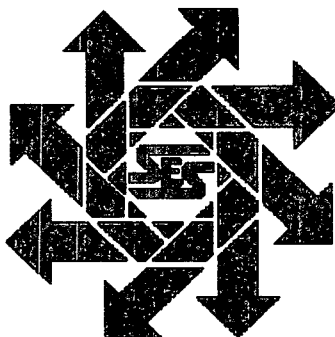


**Mack Energy Corporation
Monsanto 30 State #4
Site Investigation
Section 30, Township 16S, Range 37E
Lea County, New Mexico**

March 9, 2004



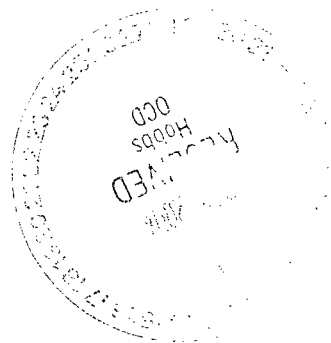
Prepared for:

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

By:

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

API # 30025357800000





NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop
Cabinet Secretary

Lori Wrotenberg

Director

Oil Conservation Division

March 10, 2004

Mack Energy Corporation jsherrill@mackenergycorp.com
PO Box 960
Artesia, NM 88211-0960

Re: Site Investigation: Monsanto 30 State #4
Site Location: Sec 30 T16S R37E Lea County, NM
Proposal Submittal Dated: March 9, 2004

Dear Mr. Sherrill,

The referenced Risk Based Work Plan submitted to New Mexico Oil Conservation Division (OCD) by Safety & Environmental Solutions, Inc. (SES) as agent for Mack Energy Corp. is **hereby approved with the following conditions:**

- Initiate proposed operations as soon as possible
- Provide confirmation landowner is advised of operations as this is a risk-based plan
- Addition monitor wells be drilled as deemed necessary and appropriate by OCD
- GPS pit position, boreholes, monitor wells, and also all Lovington City water wells that could influence natural water gradient

This approval is for temporary closure of the pit to avoid possible additional vertical contaminant drivers to be introduced in the existing pit during the investigation and delineation of the project.

Please be advised that OCD approval of this plan does not relieve Mack Energy Corp. of liability should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. Additionally, OCD approval does not relieve Mack Energy Corp. of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions call: (505) 393-6161, ext. 111, or email: lwjohnson@state.nm.us

Sincerely,

Larry Johnson – OCD Environmental Engineer

Cc:

Chris Williams - District I Supervisor
Ed Martin – Environmental Dept.
Paul Sheeley – Environmental Engineer
Bob Allen – Safety & Environmental Solutions, Inc. ballen@sesi-nm.com

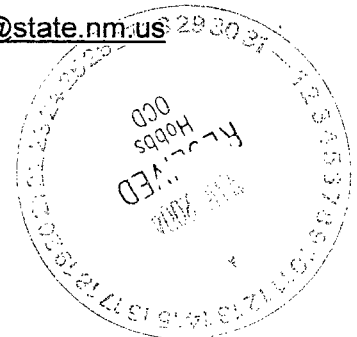


TABLE OF CONTENTS

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II. SURFACE AND GROUND WATER	1
III. SOILS	1
IV. WORK PERFORMED	1
V. CONCLUSIONS	2
VI. FIGURES & APPENDICES	2

I. Background

SESI was contracted to perform a site investigation to determine the vertical and horizontal extent of contamination inside a drilling pit for the Monsanto 30 State #4. This pit was used for drilling fluids storage during the drilling of the well. The subject area is located in Section 30, Township 16S, Range 37E in Lea County, New Mexico.

II. Surface and Ground Water

The nearest groundwater water of record with the New Mexico State Engineer's Office is in the same section, township, and range. This well was drilled in 1965 and shows the depth of water to be 46 feet. Information from Pat Wise of the City of Lovington states the static level in their wells in the area to be 75'. However, Boreholes #1 was drilled to a depth of 70 feet, which would be in excess of 80 feet below ground surface and no water was encountered.

III. Soils

The soils in the area are predominantly sand and sandy loam.

IV. Work Performed

Drilling of Boreholes

On February 11 2004 SESI drilled Borehole #1 to a depth of 60 feet. Grab samples were retrieved every five (5) feet. 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 top sample was analyzed for TPH (EPA Method 418.1) and BTEX (EPA Method SW-846-8260).

On February 16, 2004 SESI drilled Borehole #1 an additional 10 feet to a depth of 70 feet. Grab samples were retrieved at 65 and 70 feet. The samples were properly packaged and preserved and sent under Chain of custody to Cardinal Laboratories for analysis. Both samples were analyzed for Chlorides (EPA Method 4500-Cl⁻B) and the bottom sample was analyzed for TPH (EPA Method 418.1) and BTEX (EPA Method SW-846-8260).

All boreholes were backfilled to surface the bentonite. (See Figure 2)

The results of the analysis are as follows:

Date	ID	Cl ⁻	TPH	Benzene	Toluene	Ethyl Benzene	Total Xylenes
2/11/04	BH #1 5'	5838	<10	<0.005	<0.005	<0.005	<0.015
2/11/04	BH #1 10'	4319					
2/11/04	BH #1 15'	3439					
2/11/04	BH #1 20'	3039					
2/11/04	BH #1 25'	1823					
2/11/04	BH #1 30'	2815					
2/11/04	BH #1 35'	3439					

2/11/04	BH #1 40'	3999					
2/11/04	BH #1 45'	4159					
2/11/04	BH #1 50'	3199					
2/11/04	BH #1 55'	3599					
2/11/04	BH #1 60'	4958					
2/16/04	BH #1 65'	3199					
2/16/04	BH #1 70'	160	<10	<0.005	<0.005	<0.005	<0.015

V. Conclusions

The results of the soil samples indicate that the chloride contamination has migrated to a depth of at least 65 feet below the bottom of the excavation. The depth of the excavation is approximately 10' to 12'.

It is recommended that a 40 mil plastic liner be installed in the bottom of this pit. The excavation should be squared and domed in the center with soil that will make an acceptable pad for the liner. After the liner is installed another lift of soil should be placed on the top of the plastic to insure the liner is not compromised during backfill of the pit. The pit should be backfilled with clean material and returned to natural grade.

A groundwater monitor well should be installed in a position that is close to and on the down-gradient side of the pit.

VI. Figures & Appendices

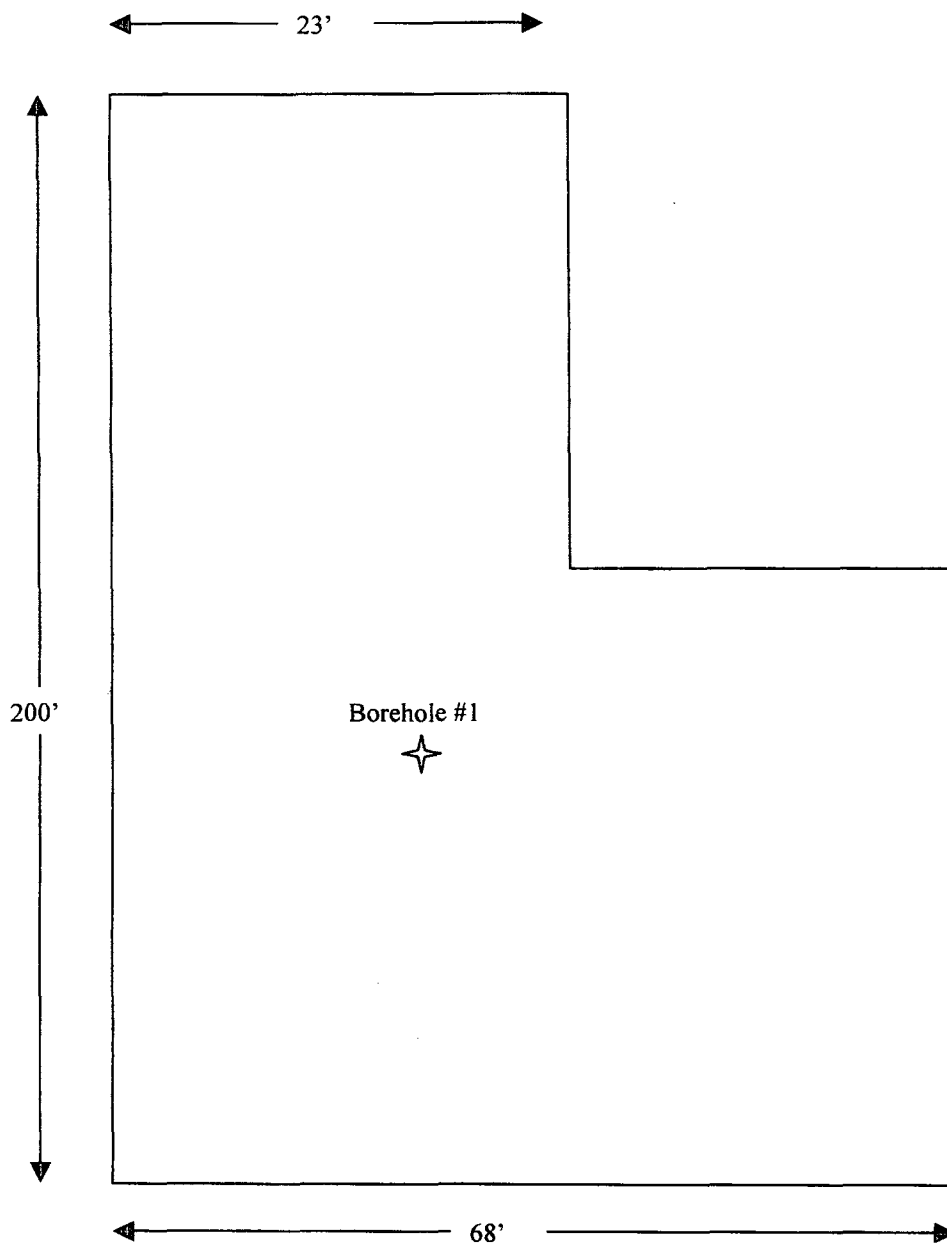
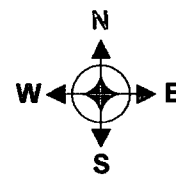
Figure 1 - Vicinity Map

Figure 2 - Site Plan

Appendix A - Analytical Results

Figure 1
Vicinity Map

Figure 2
Site Plan



Not to Scale

Mack Energy Corporation

Monsanto 30 State #5
Sec. 30, T16S, R37E
Lea County, New Mexico


**Safety & Environmental
Solutions, Inc.**



Appendix A

Analytical Results



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, #103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 02/13/04
Reporting Date: 02/16/04
Project Number: MAC 04 003
Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Analysis Date: 02/16/04
Sampling Date: 02/11/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/Kg)
H8460-1	BH 1 5'	5838
H8460-2	BH 1 10'	4319
H8460-3	BH 1 15'	3439
H8460-4	BH 1 20'	3039
H8460-5	BH 1 25'	1823
H8460-6	BH 1 30'	2815
H8460-7	BH 1 35'	3439
H8460-8	BH 1 40'	3999
H8460-9	BH 1 45'	4159
H8460-10	BH 1 50'	3199
H8460-11	BH 1 55'	3599
H8460-12	BH 1 60'	4958
Quality Control		1010
True Value QC		1000
% Recovery		101
Relative Percent Difference		2.0

METHOD: Standard Methods

4500-ClB

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


Chemist


Date

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



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

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALEN
703 E. CLINTON, #103
HOBBS, NM 88240
FAX TO: (505) 393-4388

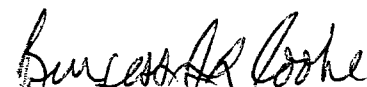
Receiving Date: 02/13/04
Reporting Date: 02/16/04
Project Number: MAC 04 003
Project Name: MONSANTO #4
Project Location: NOT GIVEN


Sampling Date: 02/11/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
------------	-----------	----------------	--------------------	--------------------	-----------------------------	-----------------------------

ANALYSIS DATE:	02/13/04	02/13/04	02/13/04	02/13/04	02/13/04
H8460-1 BH #1 5'	<10	<0.005	<0.005	<0.005	<0.015
Quality Control	245	0.092	0.101	0.101	0.305
True Value QC	240	0.100	0.100	0.100	0.300
% Recovery	102	92.4	101	101	102
Relative Percent Difference	4.5	3.6	2.8	1.5	1.9

METHODS: TRPHC-EPA 600/4-79-020 418.1; BTEX -EPA SW-846 8260


Burgess J. A. Cooke, Ph. D.


Date

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

ARDINAL LABORATORIES, INC.

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

Company Name: SPST		Project Manager:		PO #:	
Address: 703 E. CLINTON, #103		Company: SAME			
City: HOBBS		Attn:			
Phone #: (505) 397-0510		Address:			
Fax #: (505) 393-4388		City:			
Project #: Mac 04 003		State:		Zip:	
Project Name: Mosanto #4		Phone #:			
Project Location: Livingston NM.		Fax #:			

LAB I.D.	Sample I.D.	MATRIX						PRES.			SAMPLING	
		GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID	ICE / COOL	OTHER:	DATE	TIME
108460-1	BH #1 5'										1-11-04	11:35am
-2	BH #1 10'										1-11-04	11:50am
-3	BH #1 15'										1-11-04	12:05pm
-4	BH #1 20'										1-11-04	12:15pm
-5	BH #1 25'										1-11-04	2:05pm
-6	BH #1 30'										1-11-04	2:25pm
-7	BH #1 35'										1-11-04	2:45pm
-8	BH #1 40'										1-11-04	3:10pm
-9	BH #1 45'										1-11-04	3:45pm
-10	BH #1 50'										1-11-04	4:05pm

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 analysis. At claims including those for negligence and any other cause whatsoever that be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the reportable services. In the event that Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, 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 2 1/4% per annum from the original date of invoice, and at cost of collection, including attorney's fees.

Sampler Relinquished: 108460-1 Date: 1-11-04 Time: 11:35am

Relinquished By: [Signature]

Delivered By: [Signature]

Sample - UPS - Bus - Other: None

Received By: [Signature] Date: 1-13-04 Time: 13 Feb 04

Checked By: [Signature] (Initials)

Sample Condition: Cool ☒ Intact ☒ Yes ☐ No ☐

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

Fax Result: ☐ Yes ☐ No

REMARKS:

ARDINAL LABORATORIES, INC.

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

Page 2 of 2


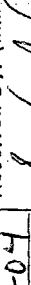
ANALYSIS REQUEST

[illegible]

Company Name: SEST	Company: SAME	PO #:
Project Manager:	Attn:	
Address: 703 E. CLINTON, #103	Address:	
City: HOBBS	City:	
State: NM Zip: 88240	State:	Zip:
Phone #: (505) 397-0510	Phone #:	
Fax #: (505) 393-4388	Fax #:	
Project #: Mac 04-003	Project Owner: Mack	
Project Name: Mesquite #4		
Project Location: Compton NM		

FOR LAB USE ONLY	LAB I.D.	Sample I.D.	(G) PAB OR (C) OMP.	# CONTAINERS	MATRIX	PRES.	SAMPLING
8460-11		BH #155'		1	GROUNDWATER	ACID: <input checked="" type="checkbox"/>	
-12		BH #160'		1	WASTEWATER	ICE / COOL: <input checked="" type="checkbox"/>	
					SOIL	OTHER: <input type="checkbox"/>	
					OIL	OTHER: <input type="checkbox"/>	
					SLUDGE	DATE	
						TIME	

[illegible]

Relinquished By: 		Received By: (Lab Staff) 		Checked By: (Initials)	
Delivered By: (Circle One)		Sample Condition		Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
(Sample) - UPS - Bus - Other:		Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cool <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date:		Date: 1-13-04		Date:	
Time:		Time:		Time:	
Sampler Relinquished:		Received By:		Phone Result <input type="checkbox"/> Yes <input type="checkbox"/> No Additional Fax #:	
Relinquished By:		Received By:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Delivered By:		Received By:		REMARKS:	



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, #103
HOBBS, NM 88240
FAX TO: (505) 393-4388


Receiving Date: 02/18/04
Reporting Date: 02/19/04
Project Number: MAC-04-003
Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 02/16/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
------------	-----------	----------------	--------------------	--------------------	-----------------------------	-----------------------------

ANALYSIS DATE:	02/18/04	02/18/04	02/18/04	02/18/04	02/18/04
H8463-2 BH #1-70'	<10	<0.005	<0.005	<0.005	<0.015
Quality Control	245	0.094	0.096	0.099	0.304
True Value QC	240	0.100	0.100	0.100	0.300
% Recovery	102	94.1	96.0	99.0	101
Relative Percent Difference	4.5	1.9	5.1	2.5	0.4

METHODS: TRPHC-EPA 600/4-79-020 418.1; BTEX -EPA SW-846 8260


Burgess A. Cooke, Ph. D.

2/19/04
Date

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

Analysis Date: 02/19/04
Sampling Date: 02/16/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/Kg)
H8463-1	BH #1-65'	3199
H8463-2	BH #1-70'	160
Quality Control		1010
True Value QC		1000
% Recovery		101
Relative Percent Difference		2.0

4500-Cl-B

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

Chemist

Date _____

PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. **19463** Cardinal shall be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

ARDINAL LABORATORIES, INC.

Page 1 of 1

Cardinal cannot accept verbal changes please fax written changes to 018-872-7020