Investigation Report Forms

Risk-Based Decision Making For Petroleum Releases At Underground Storage Tank Sites In New Mexico

SITE NAME:	*Lovelace Property*
SITE LOCATION:	*4045 West Picacho Avenue, Fairacres*
SITE ID:	*3506*
FACILITY ID:	*29164*
SUBMITTAL DATE:	*February 8, 2001*
PREPARED BY:	*Alan J. Eschenbacher*
REVIEWED BY:	*Karl E. Tonander NMCS #008*

SOUDER, MILLER & ASSOCIATES
CIVIL/ENVIRONMENTAL SCIENTISTS & ENGINEERS

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☐ *Check the box against the item, if the item is included.*

Form No.	Description	INVESTIGATION REPORT FORMS	
1.		Executive summary.	☑
2.		NAPL information.	☑
3.		Site stratigraphy and hydrogeology.	☑
4.		Analytical data summary for surficial soil (0-1 ft bgs).	☐
5.		Analytical data summary for subsurface soil (1 ft bgs to water table).	☑
6.		Analytical data summary for groundwater.	☑
7.		Conclusions and recommendations.	☑
8.		References and protocols.	☑

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All maps submitted to NMED must include a bar scale, legend, north arrow, location of all known soil borings and monitoring wells, and date of map, where appropriate.

☐ *Check the box against the item, if the item is included.*

Map No.	Description	MAPS

Maps 1-6 are part of 14 Day Report. Update and resubmit as appropriate.

Note: Maps may be combined ,as pappropriate.

1. Topographic map. ☐
2. Site map with UST system location(s), including tank ID number(s). ☐
3. Site map with utility locations. ☑
4. Land use map (radius of 1,000 feet). ☐
5. Receptor survey map: with detailed land use in the vicinity of the site (at least 1,000 feet in the downgradient direction and one property deep on all other sides including across the street). ☐
6. Area map with water use well locations: within one mile radius of the site (the wells on the map must be labeled). Maps must also indicate the location of surface water drains including but not limited to streams, lakes, and well head protection areas, within a 500 foot radius of the site. ☐
7. NAPL thickness contour map. ☑
8. Area geologic map. ☐
9. Groundwater gradient map: contoured map with the predominant flow direction from the most recent gauging event (add additional maps if the flow direction fluctuates). ☑
10. Soil and groundwater concentration contour maps showing boring and well locations and concentrations in each: for benzene, MTBE, total BTEX, and Total PAHs from the most recent sampling event. ☑

ADDITIONAL MAPS:

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☐ *Check the box against the item, if the item is included.*

Attachment No.	Description	ATTACHMENTS

Attachments 1 and 2 are part of 14 Day Report. Update and resubmit as appropriate.

1. Most recent UST system test results. ☐
2. Vapor screening results for utilities. ☐
3. Estimation of NAPL present: Estimated thickness vs measured thickness of NAPL. Include calculation brief for estimated thickness. ☐
4. Monitoring well construction digram. ☑
5. Representative soil boring logs: cross-section(s) showing the stratigraphy of the site and the extent of contamination. ☑
6. Historical groundwater monitoring data for all the monitoring wells. Include any data collected from temporary wells or borings. ☑
7. Contaminant concentration and depth to groundwater vs. time graphs for wells with four or more sampling events. ☑

ADDITIONAL ATTACHMENTS:

Laboratory analytical report(s) not previously submitted to the department.

NAPL Thickness Log

Site Summary

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 1

SITE ID: 3506	**FACILITY ID: 29164**
SUBMITTAL DATE: 08-Feb-01	**PREPARED BY: Alan J. Eschenbacher**

EXECUTIVE SUMMARY

Facility name:	*Lovelace Property*
Facility address:	*4045 West Picacho Avenue* *Fairacres, New Mexico*
Status of UST system facility:	☐ Active ☑ Inactive
Ground surface condition:	*Largely unpaved, flat with trees*
Estimated volume and type of product(s) released:	*Unknown*
Has any vapor impacts been identified?	☑ No ☐ On-site ☐ Off-site
If yes (check all that apply):	☐ Utility corridor ☐ Subsurface structures ☐ Above surface structures
Is soil contaminated?	☐ No ☑ On-site ☑ Off-site
Is there any contaminant-saturated soil?	☐ No ☑ On-site ☑ Off-site
Is groundwater contaminated?	☐ No ☑ On-site ☑ Off-site
Has the source of release been identified?	☑ Yes ☐ No
Has NAPL ever been detected?	☑ Yes ☐ No
Was NAPL removed?	☐ Yes ☑ No
Was NAPL detected in the most recent sampling event?	☑ Yes ☐ No
Has surface water been contaminated by the release?	☐ Yes ☑ No ☐ Unknown ☐ Suspected
Shallowest depth to groundwater (ft bgs.):	*8.98*
Average depth to groundwater (ft bgs.):	*12.91*
Has a drinking water supply well been contaminated by this release?	☑ Yes ☐ No ☐ Unknown ☐ Suspected
If yes	☑ Drinking ☐ Irrigation ☐ Other

RECOMMENDATIONS

- ☑ Collect additional soil data
- ☑ Collect additional groundwater data
- ☐ Continue NAPL removal
- ☐ Perform interim remedial action
- ☐ GW monitoing
- ☐ Perform a tier 1 evaluation

ADDITIONAL NOTES

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 2

SITE ID: 3506	**FACILITY ID: 29164**
SUBMITTAL DATE: 08-Feb-01	**PREPARED BY: Alan J. Eschenbacher**

NAPL INFORMATION

Has NAPL been found at the site?	☑ Yes ☐ No
(Note if No, proceed to the next report form)	
Date NAPL first reported at the site (if known):	*3/22/00 (MW-2 & MW-3), 1/24/01 (MW-23, GMW-2)*
Type(s) of NAPL released:	*Leaded gasoline*
Estimated quantity of NAPL present (attach calculation brief):	*Unknown*
List the monitoring wells currently containing NAPL:	*MW-2, MW-23, GMW-2*
Has NAPL removal been initiated?	☐ Yes ☑ No
If Yes, specify method of removal (bailer, pump, etc.)?	
If No, cite reason:	*NAPL recovery discontinued after baildown test on MW-2, 3*
Frequency of removal (weekly, monthly, etc.):	*N/A*
Total number of recovery events to date:	*3*
Total amount of water recovered:	*N/A*
Water disposal method:	*N/A*
Total amount of NAPL recovered:	*16.4 liters*
NAPL disposal method:	*Enviroworks L.L.C., Los Lunas, NM*
Date of latest NAPL report submittal:	*May 11, 2000 - Baildown Test Report*

ADDITIONAL NOTES

The NAPL identified in monitoring wells MW-23 and GMW-2 was released from a UST system other than the former UST system located on the Lovelace Property. The most likely source of the second release is the Former Fairacres Post Office Site (Facility #27959). On January 29, 2001, 0.77 feet of NAPL was measured in MW-23 and 0.02 feet was measured in GMW-2.

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 3

SITE ID: 3506	FACILITY ID: 29164
SUBMITTAL DATE: 08-Feb-01	PREPARED BY: Alan J. Eschenbacher

SITE STRATIGRAPHY AND HYDROGEOLOGY

STRATIGRAPHY OF THE SITE

Depth [feet]	Unified soil classification	Type of soil
0 - 5		*Fine Grained Sand*
5 - 14		*Silty Clay*
14 - 20		*Fine Grained Sand*

Predominant soil type: *Fine grained sand interbedded with silty clay layers*

Depth [feet]	Type of bedrock & geological formation (discuss rock properties and features)

HYDROGEOLOGY OF THE SATURATED ZONE

Type of contaminated aquifer(s)? ☐ Confined ☑ Unconfined ☐ Perched

Underlying predominant aquifer name: *Rio Grande sediments, Santa Fe Group*

TDS of contaminated aquifer(s) [mg/L] *Unknown*

Describe groundwater level fluctuations: *Fluctuations occur seasonally and rapidly*

Average depth to static water level: *12.91*

Average static water elevation relative to MSL [ft] *3880.19*

Flow direction: *Variable, southwest on-site, east to the east of the site*

Hydraulic gradient (i) [ft/ft]: *0.0013*

Hydraulic conductivity (K) [cm/day]: *864*

Hydraulic conductivity test method:

☑ Grain size/Sieve analysis ☐ Slug test ☐ Pumping test; Duration (hrs):

☑ Other (*specify and attach literature as appropriate*) *Reference 1*

Darcy velocity (K x i) [cm/year]: *1.1232*

Annual precipitation (average for last 10 years) [cm/year]: *25.4 (Reference 2)*

UNSATURATED ZONE CHARACTERISTICS

	Values/range			Method
Dry bulk density [g/cm^3]	*1.3 - 1.4*	☐ Estimated	☑ Measured	*AASHTO T100*
Estimated porosity (θ) [cm^3/cm^3]:	*0.484 - 0.517*	☐ Estimated	☑ Measured	
Water content in volumetric units [cm^3/cm^3]:	*0.087 - 0.187*	☐ Estimated	☑ Measured	*ASTM D4944*
Fractional organic carbon content [g-C/g-soil]:	*0.19 - 0.32*	☐ Estimated	☑ Measured	*ASTM D2974*

ADDITIONAL NOTES

SOUDER, MILLER & ASSOCIATES
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NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 5
SITE ID: 3506	FACILITY ID: 29164	
SUBMITTAL DATE: 08-Feb-01	PREPARED BY: Alan J. Eschenbacher	

ANALYTICAL DATA SUMMARY FOR SUBSURFACE SOIL (1 FT BGS TO WATER TABLE) [mg/kg]

MW / SB No.	MW-1			MW-2			MW-3			MW-4			MW-5			MW-6			MW-7		
Sampling date	7/15/99			7/15/99			7/15/99			7/15/99			7/15/99			12/2/99			12/2/99		
Sample depth (ft)	10	25		10	25		10	20		20	23		15	20		15	18		15	18	
ORGANIC CHEMICALS																					
Benzene	5.8	<0.05		<0.5	<0.05		<0.5	<0.05		2.1	<0.25		<0.05	<0.05		2.6	1.2		<0.05	<0.05	
Toluene	43	<0.05		1.7	<0.05		4.7	<0.05		0.86	1		<0.05	<0.05		0.35	0.14		<0.05	<0.05	
Ethylbenzene	21	<0.05		3.7	<0.05		15	<0.05		4.8	5.7		<0.05	<0.05		2.3	0.71		<0.05	<0.05	
Xylenes (Total)	99	<0.05		22	<0.05		18	<0.05		1.5	0.25		<0.05	<0.05		1.7	0.33		<0.05	<0.05	
Ethylene Dibromide (EDB)	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
1,2-Dichloroethane (EDC)	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
MTBE	<2.5	<0.1		<1.0	<0.1		<1.0	<0.1		<0.25	<0.50		<0.1	<0.1		<0.5	<0.1		<0.1	<0.1	
POLYCYCLIC AROMATIC HYDROCARBONS																					
Acenaphthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Anthracene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Benzo(a)anthracene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Benzo(a)-pyrene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Benzo(b)-fluoranthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Benzo(k)-flouranthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Chrysene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Dibenz(a,h)anthracene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Fluoranthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Fluorene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Total Naphthalenes	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Phenanthrene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
Pyrene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	
INORGANIC CHEMICALS																					
Lead	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	

NOTE:
Provide any laboratory analytical report(s) not previously submitted to NMED Office. Add additional sheets as needed.
Non-detects can be expressed as "<(value of detection limit)". All concentrations should be in mg/kg.

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CIVIL/ENVIRONMENTAL SCIENTISTS & ENGINEERS

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 5
SITE ID: 3506	FACILITY ID: 29164	
SUBMITTAL DATE: 08-Feb-01	PREPARED BY: Alan J. Eschenbacher	

ANALYTICAL DATA SUMMARY FOR SUBSURFACE SOIL (1 FT BGS TO WATER TABLE) [mg/kg]

MW / SB No.	MW-8			MW-9			MW-10			MW-11			MW-12			MW-13			MW-14		
Sampling date	12/2/99			12/2/99			3/24/00			3/24/00			3/24/00			3/24/00			3/24/00		
Sample depth (ft)	15	18		10	20		15	19		10	19		15	20		10	18		10	15	20
ORGANIC CHEMICALS																					
Benzene	<1.3	<0.63		0.59	1.4		<1.3	<1.3		<1.3	<0.50		<0.05	<0.05		<0.05	<0.05		<0.10	<0.10	<0.25
Toluene	1.4	1.4		0.21	0.59		1.3	<1.3		2.8	1.1		<0.05	<0.05		<0.05	<0.05		<0.1	<0.1	<0.25
Ethylbenzene	8.2	6.9		1.3	3.4		15	11		12	6.2		<0.05	<0.05		<0.05	<0.05		18	<0.1	<0.25
Xylenes (Total)	<1.3	<0.63		<0.13	0.68		<1.3	<1.3		13	7		<0.05	<0.05		<0.05	<0.05		2.2	<0.1	<0.25
Ethylene Dibromide (EDB)	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.10	<0.10	<0.25
1,2-Dichloroethane (EDC)	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.10	<0.10	<0.25
MTBE	<0.25	<1.3		<0.25	<0.25		<2.5	<2.5		<2.5	<1.0		<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.25
POLYCYCLIC AROMATIC HYDROCARBONS																					
Acenaphthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.050	<0.050	<0.050
Anthracene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.0060	<0.0060	<0.0060
Benzo(a)anthracene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.00080	<0.00080	<0.00080
Benzo(a)-pyrene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.00080	<0.00080	<0.00080
Benzo(b)-fluoranthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.00050	<0.00050	<0.00050
Benzo(k)-flouranthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.00050	<0.00050	<0.00050
Chrysene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.0040	<0.0040	<0.0040
Dibenz(a,h)anthracene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.0011	<0.0011	<0.0011
Fluoranthene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.0060	<0.0060	<0.0060
Fluorene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.030	<0.030	<0.030
Total Naphthalenes	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		0.069	<0.150	<0.150
Phenanthrene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.0060	<0.0060	0.0099
Pyrene	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		<0.0050	<0.0050	<0.0050
INORGANIC CHEMICALS																					
Lead	NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS		NS	NS	NS

NOTE:
Provide any laboratory analytical report(s) not previously submitted to NMED Office. Add additional sheets as needed.
Non-detects can be expressed as "<(value of detection limit)". All concentrations should be in mg/kg.

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NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 5
SITE ID: 3506	FACILITY ID: 29164	
SUBMITTAL DATE: 08-Feb-01	PREPARED BY: Alan J. Eschenbacher	

ANALYTICAL DATA SUMMARY FOR SUBSURFACE SOIL (1 FT BGS TO WATER TABLE) [mg/kg]

MW / SB No.	MW-15			MW-16			MW-17			MW-18			MW-19			MW-20			MW-21		
Sampling date	7/10/00			7/11/00			7/10/00			7/11/00			7/10/00			1/23/01			1/23/01		
Sample depth (ft)	5	10	19	10	15	18	9	14	17	10	15	18	10	15	18	10	15	18	10	15	20
ORGANIC CHEMICALS																					
Benzene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	0.051	<0.050	0.052	0.059	<0.050
Toluene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	0.094	<0.050	0.097	0.17	<0.050
Ethylbenzene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	0.05	<0.050
Xylenes (Total)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.063	<0.050	0.071	0.16	<0.050
Ethylene Dibromide (EDB)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane (EDC)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MTBE	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
POLYCYCLIC AROMATIC HYDROCARBONS																					
Acenaphthene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NS	NS	NS	NS	NS	NS
Anthracene	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	NS	NS	NS	NS	NS	NS
Benzo(a)anthracene	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	NS	NS	NS	NS	NS	NS
Benzo(a)-pyrene	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	NS	NS	NS	NS	NS	NS
Benzo(b)-fluoranthene	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	NS	NS	NS	NS	NS	NS
Benzo(k)-flouranthene	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	NS	NS	NS	NS	NS	NS
Chrysene	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	NS	NS	NS	NS	NS	NS
Dibenz(a,h)anthracene	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	NS	NS	NS	NS	NS	NS
Fluoranthene	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	NS	NS	NS	NS	NS	NS
Fluorene	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	NS	NS	NS	NS	NS	NS
Total Naphthalenes	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	0.096	0.098	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	NS	NS	NS	NS	NS	NS
Pyrene	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NS	NS	NS	NS	NS	NS
INORGANIC CHEMICALS																					
Lead	NS	NS	NS	NS	NS	12.3	NS	NS	NS	NS	4.7	12.4	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTE:

Provide any laboratory analytical report(s) not previously submitted to NMED Office. Add additional sheets as needed.

Non-detects can be expressed as "<(value of detection limit)". All concentrations should be in mg/kg.

SOUDER, MILLER & ASSOCIATES
CIVIL/ENVIRONMENTAL SCIENTISTS & ENGINEERS

NEW MEXICO RBDM | **INVESTIGATION REPORT** | **FORM NO. 5**

SITE ID: 3506 | **FACILITY ID: 29164**

SUBMITTAL DATE: 08-Feb-01 | **PREPARED BY: Alan J. Eschenbacher**

ANALYTICAL DATA SUMMARY FOR SUBSURFACE SOIL (1 FT BGS TO WATER TABLE) [mg/kg]

MW / SB No.	MW-22			MW-23			MW-24			MW-25			GMW-1			GMW-2			GMW-3		
Sampling date	1/23/01			1/23/01			1/23/01			1/24/01			10/27/00			10/27/00			10/27/00		
Sample depth (ft)	5	15	20	10	15	20	10	15	20	5	15	20	15	20		10	20		15	20	
ORGANIC CHEMICALS																					
Benzene	<0.050	<0.050	<0.050	0.13	130	130	0.14	56	7.1	<0.050	<0.050	5.3	<0.05	<0.05		<0.05	<0.05		<0.05	0.17	
Toluene	<0.050	0.093	<0.050	0.23	450	410	0.11	210	14	<0.050	<0.050	26	<0.05	<0.05		<0.05	1		0.06	<0.05	
Ethylbenzene	<0.050	<0.050	<0.050	0.1	220	150	0.059	82	4.6	<0.050	<0.050	15	<0.05	<0.05		<0.05	3.2		0.32	0.13	
Xylenes (Total)	<0.050	0.097	<0.050	0.29	870	600	0.15	340	19	<0.050	<0.050	56	<0.1	<0.1		<0.1	12.7		1.04	<0.1	
Ethylene Dibromide (EDB)	<0.050	<0.050	<0.050	<0.050	<5.0	<5.0	<0.050	<5.0	0.57	<0.050	<0.050	<2.5	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	
1,2-Dichloroethane (EDC)	<0.050	<0.050	<0.050	<0.050	<5.0	<5.0	<0.050	<5.0	<0.50	<0.050	<0.050	<2.5	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	
MTBE	<0.050	<0.050	<0.050	<0.050	<5.0	<5.0	<0.50	<5.0	<0.50	<0.050	<0.050	<0.050	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	
POLYCYCLIC AROMATIC HYDROCARBONS																					
Acenaphthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Benzo(a)anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Benzo(a)-pyrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Benzo(b)-fluoranthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Benzo(k)-flouranthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Chrysene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Dibenz(a,h)anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Fluoranthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Fluorene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Total Naphthalenes	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	NS	NS		NS	NS		NS	NS	
Phenanthrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
Pyrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	
INORGANIC CHEMICALS																					
Lead	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS		NS	NS	

NOTE:
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SOUDER, MILLER & ASSOCIATES
CIVIL/ENVIRONMENTAL SCIENTISTS & ENGINEERS

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 5
SITE ID: 3506	FACILITY ID: 29164	
SUBMITTAL DATE: 08-Feb-01	PREPARED BY: Alan J. Eschenbacher	

ANALYTICAL DATA SUMMARY FOR SUBSURFACE SOIL (1 FT BGS TO WATER TABLE) [mg/kg]

MW / SB No.	GSB-4																				
Sampling date	10/27/00																				
Sample depth (ft)	15																				
ORGANIC CHEMICALS																					
Benzene	<0.05																				
Toluene	<0.05																				
Ethylbenzene	<0.05																				
Xylenes (Total)	<0.1																				
Ethylene Dibromide (EDB)	<0.05																				
1,2-Dichloroethane (EDC)	<0.05																				
MTBE	<0.05																				
POLYCYCLIC AROMATIC HYDROCARBONS																					
Acenaphthene	NS																				
Anthracene	NS																				
Benzo(a)anthracene	NS																				
Benzo(a)-pyrene	NS																				
Benzo(b)-fluoranthene	NS																				
Benzo(k)-flouranthene	NS																				
Chrysene	NS																				
Dibenz(a,h)anthracene	NS																				
Fluoranthene	NS																				
Fluorene	NS																				
Total Naphthalenes	NS																				
Phenanthrene	NS																				
Pyrene	NS																				
INORGANIC CHEMICALS																					
Lead	NS																				

NOTE:
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Non-detects can be expressed as "<(value of detection limit)". All concentrations should be in mg/kg.

SOUDER, MILLER & ASSOCIATES
CIVIL/ENVIRONMENTAL SCIENTISTS & ENGINEERS

NEW MEXICO RBDM	INVESTIGATION REPORT	FORM NO. 6
SITE ID: 3506	FACILITY ID: 29164	
SUBMITTAL DATE: 08-Feb-01	PREPARED BY: Alan J. Eschenbacher	

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12
Screen interval (feet below TOC)		15.0-25.0	10.3-20.3	10.3-20.3	13.5-23.5	10.3-20.3	8.0-18.0	8.0-18.0	8.0-18.0	10.0-20.0	9.2-19.2	8.9-18.9	10.1-20.1
Water level (feet below TOC)		12.93	13.29	12.69	13.58	12.02	12.84	12.71	11.65	13.91	12.29	12.82	11.87
Installation date (month/year)		7/15/99	7/15/99	7/15/99	7/15/99	7/15/99	12/2/99	12/2/99	12/2/99	12/2/99	3/24/00	3/24/00	3/24/00
Number of times sampled		6	6	6	6	6	5	5	5	5	4	4	4
Benzene	No. of detects	6	6	6	6	5	5	0	4	5	4	4	0
WQCC STD. = 10 µg/L	Range (low - high)	260-20,000	8,200 - 21K	68-17,000	150-3,000	2.4-66	230-10,000	<0.5-<2.0	3.6-33	180-5,000	310-2,200	2,400-3,200	<0.5-<1.0
	Maximum (µg/l)	20,000	21,000	17,000	3,000	66	10,000	n/a	33	5,000	2,200	3,200	n/a
	Mean (µg/l)	4335.000	15416.670	3213.000	770.000	26.880	2352.000	n/a	16.700	3476.000	1102.500	2800.000	n/a
	Recent trend	Decrease	Decrease	Decrease	Increase	Increase	Increase	n/a	Increase	Decrease	Increase	Decrease	n/a
Toluene	No. of detects	3	6	3	3	1	2	0	1	3	2	1	0
WQCC STD. = 750 µg/L	Range (low - high)	22-1,100	66-5,800	14-11,000	5.8-27	<0.5-4.0	3.5-45	<0.5-<2.0	0.5	2.2-30	32-49	15-<100	<0.5-<1.0
	Maximum (µg/l)	1,100	5,800	11,000	27	4	45	n/a	0.5	30	49	15	n/a
	Mean (µg/l)	401.667	1642.670	2119.500	13.133	4.000	24.250	n/a	0.500	20.400	40.500	15.000	n/a
	Recent trend	Decrease	Decrease	Decrease	Decrease	n/a	Decrease	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	No. of detects	4	6	5	6	6	5	0	0	5	4	4	0
WQCC STD. = 750 µg/L	Range (low - high)	23-780	980-2,500	13-1,800	9.4-110	2.8-85	29-1,100	<0.5-<2.0	89-180	46-820	170-680	530-1,000	<0.5-<1.0
	Maximum (µg/l)	780	2,500	1,800	110	85	1,100	n/a	180	820	680	1,000	n/a
	Mean (µg/l)	235.250	1396.670	511.400	32.900	19.016	303.600	n/a	132.250	559.500	482.500	750.000	n/a
	Recent trend	Decrease	Decrease	Decrease	Increase	Decrease	Increase	n/a	Increase	Decrease	Increase	Increase	n/a
Xylenes	No. of detects	3	6	6	3	1	3	0	2	3	2	4	0
WQCC STD. = 620 µg/L	Range (low - high)	78-790	260-8,000	46-6,700	7.2-42	<0.5-2.4	36-390	<0.5-<2.0	1.1-4.4	17-150	37-300	230-370	<0.5-<1.0
	Maximum (µg/l)	790	8,000	6,700	42	2.4	390	n/a	4.4	150	300	370	n/a
	Mean (µg/l)	315.667	2215.000	1982.667	27.400	2.400	157.667	n/a	2.750	89.000	168.500	320.000	n/a
	Recent trend	Decrease	Decrease	Decrease	Decrease	n/a	Decrease	n/a	n/a	n/a	n/a	Increase	n/a

NOTE: Provide any laboratory report(s) not previously submitted to NMED Office. Add additional sheets as needed.

For "Range", use all available data.

For "Maximum" and "Mean", use the recent two (2) years' data.

For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

SOUDER, MILLER & ASSOCIATES
CIVIL/ENVIRONMENTAL SCIENTISTS & ENGINEERS

NEW MEXICO RBDM — **INVESTIGATION REPORT** — **FORM NO. 6**

SITE ID: 3506 | **FACILITY ID: 29164**

SUBMITTAL DATE: 08-Feb-01 | **PREPARED BY: Alan J. Eschenbacher**

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24
Screen interval (feet below TOC)		8.8-18.8	8.8-18.8	8.5-18.5	5.9-15.9	8.4-18.4	8.0-18.0	8.0-18.0	7.9-17.9	8.1-18.1	8.2-18.2	8.5-18.5	7.6-17.6
Water level (feet below TOC)		11.83	15.03	15.08	13.41	14.74	13.14	12.86	12.07	13.12	12.39	13.99	12.90
Installation date (month/year)		3/24/00	3/24/00	7/10/00	7/11/00	7/10/00	7/11/00	7/10/00	1/23/01	1/23/01	1/23/01	1/23/01	1/23/01
Number of times sampled		4	5	3	3	3	3	3	1	1	1	1	1
Benzene	No. of detects	0	1	0	0	3	3	0	0	0	0	1	1
WQCC STD. = 10 µg/L	Range (low - high)	<0.5-<1.0	<1.0-28	<0.5-<1.0	<0.5-<1.0	14-40	23-160	<0.5-<1.0	<1.0	<1.0	<1.0	8,400	11,000
	Maximum (µg/l)	n/a	28	n/a	n/a	40	160	n/a	n/a	n/a	n/a	8,400	11,000
	Mean (µg/l)	n/a	28.000	n/a	n/a	26.667	78.000	n/a	n/a	n/a	n/a	8,400	11,000
	Recent trend	n/a	n/a	n/a	n/a	Decrease	Increase	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	No. of detects	0	1	0	0	0	0	0	0	0	0	1	1
WQCC STD. = 750 µg/L	Range (low - high)	<0.5-<1.0	<1.0-4.5	<0.5-<1.0	<0.5-<1.0	<5.0-<20	<2.5-<50	<0.5-<1.0	<1.0	<1.0	<1.0	9,900	11,000
	Maximum (µg/l)	n/a	4.5	n/a	n/a	<20	<50	n/a	n/a	n/a	n/a	9,900	11,000
	Mean (µg/l)	n/a	4.500	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	9,900	11,000
	Recent trend	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	No. of detects	0	1	0	0	3	3	0	0	0	0	1	1
WQCC STD. = 750 µg/L	Range (low - high)	<0.5-<1.0	<1.0-4.4	<0.5-<1.0	<0.5-<1.0	380-530	52-61	<0.5-<1.0	<1.0	<1.0	<1.0	2,100	1,900
	Maximum (µg/l)	n/a	4.4	n/a	n/a	530	61	n/a	n/a	n/a	n/a	2,100	1,900
	Mean (µg/l)	n/a	4.400	n/a	n/a	480.000	56.000	n/a	n/a	n/a	n/a	2,100	1,900
	Recent trend	n/a	n/a	n/a	n/a	Increase	Increase	n/a	n/a	n/a	n/a	n/a	n/a
Xylenes	No. of detects	0	1	0	0	0	1	0	0	0	0	1	1
WQCC STD. = 620 µg/L	Range (low - high)	<0.5-<1.0	<1.0-4.3	<0.5-<1.0	<0.5-<1.0	<5.0-<20	<2.5-6.6	<0.5-<1.0	<1.0	<1.0	<1.0	8,100	7,100
	Maximum (µg/l)	n/a	4.3	n/a	n/a	<20	6.6	n/a	n/a	n/a	n/a	8,100	7,100
	Mean (µg/l)	n/a	4.300	n/a	n/a	n/a	6.600	n/a	n/a	n/a	n/a	8,100	7,100
	Recent trend	n/a	n/a	n/a	n/a	n/a	Increase	n/a	n/a	n/a	n/a	n/a	n/a

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For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.

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NEW MEXICO RBDM **INVESTIGATION REPORT** **FORM NO. 6**

SITE ID: 3506 **FACILITY ID: 29164**

SUBMITTAL DATE: 08-Feb-01 **PREPARED BY: Alan J. Eschenbacher**

ANALYTICAL DATA SUMMARY FOR GROUNDWATER

Monitoring well number		*MW-25*	*GMW-1*	*GMW-2*	*GMW-3*								
Screen interval (feet below TOC)		8.5-18.5	9.4-19.4	9.0-19.0	9.4-19.4								
Water level (feet below TOC)		12.25	8.98	13.98	13.12								
Installation date (month/year)		1/24/01	10/27/00	10/27/00	10/27/00								
Number of times sampled		1	2	2	2								
Benzene	No. of detects	1	0	2	2								
WQCC STD. = 10 µg/L	Range (low - high)	7,200	<1.0	230-970	5,600 (x2)								
	Maximum (µg/l)	7,200	<1.0	970	5,600								
	Mean (µg/l)	7,200	n/a	600.000	5,600								
	Recent trend	n/a	n/a	Decrease	Stable								
Toluene	No. of detects	1	1	2	2								
WQCC STD. = 750 µg/L	Range (low - high)	11,000	<1.0-5.4	1,200-4,900	3,000-3,100								
	Maximum (µg/l)	11,000	5.4	4,900	3,100								
	Mean (µg/l)	11,000	5.400	3050.000	3050.000								
	Recent trend	n/a	Increase	Decrease	Decrease								
Ethylbenzene	No. of detects	1	1	2	2								
WQCC STD. = 750 µg/L	Range (low - high)	2,400	<1.0-1.4	1,000-1,200	1,200-1,800								
	Maximum (µg/l)	2,400	1.4	1,200	1,800								
	Mean (µg/l)	2,400	1.400	1100.000	1500.000								
	Recent trend	n/a	Increase	Decrease	Increase								
Xylenes	No. of detects	1	1	2	2								
WQCC STD. = 620 µg/L	Range (low - high)	7,900	<2.0-7.5	4,100-5,000	2,900-4,800								
	Maximum (µg/l)	7,900	7.5	5,000	4,800								
	Mean (µg/l)	7,900	7.500	4550.000	3850.000								
	Recent trend	n/a	Increase	Decrease	Decrease								

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For "Recent Trend", use the recent 2 years' data or the recent 8 measurements, as appropriate.