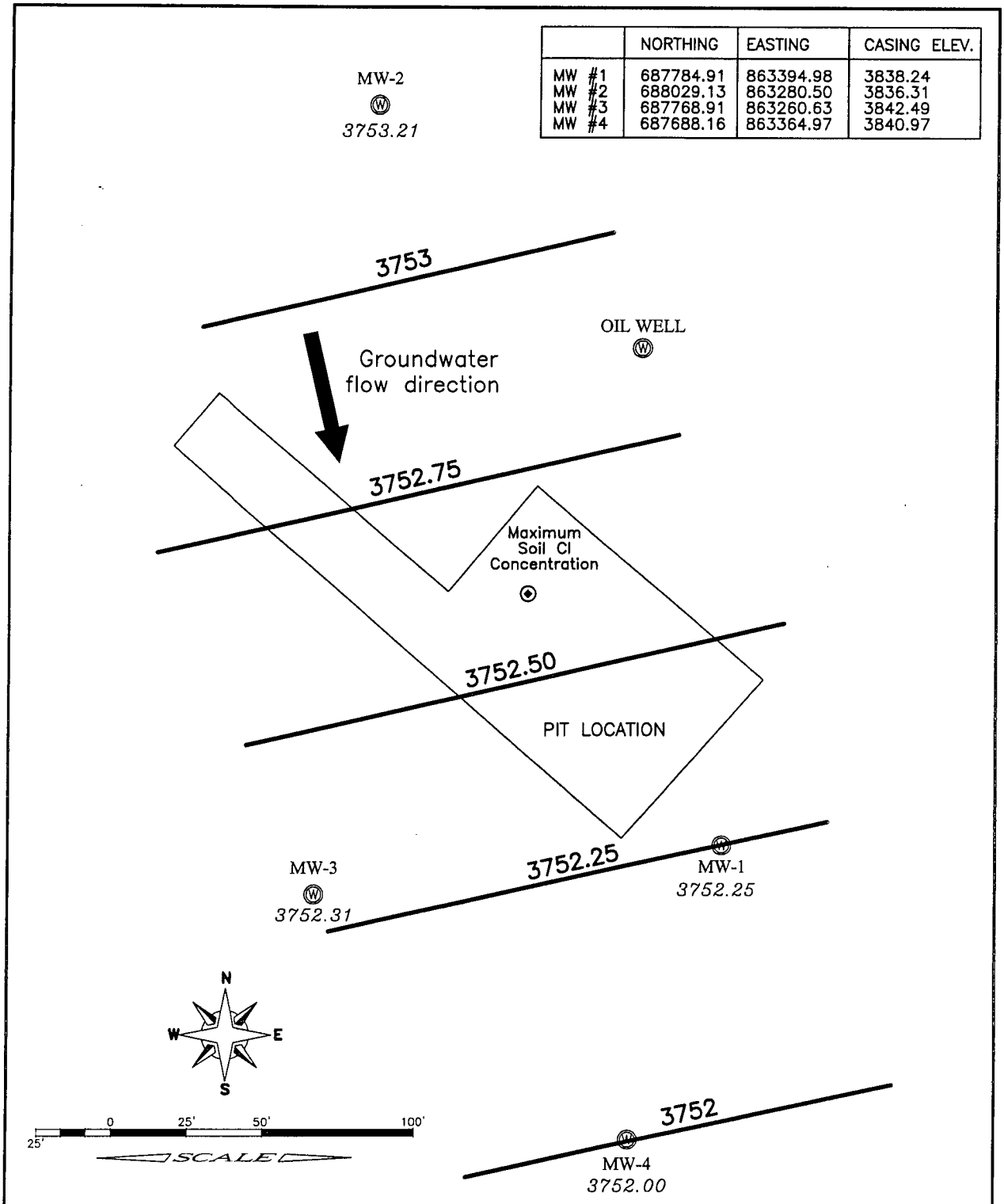
FIGURE 2

SITE PLAN

MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4

DRAWN BY	CHK'D BY	SCALE	
EJS	DB	1" = 60'-0"	
DATE	APPR BY	DRAWING NUMBER	REV.
12-29-05	-	Monsanto4_9.dwg	0

	NORTHING	EASTING	CASING ELEV.
MW #1	687784.91	863394.98	3838.24
MW #2	688029.13	863280.50	3836.31
MW #3	687768.91	863260.63	3842.49
MW #4	687688.16	863364.97	3840.97



LEGEND:

MW-3 (W) 3752.31 — MONITOR WELL LOCATION W/GROUNDWATER ELEVATION (FT. ABOVE MSL)

GROUNDWATER COUTOUR INTERVAL 0.25'

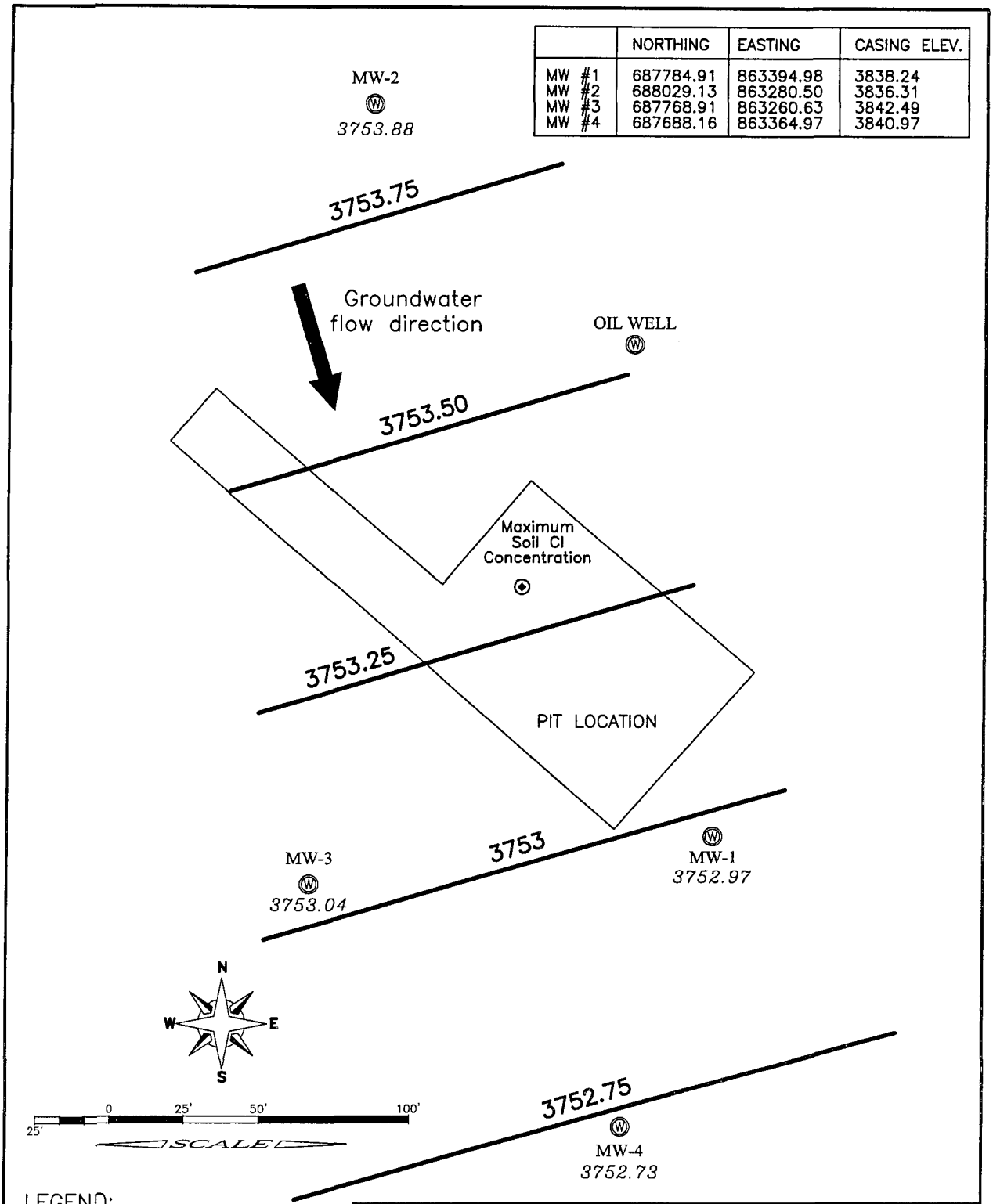
DRAWING TITLE

FIGURE 3
GROUNDWATER
ELEVATION MAP
AUGUST 24, 2004

MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4

DRAWN BY	CHK'D BY	SCALE	
EJS	DB	1" = 50'-0"	
DATE	APPR BY	DRAWING NUMBER	REV.
12-29-05	–	Monsanto4_5.DWG	0

	NORTHING	EASTING	CASING ELEV.
MW #1	687784.91	863394.98	3838.24
MW #2	688029.13	863280.50	3836.31
MW #3	687768.91	863260.63	3842.49
MW #4	687688.16	863364.97	3840.97



LEGEND:

MW-3 (W) 3753.04 — MONITOR WELL LOCATION W/GROUNDWATER ELEVATION (FT. ABOVE MSL)

GROUNDWATER COUTOUR INTERVAL 0.25'

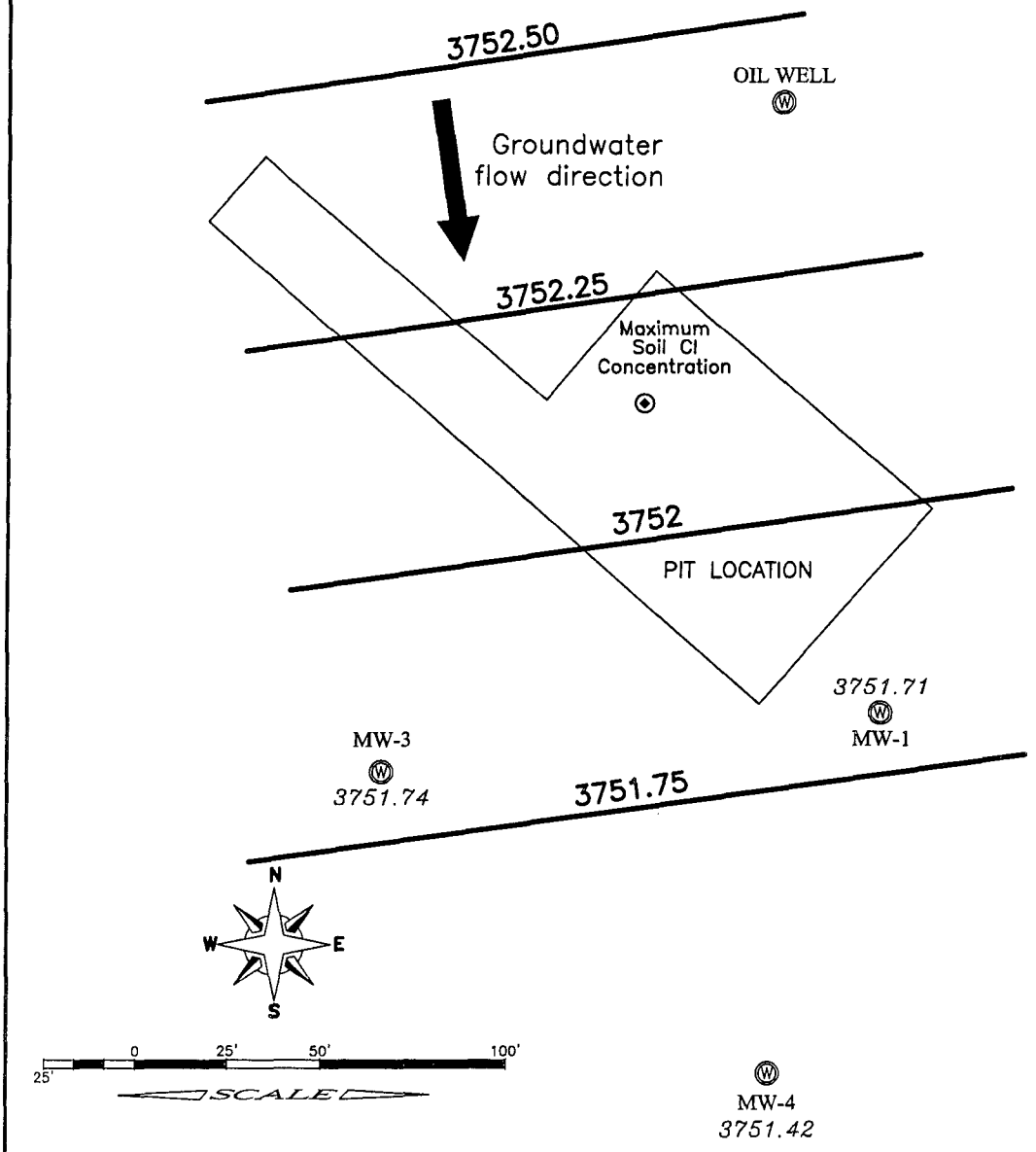
DRAWING TITLE

FIGURE 4
GROUNDWATER ELEVATION MAP
MARCH 4, 2005

MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4

DRAWN BY	CHK'D BY	SCALE	
EJS	DB	1" = 50'-0"	
DATE	APPR BY	DRAWING NUMBER	REV.
12-29-05	–	Monsanto4_5.DWG	0

	NORTHING	EASTING	CASING ELEV.
MW #1	687784.91	863394.98	3838.24
MW #2	688029.13	863280.50	3836.31
MW #3	687768.91	863260.63	3842.49
MW #4	687688.16	863364.97	3840.97



LEGEND:

MW-3 (W) 3751.81 — MONITOR WELL LOCATION W/GROUNDWATER ELEVATION (FT. ABOVE MSL)

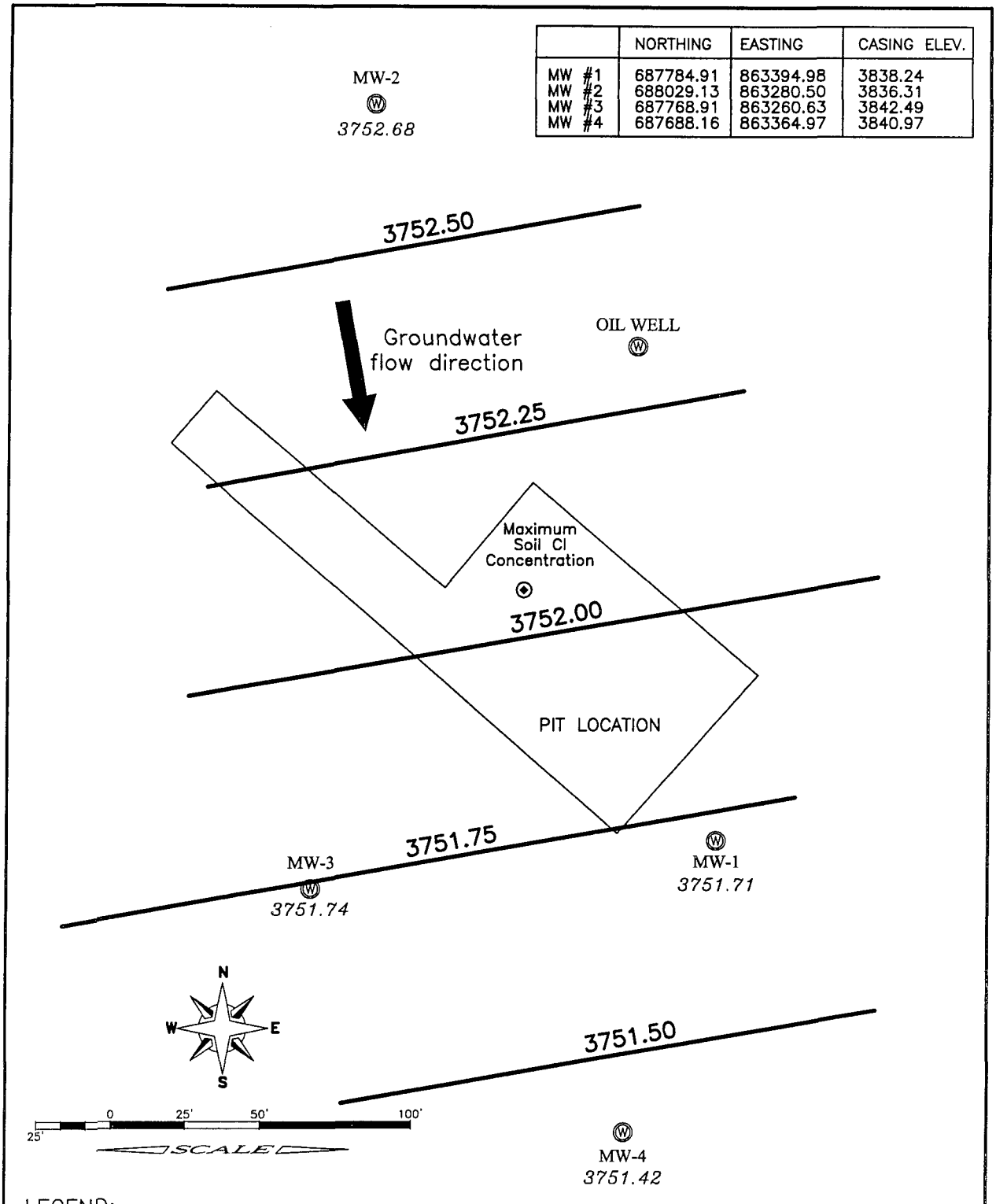
GROUNDWATER COUTOUR INTERVAL 0.25'

DRAWING TITLE: FIGURE 5 GROUNDWATER ELEVATION MAP SEPTEMBER 7, 2005

MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4

DRAWN BY	CHK'D BY	SCALE	
EJS	DB	1" = 50'-0"	
DATE	APPR BY	DRAWING NUMBER	REV.
12-29-05	–	Monsanto4_5.DWG	0

	NORTHING	EASTING	CASING ELEV.
MW #1	687784.91	863394.98	3838.24
MW #2	688029.13	863280.50	3836.31
MW #3	687768.91	863260.63	3842.49
MW #4	687688.16	863364.97	3840.97



LEGEND:

MW-3 3751.74 — MONITOR WELL LOCATION W/GROUNDWATER ELEVATION (FT. ABOVE MSL)

GROUNDWATER COUTOUR INTERVAL 0.25'

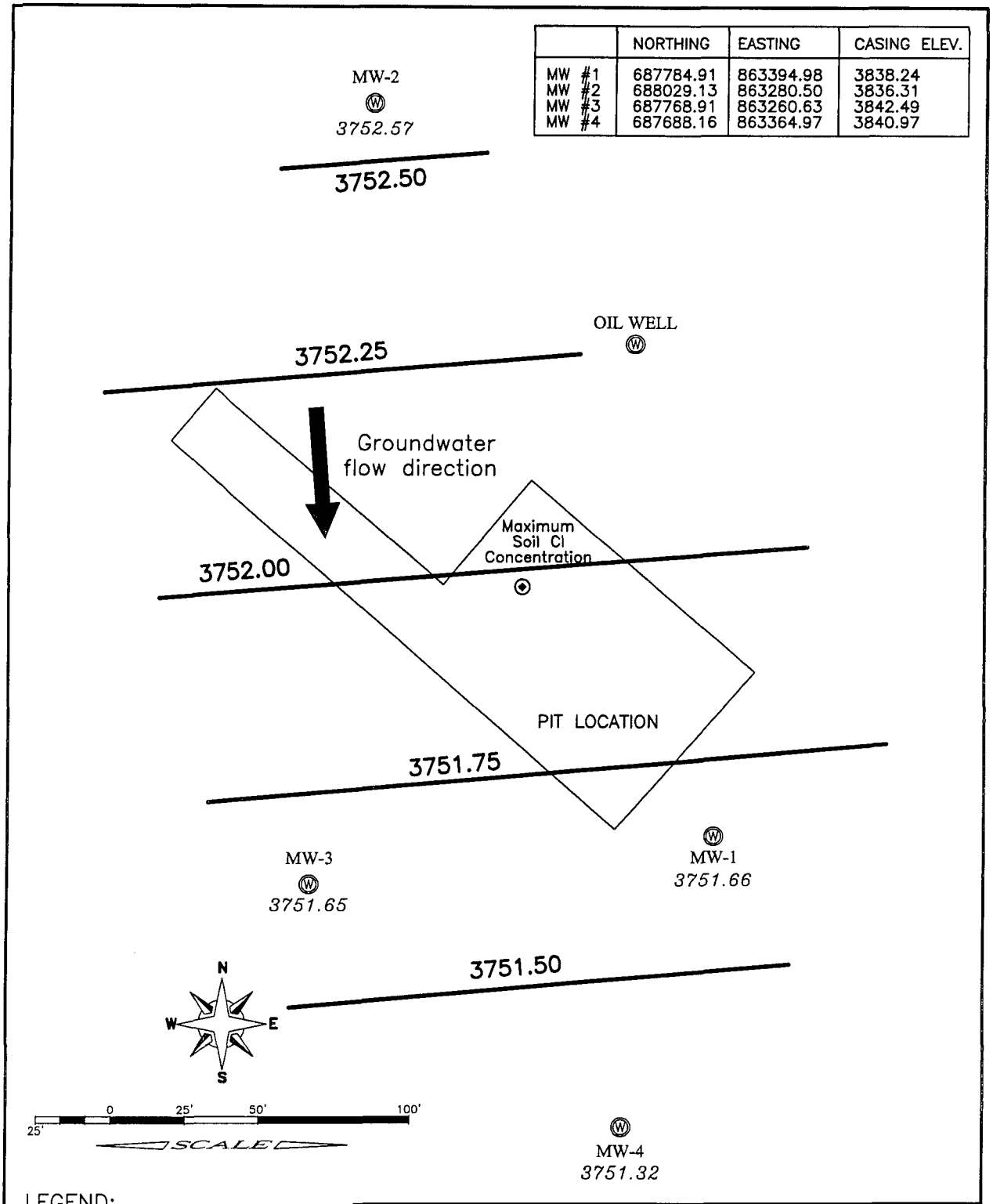
DRAWING TITLE

FIGURE 6
GROUNDWATER ELEVATION MAP
NOVEMBER 11, 2005

MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4

DRAWN BY	CHK'D BY	SCALE	
EJS	DB	1" = 50'-0"	
DATE	APPR BY	DRAWING NUMBER	REV.
12-29-05	–	Monsanto4_5.DWG	0

	NORTHING	EASTING	CASING ELEV.
MW #1	687784.91	863394.98	3838.24
MW #2	688029.13	863280.50	3836.31
MW #3	687768.91	863260.63	3842.49
MW #4	687688.16	863364.97	3840.97



LEGEND:

MW-3 (W) 3751.65 — MONITOR WELL LOCATION W/GROUNDWATER ELEVATION (FT. ABOVE MSL)

GROUNDWATER COUTOUR INTERVAL 0.25'

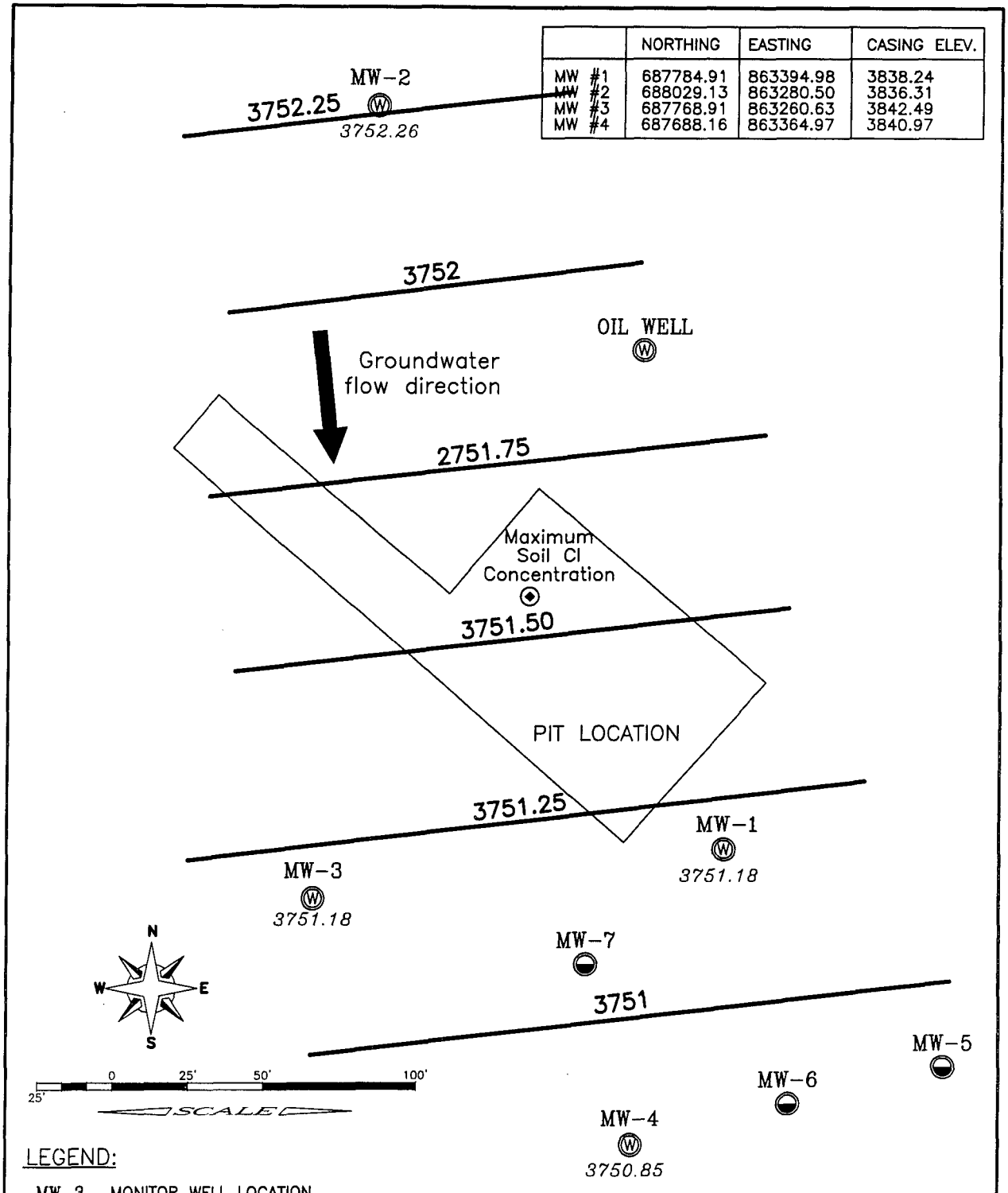
DRAWING TITLE

FIGURE 7
GROUNDWATER ELEVATION MAP
DECEMBER 20, 2005

MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4

DRAWN BY	CHK'D BY	SCALE	
EJS	DB	1" = 50'-0"	
DATE	APPR BY	DRAWING NUMBER	REV.
12-29-05	–	Monsanto4_5.DWG	0

	NORTHING	EASTING	CASING ELEV.
MW #1	687784.91	863394.98	3838.24
MW #2	688029.13	863280.50	3836.31
MW #3	687768.91	863260.63	3842.49
MW #4	687688.16	863364.97	3840.97



LEGEND:

MW-3 (W) 3751.18 — MONITOR WELL LOCATION W/GROUNDWATER ELEVATION (FT. ABOVE MSL)

MW-7 — MONITOR WELL INSTALLED APRIL 4–6, 2006

GROUNDWATER COUTOUR INTERVAL 0.25'

DRAWING TITLE

FIGURE 8
GROUNDWATER ELEVATION MAP
APRIL 4, 2006

MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4

DRAWN BY	CHK'D BY	SCALE	
EJS	DB	1" = 50'-0"	
DATE	APPR BY	DRAWING NUMBER	REV.
04-17-06	–	Monsanto_0406	0

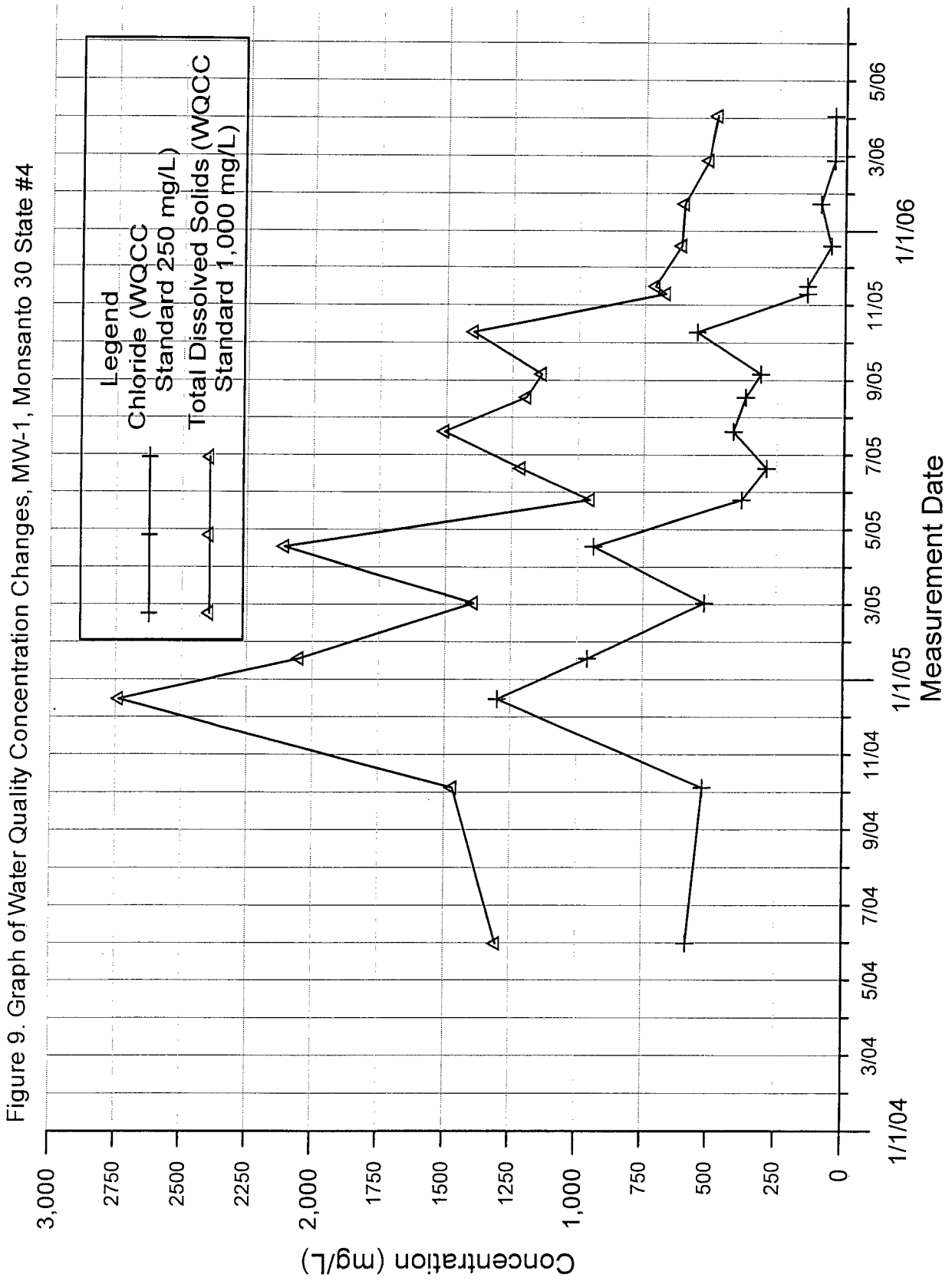
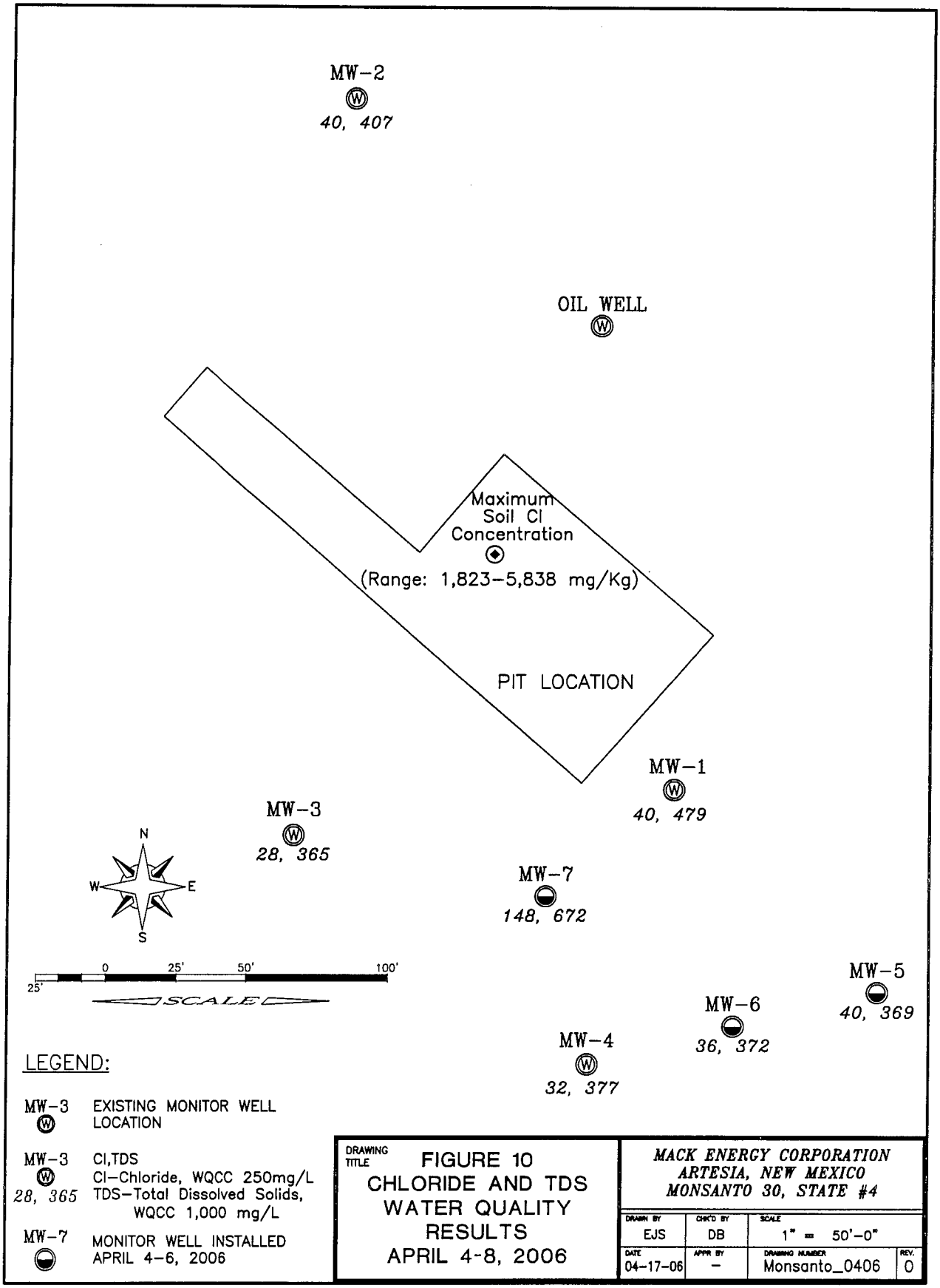


Figure 9. Graph of Water Quality Concentration Changes, MW-1, Monsanto 30 State #4


MW-2
40, 407
OIL WELL
Maximum
Soil Cl
Concentration
(Range: 1,823-5,838 mg/Kg)
PIT LOCATION
MW-1
40, 479
MW-3
28, 365
MW-7
148, 672
N
W
E
S
0
25'
50'
100'
25'
SCALE
MW-5
40, 369
MW-6
36, 372
MW-4
32, 377
LEGEND:
MW-3 EXISTING MONITOR WELL LOCATION
MW-3 Cl,TDS
28, 365 Cl-Chloride, WQCC 250mg/L
TDS-Total Dissolved Solids, WQCC 1,000 mg/L
MW-7 MONITOR WELL INSTALLED APRIL 4-6, 2006
DRAWING TITLE
FIGURE 10
CHLORIDE AND TDS
WATER QUALITY
RESULTS
APRIL 4-8, 2006
MACK ENERGY CORPORATION
ARTESIA, NEW MEXICO
MONSANTO 30, STATE #4
DRAWN BY EJS
CHK'D BY DB
SCALE 1" = 50'-0"
DATE 04-17-06
APPR BY -
DRAWING NUMBER Monsanto_0406
REV. 0

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 since 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 since last measured (feet)
MW-3	3842.49	07/08/04	90.15	3,752.34	12.8	- -
102.92		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 Solutions, Inc.

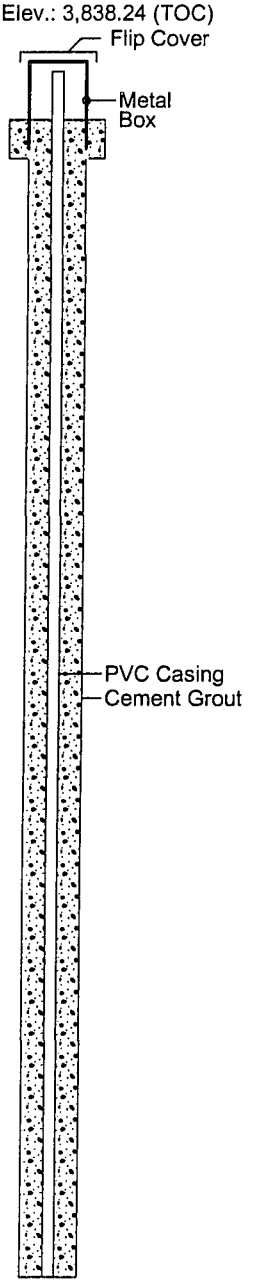
LOG OF WELL MW-1

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

Date, Time Started	: 05/21/04, 1135	Drilled By	: Eades, Atkins Eng. Assc.
Date, Time Completed	: 05/29/04, 1400	Logged By	: D.G. Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: 687784.91
Drilling Method	: Air Rotary, Hollow-Stem Auger	Easting Coordinate	: 863394.98
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
0	CA/SW		Log from cuttings 0-5 ft. Top soil, CALICHE, and SAND, , very light brown, sand fine grained.
5			8-10 ft. SAND, light brown, very fine grained, no H/C stain or odor
10			13-15 ft. SAND, same as above, occasional caliche fragments <1/8", no H/C stain or odor
15			18-20 ft. SAND, light brown, very fine to fine grained, uniform, no H/C stain or odor
20			23-25 ft. SAND, light brown, very fine to fine grained, occasional sandstone/ caliche fragments, no H/C stain or odor
25			28-30 ft. SAND, light brown, very fine to fine grained, harder drilling, chatter 31-32 ft., 35-36 ft., no H/C stain or odor
30	SW		33-35 ft. SAND, light brown, very fine to fine grained, occasional sandstone fragments, hard, brown, slightly damp, no H/C stain or odor
35			38-40 ft. SAND, light brown, very fine grained, occasional sandstone fragments, no H/C stain or odor
40			43-45 ft. SAND, light brown, very fine grained, frequent sandstone fragments, no H/C stain or odor
45			48-50 ft. SAND, as above, with sandstone fragments, very dry,no H/C stain or odor
50			53-55 ft. SAND, light brown, very fine to fine grained, occ. sandstone frags (<1/8")
55			58-60 ft. SAND, as above, few sandstone fragments, no H/C stain or odor
60			



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	: APSCO
Screen type	: Slotted, prepacked
Screen length	: 20 ft.
Screen opening	: 0.020 slot
Scrn. placement	: 80-100 ft. BLS
Bottom Cap	: 0.2 ft PVC
Protector Casing	: Above-ground steel
Lock Key #	: 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 cement pad.

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

Notes:
On 07/01/04, DTW 85.99 ft. BTOC
TOC 3.1 ft. ALS
DTW 82.8 ft. BLS

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Safety & Environmental Solutions, Inc.

LOG OF WELL MW-1

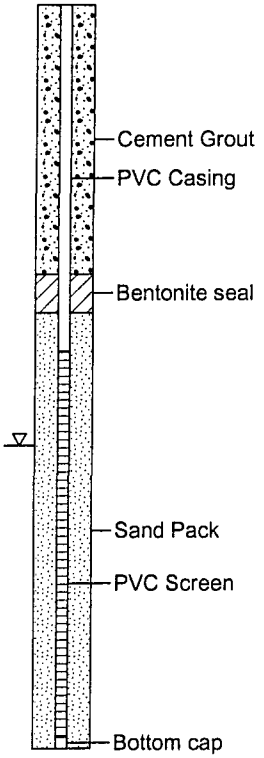
New Monitor Well Installation
Monsanto #30, State #4
Unit P, Section 30, Township 16S, Range 37E
Lea County, New Mexico
Mack Energy Corporation, Artesia, NM

Date, Time Started	: 05/21/04, 1135	Drilled By	: Eades, Atkins Eng. Assc.
Date, Time Completed	: 05/29/04, 1400	Logged By	: D.G. Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: 687784.91
Drilling Method	: Air Rotary, Hollow-Stem Auger	Easting Coordinate	: 863394.98
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
60–65	SW		63-65 ft. SAND, light brown, very fine grained, clean, no fragments, no H/C stain or odor
65–70			68-70 ft. SAND, as above, occ. small sandstone fragments, no H/C stain or odor
70–75			73-75 ft. SAND, light brown, very fine to fine grained, frequent sandstone fragments, drill chatter 73-75 ft.
75–80			78-80 ft. SAND, light brown, very fine to fine grained, slightly damp, clean (no fragments), no H/C stain or odor
80–85			83-85 ft. SAND, light brown, very fine to *fine grained, clean, damp (likely at water),* no H/C stain or odor
85–90			88-90 ft. SAND, as above, little returns, hole plugged, pulled bit out to 60 ft. and cleaned.
90–95			93-95 ft. SAND, brown, very fine to fine grained, clean, damp
95–100			98-100 ft. SAND, as above, total depth 100 ft., cleaned out hole and tripped out.
100–120			

Well: MW-1
Elev.: 3,838.24 (TOC)



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	: APSCO
Screen type	: Slotted, prepacked
Screen length	: 20 ft.
Screen opening	: 0.020 slot
Scrn. placement	: 80-100 ft. BLS
Bottom Cap	: 0.2 ft PVC
Protector Casing	: Above-ground steel
Lock Key #	: 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 cement pad.

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

Notes:
On 07/01/04, DTW 85.99 ft. BTOC
TOC 3.1 ft. ALS
DTW 82.8 ft. BLS

\\Sescentral\e\SESCentral\Company Files\Mack Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-1.bor

Safety & Environmental Solutions, Inc.

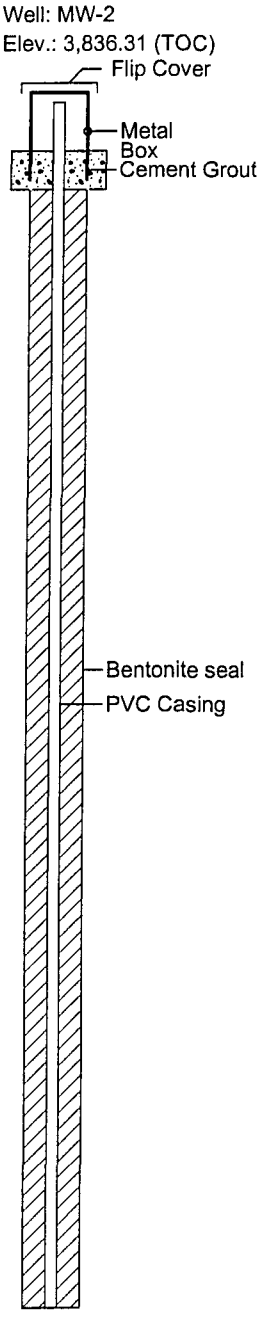
LOG OF WELL MW-2

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

Date, Time Started	: 07/02/04, 0730	Drilled By	: Eco Drilling
Date, Time Completed	: 07/02/04, 1630	Logged By	: Jerry Brian
Hole Diameter	: 8 1/4"	Northing Coordinate	: 688029.13
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: 863280.50
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
0			CLAYEY SAND, Log from cuttings
			0-5 ft. CALICHE, 1/4" fragments, dry
5	CA		5-10 ft. Silty CALICHE, 1/4" fragments, dry
10			10-15 ft. SAND, reddish brown, very fine grained, dry
15			15-20 ft. SAND, reddish brown, very fine grained, dry
20			20-25 ft. SAND, reddish brown, very fine grained, dry
25			25-30 ft. SAND, reddish brown, very fine grained, dry
30			30-35 ft. SAND, reddish brown, very fine grained, dry
35	SW		35-40 ft. SAND, reddish brown, very fine grained, dry
40			40-45 ft. SAND, reddish brown, very fine grained, dry
45			45-50 ft. SAND, reddish brown, very fine grained, dry
50			50-55 ft. SAND, reddish brown, very fine grained, dry
55			55-60 ft. SAND, reddish brown, very fine grained, dry
60			



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	:
Screen type	: Slotted
Screen length	: 15 ft., prepacked
Screen opening	: 0.020 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	: 4 bags to surface
Annular seal type	: Bentonite
Seal placement	: 24 bags to 2 ft.
Sand pack type	:
Sand placement	: 5 bags to 78 ft.

ELEVATIONS.

Ground elevation	:
Inner casing, lip	: 3,836.31
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

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

Safety & Environmental Solutions, Inc.

LOG OF WELL MW-2

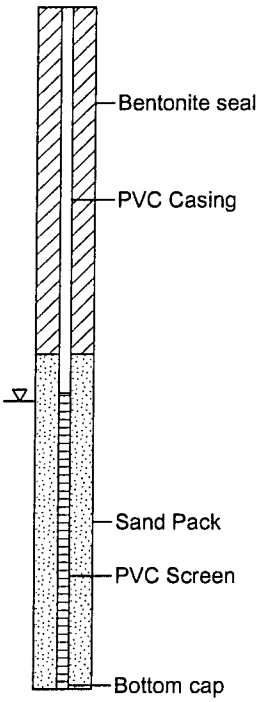
New Monitor Well Installation
Monsanto #30, State #4
Unit P, Section 30, Township 16S, Range 37E
Lea County, New Mexico
Mack Energy Corporation, Artesia, NM

Date, Time Started	: 07/02/04, 0730	Drilled By	: Eco Drilling
Date, Time Completed	: 07/02/04, 1630	Logged By	: Jerry Brian
Hole Diameter	: 8 1/4"	Northing Coordinate	: 688029.13
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: 863280.50
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
60			
65	SW		60-65 ft. SAND, reddish brown, very fine grained, dry
70	SW		65-70 ft. SAND, reddish brown, very fine grained, dry
75	SM		70-75 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
80	SM		75-80 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
85	SM		80-85 ft. SILTY SAND, reddish brown, very fine grained, slightly damp, no H/C stain or odor
90	SM		85-90 ft. SILTY SAND, reddish brown, very fine grained, less returns, saturated 89-90 ft., no H/C stain or odor
95	SW		90-95 ft. SAND, saturated, no H/C stain or odor
100			
105			
110			
115			
120			

Well: MW-2
Elev.: 3,836.31 (TOC)



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	:
Screen type	: Slotted
Screen length	: 15 ft., prepacked
Screen opening	: 0.020 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	: 4 bags to surface
Annular seal type	: Bentonite
Seal placement	: 24 bags to 2 ft.
Sand pack type	:
Sand placement	: 5 bags to 78 ft.

ELEVATIONS.

Ground elevation	:
Inner casing, lip	: 3,836.31
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

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

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Safety & Environmental Solutions, Inc.

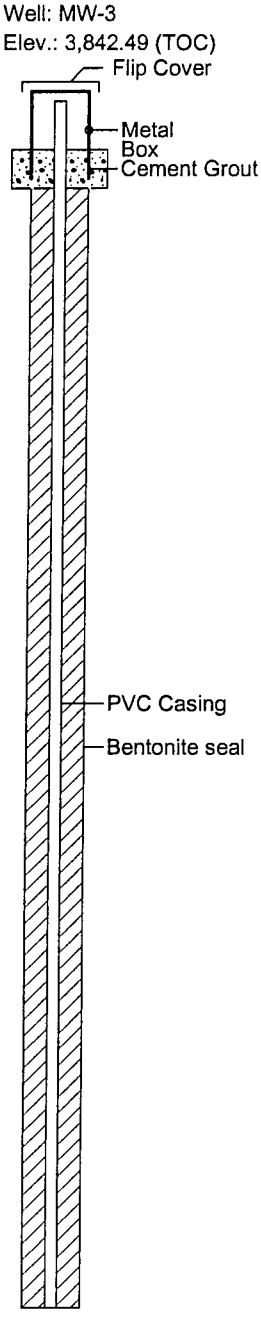
LOG OF WELL MW-3

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

Date, Time Started	: 07/06/04, 1125	Drilled By	: Eco Drilling
Date, Time Completed	: 07/07/04, 1300	Logged By	: Jerry Brian
Hole Diameter	: 8 1/4"	Northing Coordinate	: 687768.91
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: 863260.63
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
0	CA		Log from cuttings 0-5 ft. CALICHE, 1/4" fragments, dry, some light brown, very fine grained sand
5	CA/SW		5-10 ft. CALICHE, 1/4 in. fragments, SAND, light brown, very fine grained, no H/C stain or odor
10	SW		12-15 ft. SAND, tan to reddish-brown, very fine grained, damp
15	SM		15-20 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
20			20-25 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
25			25-30 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
30			30-35 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
35			35-40 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
40			40-45 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
45			45-50 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
50			50-55 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
55			55-60 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
60			



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	:
Screen type	: Slotted
Screen length	: 15 ft., prepacked
Screen opening	: 0.020 slot
Scrn. placement	: 85-100 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	: 4 bags to surface
Annular seal type	: Bentonite
Seal placement	: 24 bags to 2 ft.
Sand pack type	:
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

Notes:
On 07/07/04, DTW 90.15 ft. BTOC
TOC 2.91 ft. ALS
DTW 87.24 ft. BLS

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Safety & Environmental Solutions, Inc.

LOG OF WELL MW-3

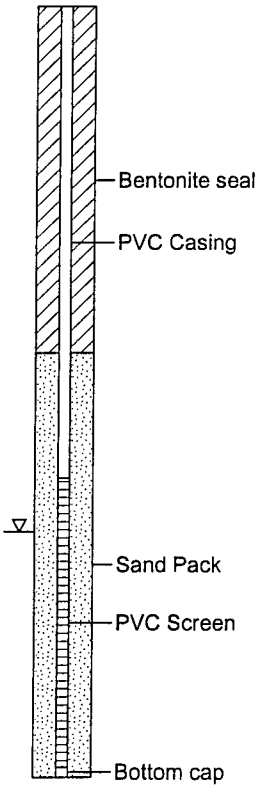
New Monitor Well Installation
Monsanto #30, State #4
Unit P, Section 30, Township 16S, Range 37E
Lea County, New Mexico
Mack Energy Corporation, Artesia, NM

Date, Time Started	: 07/06/04, 1125	Drilled By	: Eco Drilling
Date, Time Completed	: 07/07/04, 1300	Logged By	: Jerry Brian
Hole Diameter	: 8 1/4"	Northing Coordinate	: 687768.91
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: 863260.63
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
60			60-65 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
65			65-70 ft. SILTY SAND, reddish brown, very fine grained, dry, no H/C stain or odor
70	SM		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			80-85 ft. SAND, reddish brown, very fine grained, damp, no H/C stain or odor
85			85-90 ft. SAND, reddish brown, very fine grained, saturated 89-90 ft., no H/C stain or odor
90	SW		90-95 ft. SAND, saturated, no H/C stain or odor
95			95-100 ft. SAND, saturated, no H/C stain or odor
100			
105			
110			
115			
120			

Well: MW-3
Elev.: 3,842.49 (TOC)



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	:
Screen type	: Slotted
Screen length	: 15 ft., prepacked
Screen opening	: 0.020 slot
Scrn. placement	: 85-100 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	: 4 bags to surface
Annular seal type	: Bentonite
Seal placement	: 24 bags to 2 ft.
Sand pack type	:
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

Notes:
On 07/07/04, DTW 90.15 ft. BTOC
TOC 2.91 ft. ALS
DTW 87.24 ft. BLS

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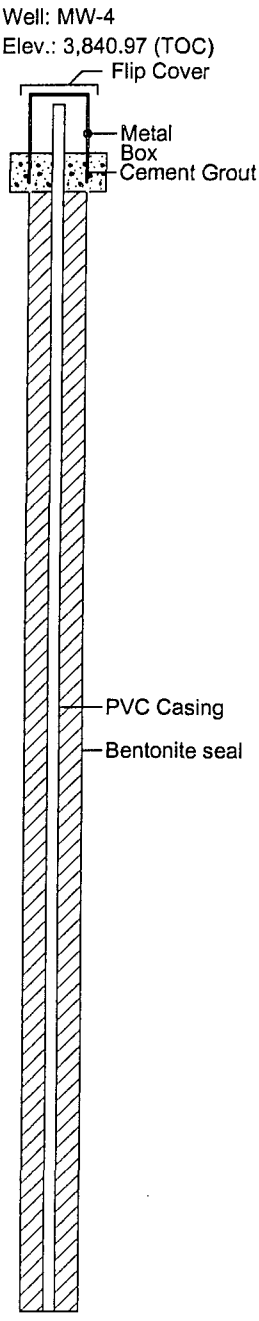
LOG OF WELL MW-4

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

Date, Time Started	: 08/10/04, 0815	Drilled By	: Eco Drilling
Date, Time Completed	: 08/10/04, 1500	Logged By	: Dave Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: 687688.16
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: 863364.97
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
0	CA/ML		*Log from cuttings* 0-5 ft. CALICHE and SANDY SILT, large caliche fragments to 2", creme color
5	SM		5-10 ft. SILTY SAND, very light brown, very fine grained, occasional caliche fragments to 1/4"
10			10-15 ft. SAND, light brown, very fine grained, minor silt, occasional small caliche fragments, no H/C stain or odor
15			15-20 ft. SAND, reddish brown, very fine grained, drylight brown, very fine grained, occasional small caliche fragments <1/8"
20			20-25 ft. SAND, light brown, very fine grained, occasional white caliche chips
25			25-30 ft. SAND, same as above
30			30-35 ft. SAND, same as above
35	SW		35-40 ft. SAND, light brown, very fine grained, uniform, occasional caliche/sandstone chips to 1/8", no H/C stain or odor
40			40-45 ft. SAND, same as above
45			45-50 ft. SAND, same as above
50			50-55 ft. SAND, same as above
55			55-60 ft. SAND, same as above
60			



Well Construction Information

COMPLETION DATA

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 length	: 15 ft., prepacked
Screen opening	: 0.020 slot
Scrn. placement	: 85-100 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	: 2 ft. to surface
Annular seal type	: Bentonite
Seal placement	: 62 ft. to 2 ft.
Sand pack type	:
Sand placement	: to 62 ft.

ELEVATIONS.

Ground elevation	:
Inner casing, lip	: 3,840.97
Outer casing, top	:

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

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

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Safety & Environmental Solutions, Inc.

LOG OF WELL MW-4

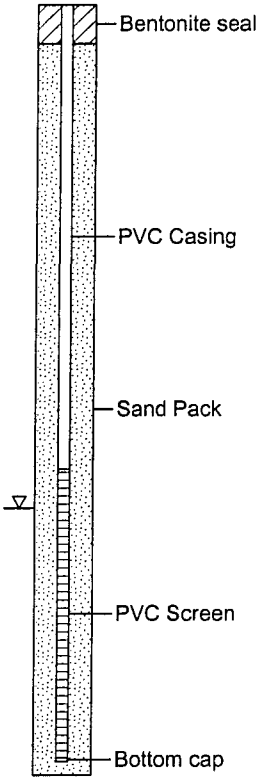
New Monitor Well Installation
Monsanto #30, State #4
Unit P, Section 30, Township 16S, Range 37E
. Lea County, New Mexico
Mack Energy Corporation, Artesia, NM

Date, Time Started	: 08/10/04, 0815	Drilled By	: Eco Drilling
Date, Time Completed	: *08/10/04, 1500*	*Logged By*	: *Dave Boyer*
Hole Diameter	: 8 1/4"	Northing Coordinate	: 687688.16
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: 863364.97
Sample Method	: Cuttings	Survey By	: Pettigrew & Assoc.

Water Levels
▼ During Drilling
▽ After Completion

Well: MW-4
Elev.: 3,840.97 (TOC)

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
60			60-65 ft. SAND, same as above
65			65-70 ft. SAND, same as above
70			70-75 ft. SAND, same as above
75			75-80 ft. SAND, light brown, very fine grained, very clean, uniform
80	SW		80-85 ft. SAND, brown, very fine grained, slightly damp, no H/C stain or odor
85			85-90 ft.SAND, brown, very fine grained, slightly damp, soft drilling around 87 ft.
90			90-95 ft. SAND, same as above, slightly damp
95			95-100 ft. SAND, same as above, saturated when cleaning out hole
100			
105			
110			
115			
120			



Well Construction Information

COMPLETION DATA

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 length	: 15 ft., prepacked
Screen opening	: 0.020 slot
Scrn. placement	: 85-100 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	: 2 ft. to surface
Annular seal type	: Bentonite
Seal placement	: 62 ft. to 2 ft.
Sand pack type	:
Sand placement	: to 62 ft.

ELEVATIONS.

Ground elevation	:
Inner casing, lip	: 3,840.97
Outer casing, top	:

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

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

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Safety & Environmental Solutions, Inc.

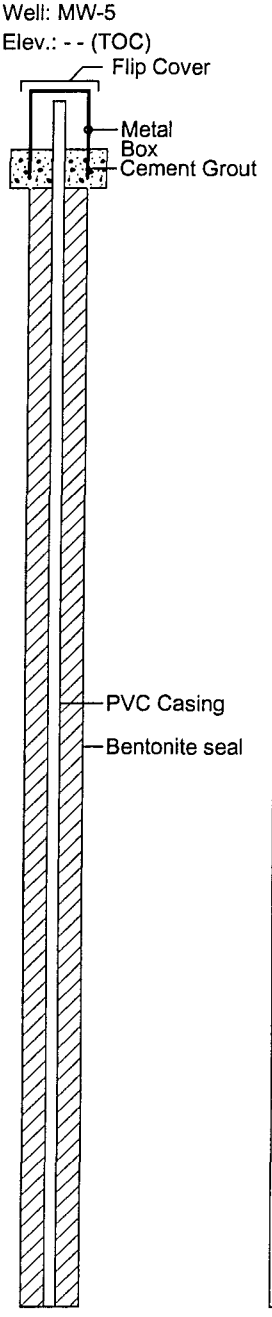
LOG OF WELL MW-5

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

Date, Time Started	: 04/04/06 0900	Drilled By	: EcoEnviro Drilling
Date, Time Completed	: 04/04/06 1700	Logged By	: Dave Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: - -
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: - -
Sample Method	: Cuttings	Survey By	: - -

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
0	CA		Log from cuttings 0-3.5 ft. CALICHE, creame white, hard drilling.
5			3.5-5 ft. SAND, light brown, very fine grained, dry 5-10 ft. SAND, very light brown, very fine grained, uniform, dry
10			10-15 ft. SAND, very light brown, very fine grained, dry, occasional sandstone stringers, less than 2" thick (from driller)
15			15-20 ft. SAND, same as above
20			20-25 ft. SAND, same as above
25			25-30 ft. SAND, same as above
30	SW		30-35 ft. SAND, same as above, slightly damp
35			35-40 ft. SAND, same as above
40			40-45 ft. SAND, same as above
45			45-50 ft. SAND, same as above
50			50-55 ft. SAND, same as above
55			55-60 ft. SAND, same as above
60			



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	:
Screen type	: Slotted
Screen length	: 15 ft., U-pack, packed : with 16/32 sand
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	: 2 ft. to surface
Annular seal type	: Hole-plug bentonite : 3/8" chips
Seal placement	: 28 bags to 2 ft.
Sand pack type	: 16/32 Oglebay-Norton
Sand placement	: 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

Notes:
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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Safety & Environmental Solutions, Inc.

LOG OF WELL MW-5

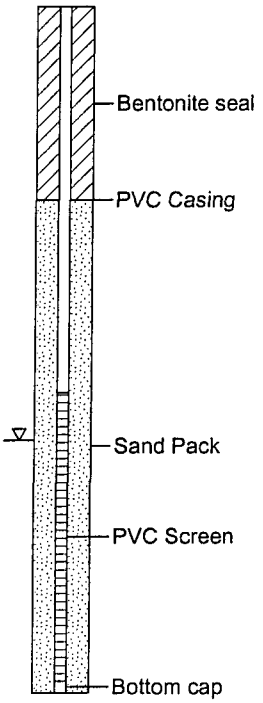
New Monitor Well Installation
Monsanto #30, State #4
Unit P, Section 30, Township 16S, Range 37E
Lea County, New Mexico
Mack Energy Corporation, Artesia, NM

Date, Time Started	: 04/04/06 0900	Drilled By	: EcoEnviro Drilling
Date, Time Completed	: 04/04/06 1700	Logged By	: Dave Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: - -
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: - -
Sample Method	: Cuttings	Survey By	: - -

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
60			
	SW		60-65 ft. SAND, same as above
65			65-70 ft. SAND, same as above
70			70-75 ft. SAND, same as above
75			75-80 ft. SAND, same as above
80			80-85 ft. SAND, same as above
85			85-87 ft.SAND, same as above
	SS		87-89 ft. SANDSTONE, hard drilling
90	SW		89-95 ft. SAND, light brown, very fine grained
95			
100			
105			
110			
115			
120			

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



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	:
Screen type	: Slotted
Screen length	: 15 ft., U-pack, packed : with 16/32 sand
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	: 2 ft. to surface
Annular seal type	: Hole-plug bentonite : 3/8" chips
Seal placement	: *28 bags to 2 ft.*
Sand pack type	: 16/32 Oglebay-Norton
Sand placement	: 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

Notes:
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.

\\Sescentral\e\SESCentral\Company Files\Mack Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-5.bor

Safety & Environmental Solutions, Inc.

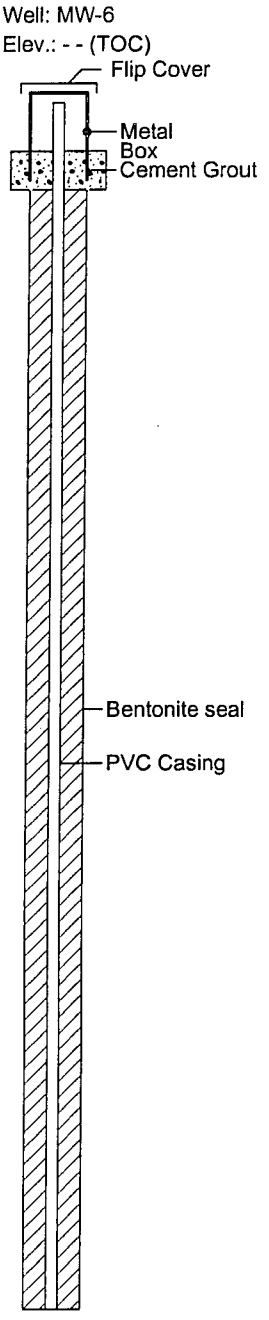
LOG OF WELL MW-6

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

Date, Time Started	: 04/05/06 0830	Drilled By	: EcoEnviro Drilling
Date, Time Completed	: 04/05/06 1700	Logged By	: Dave Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: - -
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: - -
Sample Method	: Cuttings	Survey By	: - -

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
0	CA		Log from cuttings 0-4 ft. CALICHE, creame white, hard
5	SW		4-10 ft. SAND, light brown, very fine grained, dry, uniform
10			10-20 ft. SAND, light brown, very fine grained, dry, occasional thin sandstone stringers
15			
20			20-30 ft. SAND, same as above
25			
30			30-32 ft. SAND, same as above
	SS		32-34 ft. SANDSTONE, hard drilling
35	SW		34-40 ft. SAND, SAND, light brown, very fine grained, dry, uniform, occasional thin sandstone lens
40			40-50 ft. SAND, same as above with thin sandstone lens
45			
50			50-60 ft. SAND, same as above with thin sandstone lens
55			
60			



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	: U-Pack
Screen type	: Slotted 0.010 in.
Screen, bottom 10'	: 10 ft., U-pack : with 16/32 sand
Screen , top 10'	: 10 ft. 0.020 in. with 5'
(see install notes)	: 16/32 sand, 5' 8/16 sand
Scrn. placement	: 75-95 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	: 2 ft. to surface
Annular seal type	: Hole-plug bentonite : 3/8" chips
Seal placement	: 28 bags to 2 ft.
Sand pack type	: 8/16 Oglebay-Norton
Sand placement	: 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

Notes:
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.

\\Sescentral\e\SESCentral\Company Files\Mack Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-6.bor

Safety & Environmental Solutions, Inc.

LOG OF WELL MW-6

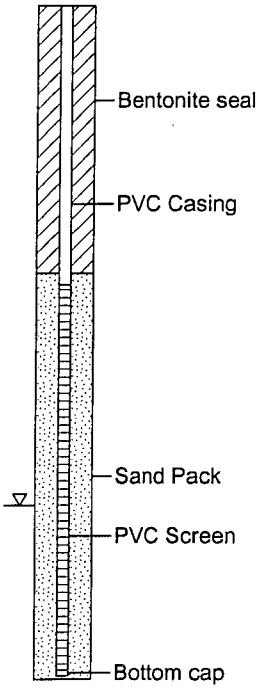
New Monitor Well Installation
Monsanto #30, State #4
Unit P, Section 30, Township 16S, Range 37E
Lea County, New Mexico
Mack Energy Corporation, Artesia, NM

Date, Time Started	: 04/05/06 0830	Drilled By	: EcoEnviro Drilling
Date, Time Completed	: 04/05/06 1700	Logged By	: Dave Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: - -
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: - -
Sample Method	: Cuttings	Survey By	: - -

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
60	SW		60-70 ft. SAND, same as above with thin sandstone lens
70			70-80 ft. SAND, same as above with thin sandstone lens
80			80-90 ft. SAND, same as above with thin sandstone lens
90			90-95 ft. SAND, light brown, very fine grained
95			
100			
105			
110			
115			
120			

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



Well Construction Information

COMPLETION DATA

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

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	: U-Pack
Screen type	: Slotted 0.010 in.
Screen, bottom 10'	: 10 ft., U-pack : with 16/32 sand
Screen , top 10' (see install notes)	: 10 ft. 0.020 in. with 5' : 16/32 sand, 5' 8/16 sand
Scrn. placement	: 75-95 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	: 2 ft. to surface
Annular seal type	: Hole-plug bentonite : 3/8" chips
Seal placement	: 28 bags to 2 ft.
Sand pack type	: 8/16 Oglebay-Norton
Sand placement	: 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

Notes:
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.

\\Sescentral\ES\Central\Company Files\Mack Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-6.bor

Safety & Environmental Solutions, Inc.

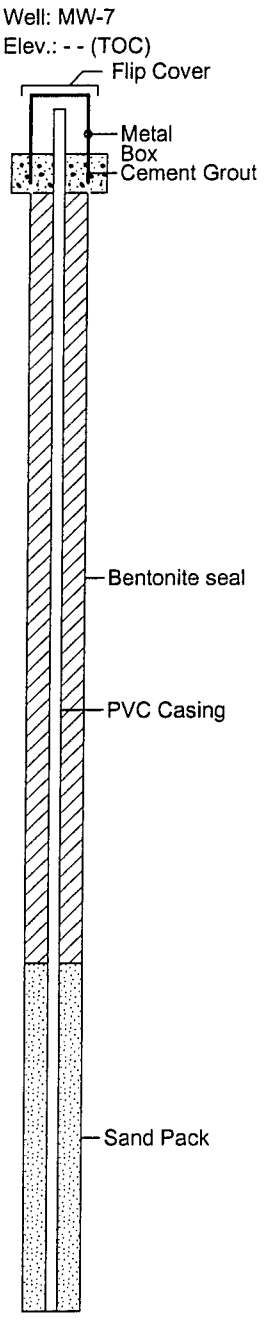
LOG OF WELL MW-7

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

Date, Time Started	: 04/06/06 0700	Drilled By	: EcoEnviro Drilling
Date, Time Completed	: 04/06/06 1200	Logged By	: Dave Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: - -
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: - -
Sample Method	: Cuttings	Survey By	: - -

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
0	CA		Log from cuttings 0-4 ft. CALICHE, gray-white, hard, well cemented
5			4-10 ft. SAND, light brown, very fine 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	SW		30-40 ft. SAND, same as above and occasional thin (inches) sandstone 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			
60			



Well Construction Information

COMPLETION DATA

Hole Depth	: 95 ft. Below LS
TD Inside casing	: 97.24 Below TOC

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	: U-pack
Screen type	: Slotted
Screen length	: 15 ft., packed : with 16/32 sand
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	: 2 ft. to surface
Annular seal type	: Hole-plug bentonite : 3/8" chips
Seal placement	: 30 bags to 2 ft.
Sand pack type	: 16/32 Oglebay-Norton
Sand placement	: 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

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.

\\Sescentral\e\SESCentral\Company Files\Mack Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-7.bor

Safety & Environmental Solutions, Inc.

LOG OF WELL MW-7

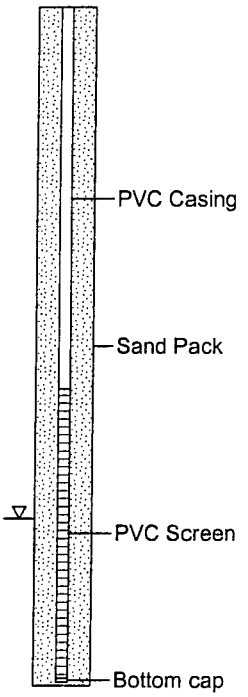
New Monitor Well Installation
Monsanto #30, State #4
Unit P, Section 30, Township 16S, Range 37E
Lea County, New Mexico
Mack Energy Corporation, Artesia, NM

Date, Time Started	: 04/06/06 0700	Drilled By	: EcoEnviro Drilling
Date, Time Completed	: 04/06/06 1200	Logged By	: Dave Boyer
Hole Diameter	: 8 1/4"	Northing Coordinate	: - -
Drilling Method	: Hollow-Stem Auger	Easting Coordinate	: - -
Sample Method	: Cuttings	Survey By	: - -

Water Levels
▼ During Drilling
▽ After Completion

Depth in Feet	USCS	GRAPHIC	DESCRIPTION
60	SW		60-70 ft. SAND and SS stringers, same as above
70			70-80 ft. SAND and SS stringers, same as above
80			80-90 ft. SAND and SS stringers, same as above
90			90-95 ft.SAND and SS stringers, same as above
95			
100			
105			
110			
115			
120			

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



Well Construction Information

COMPLETION DATA

Hole Depth	: 95 ft. Below LS
TD Inside casing	: 97.24 Below TOC

CASING, SCREEN & CAP

Material, joints	: PVC, threaded
Diameter	: 2 in. ID
Manufacturer	: U-pack
Screen type	: Slotted
Screen length	: 15 ft., packed with 16/32 sand
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	: 2 ft. to surface
Annular seal type	: Hole-plug bentonite : 3/8" chips
Seal placement	: 30 bags to 2 ft.
Sand pack type	: 16/32 Oglebay-Norton
Sand placement	: 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

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.

\\Sescentral\e\SESCentral\Company Files\Mack Energy\MAC-04-003 Monsanto 30 State 4\Boring Logs\MW-7.bor

Appendix C

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

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

LAB NUMBER	SAMPLE ID	Cl^- (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 Percent Difference		4.0

METHOD: Standard Methods	4500-Cl^-B

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

Amy Hill
Chemist

5/24/04
Date

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: SESI	BILL TO PO #:
Project Manager: Bob Allen	Company: SAME
Address: 703 E. CLINTON, #103	Attn: Brandi
City: HOBBS State: NM Zip: 88240	Address:
Phone #: (505) 397-0510	City:
Fax #: (505) 393-4388	State: Zip:
Project #: MAC-04-02 Project Owner: Mack Energy	Phone #:
Project Name: Monsanto 30, State #4	Fax #:
Project Location:	

ANALYSIS REQUEST

Chlorides

FOR LAB USE ONLY LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRES.: ACID:	ICE / COOL	OTHER:	SAMPLING DATE	TIME	
H8728-1	MW-1, 50'	G	1			X							5/21	1200	X
-2	MW-1, 70'	G	1			X							5/21	1210	X
-3	MW-1, 95'	G	1			X							5/21	1235	X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 5/21/04	Received By:	Phone Result ☐ Yes ☒ No Additional Fax #:
	Time: 1655		Fax Result: ☒ Yes ☐ No
Relinquished By:	Date: 5/21/04	Received By: (Lab Staff)	REMARKS:
	Time: 4:45	Hope S. Moreno	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool ☒ Yes ☐ No Intact ☒ Yes ☐ No	CHECKED BY: (Initials)

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

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Burgess J. A. Cooke
Chemist

6/3/04
Date

H8765BXLS

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity ($mgCaCO_3/L$)
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:		SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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
METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

6/3/04
Date

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: SESI
Project Manager:
Address: 703 E. CLINTON, #103
City: HOBBS State: NM Zip: 88240
Phone #: (505) 397-0510
Fax #: (505) 393-4388
Project #: Nav-04-003 Project Owner: Mack Energy
Project Name: Monsanto #4
Project Location: Lavington, NM

BILL TO PO #:
Company: SAME
Attn: Brandi
Address:
City:
State: Zip:
Phone #:
Fax #:

FOR LAB USE ONLY				MATRIX						PRES.			SAMPLING		ANALYSIS REQUEST	
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL:	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	BTEX	Cation/anions
H8765-1	MW-1	G	3	X							X		6-1	15:25	X	X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Date: 6/2/04 Time: 7:16
Relinquished By: Date: Time:
Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

Received By:
Received By: (Lab Staff)
Sample Condition: Cool: Yes / No; Intact: Yes / No
CHECKED BY: (Initials)

Phone Result: ☐ Yes ☒ No Additional Fax #:
Fax Result: ☒ Yes ☐ No
REMARKS:

Additional FAX to
Tony Hall, Mack Energy
(505) 746-9539

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

Chemist

7/9/04
Date

H8889B.XLS

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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	2.0	6.0	5.8	0.7	NR
METHODS:		SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

7/12/04
Date

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	BILL TO	
Project Manager:		P.O. #:	
Address:	703 E.CLINTON, #102	Company:	SAME
City:	HOBBS State: NM Zip: 88240	Attn:	Brand.
Phone #:	(505) 397-0510 Fax #: (505) 393-4388	Address:	
Project #:	Mac-04-003 Project Owner: Mack Energy	City:	
Project Name:	Monsanto #4	State: Zip:	
Project Location:	Lovington, NM	Phone #:	
Sampler Name:	Dustin Payton	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST								
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Cations - anions	BTEX							
H6509-1	MW#2	X	3	X							X		7-8	3:30	+	+							

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 7-8-04	Received By:	Phone Result: ☐ Yes ☐ No
	Time: 4:50		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 7/9/04	Received By: (Lab Staff)	REMARKS:
	Time: 8:23		
Delivered By: (Circle One)	Sample Condition: Temp, °C: cool; Intact? ☒ Yes ☐ No	Checked By: (Initials)	
Sampler - UPS - Bus - Other:			

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

CARDINAL LABORATORIES

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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: 09/01/04
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

9/3/04
Date

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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:		SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/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	36	49	0	195	7.58	376
Quality Control	1040	50.67	NR	976	7.05	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	104	101	NR	97.6	101	NR
Relative Percent Difference	4.0	4.9	NR	2.2	0.6	1.4
METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

9/7/04
Date

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page_____ of_____

Company Name:	SESI	BILL TO	PO #:
Project Manager:	Bob Allen	Company:	
Address:	703 E. Clinton	Attn:	
City:	Hobbs State: NM Zip: 88240	Address:	
Phone #:	505 - 397-0510	City:	
Fax #:		State:	Zip:
Project #:	Mac-04-003 Project Owner: Mack Energy	Phone #:	
Project Name:	Mack Energy State #4	Fax #:	
Project Location:	Lovington, NM		

FOR LAB USE ONLY				MATRIX							PRES.			SAMPLING		ANALYSIS REQUEST	
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID:	ICE / COOL	OTHER :	DATE	TIME	BTEX	Cations, anions
H9117-1	MW #4	G	3	X							X		9-1	2:15	X	X

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Sampler Relinquished:	Date: 9-1-04	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time: 3:03		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date:	Received By: (Lab Staff)	REMARKS:
	Time:		
Delivered By: (Circle One)		Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:			

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

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

10/11/04
Date

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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	0.8	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		105	102	NR	97.6	99.7	NR
Relative Percent Difference		2.9	1.2	NR	2.2	0	1.4
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

10/8/04
Date

H9211

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 1 of 1

Company Name:	SESI
Project Manager:	Bob Allen
Address:	703 E Clinton
City:	Hobbs State: NM Zip: 88240
Phone #:	505 3970510
Fax #:	505 3934388
Project #:	0400 Project Owner: Mack
Project Name:	Monsanto #4
Project Location:	Loving ton NM

BILL TO	PO #:
Company:	SAME
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY				MATRIX						PRES.			SAMPLING		ANALYSIS REQUEST	
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID:	ICE / COOL	OTHER :	DATE	TIME	Cations + Anions	TSTEX
H9211-1	MW#1		3	X							X		10-5-09		X	X
-2	MW#2		3	X							X		" "			

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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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time:		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 10-5-09	Received By: (Lab Staff)	REMARKS:
	Time: 4:20 PM		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	

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

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

10/11/04
Date

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		10/07/04	10/07/04	10/07/04	10/07/04	10/07/04	10/08/04
H9214-1	MW #3	32	51	0	220	7.43	423
H9214-2	MW #4	40	58	0	231	7.44	442
Quality Control		1050	50.98	NR	976	6.98	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		105	102	NR	97.6	99.7	NR
Relative Percent Difference		2.9	1.2	NR	2.2	0	1.4
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

10/8/04
Date

H9214

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020

101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Page____ of ____

Company Name:	SESI	BILL TO	PO #:
Project Manager:	Bob Allen	Company:	SAME
Address:	703 E. Clinton Ste 101	Attn:	
City:	Hobbs State: NM Zip: 88240	Address:	
Phone #:	(505) 397-0510	City:	
Fax #:	(505) 393-4388	State:	Zip:
Project #:	04005 Project Owner: Mack	Phone #:	
Project Name:	Monsanto #4	Fax #:	
Project Location:	Lovington NM		

FOR LAB USE ONLY				MATRIX						PRES.			SAMPLING		ANALYSIS REQUEST	
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID:	ICE / COOL	OTHER :	DATE	TIME	CATS + Ans	BTEX
H9214-1	MW #3		3	X							X		10-6-04		X	X
-2	MW #4		3	X							X		10-6-04		X	X

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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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time:		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 10-6-04	Received By: (Lab Staff)	REMARKS:
	Time:		
Delivered By: (Circle One)	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			

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

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 12/16/04
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 (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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
% 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	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

12/17/04
Date

H9412

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2111 Beechwood, Abilene, TX 79603 (325) 673-7001 Fax (325) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Page 1 of 1

Company Name:	SEST
Project Manager:	
Address:	703 E. Clinton
City:	Hobbs State: NM Zip: 88240
Phone #:	505-397-0510 Fax #: 505-393-4388
Project #:	MAC 04-003 Project Owner:
Project Name:	Monsanto 30 #4
Project Location:	Lovington NM
Sampler Name:	Sergio Contreras

BILL TO

P.O. #:	SAME
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	CATS + ANS
H19412-1	MW #1		1	X							X		16 DEC 04		X
-2	MW #2		1	X							X				X
-3	MW #3		1	X							X				X
-4	MW #4		1	X							X				X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	
	Time:		
Relinquished By:	Date: 16 DEC 04	Received By: (Lab Staff)	
Delivered By: (Circle One)	Time:		
Sampler - UPS - Bus - Other:		Sample Condition: Temp, °C; Intact? ☑ Yes ☐ No	Checked By: (Initials)

Phone Result: ☐ Yes ☐ No
Fax Result: ☐ Yes ☐ No
REMARKS:

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

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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 DATE		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	MW#`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 Percent Difference		2.0	1.2	1.7	1.6

METHOD: EPA SW-846 8260

Chemist

1/20/5
Date

H9483BXLS

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 01/18/05
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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity ($mgCaCO_3$/L)
ANALYSIS DATE:		01/19/05	01/19/05	01/19/05	01/19/05	01/19/05	01/19/05
H9483-1	MW #1	368	277	38	8.83	2203	220
H9483-2	MW #2	44	58	20	2.46	626	204
H9483-3	MW #3	38	45	17	4.47	572	184
H9483-4	MW #4	35	52	19	4.93	608	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:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		01/19/05	01/19/05	01/19/05	01/19/05	01/19/05	01/20/05
H9483-1	MW #1	960	85.5	0	268	6.24	2052
H9483-2	MW #2	44	58.6	0	249	6.38	480
H9483-3	MW #3	32	39.4	0	224	6.46	428
H9483-4	MW #4	36	54.4	0	224	6.51	424
Quality Control		970	50.33	NR	961	7.03	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		97.0	101	NR	96.1	103	NR
Relative Percent Difference		4.0	0.2	NR	1.6	0.6	1.4
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

11/20/05
Date

9483

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page_____ of _____

Company Name: SESI	BILL TO PO #:
Project Manager: Bob Allen	Company:
Address: 703 E Clinton	Attn: Brand
City: Hobbs State: NM Zip: 88241	Address:
Phone #: 505-397-0510	City:
Fax #:	State: Zip:
Project #: MAC-01-003 Project Owner: Mack Energy	Phone #:
Project Name: Monsanto #4	Fax #:
Project Location: Lovington, NM	

FOR LAB USE ONLY				MATRIX							PRES.			SAMPLING		ANALYSIS REQUEST													
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID:	ICE / COOL	OTHER :	2005 DATE	TIME	Cations, Anions	BTEX													
H9483-1	MW #1	G	3	X							X		1-18	9:15	X	X													
-2	MW #2	G	3	X							X		1-18	11:05	X	X													
-3	MW #3	G	3	X							X		1-18	10:15	X	X													
-4	MW #4	G	3	X							X		1-18	9:45	X	X													
															1														

Sampler Relinquished:	Date: 1-18-05	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time: 1:46		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 1/18/05	Received By: (Lab Staff)	REMARKS:
	Time:		
Delivered By: (Circle One)	Sample Condition Cool Intact	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:	☐ Yes ☐ Yes ☐ No ☐ No		

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

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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 (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

3/8/05
Date

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS
Project Manager:	Bob Allen
Address:	703 E. CLINTON, #102
City:	HOBBS State: NM Zip: 88240
Phone #:	(505) 397-0510 Fax #: (505) 393-4388
Project #:	MAC-04-005 Project Owner: MACK ENERGY
Project Name:	MONSANTO 20 STATE #4
Project Location:	LEA COUNTY, NM
Sampler Name:	Simon Cass

BILL TO

P.O. #:	
Company:	SAME
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	CATIONS	ANIONS
H4605-1	MW 1	C	1	X							X		3-4-05	1120	X	X
-2	MW 2													0900		
-3	MW 3													0950		
-4	MW 4													1035		

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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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Simon Cass	Date: 3/4/05 Time: 1430	Received By:	Phone Result: ☐ Yes ☐ No
Relinquished By:	Date: Time:	Received By: (Lab Staff) Burgess J. Cooke	Fax Result: ☐ Yes ☐ No
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Temp. °C: Cool; Intact? ☒ Yes ☐ No	Checked By: (Initials)	REMARKS:

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

CARDINAL LABORATORIES

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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: 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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:		04/20/05	04/20/05	04/20/05	04/20/05	04/20/05	04/20/05
H9729-1	MW #1	254	226	111	8.75	3612	184
H9729-2	MW #2	29	45	25	2.66	694	180
H9729-3	MW #3	41	42	18	3.90	623	188
H9729-4	MW #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 Difference		NR	3.1	3.8	0.8	0.7	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

4/21/05
Date

H9729

CARDINAL 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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	SESI	**BILL TO**	
Project Manager:		P.O. #:	SAME
Address:	703 E Clinton	Company:	
City:	Hobbs State: NM Zip: 88240	Attn:	
Phone #:	505 397-0510 Fax #: 505 393-4388	Address:	
Project #:	MAC04003 Project Owner: MACK	City:	
Project Name:	Monsanto 30 State #4	State: Zip:	
Project Location:	Lovington NM	Phone #:	
Sampler Name:	Sergio Contreras	Fax #:	

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides + Anions												
H9729-1	MW #1		1	X							X		4-19-05		X												
-2	MW #2		1	X							X		"		X												
-3	MW #3		1	X							X		"		X												
-4	MW #4		1	X							X		"		X												

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 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 Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	Phone Result:	☐ Yes	☐ No Add'l Phone #:
	Time:		Fax Result:	☐ Yes	☐ No Add'l Fax #:
Relinquished By:	Date: 4-19-05	Received By: (Lab Staff)	REMARKS:		
	Time:				
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials)		

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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: 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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (μS/cm)	T-Alkalinity (mg$CaCO_3$/L)
ANALYSIS DATE:		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:		SM3500-Ca-D		3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		05/31/05	05/31/05	05/31/05	05/31/05	05/31/05	06/01/05
H9826-1	MW 1	380	70	0	209	6.14	953
H9826-2	MW 2	40	58	0	232	6.27	442
H9826-3	MW 3	40	41	0	209	6.27	381
H9826-4	MW 4	40	56	0	209	6.28	434
Quality Control		950	57.00	NR	927	6.83	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		95.0	114	NR	92.7	97.6	NR
Relative Percent Difference		5.0	12.7	NR	3.4	0.4	1.1
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

6/1/05
Date

H9826

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	BILL TO	
Project Manager:	BOB ALLEN	P.O. #:	
Address:	703 E.CLINTON, #102	Company:	SAME
City:	HOBBS State: NM Zip: 88240	Attn:	
Phone #:	(505) 397-0510 Fax #: (505) 393-4388	Address:	
Project #:	MAC-04-005 Project Owner: MACK ENERGY	City:	
Project Name:	MONSANTO 30 STATE 4	State: Zip:	
Project Location:	LEA COUNTY, NM	Phone #:	
Sampler Name:	JIMMY CASAS	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE 2005	TIME	CHLORIDES	BTEX
H9826-1	MW 1	C	1	X							X		5-27	1125	X	X
-2	MW 2													0915		
-3	MW 3													1000		
-4	MW 4													1040		

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Sampler Relinquished: JIMMY CASAS	Date: 5-27-05 Time: 1445	Received By:	Phone Result: ☐ Yes ☐ No
Relinquished By:	Date: Time:	Received By: (Lab Staff) JIMMY HALL	Fax Result: ☐ Yes ☐ No REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Temp. °C: Intact? ☐ Yes ☐ No	Checked By: (Initials)	

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

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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: 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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity ($mgCaCO_3/L$)
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:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		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 Percent Difference		1.0	7.9	NR	0.9	0.4	1.1
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

6/27/05
Date

H9886

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS
Project Manager:	BOB ALLEN
Address:	703 E.CLINTON, #102
City:	HOBBS State: NM Zip: 88240
Phone #:	(505) 397-0510 Fax #: (505) 393-4388
Project #:	MAC-04-005 Project Owner: MACK ENERGY
Project Name:	MONSANTO 30 STATE #4
Project Location:	LEA COUNTY NM
Sampler Name:	SIMON CASAS

BILL TO

P.O. #:	
Company:	SAME
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	CATIONS	ANIONS
H9886-1	MW 1	G	-	X							X		6-22-2005	1055	X	X
-2	MW 2													0930		
-3	MW 3													0950		
-4	MW 4													1025		

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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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: SIMON CASAS	Date: 6-22-05 Time: 1515	Received By:	Phone Result: ☐ Yes ☒ No
Relinquished By:	Date: 06/22/2005 Time: 3:15P	Received By: (Lab Staff)	Fax Result: ☒ Yes ☐ No
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Temp, °C: Intact? ☒ Yes ☐ No	Checked By: (Initials)	REMARKS:

† 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: 07/22/05
Reporting Date: 07/26/05
Project Number: MAC-04-003
Project Name: MONSANTO 30 STATE #4
Project Location: LEA COUNTY, NM

Sampling Date: 07/22/05
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 (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:		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	1229	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 Percent Difference		NR	1.0	1.6	5.6	4.9	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		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
H9988-2	MW 2	40	54	0	213	7.46	420
H9988-3	MW 3	32	49	0	218	7.45	400
H9988-4	MW 4	44	54	0	223	7.42	433
Quality Control		1020	48.52	NR	985	7.04	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		102	97.0	NR	98.5	101	NR
Relative Percent Difference		7.0	4.8	NR	0.9	2	1.1
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

7/26/05
Date

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	BILL TO	
Project Manager:	BOB ALLEN	P.O. #:	
Address:	703 E. CLINTON, #102	Company:	SAME
City:	HOBBS	State: NM Zip: 88240	Attn:
Phone #:	(505) 397-0510	Fax #: (505) 393-4388	Address:
Project #:	MHC-04-003	Project Owner: MACK ENERGY	City:
Project Name:	MONSANTO #30 STATE #4		State: Zip:
Project Location:	LEA COUNTY, NM		Phone #:
Sampler Name:	LINDA CASES		Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST								
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE 2005	TIME	CATIONS	ANIONS							
H4988-1	MW 1	C	1	X							X		7-22	1100	X	X							
-2	MW 2													0930									
-3	MW 3													1009									
-4	MW 4													1035									

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: LINDA CASES	Date: 7-22-05 Time: 1540	Received By:	Phone Result: ☐ Yes ☐ No
Relinquished By:	Date: Time:	Received By: (Lab Staff) BRUCE A. COOK	Fax Result: ☐ Yes ☐ No REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Temp, °C: COOL; Intact? ☒ Yes ☐ No	Checked By: (Initials)	

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

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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: 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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity ($mgCaCO_3/L$)
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

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

8/23/05
Date

H10096

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	**BILL TO**	ANALYSIS REQUEST
Project Manager:	BOB ALLEN	P.O. #:	
Address:	703 E. CLINTON, #102	Company:	SAME
City:	HOBBS State: NM Zip: 88240	Attn:	
Phone #:	(505) 397-0510 Fax #: (505) 393-4388	Address:	
Project #:	MAC-04-003 Project Owner: MACK ENERGY	City:	
Project Name:	MONSANTO 30 State #4	State: Zip:	
Project Location:	LEA COUNTY, NM	Phone #:	
Sampler Name:	Linda Casas	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	CATIONS	ANIONS
H10761	MW 1	G	1	1							X		8-18	1105	X	X
-2	MW 2	↓	↓	↓							↓		↓	0930	↓	↓
-3	MW 3													1000		
-4	MW 4	↓	↓	↓							↓		↓	1030	↓	↓

Sampler Relinquished: Linda Casas	Date: 8-18-05 Time: 1440	Received By:	Phone Result: ☐ Yes ☐ No
Relinquished By:	Date: Time:	Received By: (Lab Staff)	Fax Result: ☐ Yes ☐ No REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Temp. °C: Cool Intact? ☑ Yes ☐ No	Checked By: (Initials)	

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

Cations and Anions Calculation Check								
	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	0	#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?
	Test Criteria							
1. Anion-Cation Balance:			Anion Sum	Max % diff.				
			0 - 3.0	± 0.2meq/L				
			3.0 - 10.0	± 2				
			10.0 - 800	± 5				
2. TDS, Measured to Calculated:			1.0 < (measured TDS/calculated TDS) < 1.2					
3. TDS (calculated USGS) to EC Ratio:			Calculated TDS/conductivity = 0.55 - 0.7					

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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: 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

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

Amy Hill
Chemist

9/8/05
Date

H10164

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: SAFETY & ENVIRONMENTAL SOLUTIONS

Project Manager: Bob Allen

Address: 703 E. CLINTON, #102

City: HOBBS State: NM Zip: 88240

Phone #: (505) 397-0510 Fax #: (505) 393-4388

Project #: MAC-04-003 Project Owner: MACK ENERGY

Project Name: Monsanto #30 State 4

Project Location: Lea County, NM

Sampler Name: Simon Cases

BILL TO

P.O. #:

Company: SAME

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	Chlorides	TDS
H101164-1	MW 1	G	1	X							X		9-7	1130	X	X
-2	MW 2													0930		
-3	MW 3													1010		
-4	MW 4													1045		

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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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Simon Cases Date: 4-7-05 Time: 1440

Relinquished By: Date: Time:

Received By:

Received By: (Lab Staff)

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition: Temp. °C; Intact: Yes / No

Checked By: (Initials)

Phone Result: ☐ Yes ☐ No

Fax Result: ☐ Yes ☐ No

REMARKS:

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

CARDINAL LABORATORIES

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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: 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)	Cl (mg/L)
ANALYSIS DATE:		10/12/05	10/12/05
H10292-1	MW-4	345	40
H10292-2	MW-1	1436	568
Quality Control			970
True Value QC			1000
% Recovery			97
Relative Percent Difference			6

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

*Std. Methods

Hope L Magee
Chemist

10-13-05
Date

H10292

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS
Project Manager:	Bob Allen
Address:	703 E.CLINTON, #102
City:	HOBBS State: NM Zip: 88240
Phone #:	(505) 397-0510 Fax #: (505) 393-4388
Project #:	MAC-04-003 Project Owner: MACK Energy
Project Name:	Monsanto 30 State #4
Project Location:	SE Loudston
Sampler Name:	A. Boyer

BILL TO

P.O. #:	
Company:	SAME
Attn:	Brandi
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	Chloride	TDS	See Remarks
H10392-1	MW-4	G	1	X							X		10/11	1405	X	X	X
-2	MW-1	G	1	X							X		10/11	1435	X	X	X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	A Boyer	Date: 10/12/05 Time: 0935	Received By: James Ruiz
Relinquished By:	James Ruiz	Date: 10/12/05 Time: 4:55	Received By: (Lab Staff) Amy Hill
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition: Temp. °C / Intact? ☐ Yes ☐ No	Checked By: (Initials)

Phone Result: ☐ Yes ☒ No
Fax Result: ☒ Yes ☐ No

REMARKS: Hold Sample For possible Cation/Anion Analysis

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

ACCREDITED IN ACCORDANCE WITH nelac

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

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	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Chloride	35	0.10		mg/L	1	10/13/2005
EPA METHOD 160.1: TDS						Analyst: **MAP**
Total Dissolved Solids	400	50		mg/L	1	10/18/2005

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

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Safety & Environmental Solutions
Client Sample ID: State #4 MW-1
Lab Order: 0510113
Collection Date: 10/11/2005 2:35:00 PM
Project: Mack Energy Monsanto #4, #5
Lab ID: 0510113-02
Matrix: AQUEOUS

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

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

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0510113
Project: Mack Energy Monsanto #4, #5

QC SUMMARY REPORT

Method Blank

Sample ID **MBLK**	Batch ID: **R16964**	Test Code: **E300**	Units: **mg/L**	Analysis Date **10/13/2005**	Prep Date
Client ID:		Run ID: **LC_051013A**		SeqNo: **411254**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.1									

Sample ID **MBLK**	Batch ID: **R17006**	Test Code: **E300**	Units: **mg/L**	Analysis Date **10/17/2005**	Prep Date
Client ID:		Run ID: **LC_051017A**		SeqNo: **412687**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.1									

Sample ID **MB-8971**	Batch ID: **8971**	Test Code: **E160.1**	Units: **mg/L**	Analysis Date **10/18/2005**	Prep Date **10/17/2005**
Client ID:		Run ID: **WC_051018A**		SeqNo: **412508**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

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
B - Analyte detected in the associated Method Blank

1

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0510113
Project: Mack Energy Monsanto #4, #5

QC SUMMARY REPORT

Sample Duplicate

Sample ID **0510113-01A DUP** Batch ID: **R16964** Test Code: **E300** Units: **mg/L** Analysis Date **10/13/2005** Prep Date

Client ID: **State #4 MW-4** Run ID: **LC_051013A** SeqNo: **411262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	34.95	0.1	0	0	0	0	0	35.16	0.610	20	

8/9

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

B - Analyte detected in the associated Method Blank

I

Hall Environmental Analysis Laboratory

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) _____ 10/12/05 (Date)

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/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 and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted	☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	1°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: SESI

Project Name: Mack Energy Monsanto #4 & #5

Address: 703 E. Clinton #182
P.O. Box 1613
Hobbs, NM 88241

Project #: MAC-04-003 MAC-04-001

Project Manager: Bob Allen

Phone #: 505-397-0510

Sampler: DAVE BOYER

Fax #: 505-393-4388

Sample Temperature: 1°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: Ice	HEAL No.
2005 10/11	1405	H_2O	SESI #4 MW-4	2/500			X	0510113-1
10/11	1435	H_2O	State #4 MW-1	2/500			X	-2
10/11	1505	H_2O	State #5 MW-4	2/500			X	-3
10/11	1550	H_2O	State #5 MW-1	2/500			X	-4

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TDS	Chloride	See Remarks		Air Bubbles or Headspace (Y or N)
												X	X	X		
												X	X	X		
												X	X	X		
												X	X	X		

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	Date
10/12	0815	[signature]	[signature]	10/13/05
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: Hold samples for possible analysis for water chemistry cations/anions

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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 (μS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

11/17/05
Date

H10402

CARDINAL 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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	BILL TO	ANALYSIS REQUEST
Project Manager:	BOB ALLEN	P.O. #:	
Address:	703 E. CLINTON, #102	Company:	SAME
City:	HOBBS State: NM Zip: 88240	Attn:	
Phone #:	(505) 397-0510 Fax #: (505) 393-4388	Address:	
Project #:	MAC-04-003 Project Owner: MACK ENERGY	City:	
Project Name:	MONSANTO 30 STATE #4	State: Zip:	
Project Location:	LEA County, NM	Phone #:	
Sampler Name:	Tomas Cano	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	BTEX	CHLORIDES
H16402-1	MW 1	C	1	X							X		11-11	1130	X	X
-2	MW 4	C	1	X							X		11-11	0855	X	X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 11-11-05	Received By:	Phone Result: ☐ Yes ☐ No
Tomas Cano	Time: 1540		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 11/11/05	Received By: (Lab Staff)	REMARKS:
	Time: 1:05PM	Burnett Oo	
Delivered By: (Circle One)	Sample Condition: Temp, °C: Cool; Intact? ☒ Yes ☐ No	Checked By: (Initials)	
Sampler - UPS - Bus - Other:			

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

Portrait

Cations and Anions Calculation Check								
	Sample Name	H10401-1	H10401-2	H10402-1	H10402-2	Sample 5	Sample 6	Sample 7
	Well Number	MW 1	MW 4	MW1	MW2			
	Date	11/18/05	11/18/05	11/18/05	11/18/05			
Equivalent 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			
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, mg/L)	1,155	283	587	263	0	0	0
	TDS (meas.) / TDS (calc. 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!
Test Criteria								
1. Anion-Cation Balance:			Anion Sum	Max % diff.				
			0 - 3.0	± 0.2				
			3.0 - 10.0	± 2				
			10.0 - 800	± 5				
2. TDS, Measured to Calculated:			1.0 < (measured TDS/calculated TDS) < 1.2					
3. TDS (calculated USGS) to EC Ratio:			Calculated TDS/conductivity = 0.55 - 0.7					

MAC-04-03

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

November 28, 2005

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (505) 390-7067
FAX (505) 393-4388

RE: MAC Monsanto #4 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

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *28-Nov-05*

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Lab Order: 0511183
Collection Date: 11/11/2005 8:55:00 AM
Project: MAC Monsanto #4
Lab ID: 0511183-01
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	H	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 CONDUCTANCE						Analyst: **CMC**
Specific Conductance	590	0.010		µmhos/cm	1	11/17/2005
EPA METHOD 6010B: DISSOLVED METALS						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

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

Hall Environmental Analysis Laboratory

Date: *28-Nov-05*

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Lab Order: 0511183
Collection Date: 11/11/2005 11:30:00 AM
Project: MAC Monsanto #4
Lab ID: 0511183-02
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	H	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	2.0		mg/L CaCO3	1	11/21/2005
Bicarbonate	290	2.0		mg/L CaCO3	1	11/21/2005
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMC**
Specific Conductance	1200	0.010		µmhos/cm	1	11/17/2005
EPA METHOD 6010B: DISSOLVED METALS						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**
pH	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

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

[redacted]

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-4 0511183-1		MW-1 0511183-2									
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	32	1.39	140	6.09								
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	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	64	1.33	100	2.08								
Chloride	28	0.79	140	3.95								
Bicarbonate (CaCO3)	190	3.80	290	5.80								
Carbonate (CaCO3)	ND	*	ND	*								
Phosphate (P)	ND	*	ND	*								
Nitrite (N)	ND	*	ND	*								
Nitrate (N)	1.8	0.13	1.7	0.12								
Fluoride	1.1	0.06	1.9	0.10								
Bromide	ND	*	ND	*								
Total Anions		6.11		12.05								
Elect. Cond. (µMhos/cm)	590		1200									
CATION/ANION RATIO		1.05		1.01								
% Difference		2		0								
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	340		670									
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								
Ratio of cation sum:EC		1.1		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 -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

Hall Environmental Analysis Laboratory

Date: *28-Nov-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0511183
Project: MAC Monsanto #4

QC SUMMARY REPORT
Method Blank

Sample ID **MBLK** Batch ID: **R17348** Test Code: **E300** Units: **mg/L** Analysis Date **11/17/2005** Prep Date
Client ID: Run ID: **LC_051117A** SeqNo: **423732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Bromide	ND	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID **MBLK** Batch ID: **R17358** Test Code: **E300** Units: **mg/L** 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	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Bromide	ND	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID **MBLK** Batch ID: **R17379** Test Code: **E310.1** Units: **mg/L CaCO3** Analysis Date **11/21/2005** Prep Date
Client ID: Run ID: **WC_051121C** SeqNo: **424678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2									
Carbonate	ND	2									
Bicarbonate	ND	2									

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
B - Analyte detected in the associated Method Blank

CLIENT: Safety & Environmental Solutions
Work Order: 0511183
Project: MAC Monsanto #4

QC SUMMARY REPORT
Method Blank

Sample ID **MB**	Batch ID: **R17417**	Test Code: **SW6010A**	Units: **mg/L**	Analysis Date **11/23/2005 12:21:06 P**	Prep Date
Client ID:		Run ID: **ICP_051123C**		SeqNo: **425570**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	1									
Magnesium	ND	1									
Potassium	ND	1									
Sodium	ND	1									

Sample ID **MB-9221**	Batch ID: **9221**	Test Code: **E160.1**	Units: **mg/L**	Analysis Date **11/21/2005**	Prep Date **11/18/2005**
Client ID:		Run ID: **WC_051118D**		SeqNo: **424453**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

5/10

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
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *28-Nov-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0511183
Project: MAC Monsanto #4

QC SUMMARY REPORT

Sample Duplicate

Sample ID **0511183-02A DUP** Batch ID: **9221** Test Code: **E160.1** Units: **mg/L** Analysis Date **11/21/2005** Prep Date **11/18/2005**
Client ID: **MW-1** Run ID: **WC_051118D** SeqNo: **424475**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	686	50	0	0	0	0	0	672	2.06	20	

6/10

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
B - Analyte detected in the associated Method Blank

/

Hall Environmental Analysis Laboratory

Date: *28-Nov-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0511183
Project: MAC Monsanto #4

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID **0511183-02A MS** Batch ID: **9221** Test Code: **E160.1** Units: **mg/L** Analysis Date **11/21/2005** Prep Date **11/18/2005**
Client ID: **MW-1** Run ID: **WC_051118D** SeqNo: **424476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1711	50	1000	672	104	80	120	0			

7 / 10

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
B - Analyte detected in the associated Method Blank

1

Hall Environmental Analysis Laboratory

Date: *28-Nov-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0511183
Project: MAC Monsanto #4

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-ST300-05023** Batch ID: **R17348** Test Code: **E300** Units: **mg/L** Analysis Date **11/17/2005** Prep Date

Client ID: Run ID: **LC_051117A** SeqNo: **423733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4649	0.1	0.5	0	93.0	90	110	0			
Chloride	4.848	0.1	5	0	97.0	90	110	0			
Nitrogen, Nitrite (As N)	0.975	0.1	1	0	97.5	90	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	99.8	90	110	0			
Phosphorus, Orthophosphate (As P)	4.968	0.5	5	0	99.4	90	110	0			
Sulfate	10.04	0.5	10	0	100	90	110	0			

Sample ID **LCS** Batch ID: **R17358** Test Code: **E300** Units: **mg/L** Analysis Date **11/18/2005** Prep Date

Client ID: Run ID: **LC_051118A** SeqNo: **423983**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5001	0.1	0.5	0	100	90	110	0			
Chloride	4.925	0.1	5	0	98.5	90	110	0			
Nitrogen, Nitrite (As N)	0.9703	0.1	1	0	97.0	90	110	0			
Bromide	2.651	0.5	2.5	0	106	90	110	0			
Nitrogen, Nitrate (As N)	2.568	0.1	2.5	0	103	90	110	0			
Phosphorus, Orthophosphate (As P)	5.178	0.5	5	0	104	90	110	0			
Sulfate	10.29	0.5	10	0	103	90	110	0			

8 / 10

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

B - Analyte detected in the associated Method Blank

/

CLIENT: Safety & Environmental Solutions
Work Order: 0511183
Project: MAC Monsanto #4

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **LCS** Batch ID: **R17417** Test Code: **SW6010A** Units: **mg/L** Analysis Date **11/23/2005 12:24:06 P** Prep Date
Client ID: Run ID: **ICP_051123C** SeqNo: **425571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	52.66	1	50.5	0	104	80	120	0			
Magnesium	53.18	1	50.5	0	105	80	120	0			
Potassium	56.31	1	55	0	102	80	120	0			
Sodium	56.84	1	50.5	0	113	80	120	0			

Sample ID **LCSD** Batch ID: **R17417** Test Code: **SW6010A** Units: **mg/L** Analysis Date **11/23/2005 12:27:24 P** Prep Date
Client ID: Run ID: **ICP_051123C** SeqNo: **425572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	53.03	1	50.5	0	105	80	120	52.66	0.690	20	
Magnesium	53.54	1	50.5	0	106	80	120	53.18	0.681	20	
Potassium	56.73	1	55	0	103	80	120	56.31	0.750	20	
Sodium	56.98	1	50.5	0	113	80	120	56.84	0.233	20	

Sample ID **LCS-9221** Batch ID: **9221** Test Code: **E160.1** Units: **mg/L** Analysis Date **11/21/2005** Prep Date **11/18/2005**
Client ID: Run ID: **WC_051118D** SeqNo: **424454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	991	50	1000	0	99.1	80	120	0			

9/10

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
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SAFETY ENV SOLUTIONS | Date and Time Received: 11/17/2005

Work Order Number 0511183 | Received by GLS

Checklist completed by D Schlappe (Signature) 11/17/05 (Date)

Matrix | Carrier name UPS

Shipping container/cooler in good condition?		Yes ☑	No ☐	Not Present ☐			
Custody seals intact on shipping container/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 and received?		Yes ☑	No ☐				
Chain of custody agrees with sample labels?		Yes ☑	No ☐				
Samples in proper container/bottle?		Yes ☑	No ☐				
Sample containers intact?		Yes ☑	No ☐				
Sufficient sample volume for indicated test?		Yes ☑	No ☐				
All samples received within holding time?		Yes ☑	No ☐				
Water - VOA vials have zero headspace?	No VOA vials submitted ☑		Yes ☐	No ☐			
Water - pH acceptable upon receipt?		Yes ☑	No ☐	N/A ☐			

Container/Temp Blank temperature? **9°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: per Symon collection time on GC is correct 11/17/05 AM

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: SESI

Address: 703 E. Clinton #102
P.O. Box 1613
Hobbs NM 88241

Phone #: 505-397-0510

Fax #: 505-393-4388

Project Name: ~~DJS~~ MAC Monsanto #4 ~~South 65~~

Project #: MAC-04-003

Project Manager: DAVE BOYER

Sampler: Simon Casas

Sample Temperature: 9°C

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: H_2SO_4	HEAL No.
2005 11/1	~~1130~~	H_2O	MW-4	3		X	X	1
11/1	~~1130~~ 1130	H_2O	MW-1	3		X	X	2

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Water Chemistry	pH			Air Bubbles or Headspace (Y or N)
												X	X			
												X	X			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
11/4/05	1500	Simon Casas	[signature]	11/7/05 @ 1355
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: Per Simon collection time on COC is correct

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Hall Environmental Analysis Laboratory

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	H	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: **TES**
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 CONDUCTANCE						Analyst: **TES**
Specific Conductance	1200	0.010		µmhos/cm	1	11/30/2005
EPA METHOD 6010B: DISSOLVED METALS						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: **TES**
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

Hall Environmental Analysis Laboratory

Date: *13-Dec-05*

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Lab Order: 0511222
Collection Date: 11/17/2005 9:00:00 AM
Project: Monsanto 30 State #4
Lab ID: 0511222-02
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	H	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						Analyst: **TES**
Specific Conductance	590	0.010		µmhos/cm	1	11/30/2005
EPA METHOD 6010B: DISSOLVED METALS						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**
pH	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

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW1 0511222-1		MW4 0511222-2									
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	140	6.09	27	1.17								
Potassium	2.6	0.07	2.4	0.06								
Calcium	73	3.64	65	3.24								
Magnesium	13	1.07	12	0.99								
Total Cations		10.87		5.47								
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	100	2.08	64	1.33								
Chloride	140	3.95	28	0.79								
Bicarbonate (CaCO3)	270	5.40	200	4.00								
Carbonate (CaCO3)	ND	*	ND	*								
Phosphate (P)	ND	*	ND	*								
Nitrite (N)	ND	*	ND	*								
Nitrate (N)	1.7	0.12	1.8	0.13								
Fluoride	2.2	0.12	1.2	0.06								
Bromide	ND	*	ND	*								
Total Anions		11.66		6.31								
Elect. Cond. (µMhos/cm)	1200		590									
CATION/ANION RATIO		0.93		0.87								
% Difference		4		7								
TOTAL DISSOLVED SOLIDS 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		0.9								

* 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 -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

Hall Environmental Analysis Laboratory

Date: *13-Dec-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0511222
Project: Monsanto 30 State #4

QC SUMMARY REPORT

Method Blank

Sample ID: **MBLK**	Batch ID: **R17586**	Test Code: **E300**	Units: **mg/L**	Analysis Date: **12/12/2005**	Prep Date:
Client ID:		Run ID: **LC_051212A**		SeqNo: **431295**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Bromide	ND	0.5									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID: **MBLK**	Batch ID: **R17412**	Test Code: **E310.1**	Units: **mg/L CaCO3**	Analysis Date: **11/23/2005**	Prep Date:
Client ID:		Run ID: **WC_051123C**		SeqNo: **425449**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	1	2									J
Carbonate	ND	2									
Bicarbonate	1	2									J

Sample ID: **MB**	Batch ID: **R17494**	Test Code: **SW6010A**	Units: **mg/L**	Analysis Date: **12/5/2005 11:04:47 AM**	Prep Date:
Client ID:		Run ID: **ICP_051202B**		SeqNo: **428405**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	1									
Magnesium	ND	1									
Potassium	ND	1									
Sodium	ND	1									

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
B - Analyte detected in the associated Method Blank

CLIENT: Safety & Environmental Solutions
Work Order: 0511222
Project: Monsanto 30 State #4

QC SUMMARY REPORT
Method Blank

Sample ID: **MB** Batch ID: **R17494** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **12/2/2005 10:40:23 AM** Prep Date:
Client ID: Run ID: **ICP_051202B** SeqNo: **428425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	1									
Magnesium	ND	1									
Potassium	ND	1									
Sodium	ND	1									

Sample ID: **MB-9250** Batch ID: **9250** Test Code: **E160.1** Units: **mg/L** Analysis Date: **11/23/2005** Prep Date: **11/22/2005**
Client ID: Run ID: **WC_051122C** SeqNo: **425359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

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
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *13-Dec-05*

CLIENT: Safety & Environmental Solutions
Work Order: 0511222
Project: Monsanto 30 State #4

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-ST300-05023** Batch ID: **R17586** Test Code: **E300** Units: **mg/L** Analysis Date: **12/12/2005** Prep Date:
Client ID: Run ID: **LC_051212A** SeqNo: **431296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4942	0.1	0.5	0	98.8	90	110	0			
Chloride	4.565	0.1	5	0	91.3	90	110	0			
Bromide	2.447	0.5	2.5	0	97.9	90	110	0			
Phosphorus, Orthophosphate (As P)	4.856	0.5	5	0	97.1	90	110	0			
Sulfate	9.696	0.5	10	0	97.0	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.279	0.1	3.5	0	93.7	90	110	0			

Sample ID: **LCS** Batch ID: **R17494** Test Code: **SW6010A** Units: **mg/L** 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	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	52.9	1	50.5	0	105	80	120	0			
Magnesium	53.2	1	50.5	0	105	80	120	0			
Potassium	56.47	1	55	0	103	80	120	0			
Sodium	56.26	1	50.5	0	111	80	120	0			

Sample ID: **LCSD** Batch ID: **R17494** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **12/5/2005 11:10:10 AM** Prep Date:
Client ID: Run ID: **ICP_051202B** SeqNo: **428407**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	52.74	1	50.5	0	104	80	120	52.9	0.302	20	
Magnesium	53.03	1	50.5	0	105	80	120	53.2	0.318	20	
Potassium	55.94	1	55	0	102	80	120	56.47	0.940	20	
Sodium	55.92	1	50.5	0	111	80	120	56.26	0.609	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
B - Analyte detected in the associated Method Blank

8 / 9

CLIENT: Safety & Environmental Solutions
Work Order: 0511222
Project: Monsanto 30 State #4

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS** Batch ID: **R17494** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **12/2/2005 10:51:57 AM** Prep Date:
Client ID: Run ID: **ICP_051202B** SeqNo: **428428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	53.86	1	50.5	0	107	80	120	0			
Magnesium	54.15	1	50.5	0	107	80	120	0			
Potassium	57.77	1	55	0	105	80	120	0			
Sodium	57.22	1	50.5	0	113	80	120	0			

Sample ID: **LCSD** Batch ID: **R17494** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **12/2/2005 10:55:03 AM** Prep Date:
Client ID: Run ID: **ICP_051202B** SeqNo: **428429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	54.32	1	50.5	0	108	80	120	53.86	0.843	20	
Magnesium	54.39	1	50.5	0	108	80	120	54.15	0.444	20	
Potassium	58.14	1	55	0	106	80	120	57.77	0.634	20	
Sodium	57.32	1	50.5	0	113	80	120	57.22	0.167	20	

Sample ID: **LCS-9250** Batch ID: **9250** Test Code: **E160.1** Units: **mg/L** Analysis Date: **11/23/2005** Prep Date: **11/22/2005**
Client ID: Run ID: **WC_051122C** SeqNo: **425360**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	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
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SAFETY ENV SOLUTIONS | Date and Time Received: 11/21/2005

Work Order Number 0511222 | Received by AT

Checklist completed by _____ Signature | 11/21/05 Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐	
Custody seals intact on shipping container/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 and received?	Yes	☑	No	☐			
Chain of custody agrees with sample labels?	Yes	☑	No	☐			
Samples in proper container/bottle?	Yes	☑	No	☐			
Sample containers intact?	Yes	☑	No	☐			
Sufficient sample volume for indicated test?	Yes	☑	No	☐			
All samples received within holding time?	Yes	☑	No	☐			
Water - VOA vials have zero headspace?	No VOA vials submitted	☑	Yes	☐	No	☐	
Water - pH acceptable upon receipt?	Yes	☑	No	☐	N/A	☐	
Container/Temp Blank temperature?	2°		*4° C ± 2 Acceptable* If given sufficient time to cool.				

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding

Comments:

Corrective Action

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: SAFETY & ENVIRONMENTAL SOLUTIONS INC
Address: 203 E CLINTON SUITE 102 HOBBS NM 88241
Phone #: (505) 397-0510
Fax #: (505) 393-4388

Project Name: MONSANTO 30 STATE #4
Project #: MAC-04-003
Project Manager: DAVID BOYER
Sampler: Simon Casas
Sample Temperature: 2

Date 2005	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative H_2SO_4	HEAL No.
11/17	0945	H_2O	MW 1	3		X	X	051222-1
11/17	0900	H_2O	MW 4	3		X	X	-2

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	NITRATE CHEMISTRY	D2			Air Bubbles or Headspace (Y or N)
												X	X			
												X	X			

Remarks:

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11/21/05	0750	Simon Casas	10/21/05 1615
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity ($mgCaCO_3/L$)
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	3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

12-29-05
Date

H10523

Cations and Anions Calculation Check								
	Sample Name	H10523-1	H10523-2					
	Well Number	MW1	~~MW2~~ MW4					
	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					
	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!
Test Criteria								
1. Anion-Cation Balance:			Anion Sum	Max % diff.				
			0 - 3.0	± 0.2				
			3.0 - 10.0	± 2				
			10.0 - 800	± 5				
2. TDS, Measured to Calculated:			1.0 < (measured TDS/calculated TDS) < 1.2					
3. TDS (calculated USGS) to EC Ratio:			Calculated TDS/conductivity = 0.55 - 0.7					

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS
Project Manager:	Bob Allen
Address:	703 E. CLINTON, #102
City:	HOBBS State: NM Zip: 88240
Phone #:	(505) 397-0510 Fax #: (505) 393-4388
Project #:	MNC-04-003 Project Owner: MNCC
Project Name:	Monsanto 30 Skelly #4
Project Location:	Lea County, NM
Sampler Name:	Simon Casas

BILL TO

P.O. #:	
Company:	SAME
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Cations	Anions
H10523-1	MW 1	C	1	X							X		12-20-05	1104	X	X
-2	MW 4	C	1	X							X		12-20-05	0930	X	X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Simon Casas	Date:	12/20/05
		Time:	1540
Relinquished By:		Date:	
		Time:	
Received By:			
Received By: (Lab Staff)	Amy Hill		
Delivered By: (Circle One)	Sampler - UPS - Bus - Other:		

Sample Condition		Checked By: (Initials)
Temp. °C	Intact? ☐ Yes ☐ No	

Phone Result: ☐ Yes ☐ No

Fax Result: ☐ Yes ☐ No

REMARKS:

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Hall Environmental Analysis Laboratory

Date: *06-Jan-06*

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Lab Order: 0512265
Collection Date: 12/20/2005 10:00:00 AM
Project: Monsanto 30 State #4
Lab ID: 0512265-01
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	H	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						Analyst: **TES**
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**
pH	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

Hall Environmental Analysis Laboratory

Date: *06-Jan-06*

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Lab Order: 0512265
Collection Date: 12/20/2005 9:30:00 AM
Project: Monsanto 30 State #4
Lab ID: 0512265-02
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	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	H	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						Analyst: **TES**
Specific Conductance	610	0.010		µmhos/cm	1	12/28/2005
EPA METHOD 6010B: DISSOLVED METALS						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: **TES**
pH	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

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

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-1 0512265-1		MW-4 0512265-2									
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	220	9.57	33	1.44								
Potassium	3.0	0.08	2.3	0.06								
Calcium	28	1.40	80	3.99								
Magnesium	4.8	0.40	13	1.07								
Total Cations		11.44		6.56								
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	89	1.85	63	1.31								
Chloride	52	1.47	39	1.10								
Bicarbonate (CaCO3)	300	6.00	180	3.60								
Carbonate (CaCO3)	ND	*	ND	*								
Phosphate (P)	ND	*	ND	*								
Nitrite (N)	ND	*	ND	*								
Nitrate (N)	1.8	0.13	1.6	0.11								
Fluoride	9.2	0.48	1.2	0.06								
Bromide	ND	*	ND	*								
Total Anions		9.93		6.19								
Elect. Cond. (µMhos/cm)	990		610									
CATION/ANION RATIO		1.15		1.06								
% Difference		7		3								
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	610		380									
TDS (calculated)	594		347									
Ratio meas TDS:calc TDS		1.0		1.1								
Ratio Meas. TDS:EC		0.62		0.62								
Ratio Calc. TDS:EC		0.60		0.57								
Ratio of anion sum:EC		1.0		1.0								
Ratio of cation sum:EC		1.2		1.1								

* 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 -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

Hall Environmental Analysis Laboratory

Date: *06-Jan-06*

CLIENT: Safety & Environmental Solutions
Work Order: 0512265
Project: Monsanto 30 State #4

QC SUMMARY REPORT
Method Blank

Sample ID: **MBLK** Batch ID: **R17761** Test Code: **E300** Units: **mg/L** Analysis Date: **12/29/2005** Prep Date:
Client ID: Run ID: **LC_051229A** SeqNo: **436555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Bromide	ND	0.5									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID: **MBLK** Batch ID: **R17805** Test Code: **E300** Units: **mg/L** Analysis Date: **1/4/2006** Prep Date:
Client ID: Run ID: **LC_060104A** SeqNo: **437805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Bromide	ND	0.5									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID: **MBLK** Batch ID: **R17770** Test Code: **E310.1** Units: **mg/L CaCO3** Analysis Date: **12/30/2005** Prep Date:
Client ID: Run ID: **WC_051230A** SeqNo: **436772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	1	2									J
Carbonate	ND	2									
Bicarbonate	1	2									J

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
B - Analyte detected in the associated Method Blank

CLIENT: Safety & Environmental Solutions
Work Order: 0512265
Project: Monsanto 30 State #4

QC SUMMARY REPORT
Method Blank

Sample ID: **MB** Batch ID: **R17777** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **1/3/2006 9:17:58 AM** Prep Date:
Client ID: Run ID: **ICP_051229C** SeqNo: **437165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	1									
Magnesium	ND	1									
Potassium	ND	1									
Sodium	ND	1									

Sample ID: **MB-9448** Batch ID: **9448** Test Code: **E160.1** Units: **mg/L** Analysis Date: **12/27/2005** Prep Date: **12/22/2005**
Client ID: Run ID: **WC_051223C** SeqNo: **435571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

5 / 8

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
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *06-Jan-06*

CLIENT: Safety & Environmental Solutions
Work Order: 0512265
Project: Monsanto 30 State #4

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-ST300-05023** Batch ID: **R17761** Test Code: **E300** Units: **mg/L** Analysis Date: **12/29/2005** Prep Date:
Client ID: Run ID: **LC_051229A** SeqNo: **436556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.518	0.1	0.5	0	104	90	110	0			
Chloride	4.679	0.1	5	0	93.6	90	110	0			
Bromide	2.453	0.5	2.5	0	98.1	90	110	0			
Phosphorus, Orthophosphate (As P)	4.778	0.5	5	0	95.6	90	110	0			
Sulfate	9.615	0.5	10	0	96.2	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.28	0.1	3.5	0	93.7	90	110	0			

Sample ID: **LCS-ST300-05023** Batch ID: **R17805** Test Code: **E300** Units: **mg/L** Analysis Date: **1/4/2006** Prep Date:
Client ID: Run ID: **LC_060104A** SeqNo: **437806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4762	0.1	0.5	0	95.2	90	110	0			
Chloride	4.786	0.1	5	0	95.7	90	110	0			
Bromide	2.529	0.5	2.5	0	101	90	110	0			
Phosphorus, Orthophosphate (As P)	4.916	0.5	5	0	98.3	90	110	0			
Sulfate	9.981	0.5	10	0	99.8	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.369	0.1	3.5	0	96.3	90	110	0			

Sample ID: **LCS** Batch ID: **R17777** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **1/3/2006 9:19:58 AM** Prep Date:
Client ID: Run ID: **ICP_051229C** SeqNo: **437166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.86	1	50.5	0	103	80	120	0			
Magnesium	51.69	1	50.5	0	102	80	120	0			
Potassium	54.63	1	55	0	99.3	80	120	0			
Sodium	54.45	1	50.5	0	108	80	120	0			

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
B - Analyte detected in the associated Method Blank

8 / 9

CLIENT: Safety & Environmental Solutions
Work Order: 0512265
Project: Monsanto 30 State #4

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD** Batch ID: **R17777** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **1/3/2006 9:22:48 AM** Prep Date:
Client ID: Run ID: **ICP_051229C** SeqNo: **437167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.81	1	50.5	0	103	80	120	51.86	0.0991	20	
Magnesium	51.7	1	50.5	0	102	80	120	51.69	0.0291	20	
Potassium	54.58	1	55	0	99.2	80	120	54.63	0.0846	20	
Sodium	53.94	1	50.5	0	107	80	120	54.45	0.952	20	

Sample ID: **LCS-9448** Batch ID: **9448** Test Code: **E160.1** Units: **mg/L** Analysis Date: **12/27/2005** Prep Date: **12/22/2005**
Client ID: Run ID: **WC_051223C** SeqNo: **435572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1045	50	1000	0	105	80	120	0			

7 / 8

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
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SAFETY ENV SOLUTIONS Date and Time Received: 12/21/2005

Work Order Number 0512265 Received by AT

Checklist completed by _____ 12/21/05
Signature Date

Matrix Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on shipping container/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 and received?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐			
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐		
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐		
Container/Temp Blank temperature?	1°	*4° C ± 2 Acceptable* If given sufficient time to cool.			

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Safety & Environmental Solutions

Address: 703 E. Clinton Suite #102
Hobbs, NM 88240

Phone #: (505) 397-0510

Fax #: (505) 393-4388

Project Name: Monsanto 30 State #4

Project #: MAL-04-0003

Project Manager: Dave Boyer

Sampler: Simon Casas

Sample Temperature: 1°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Water Chemistry	PL			Air Bubbles or Headspace (Y or N)
12/20/05	1000	H_2O	MW 1	3		X	0512265-1													X	X			
12-20	0930	H_2O	MW 4	3		X	-2													X	X			

Date: 12/21/05 Time: 0800 Relinquished By: (Signature) Simon Casas
Received By: (Signature) 12-21-05 @ 1605

Date: Time: Relinquished By: (Signature)
Received By: (Signature)

Remarks:

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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

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

01-25-06
Date

H10653

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS
Project Manager:	Bob Allen
Address:	703 E. CLINTON, #102
City:	HOBBS State: NM Zip: 88240
Phone #:	(505) 397-0510 Fax #: (505) 393-4388
Project #:	MAC-04-003 Project Owner: Mack Energy
Project Name:	Monsanto #30, State #4
Project Location:	Lea County
Sampler Name:	Brian Cuellar

BILL TO

P.O. #:	
Company:	SAME
Attn:	Brandi
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TDS		
H10653-1	MW-1	G	1	X							X		1-23-06	1023	X	X		
-2	MW-4	G	1	X							X		1-23-06	0959	X	X		

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 1-23-06	Received By:	Phone Result: ☐ Yes ☒ No
	Time:		Fax Result: ☒ Yes ☐ No
Relinquished By:	Date: 1/23/06	Received By: (Lab Staff)	REMARKS:
	Time: 1345		
Delivered By: (Circle One)	Sample Condition: Temp. °C: Cool	Intact? ☒ Yes ☐ No	Checked By: (Initials)
Sampler - UPS - Bus - Other:			

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

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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

LAB NUMBER	SAMPLE ID	TDS (mg/L)	Cl (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⁻B*

*Std. Methods

Chemist

03-02-06
Date

H10819

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

		BILL TO	
Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS	P.O. #:	
Project Manager:	Bob Allen	Company:	SAME
Address:	703 E. CLINTON, #102	Attn:	
City:	HOBBS State: NM Zip: 88240	Address:	
Phone #:	(505) 397-0510 Fax #: (505) 393-4388	City:	
Project #:	MAC-04-003 Project Owner: MACK ENERGY	State:	Zip:
Project Name:	MONSANTO 30 STATE #4	Phone #:	
Project Location:	LEA County, NM	Fax #:	
Sampler Name:	Linda Cross		

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chlorides	TDS
H10819-1	MW 1	C	1	X							X		2-27	1230	X	X
-2	MW 4	C	1	X							X		2-27	1200	X	X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Linda Cross	Date: 2-27-06 Time: 1600	Received By:	Phone Result: ☐ Yes ☐ No
Relinquished By:	Date: Time:	Received By: (Lab Staff)	Fax Result: ☐ Yes ☐ No
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Temp, °C: Intact? ☑ Yes ☐ No	Checked By: (Initials) MA	REMARKS:

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

CARDINAL LABORATORIES

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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

LAB NUMBER	SAMPLE ID	TDS (mg/L)	Cl (mg/L)
ANALYSIS DATE:		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 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⁻B*

*Std. Methods

Chemist

04-05-06
Date

H10977

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS
Project Manager:	Simon Corbs
Address:	703 E. CLINTON, #102
City:	HOBBS State: NM Zip: 88240
Phone #:	(505) 397-0510 Fax #: (505) 393-4388
Project #:	MAC 04-003 Project Owner: MAC Energy
Project Name:	Monsanto 30 State #4
Project Location:	Lea County, NM
Sampler Name:	Simon Corbs

BILL TO

P.O. #:	
Company:	SAME
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	ANALYSIS REQUEST: CHLORIDES	TDS
H10977-1	MW 1	G	1	X							X		2006 4-4	1105	X	X
-2	MW 2													0930		
-3	MW 3													1000		
-4	MW 4													1430		

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 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 Cardinal within 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.

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 invoice, and all costs of collection, including attorney's fees.

Sampler Relinquished: Simon Corbs	Date: 4-4-06	Received By:	Phone Result: ☐ Yes ☐ No
	Time: 1529		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date:	Received By: (Lab Staff)	REMARKS: (MAC-04-003) MW3 SAMPLE container broken, appears to be enough sample to complete both analyses.
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Temp. °C; Intact? ☒ Yes ☐ No	Checked By: (Initials)	

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

DATA FAX

ARGON LABS

2126 W. Marland Ave., Hobbs, NM 88240 (505)397-0295 Fax (505)397-0396

To:	Bob Allen	From:	Hiram		
Company:	SESI	Pages:	6		
Phone:		Date:	04/10/06	Time:	1:23 PM
Re:	Project data for Monsanto 30 St. 4				

Bob:

Faxing data from the above mentioned project.

Originals will follow by mail

Call if you have any questions...

Hiram Cueto

argon laboratories

Safety & Environmental Solutions, Inc.	Project Number: MAC-04-003	
703 E. Clinton, Suite 102	Project Name: Monsanto 30 St.4	Work Orde #:
Hobbs, NM 88240	Project Manager: Bob Allen	A04061

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
MW 1 (A04061 Water) **Sampled: 04/04/06 Received: 04/04/06**						
Chloride	33	1.0	mg/L	04/10/06	EPA 300.0	

Total Dissolved Solids - EPA Method 160.1

MW 1 (A04061 Water) **Sampled: 04/04/06 Received: 04/04/06**						
Total Dissolved Solids	460	10	mg/L	04/07/06	EPA 160.1	

Approved By
Argon Laboratories

QC Officer

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

argon laboratories

Safety & Environmental Solutions, Inc.	Project Number: MAC-04-003	
703 E. Clinton, Suite 102	Project Name: Monsanto 30 St.4	Work Orde #:
Hobbs, NM 88240	Project Manager: Bob Allen	A04061

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
MW 2 (A04062 Water) Sampled: 04/04/06 Received: 04/04/06						
Chloride	27	1.0	mg/L	04/10/06	EPA 300.0	

Total Dissolved Solids - EPA 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 Officer

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0276
email: info@argonlabs.com

argon laboratories

Safety & Environmental Solutions, Inc.	Project Number: MAC-04-003	
703 E. Clinton, Suite 102	Project Name: Monsanto 30 St.4	Work Order #:
Hobbs, NM 88240	Project Manager: Bob Allen	A04061

Anions 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	

Total Dissolved Solids - EPA Method 160.1

MW 3 (A04063 Water) Sampled: 04/04/06 Received: 04/04/06						
Total Dissolved Solids	350	10	mg/L	04/07/06	EPA 160.1	

Approved By
Argon Laboratories

QC Officer

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

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

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
MW 4 (A04064 Water) Sampled: 04/04/06 Received: 04/04/06						
Chloride	26	1.0	mg/L	04/10/06	EPA 300.0	

Total Dissolved Solids - EPA Method 160.1

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
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	

QC Officer

Approved By
Argon Laboratories

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

Argon Laboratories
CHAIN OF CUSTODY

Project Information:	Report To:	Samples Submitted To:
Project No: MAE-04-003	Consultant: Safety & Environmental Solutions, Inc.	Laboratory:
Project Title: MONSANTO 306 #4	Address: 703 E. Clinton, Suite 102	Address:
Location: LEA County, NM	Hobbs, NM 88240	
Sampler's Name: Simon Casas	Contact: Bob Allen	Contact:
(print)	Phone: (505)397-0510	Phone:
Sampler's Signature: Simon Casas	Fax: (505)393-4388	Fax:
	Bill To:	Date Results Required:
	Client: SAME	Date Report Required:
	Address:	

TURN AROUND TIME

RUSH	24 Hour	48 Hour	Standard (5 days)	Special (10-14 days)
☐	☐	☐	☐	☐

Sample ID.	Date	Time	# Containers	Matrix	TPH 418.1	BTEX	Chloride	TPH-8015M	725	COMMENTS: Preservative
MW 1	4-4-06	1105	1	Groundwater			X		X	H04061
MW 2	↓	0930	↓	↓			↓		↓	062
MW 3		1000								063
MW 4	↓	1030	↓	↓			↓		↓	064

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	SPECIAL INSTRUCTIONS:
Simon Casas	4-4-06	1540	[illegible]	4-4-06	15:40	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

ANM04-1005

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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 DATE		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 Percent Difference		5.5	3.8	2.5	7.9

METHOD: EPA 624/ SW-846 8260

Chemist

4/11/06
Date

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
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

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

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

*Std. Methods

Jose S. Moreno
Chemist

04-12-06
Date

H11010

CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	SAFETY & ENVIRONMENTAL SOLUTIONS
Project Manager:	
Address:	703 E.CLINTON, #102
City:	HOBBS State: NM Zip: 88240
Phone #:	(505) 397-0510 Fax #: (505) 393-4388
Project #:	MAC-04-003 Project Owner: MAC Energy
Project Name:	MAC Monsanto STATE #4 TU
Project Location:	Lovington
Sampler Name:	D. ROYER

BILL TO

P.O. #:	
Company:	SAME
Attn:	RRandle
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	ANALYSIS REQUEST: BTEX	Chloride	TDS
H11010-1	MW-5	G	3	X						X	X		4/8	1745	X	X	X
-2	MW-6	G	3	X						X	X		4/8	1825	X	X	X
-3	MW-7	G	3	X						X	X		4/8	1850	X	X	X

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 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 Cardinal within 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.

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 invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: D. Royer	Date: 4/10/06 Time: 5PM	Received By:	Phone Result: ☐ Yes ☒ No
Relinquished By:	Date: 4-10-06 Time: 5:00	Received By: (Lab Staff) Hope Sherrod	Fax Result: ☒ Yes ☐ No
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Temp, °C: Cool; Intact? ☒ Yes ☐ No	Checked By: (Initials)	REMARKS:

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Order No.: 0604087

Dear Dave Boyer:

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

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Safety & Environmental Solutions	Client Sample ID:	MW-5
Lab Order:	0604087	Collection Date:	4/8/2006 5:45:00 PM
Project:	MAC Monsanto State #4	Date Received:	4/11/2006
Lab ID:	0604087-01	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 METALS						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

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Safety & Environmental Solutions	Client Sample ID:	MW-6
Lab Order:	0604087	Collection Date:	4/8/2006 6:25:00 PM
Project:	MAC Monsanto State #4	Date Received:	4/11/2006
Lab ID:	0604087-02	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	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	H	mg/L	1	4/11/2006
Sulfate	76	0.50		mg/L	1	4/11/2006
EPA METHOD 6010B: DISSOLVED METALS						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						Analyst: ks
Specific Conductance	560	0.010		µmhos/cm	1	4/11/2006
EPA METHOD 150.1: PH						Analyst: ks
pH	7.92	0.010		pH units	1	4/11/2006
EPA METHOD 160.1: TDS						Analyst: ks
Total Dissolved Solids	400	20		mg/L	1	4/11/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	Safety & Environmental Solutions	**Client Sample ID:**	MW-7
Lab Order:	0604087	**Collection Date:**	4/8/2006 6:50:00 PM
Project:	MAC Monsanto State #4	**Date Received:**	4/11/2006
Lab ID:	0604087-03	**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
Nitrate (As N)+Nitrite (As N)	1.7	0.50		mg/L	5	4/11/2006
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/11/2006
Sulfate	81	5.0		mg/L	10	4/12/2006
EPA METHOD 6010B: DISSOLVED METALS						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
Bicarbonate	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
pH	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

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-5 0604087-1		MW-6 0604087-2		MW-7 0604087-3							
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/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	70	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	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	83	1.73	76	1.58	81	1.69						
Chloride	31	0.87	30	0.85	160	4.51						
Bicarbonate (CaCO3)	160	3.20	160	3.20	170	3.40						
Carbonate (CaCO3)	ND	*	ND	*	ND	*						
Phosphate (P)	ND	*	ND	*	ND	*						
Nitrite (N)	ND	*	ND	*	ND	*						
Nitrate (N)	1.4	0.10	1.7	0.12	1.7	0.12						
Fluoride	1.1	0.06	1.1	0.06	0.88	0.05						
Bromide	ND	*	ND	*	0.78	0.01						
Total Anions		5.96		5.81		9.77						
Elect. Cond. (µMhos/cm)	580		560		930							
CATION/ANION RATIO		1.02		1.01		0.93						
% Difference		1		0		4						
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	410		400		600							
TDS (calculated)	336		325		527							
Ratio meas TDS:calc TDS		1.2		1.2		1.1						
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 -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT: Safety & Environmental Solutions
Work Order: 0604087
Project: MAC Monsanto State #4

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18912
Client ID: ZZZZZ	Batch ID: R18912	TestNo: E300		Analysis Date: 4/12/2006	SeqNo: 469720

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18913
Client ID: ZZZZZ	Batch ID: R18913	TestNo: E300		Analysis Date: 4/11/2006	SeqNo: 469742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

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Sample ID: LCS ST300-06006	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18912
Client ID: ZZZZZ	Batch ID: R18912	TestNo: E300		Analysis Date: 4/12/2006	SeqNo: 469721

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5192	0.10	0.5	0	104	90	110				
Chloride	4.840	0.10	5	0	96.8	90	110				
Bromide	2.522	0.10	2.5	0	101	90	110				
Nitrate (As N)+Nitrite (As N)	3.425	0.10	3.5	0	97.9	90	110				
Phosphorus, Orthophosphate (As P)	4.990	0.50	5	0	99.8	90	110				
Sulfate	9.790	0.50	10	0	97.9	90	110				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

CLIENT: Safety & Environmental Solutions
Work Order: 0604087
Project: MAC Monsanto State #4

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: LCS ST300-06006	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18913
Client ID: ZZZZZZ	Batch ID: R18913	TestNo: E300		Analysis Date: 4/11/2006	SeqNo: 469739

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5164	0.10	0.5	0	103	90	110				
Chloride	4.933	0.10	5	0	98.7	90	110				
Bromide	2.565	0.10	2.5	0	103	90	110				
Nitrate (As N)+Nitrite (As N)	3.513	0.10	3.5	0	100	90	110				
Phosphorus, Orthophosphate (As P)	5.124	0.50	5	0	102	90	110				
Sulfate	10.07	0.50	10	0	101	90	110				

6/10

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

CLIENT: Safety & Environmental Solutions
Work Order: 0604087
Project: MAC Monsanto State #4

ANALYTICAL QC SUMMARY REPORT

TestCode: 310.1_W

Sample ID: MB	SampType: MBLK	TestCode: 310.1_W	Units: mg/L CaCO3	Prep Date:	RunNo: 18889
Client ID: ZZZZZ	Batch ID: R18889	TestNo: E310.1		Analysis Date: 4/11/2006	SeqNo: 468697

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.0									
Carbonate	ND	2.0									
Bicarbonate	ND	2.0									

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Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

CLIENT: Safety & Environmental Solutions
Work Order: 0604087
Project: MAC Monsanto State #4

ANALYTICAL QC SUMMARY REPORT

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	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	1.0									
Magnesium	ND	1.0									
Potassium	ND	1.0									
Sodium	ND	1.0									

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18909
Client ID: ZZZZZ	Batch ID: R18909	TestNo: SW6010A		Analysis Date: 4/12/2006	SeqNo: 469644

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.81	1.0	50.5	0	103	80	120				
Magnesium	52.10	1.0	50.5	0	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				

Sample ID: LCSD	SampType: LCSD	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18909
Client ID: ZZZZZ	Batch ID: R18909	TestNo: SW6010A		Analysis Date: 4/12/2006	SeqNo: 469645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.90	1.0	50.5	0	103	80	120	51.81	0.167	20	
Magnesium	52.03	1.0	50.5	0	103	80	120	52.1	0.128	20	
Potassium	54.19	1.0	55	0	98.5	80	120	53.98	0.388	20	
Sodium	54.51	1.0	50.5	0	108	80	120	54.69	0.336	20	

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Qualifiers:
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

CLIENT: Safety & Environmental Solutions
Work Order: 0604087
Project: MAC Monsanto State #4

ANALYTICAL QC SUMMARY REPORT

TestCode: TDS_W

Sample ID: MB-10157	SampType: MBLK	TestCode: TDS_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18906
Client ID: ZZZZZ	Batch ID: 10157	TestNo: E160.1		Analysis Date: 4/11/2006	SeqNo: 469618

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	20.00	20									

Sample ID: LCS-10157	SampType: LCS	TestCode: TDS_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18906
Client ID: ZZZZZ	Batch ID: 10157	TestNo: E160.1		Analysis Date: 4/11/2006	SeqNo: 469619

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	999.0	20	1000	20	97.9	80	120				

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Qualifiers:
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- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

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 _____ 4/11/06
Signature | Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/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 and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	1°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA/QC Package: Std ☒ Level 4 ☐
Other:

Client: Scott Environ Solutions
Address: 703 E Clinton #102 PO Box 1613 Hobbs NM 88241
Phone #: 505-397-0510
Fax #: 505-393-4388

Project Name: MAC Monsanto State #4
Project #: MAC-04-003
Project Manager: DAVE Boyer
Sampler: DB Boyer
Sample Temperature: 1°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative H_2SO_4	HEAL No.
4/6/06	1745	H_2O	MW-5	3		X	X	2604087-1
4/6/06	1825	H_2O	MW-6	3		X	X	-2
4/6/06	1850	H_2O	MW-7	3		X	X	-3

Date: 4/10/06 Time: 1645 Relinquished By: (Signature) DB Boyer
Received By: (Signature) 4/11/06
Date: Time: Relinquished By: (Signature)
Received By: (Signature) 0920

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

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_2, NO_3, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Cat, Ani, Alk, Mg	pH			Air Bubbles or Headspace (Y or N)
											X	X	X			
											X	X	X			
											X		X			

Remarks: